



Australian Government

National Health and Medical Research Council

2019 Survey of research culture in Australian NHMRC-funded institutions

Appendices



Australian Government

National Health and Medical Research Council

2019 Survey of research culture in Australian NHMRC-funded institutions

Appendix A: Survey questionnaire

A. Your role

1 [ASK ALL] In what capacity are you participating in this survey?

1 Senior researcher

[Hover text: More than ten years of research experience after completion of research higher degree]

2 Mid-career researcher

[Hover text: Five-ten years of research experience after completion of research higher degree]

3 Junior researcher

[Hover text: Less than five years of research experience after completion of research higher degree (for example, postdoctoral researcher, technician / research assistant)]

4 Research student

[Hover text: Masters or PhD student involved with a research project]

5 Representative of an institution

[Hover text: A senior manager within an institution who is accountable for the administration of research funds, the conduct of research or the governance of research within the institution]

6 Current member of a Human Research Ethics Committee (HREC)

7 Current member of an Animal Ethics Committee (AEC)

8 None of the above

2 [ASK ALL] Is the institution at which you undertake this capacity in Australia?

1 Yes

2 No

[If Q1=8 or Q2=2, thank and end]

3 [Q1=1-4 (Researcher / Student)] How would you describe your research?

[Q1=5 (Institutional representative)] How would you describe the research conducted at your institution?

[Q1=6-7 (HREC member / AEC member)] How would you describe the proposals considered by your ethics committee?

[Please select all that apply]

1 Discovery

2 Preclinical

3 Hospital clinical

4 Other clinical

5 Health services

6 Public health

7 Epidemiology

8 Implementation research

- 9 Qualitative research
- 10 Quantitative research
- 11 Translational research
- 12 Research on research (meta-research)
- 13 Other *[Please specify]* _____

4 [Q1=5 (Institutional representative)] Which of the following most closely matches your current **primary** role / job title?

- 1 Chief Executive Officer
- 2 Executive Director
- 3 General Manager
- 4 Vice-Chancellor
- 5 Deputy Vice-Chancellor
- 6 Pro Vice-Chancellor
- 7 Director
- 8 Department / Faculty / Research Group Head
- 9 Research Administration Officer
- 10 Research Integrity Advisor
- 11 Research Integrity Officer
- 12 Other *[Please specify]* _____

5 [If Q1=6 (HREC member)] What is your current role on the Human Research Ethics Committee (HREC)?

- 1 Chair
- 2 Layperson

[Hover text: A person who has no affiliation with the institution and does not currently engage in medical, scientific, legal or academic work.]

- 3 Person with knowledge of, and current experience in, the professional care, counselling or treatment of people

[Hover text: For example: a nurse or allied professional.]

- 4 Person who performs a pastoral care role in a community

[Hover text: For example: An Aboriginal Elder, or a Minister of religion.]

- 5 Lawyer

[Hover text: Where possible one who is not engaged to advise the institution.]

- 6 Person with knowledge of, and current experience in, the areas of research regularly considered by the HREC

- 7 Other *[Please provide details including voting status]*

6 [If Q1=7 (AEC member)] What is your current role on the Animal Ethics Committee (AEC)?

1 Chair

2 Category A member

[**Hover text:** A person with qualifications in veterinary science that are recognised for registration as a veterinary surgeon in Australia, and with experience relevant to the institution's activities or the ability to acquire relevant knowledge.]

3 Category B member

[**Hover text:** A suitably qualified person with substantial and recent experience in the use of animals for scientific purposes relevant to the institution and the business of the AEC. This must include possession of a higher degree in research or equivalent experience. If the business of the AEC relates to the use of animals for teaching only, a teacher with substantial and recent experience may be appointed.]

4 Category C member

[**Hover text:** A person with demonstrable commitment to, and established experience in, furthering the welfare of animals, who is not employed by or otherwise associated with the institution, and who is not currently involved in the care and use of animals for scientific purposes. Veterinarians with specific animal welfare interest and experience may meet the requirements of this category. While not representing an animal welfare organisation, the person should, where possible, be selected on the basis of active membership of, and endorsement by, such an organisation.]

5 Category D member

[**Hover text:** A person not employed by or otherwise associated with the institution and who has never been involved in the use of animals in scientific or teaching activities, either in their employment or beyond their undergraduate education. Category D members should be viewed by the wider community as bringing a completely independent view to the AEC, and must not fit the requirements of any other category.]

6 Person responsible for the routine care of animals

[**Hover text:** In some jurisdictions, this may be described as a Category E member.]

7 Other [Please provide details including **voting status**]

7 [If Q1=1-2 (Senior researcher or Mid-career researcher)] How many students / staff are you currently a primary supervisor for? *Please enter the number of each. If none, please enter zero.*

| | Number of students / staff you are a primary supervisor for |
|--|---|
| a Honours students (including MBBS research years) | _____ |
| b Masters students | _____ |
| c Doctoral students | _____ |
| d Technical assistants | _____ |
| e Research assistants | _____ |
| f Postdoctoral researchers | _____ |
| g Clinical researchers | _____ |

- 8 [Q1=5 (Institutional representative)] Approximately how many researchers are there at your institution?
- 1 None
 - 2 1 to 20
 - 3 21 to 50
 - 4 51 to 100
 - 5 101 to 150
 - 6 151 to 200
 - 7 More than 200

B. Knowledge and attitudes

- 9 [Q1=1-4 (Researcher / Student)] What motivates you in your work as a researcher? [Please select **up to 3** responses]
- 1 Improving my knowledge and understanding
 - 2 Making research discoveries for the benefit of society
 - 3 Gaining recognition from my peers
 - 4 Progressing my career
 - 5 Gaining recognition from the public
 - 6 Satisfying my curiosity
 - 7 Working as part of a team
 - 8 Communicating research to others
 - 9 Training the next generation of researchers
 - 10 Earning a salary
 - 11 None of the above
 - 12 Don't know / can't say
- 10 [ASK ALL] Which of the following do you believe are most important for 'high quality research'? [Please select **up to 5** responses]

That the research is...

- 1 Rigorous
- 2 Transparent
- 3 Honest
- 4 Beneficial to society
- 5 Respectful
- 6 Innovative
- 7 Legal
- 8 Original

- 9 Justified
- 10 Accurate
- 11 Ethical
- 12 Open
- 13 Other *[Please specify]* _____

11 [ASK ALL] Is there anything you think that you, or your institution, could do in order to improve the quality of research? *Please provide details in your answer.*

12 [Q1=1-4 (Researcher / Student)] To what extent do you feel that your department / research group prioritises honesty and integrity when researchers propose, perform and report research?

- 1 Not at all
- 2 Somewhat
- 3 Moderately
- 4 Very much
- 5 Completely
- 6 Don't know / can't say

13 [Q1=1-4 (Researcher / Student)] Which of the following do you think matters most to the **validity** of your research? *[Please select up to 3 responses]*

- 1 The past work of others
- 2 Your hypothesis
- 3 Your experimental design
- 4 The statistical power of your experiments
- 5 Avoidance of experimental biases
- 6 The absence of conflicts of interest
- 7 Validation via publication in a peer-review journal
- 8 None of the above

14 [Q1=1-4 (Researcher / Student)] To what extent do you think each of the following contribute to inefficient use of research resources?

| | Not at all | A little | A fair amount | A lot | To a great extent | Don't know / can't say |
|--|------------|----------|---------------|-------|-------------------|------------------------|
| a Failure to build on what is already known from previous research | 1 | 2 | 3 | 4 | 5 | 6 |
| b Conduct of unnecessary research that might have been avoided if all negative or neutral studies were routinely published | 1 | 2 | 3 | 4 | 5 | 6 |

| | Not at all | A little | A fair amount | A lot | To a great extent | Don't know / can't say |
|--|------------|----------|---------------|-------|-------------------|------------------------|
| c Problems for researchers when previous experiments / studies are unreliable because of biases or inadequate sample size | 1 | 2 | 3 | 4 | 5 | 6 |
| d Time wasted when essential information on study methods or materials are poorly described or inaccessible | 1 | 2 | 3 | 4 | 5 | 6 |
| e Failure to consider whether and how research results might have value to downstream users (other researchers, clinicians, etc) | 1 | 2 | 3 | 4 | 5 | 6 |

Reproducibility of results

15 [ASK ALL] How important do you think reproducibility is to research?

- 1 Not at all important
- 2 Not that important
- 3 Somewhat important
- 4 Quite important
- 5 Very important
- 6 Don't know / can't say

16 [ASK ALL] Have you heard of the term 'crisis of reproducibility' in relation to issues in research?
[Please select all that apply]

- 1 Yes, from the mainstream media
- 2 Yes, from research journals
- 3 Yes, from discussions at conferences
- 4 Yes, from discussions with my colleagues
- 5 Yes, from elsewhere [Please specify] _____
- 6 No
- 7 Don't know / can't say

17 [ASK ALL] Which of the following statements do you feel is most accurate when thinking about reproducibility in research?

- 1 There is no crisis of reproducibility
- 2 There is a slight crisis of reproducibility
- 3 There is a significant crisis of reproducibility
- 4 Don't know / can't say

18 Please indicate the extent to which you agree or disagree with the following statements.

| | Strongly disagree | Disagree | Neither agree nor disagree | Agree | Strongly agree | Don't know / can't say |
|--|-------------------|----------|----------------------------|-------|----------------|------------------------|
| a [ASK ALL] I think that a failure to reproduce a result most often means that the original finding is wrong | 1 | 2 | 3 | 4 | 5 | 6 |
| b [ASK ALL] I think that a failure to reproduce a result rarely detracts from the validity of the original finding | 1 | 2 | 3 | 4 | 5 | 6 |
| c [Q1=1-4 (Researcher / Student)] I think that the failure to reproduce research is a major problem in my field | 1 | 2 | 3 | 4 | 5 | 6 |
| d [Q1=1-4 (Researcher / Student)] I think that the failure to reproduce research is a major problem for all fields | 1 | 2 | 3 | 4 | 5 | 6 |

19 [Q1=1-5 (Researcher / Student / Institutional representative)] To what extent do you feel that each of the following factors contribute to a failure to reproduce results?

| | Not at all | Slightly | Moderately | Considerably | To a great extent | Don't know / can't say |
|--|------------|----------|------------|--------------|-------------------|------------------------|
| a Pressure to publish for career advancement | 1 | 2 | 3 | 4 | 5 | 6 |
| b Insufficient oversight / mentoring by principal investigator for the research group (e.g. reviewing raw data) | 1 | 2 | 3 | 4 | 5 | 6 |
| c Insufficient peer review of grant applications | 1 | 2 | 3 | 4 | 5 | 6 |
| d Insufficient peer review of research publications | 1 | 2 | 3 | 4 | 5 | 6 |
| e Selective reporting of results | 1 | 2 | 3 | 4 | 5 | 6 |
| f Original findings were inadequately robust because of insufficient replication by the research group publishing the work | 1 | 2 | 3 | 4 | 5 | 6 |

| | Not at all | Slightly | Moderately | Considerably | To a great extent | Don't know / can't say |
|--|------------|----------|------------|--------------|-------------------|------------------------|
| g Original findings obtained with low statistical power / poor statistical analysis | 1 | 2 | 3 | 4 | 5 | 6 |
| h Mistakes or inadequate expertise in reproduction efforts | 1 | 2 | 3 | 4 | 5 | 6 |
| i Information not available from the original research group (e.g. protocols, data, code, reagent information) | 1 | 2 | 3 | 4 | 5 | 6 |
| j Methods need technical expertise that is difficult for others to reproduce | 1 | 2 | 3 | 4 | 5 | 6 |
| k Variability in standard reagents | 1 | 2 | 3 | 4 | 5 | 6 |
| l Poor experimental design | 1 | 2 | 3 | 4 | 5 | 6 |
| m Fraud (i.e. fabricated or falsified results) | 1 | 2 | 3 | 4 | 5 | 6 |
| n Bad luck | 1 | 2 | 3 | 4 | 5 | 6 |

C. Environment

Immediate environment: Department / research group

20 Please indicate the extent to which you agree or disagree with the following statements.

| | Strongly disagree | Disagree | Neither agree nor disagree | Agree | Strongly agree | Don't know / not applicable |
|--|-------------------|----------|----------------------------|-------|----------------|-----------------------------|
| a [Q1=1-4 (Researcher / Student)] Research practices in my department / research group follow established institutional policies regarding research | 1 | 2 | 3 | 4 | 5 | 6 |
| b [Q1=1-4 (Researcher / Student)] People in my department / research group implement data management principles within their research projects | 1 | 2 | 3 | 4 | 5 | 6 |
| c [Q1=1-4 (Researcher / Student)] People in my department / research group appropriately handle data from collection to archival with an intention for potential future re-use | 1 | 2 | 3 | 4 | 5 | 6 |

| | Strongly disagree | Disagree | Neither agree nor disagree | Agree | Strongly agree | Don't know / not applicable |
|--|-------------------|----------|----------------------------|-------|----------------|-----------------------------|
| d [Q1=1-5 (Researcher / Student / Institutional representative)] Junior researchers are effectively mentored about responsible research practices | 1 | 2 | 3 | 4 | 5 | 6 |
| e [Q1=1-4 (Researcher / Student)] Researchers in my immediate research environment are committed to appropriate data and code sharing when publishing research results | 1 | 2 | 3 | 4 | 5 | 6 |
| f [Q1=1-4 (Researcher / Student)] Researchers in my immediate research environment are committed to open access publishing when publishing research results | 1 | 2 | 3 | 4 | 5 | 6 |

21 [Q1=1-4 (Researcher / Student)] Which of the following procedures have you / your research group established to ensure reproducibility in your work? [Please select all that apply]

- 1 Estimate required number of participants / animals per experimental cohort
- 2 Estimate statistical power
- 3 Randomly allocate participants / animals to experimental cohorts
- 4 Apply inclusion or exclusion criteria
- 5 Procedures for accounting for dropouts / losses documented in the analysis plan
- 6 Blind outcome assessment
- 7 Transparent reporting of study design and methods
- 8 In house replication before publication
- 9 Inclusion of positive and negative controls
- 10 Validation of tools or reagents such as antibodies, SiRNAs, small molecules
- 11 Other [Please specify] _____
- 12 No procedures have been established to ensure reproducibility in our work
- 13 Don't know / can't say

- 22 [Q21=1-10] When were such procedures first established within your research group?
- 1 Within the last year
 - 2 1 year to less than 2 years ago
 - 3 2 years to less than 5 years ago
 - 4 More than 5 years ago
 - 5 These procedures have been in place since I started working in my research group
- 23 [Q22=1-4] Did the quality of your research change after these procedures were introduced?
- 1 Yes, the quality of my research improved
 - 2 Yes, the quality of my research worsened
 - 3 No, the quality of my research remained unchanged
 - 4 Don't know / can't say
- 24 [Q1=1-4 (Researcher / Student)] Have you / your research group experienced any barriers when trying to implement procedures to improve reproducibility of research?
- 1 Yes
 - 2 No
 - 3 I / we haven't ever tried to implement such procedures
 - 4 Don't know / can't say
- 25 [Q24=1] Please list the barriers that you / your research group have encountered when trying to implement procedures to improve reproducibility of research.
-
-
-
- 26 [Q1=1-4 (Researcher / Student)] Have you ever tried to reproduce a finding from a published paper? [Please select all that apply]
- 1 Yes, and I was able to fully reproduce the finding
 - 2 Yes, but I was not able to fully reproduce the finding
 - 3 No, I have not tried to reproduce a finding from a published paper
- 27 [Q26=2] Did you try to publish findings that disagreed with those in a published paper?
- 1 Yes
 - 2 No
- 28 [Q27=2] Why not?
-
-
-
- 29 [Q26=2] Were the differences in findings ever resolved by you or another researcher?
- 1 Yes
 - 2 No

30 [Q1=1-4 (Researcher / Student)] Have you ever tried to reproduce a finding from your own published paper? [Please select all that apply]

- 1 Yes, and I was able to fully reproduce the finding
- 2 Yes, but I was not able to fully reproduce the finding
- 3 No, I have not tried to reproduce a finding from my own published paper
- 4 I have not published any work to date [Skip to Q33]

31 [Q1=1-4 (Researcher / Student)] Have you ever been aware that a finding you had published was not able to be reproduced?

- 1 Yes
- 2 No

32 [Q31=1] How was this resolved, if at all?

33 Responsible research practices are practices that ensure research is rigorous, transparent and reproducible. Approximately, how often do you discuss responsible research practices...

| | Never | Annually or less often | Quarterly | Monthly | Weekly | Daily | Don't know / can't say |
|---|-------|------------------------|-----------|---------|--------|-------|------------------------|
| a [Show if Q1=4] in class / tutorials | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| b [Show if Q1=1-4] with your immediate peers | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| c [Show if Q1=3-4] with a supervisor | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| d [Show if Q1=1-4] with a mentor | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| e [ASK ALL] with a senior staff member | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| f [Show if Q1=1-4] with an ethics committee member | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| g [Show if Q1=6-7] with another member of the ethics committee | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| h [Show if Q1=5-7] with staff at my institutional research office or equivalent | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| i [Show if Q1=1-4] with a librarian | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| j [ASK ALL] with a colleague from another institution | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| k [ASK ALL] with a friend or relative | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| l [ASK ALL] with a member of the general public | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

- 34 [ASK ALL] Do you have informal discussions about responsible research practices (e.g. after work, in social situations)?
- 1 Yes
 - 2 No
 - 3 Not relevant to my role
 - 4 Don't know / can't say
- 35 [ASK ALL] Have you wanted to have discussions about responsible research practices but felt unable to do so?
- 1 Yes
 - 2 No
- 36 [Q1=1-4 (Researcher / Student)] At what stages do you generally discuss responsible research practices with your supervisors / senior colleagues / senior administrators? [Please select all that apply]
- 1 When ethics / grant applications are being prepared
 - 2 When papers are being prepared for publication
 - 3 During annual career development sessions
 - 4 At regular research group meetings
 - 5 When data analysis is being discussed
 - 6 When I first started work / study, but not since
 - 7 Other [Please specify] _____
 - 8 Never
 - 9 Don't know / can't say

Institutional environment

37 Please indicate the extent to which you agree or disagree with the following statements.

| | Strongly disagree | Disagree | Neither agree nor disagree | Agree | Strongly agree | Don't know / not applicable |
|--|-------------------|----------|----------------------------|-------|----------------|-----------------------------|
| a [ASK ALL] I have easy access to an individual(s) with appropriate expertise that I can ask for advice about responsible research practices [Hover text: Practices that ensure research is rigorous, transparent and reproducible.] | 1 | 2 | 3 | 4 | 5 | 6 |

| | Strongly disagree | Disagree | Neither agree nor disagree | Agree | Strongly agree | Don't know / not applicable |
|--|-------------------|----------|----------------------------|-------|----------------|-----------------------------|
| b [ASK ALL] I have easy access to my institution's policies / guidelines about responsible research practices [Hover text: Practices that ensure research is rigorous, transparent and reproducible.] | 1 | 2 | 3 | 4 | 5 | 6 |
| c [Q1=1-4 (Researcher / Student)] The regulatory committees that review my research (e.g. ethics committees) understand the kind of research I do | 1 | 2 | 3 | 4 | 5 | 6 |
| d [Q1=1-4 (Researcher / Student)] I have access to sufficient material resources (e.g. space, equipment or technology) to conduct my research | 1 | 2 | 3 | 4 | 5 | 6 |
| e [Q1=1-4 (Researcher / Student)] I find it difficult to conduct research in a responsible manner because of insufficient access to human resources (e.g. statistical expertise, technical / administrative support) | 1 | 2 | 3 | 4 | 5 | 6 |
| f [Q1=1-4 (Researcher / Student)] Senior administrators in my institution support data and code sharing when publishing research results | 1 | 2 | 3 | 4 | 5 | 6 |
| g [Q1=1-4 (Researcher / Student)] Senior administrators in my institution support open access publishing when publishing research results | 1 | 2 | 3 | 4 | 5 | 6 |

38 [Q1=6-7 (HREC member / AEC member)] Which of the following information is **required** in proposals that your ethics committee considers? [Please select all that apply]

- 1 How the number of participants / animals per experimental cohort was determined
- 2 How statistical power was determined
- 3 Whether participants / animals are to be randomly allocated to experimental cohorts

- 4 Whether inclusion or exclusion criteria will be applied
 - 5 How dropouts / losses will be accounted for in the analysis plan
 - 6 Whether outcome assessment will be blinded
 - 7 Inclusion of positive and negative controls
 - 8 Validation of tools or reagents such as antibodies, siRNAs, small molecules
 - 9 None of the above
 - 10 Don't know / can't say
- 39 [Q1=6-7 (HREC member / AEC member)] Which of the following information is **routinely provided** in proposals that your ethics committee considers? [Please select all that apply]
- 1 How the number of participants / animals per experimental cohort was determined
 - 2 How statistical power was determined
 - 3 Whether participants / animals are to be randomly allocated to experimental cohorts
 - 4 Whether inclusion or exclusion criteria will be applied
 - 5 How dropouts / losses will be accounted for in the analysis plan
 - 6 Whether outcome assessment will be blinded
 - 7 Inclusion of positive and negative controls
 - 8 Validation of tools or reagents such as antibodies, siRNAs, small molecules
 - 9 None of the above
 - 10 Don't know / can't say
- 40 [Q1=6-7 (HREC member / AEC member)] How are you assured about the quality of the design and methods for a project outlined in applications considered by your committee? [Please select all that apply]
- 1 I trust the expertise of other members of the ethics committee
 - 2 I have sufficient expertise to assess these aspects of an application
 - 3 Independent external review
 - 4 Independent internal (institutional) peer review
 - 5 Peer review by a funding body
 - 6 I assume these aspects of the applications are appropriate if they are before the committee
 - 7 Other [Please specify] _____
- 41 [Q1=5 (Institutional Representative)] What systems does your institution have in place for measuring, monitoring and reporting the quality and outcomes of research?
- _____
- _____
- _____

- 42 [ASK ALL] If you have any further comments you would like to make about the culture of your institution in regard to responsible research practices, please provide them in the space below.

Education and training

- 43 [Q1=5 (Institutional Representative)] How does your institution offer education and training about responsible research practices? [Hover text: Practices that ensure research is rigorous, transparent and reproducible.]
 [Q1=1-4 (Researcher / Student)] How have you received education and training about responsible research practices? [Hover text: Practices that ensure research is rigorous, transparent and reproducible.]
 [Q1=6-7 (Ethics committee member)] How have you received education and training about responsible research practices that are relevant to the proposal that your committee considers? [Hover text: Practices that ensure research is rigorous, transparent and reproducible.]
 [Please select all that apply]
- 1 As part of undergraduate courses
 - 2 Training by supervisor / mentor
 - 3 Mandatory institutional training (including induction and refresher training)
 - 4 Non-mandatory institutional training (including induction and refresher training)
 - 5 Ad hoc training
 - 6 Attendance at external conferences / workshops etc.
 - 7 My institution does not offer training
 - 8 [Show if Q1=1-4 (Researcher / Student) or 6-7 (Ethics committee member)] I don't need training
 - 9 [Show if Q1=1-4 (Researcher / Student) or 6-7 (Ethics committee member)] I have never received such training
 - 10 Other [Please specify] _____
- 44 [If Q43=1-6] [Q1=5 (Institutional Representative)] How frequently does your institution offer education and training about responsible research practices? [Q1=1-4 (Researcher / Student) or 6-7 (Ethics committee member)] How frequently do you receive training about responsible research practices from your institution?
- 1 Only once as induction training
 - 2 More than once per year
 - 3 Once a year
 - 4 Once every 2 years
 - 5 Less often

45 [Q1=5 (Institutional Representative)] Education and training about responsible research practices is provided to... [Please select all that apply]

- 1 Undergraduate students
- 2 Masters and PhD students
- 3 Early and mid-career researchers
- 4 Senior researchers
- 5 Research support staff
- 6 Human Research Ethics Committee members
- 7 Animal Ethics Committee members
- 8 Other [Please specify] _____

46 [ASK ALL] Please indicate the extent to which you agree or disagree with the following statements about **training on responsible research practices**.

| | Strongly disagree | Disagree | Neither disagree nor agree | Agree | Strongly agree | Don't know / Not applicable |
|---|-------------------|----------|----------------------------|-------|----------------|-----------------------------|
| a The educational and training opportunities available at my institution about responsible research practices are effective | 1 | 2 | 3 | 4 | 5 | 6 |
| b Education and training about responsible research practices is beneficial for my work / role | 1 | 2 | 3 | 4 | 5 | 6 |
| c Appropriately educating and training researchers about responsible research practices will improve research quality | 1 | 2 | 3 | 4 | 5 | 6 |

Reporting and publishing

47 [Q1=1-4 (Researcher / Student)] When you write a report / paper about your research, which of the following do you specify? [Please select all that apply]

- 1 How the number of participants / animals per experimental cohort was determined
- 2 How statistical power was determined
- 3 Whether participants / animals were randomly allocated to experimental cohorts
- 4 Whether inclusion or exclusion criteria were applied
- 5 How dropouts / losses were accounted for in the analysis plan
- 6 Whether outcome assessment was blinded
- 7 Inclusion of positive and negative controls
- 8 Validation of tools or reagents such as antibodies, siRNAs, small molecules
- 9 I have not yet written a report / paper about my research
- 10 None of the above
- 11 I do not specify any of the above as they are not relevant to my research
- 12 Don't know / can't say

48 [If Q1=1-4 (Researcher / Student)] To what degree do you think that the use of reporting checklists has improved the following aspects of your published work / published work in your field? [**Hover text:** In recent years, some journals have required a 'reporting checklist' for all papers published in their journal. Others have adopted similar short checklists, while most state they support compliance with reporting guidelines – such as ARRIVE for animal research, CONSORT for clinical trials, and STROBE for observational studies.]

| | Not at all | To a small extent | To a moderate extent | To a large extent | Don't know / not applicable |
|--|------------|-------------------|----------------------|-------------------|-----------------------------|
| a Reporting of study methods and procedures | 1 | 2 | 3 | 4 | 5 |
| b Adoption of practices to reduce bias (blinding, randomisation) | 1 | 2 | 3 | 4 | 5 |
| c Statistical analysis of studies | 1 | 2 | 3 | 4 | 5 |
| d Reporting of reagents | 1 | 2 | 3 | 4 | 5 |
| e Reporting of animal models | 1 | 2 | 3 | 4 | 5 |
| f Increased data deposition in public repositories | 1 | 2 | 3 | 4 | 5 |

D. Pressures

49 [Q1=1-4 (Researcher / Student)] Have you ever been aware of other researchers feeling tempted or under pressure to compromise on research quality?

[Q1=5-7 (Institutional representative / HREC member / AEC member)] Have you ever been aware of researchers feeling tempted or under pressure to compromise on research quality?

1 Yes

2 No

50 [Q1=1-4 (Researcher / Student)] Have you ever personally felt tempted or under pressure to compromise on research quality?

1 Yes

2 No

Funding

51 [Q1=1-4 (Researcher / Student)] Please indicate the extent to which you agree or disagree with the following statements.

| | Strongly disagree | Disagree | Neither agree nor disagree | Agree | Strongly agree | Don't know / not applicable |
|--|-------------------|----------|----------------------------|-------|----------------|-----------------------------|
| a My department's / research group's expectations of researchers for obtaining external funding are reasonable | 1 | 2 | 3 | 4 | 5 | 6 |
| b Pressure to obtain external funding has a negative effect on the quality of research in my department / research group | 1 | 2 | 3 | 4 | 5 | 6 |

Publishing

52 [Q1=1-4 (Researcher / Student)] Please indicate the extent to which you agree or disagree with the following statements.

| | Strongly disagree | Disagree | Neither agree nor disagree | Agree | Strongly agree | Don't know / not applicable |
|---|-------------------|----------|----------------------------|-------|----------------|-----------------------------|
| a My department's / research group's expectations of researchers with respect to publishing are reasonable | 1 | 2 | 3 | 4 | 5 | 6 |
| b The pressure to publish findings has a negative effect on the quality of research in my department / research group | 1 | 2 | 3 | 4 | 5 | 6 |

| | Strongly disagree | Disagree | Neither agree nor disagree | Agree | Strongly agree | Don't know / not applicable |
|---|-------------------|----------|----------------------------|-------|----------------|-----------------------------|
| c It is necessary to have a first authored publication in a prestigious journal (e.g. Cell, Nature, Science, NEJM, Lancet) when seeking an academic position or promotion | 1 | 2 | 3 | 4 | 5 | 6 |
| d I experience stress at the thought of my colleagues' assessment of my publication output | 1 | 2 | 3 | 4 | 5 | 6 |
| e Publication pressure leads some colleagues (whether intentionally or not) to cut corners | 1 | 2 | 3 | 4 | 5 | 6 |

Competition

53 [Q1=1-4 (Researcher / Student)] In your experience, how competitive are the following aspects of a researcher's role?

| | Not at all competitive | Not that competitive | Somewhat competitive | Quite competitive | Very competitive | Don't know / can't say |
|------------------------------------|------------------------|----------------------|----------------------|-------------------|------------------|------------------------|
| a Making discoveries | 1 | 2 | 3 | 4 | 5 | 6 |
| b Applying for funding | 1 | 2 | 3 | 4 | 5 | 6 |
| c Applying for jobs and promotions | 1 | 2 | 3 | 4 | 5 | 6 |
| d Gaining peer recognition | 1 | 2 | 3 | 4 | 5 | 6 |
| e Gaining public recognition | 1 | 2 | 3 | 4 | 5 | 6 |
| f Journal publication | 1 | 2 | 3 | 4 | 5 | 6 |

54 [ASK ALL] What effect do you think that competition in research is having on the production of high quality research?

- 1 A very negative effect
- 2 A negative effect
- 3 No effect
- 4 A positive effect
- 5 A very positive effect
- 6 Don't know / can't say

55 [Q54<6] Why do you say that?

External pressure

56 [Q1=1-4 (Researcher / Student)] Have you experienced pressure from a [mentor / supervisor if Q1=3-4, a research colleague if Q1=1-2] to prove that his / her hypothesis was correct, even though the data you generated may not support the hypothesis?

- 1 Yes
- 2 No
- 3 Don't know / can't say

57 [Q1=1-4 (Researcher / Student)] Has [a mentor / supervisor if Q1=3-4, a research colleague if Q1=1-2] ever asked you alter / suppress your results, or to select the best results which may not be representative of all the results?

- 1 Yes
- 2 No
- 3 Don't know / can't say

E. Actions

58 [ASK ALL] What effect do you think the following features of the Australian research environment have on researchers in terms of **encouraging the production of high quality research**?

| | Very negative effect overall | Negative effect overall | No effect overall | Positive effect overall | Very positive effect overall | Don't know / can't say |
|---|------------------------------|-------------------------|-------------------|-------------------------|------------------------------|------------------------|
| a The Excellence in Research for Australia (ERA) framework | 1 | 2 | 3 | 4 | 5 | 6 |
| b International and national University rankings | 1 | 2 | 3 | 4 | 5 | 6 |
| c How funding for specific projects and programmes is awarded | 1 | 2 | 3 | 4 | 5 | 6 |
| d How multidisciplinary & collaborative research is supported | 1 | 2 | 3 | 4 | 5 | 6 |
| e Support of open access publishing | 1 | 2 | 3 | 4 | 5 | 6 |
| f The grant peer review system | 1 | 2 | 3 | 4 | 5 | 6 |
| g The journal peer review system | 1 | 2 | 3 | 4 | 5 | 6 |
| h Media coverage of research | 1 | 2 | 3 | 4 | 5 | 6 |
| i How researchers are assessed for promotion during their careers | 1 | 2 | 3 | 4 | 5 | 6 |
| j Provision of professional education, training and supervision | 1 | 2 | 3 | 4 | 5 | 6 |

| | Very negative effect overall | Negative effect overall | No effect overall | Positive effect overall | Very positive effect overall | Don't know / can't say |
|--|------------------------------|-------------------------|-------------------|-------------------------|------------------------------|------------------------|
| k Commercialisation of research | 1 | 2 | 3 | 4 | 5 | 6 |
| l Ethical review processes | 1 | 2 | 3 | 4 | 5 | 6 |
| m Research governance and contractual processes | 1 | 2 | 3 | 4 | 5 | 6 |
| n Initiatives that promote integrity in research, such as codes of conduct | 1 | 2 | 3 | 4 | 5 | 6 |
| o Data sharing policies | 1 | 2 | 3 | 4 | 5 | 6 |
| p Monetary rewards for research achievements | 1 | 2 | 3 | 4 | 5 | 6 |
| q Emphasis on publishing in top-tier journals | 1 | 2 | 3 | 4 | 5 | 6 |

59 [ASK ALL] Of the following, who has the largest potential to **improve research quality** (directly or indirectly)? [Please select **up to 3** responses]

- 1 Funders
- 2 Publishers
- 3 Research group heads
- 4 Ethics committees
- 5 Department heads
- 6 Professional societies
- 7 Researchers
- 8 Research institutions
- 9 General public and politicians
- 10 None of the above
- 11 Don't know / can't say

60 [ASK ALL] Which of the following actions by **funders** do you think has the largest potential to improve research quality? [Please select **all that apply**]

- 1 Providing guidance for training of researchers about research quality
- 2 Providing guidance for researchers on how to ensure research quality is addressed in grant applications
- 3 Ensuring grant application processes support submission and assessment of critical and relevant information
- 4 Ensuring appropriate training for peer review panel members about research quality
- 5 Encouraging open publishing practices e.g. data sharing, publishing openly (preprint servers, open access journals)
- 6 Providing a publishing platform for all research outputs
- 7 Providing public recognition of initiatives that ensure and promote research quality

8 Other *[Please specify]* _____

9 None of the above

10 Don't know / can't say

61 **[ASK ALL]** Which of the following actions by **academic / research institutions** do you think has the largest potential to improve research quality? *[Please select all that apply]*

1 Providing appropriate education and training for researchers about research quality

2 Requiring compliance with best practice for research design in ethics and grant applications and publications

3 Developing mentoring programs that address research quality as well as career development

4 Rewarding researchers who perform high quality research

5 Conducting audits to ensure maintenance of record keeping and responsible research practice

6 Encouraging open publishing practices e.g. data sharing, publishing openly (preprint servers, open access journals)

7 Promoting an environment where high quality research and reproducible research is considered the required norm

8 Other *[Please specify]* _____

9 None of the above

10 Don't know / can't say

62 **[ASK ALL]** Which of the following actions by **researchers** do you think has the largest potential to improve research quality? *[Please select all that apply]* [

1 Participation in appropriate education and training about research quality

2 Specifying critical research design elements (e.g. power analysis, bias avoidance, randomisation, blinding)

3 Clearly distinguishing between discovery and hypothesis testing experiments

4 Obtaining statistical advice and developing a statistical plan before commencing a study

5 Pre-registration of research protocols

6 Appropriate disclosures of interests including funding sources

7 Replication by outside research groups

8 Use of reporting checklists

9 Reporting exclusions

10 Open publishing practices e.g. data sharing, publishing openly (preprint servers, open access journals)

11 Other *[Please specify]* _____

12 None of the above

13 Don't know / can't say

63 [ASK ALL] Do you think that ensuring research quality adds to your workload?

- 1 No, not at all
- 2 Yes, a little
- 3 Yes, a moderate amount
- 4 Yes, a large amount
- 5 Don't know / can't say

F. Current and past behaviours

[NEW PAGE – SHOW IF Q1=1-4 ONLY]

64 [Q1=1-4 (Researcher / Student)] In the **past 3 years**, have you done, or witnessed, any of the following in your role as a researcher?

| | No | Yes, I've done it myself | Yes, I've seen others do it | Don't know / not applicable | I prefer not to answer this question |
|--|----|--------------------------|-----------------------------|-----------------------------|--------------------------------------|
| a Proposed research questions which are easy to answer rather than needed | 1 | 2 | 3 | 4 | 5 |
| b Chosen an inadequate research design because it minimised costs | 1 | 2 | 3 | 4 | 5 |
| c Used unsuitable measurement methods because they were readily available | 1 | 2 | 3 | 4 | 5 |
| d Withheld information from a grant application that could have 'weakened' the application | 1 | 2 | 3 | 4 | 5 |
| e Stopped data collection earlier than planned, without the application of pre-planned monitoring and stopping rules, because the results were already statistically significant | 1 | 2 | 3 | 4 | 5 |

65 [Q1=1-4 (Researcher / Student)] In the **past 3 years**, have you done, or witnessed, any of the following in your role as a researcher?

| | No | Yes, I've done it myself | Yes, I've seen others do it | Don't know / not applicable | I prefer not to answer this question |
|--|----|--------------------------|-----------------------------|-----------------------------|--------------------------------------|
| a Excluded outlying data before performing data analysis without disclosure | 1 | 2 | 3 | 4 | 5 |
| b Selected the statistical method that provided the desired result | 1 | 2 | 3 | 4 | 5 |
| c Performed data analyses not described in the study protocol without disclosure | 1 | 2 | 3 | 4 | 5 |
| d Reported an incorrect downwardly rounded p-value | 1 | 2 | 3 | 4 | 5 |
| e Incrementally added more data until the results became statistically significant | 1 | 2 | 3 | 4 | 5 |
| f Concealed results that contradict earlier findings or hypotheses | 1 | 2 | 3 | 4 | 5 |
| g Fabricated / falsified data to complete a project or paper | 1 | 2 | 3 | 4 | 5 |

66 [Q1=1-4 (Researcher / Student)] In the **past 3 years**, have you done, or witnessed, any of the following in your role as a researcher?

| | No | Yes, I've done it myself | Yes, I've seen others do it | Don't know / not applicable | I prefer not to answer this question |
|---|----|--------------------------|-----------------------------|-----------------------------|--------------------------------------|
| a Not attempted to publish a valid 'negative' or 'neutral' study | 1 | 2 | 3 | 4 | 5 |
| b Reported an unexpected finding as having been hypothesised from the start | 1 | 2 | 3 | 4 | 5 |
| c Not reported all study protocol stipulated results | 1 | 2 | 3 | 4 | 5 |

| | No | Yes, I've done it myself | Yes, I've seen others do it | Don't know / not applicable | I prefer not to answer this question |
|--|----|--------------------------|-----------------------------|-----------------------------|--------------------------------------|
| d Selection of the best data for publication, rather than representative data | 1 | 2 | 3 | 4 | 5 |
| e Use of other researchers' ideas or phrases without permission or referencing | 1 | 2 | 3 | 4 | 5 |
| f Not reported replication problems | 1 | 2 | 3 | 4 | 5 |
| g Selective citation | 1 | 2 | 3 | 4 | 5 |

67 [Q1=1-4 (Researcher / Student)] In the **past 3 years**, have you done, or witnessed, any of the following in your role as a researcher?

| | No | Yes, I've done it myself | Yes, I've seen others do it | Don't know / not applicable | I prefer not to answer this question |
|--|----|--------------------------|-----------------------------|-----------------------------|--------------------------------------|
| a Insufficiently reported study flaws and limitations | 1 | 2 | 3 | 4 | 5 |
| b Submitted or resubmitted a paper or grant application without consent from all authors | 1 | 2 | 3 | 4 | 5 |
| c Duplication of a publication without disclosure | 1 | 2 | 3 | 4 | 5 |
| d Inappropriately added or omitted an author or contributor | 1 | 2 | 3 | 4 | 5 |

68 [Q1=1-4 (Researcher / Student)] In the **past 3 years**, have you done, or witnessed, any of the following in your role as a researcher?

| | No | Yes, I've done it myself | Yes, I've seen others do it | Don't know / not applicable | I prefer not to answer this question |
|---|----|--------------------------|-----------------------------|-----------------------------|--------------------------------------|
| a Modification of the results or conclusions of a study due to pressure of a sponsor / funder | 1 | 2 | 3 | 4 | 5 |
| b Failure to disclose a sponsor / funder of a study | 1 | 2 | 3 | 4 | 5 |
| c Failure to disclose a relevant financial or | 1 | 2 | 3 | 4 | 5 |

| | No | Yes, I've done it myself | Yes, I've seen others do it | Don't know / not applicable | I prefer not to answer this question |
|---|----|--------------------------|-----------------------------|-----------------------------|--------------------------------------|
| intellectual conflict of interest | | | | | |
| d Refused to share data (that you have the rights to share) with bona fide colleagues | 1 | 2 | 3 | 4 | 5 |
| e Refused to respond to an allegation of a breach of research integrity | 1 | 2 | 3 | 4 | 5 |

G. About you

69 [ASK ALL] Are you:

- 1 Female
- 2 Male
- 3 X (Indeterminate / Intersex / Unspecified)
- 4 Prefer not to say

70 [ASK ALL] How old are you?

- 1 18 – 24 years
- 2 25 – 34 years
- 3 35 – 44 years
- 4 45 – 54 years
- 5 55 – 64 years
- 6 65 – 74 years
- 7 75 years or older
- 8 Prefer not to say

71 [Q1=1-4 (Researcher / Student)] How many years have you been working in research?
 [Q1=5 (Institutional representative)] How many years have you been involved in your role?
 [Q1=6-7 (HREC member / AEC member)] How much experience do you have working as a member or Chair of the ethics committee?

- 1 Less than 3 years
- 2 3 to 10 years
- 3 More than 10 years
- 4 Prefer not to say

72 [ASK ALL] What type of institution are you primarily associated with?

- 1 University
- 2 Hospital
- 3 Research institute
- 4 Company
- 5 Other *[Please specify]* _____

73 [Q1=1-4 (Researcher / Student)] How many members are in your research group?

- 1 1 to 5 members
- 2 6 to 10 members
- 3 11 to 25 members
- 4 26 to 50 members
- 5 More than 50 members



Australian Government

National Health and Medical Research Council

2019 Survey of research culture in Australian NHMRC-funded institutions

Appendix B: Overall frequency results

2019 Survey of research culture in NHMRC-funded institutions - Overall results
A. Your role

q1. In what capacity are you participating in this survey?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|--|-----------|---------|---------------|--------------------|
| Valid | Senior researcher | 658 | 37.2 | 37.2 | 37.2 |
| | Mid-career researcher | 397 | 22.5 | 22.5 | 59.7 |
| | Junior researcher | 284 | 16.1 | 16.1 | 75.7 |
| | Research student | 149 | 8.4 | 8.4 | 84.2 |
| | Representative of an institution | 106 | 6.0 | 6.0 | 90.2 |
| | Current member of a Human Research Ethics Committee (HREC) | 126 | 7.1 | 7.1 | 97.3 |
| | Current member of an Animal Ethics Committee (AEC) | 48 | 2.7 | 2.7 | 100.0 |
| | Total | 1768 | 100.0 | 100.0 | |

q3mr. How would you describe your research / the research conducted at your institution / the proposals considered by your ethics committee? (Multiple Response)

| | | Frequency | % of respondents |
|-------|--------------------------------------|-----------|------------------|
| Valid | Discovery | 796 | 45.0% |
| | Preclinical | 517 | 29.2% |
| | Hospital clinical | 443 | 25.1% |
| | Other clinical | 356 | 20.1% |
| | Health services | 514 | 29.1% |
| | Public health | 633 | 35.8% |
| | Epidemiology | 492 | 27.8% |
| | Implementation research | 402 | 22.7% |
| | Qualitative research | 540 | 30.5% |
| | Quantitative research | 875 | 49.5% |
| | Translational research | 758 | 42.9% |
| | Research on research (meta-research) | 153 | 8.7% |
| | Other | 72 | 4.1% |
| | Number of Respondents | 1768 | 100.0% |

q4. Which of the following most closely matches your current primary role / job title?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--|-----------|---------|---------------|--------------------|
| Valid | Chief Executive Officer | 1 | .1 | 1.0 | 1.0 |
| | Executive Director | 1 | .1 | 1.0 | 1.9 |
| | General Manager | 2 | .1 | 1.9 | 3.8 |
| | Deputy Vice-Chancellor | 4 | .2 | 3.8 | 7.6 |
| | Pro Vice-Chancellor | 2 | .1 | 1.9 | 9.5 |
| | Director | 15 | .8 | 14.3 | 23.8 |
| | Department / Faculty / Research Group Head | 3 | .2 | 2.9 | 26.7 |
| | Research Administration Officer | 39 | 2.2 | 37.1 | 63.8 |
| | Research Integrity Advisor | 2 | .1 | 1.9 | 65.7 |
| | Research Integrity Officer | 14 | .8 | 13.3 | 79.0 |
| | Other | 22 | 1.2 | 21.0 | 100.0 |
| | Total | 105 | 5.9 | 100.0 | |
| Missing | System | 1663 | 94.1 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
A. Your role

q5. What is your current role on the Human Research Ethics Committee (HREC)?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--|-----------|---------|---------------|--------------------|
| Valid | Chair | 17 | 1.0 | 13.5 | 13.5 |
| | Layperson | 31 | 1.8 | 24.6 | 38.1 |
| | Person with knowledge of, and current experience in, the professional care, counselling or treatment of people | 18 | 1.0 | 14.3 | 52.4 |
| | Person who performs a pastoral care role in a community | 8 | .5 | 6.3 | 58.7 |
| | Lawyer | 6 | .3 | 4.8 | 63.5 |
| | Person with knowledge of, and current experience in, the areas of research regularly considered by the HREC | 39 | 2.2 | 31.0 | 94.4 |
| | Other | 7 | .4 | 5.6 | 100.0 |
| | Total | 126 | 7.1 | 100.0 | |
| Missing | System | 1642 | 92.9 | | |
| Total | | 1768 | 100.0 | | |

q6. What is your current role on the Animal Ethics Committee (AEC)?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--|-----------|---------|---------------|--------------------|
| Valid | Chair | 8 | .5 | 16.7 | 16.7 |
| | Category A member | 8 | .5 | 16.7 | 33.3 |
| | Category B member | 3 | .2 | 6.3 | 39.6 |
| | Category C member | 9 | .5 | 18.8 | 58.3 |
| | Category D member | 12 | .7 | 25.0 | 83.3 |
| | Person responsible for the routine care of animals | 4 | .2 | 8.3 | 91.7 |
| | Other | 4 | .2 | 8.3 | 100.0 |
| | Total | 48 | 2.7 | 100.0 | |
| Missing | System | 1720 | 97.3 | | |
| Total | | 1768 | 100.0 | | |

q7a. How many students / staff are you currently a primary supervisor for?
(Honours students, including MBBS research years)

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--------|-----------|---------|---------------|--------------------|
| Valid | 0 | 274 | 15.5 | 37.4 | 37.4 |
| | 1 | 236 | 13.3 | 32.2 | 69.7 |
| | 2 | 134 | 7.6 | 18.3 | 88.0 |
| | 3 | 45 | 2.5 | 6.1 | 94.1 |
| | 4 | 18 | 1.0 | 2.5 | 96.6 |
| | 5 | 9 | .5 | 1.2 | 97.8 |
| | 6 | 5 | .3 | .7 | 98.5 |
| | 8 | 4 | .2 | .5 | 99.0 |
| | 10 | 2 | .1 | .3 | 99.3 |
| | 12 | 2 | .1 | .3 | 99.6 |
| | 14 | 1 | .1 | .1 | 99.7 |
| | 15 | 1 | .1 | .1 | 99.9 |
| | 20 | 1 | .1 | .1 | 100.0 |
| | Total | 732 | 41.4 | 100.0 | |
| Missing | System | 1036 | 58.6 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
A. Your role

**q7b. How many students / staff are you currently a primary supervisor for?
(Masters students)**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--------|-----------|---------|---------------|--------------------|
| Valid | 0 | 298 | 16.9 | 43.6 | 43.6 |
| | 1 | 235 | 13.3 | 34.4 | 77.9 |
| | 2 | 94 | 5.3 | 13.7 | 91.7 |
| | 3 | 26 | 1.5 | 3.8 | 95.5 |
| | 4 | 13 | .7 | 1.9 | 97.4 |
| | 5 | 6 | .3 | .9 | 98.2 |
| | 6 | 4 | .2 | .6 | 98.8 |
| | 7 | 1 | .1 | .1 | 99.0 |
| | 8 | 1 | .1 | .1 | 99.1 |
| | 10 | 1 | .1 | .1 | 99.3 |
| | 12 | 2 | .1 | .3 | 99.6 |
| | 13 | 1 | .1 | .1 | 99.7 |
| | 19 | 1 | .1 | .1 | 99.9 |
| | 125 | 1 | .1 | .1 | 100.0 |
| | Total | | 684 | 38.7 | 100.0 |
| Missing | System | 1084 | 61.3 | | |
| Total | | 1768 | 100.0 | | |

**q7c. How many students / staff are you currently a primary supervisor for?
(Doctoral students)**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--------|-----------|---------|---------------|--------------------|
| Valid | 0 | 100 | 5.7 | 10.3 | 10.3 |
| | 1 | 180 | 10.2 | 18.5 | 28.7 |
| | 2 | 195 | 11.0 | 20.0 | 48.7 |
| | 3 | 145 | 8.2 | 14.9 | 63.6 |
| | 4 | 111 | 6.3 | 11.4 | 75.0 |
| | 5 | 97 | 5.5 | 9.9 | 84.9 |
| | 6 | 61 | 3.5 | 6.3 | 91.2 |
| | 7 | 18 | 1.0 | 1.8 | 93.0 |
| | 8 | 23 | 1.3 | 2.4 | 95.4 |
| | 9 | 12 | .7 | 1.2 | 96.6 |
| | 10 | 9 | .5 | .9 | 97.5 |
| | 11 | 2 | .1 | .2 | 97.7 |
| | 12 | 8 | .5 | .8 | 98.6 |
| | 13 | 2 | .1 | .2 | 98.8 |
| | 14 | 6 | .3 | .6 | 99.4 |
| | 16 | 1 | .1 | .1 | 99.5 |
| | 17 | 1 | .1 | .1 | 99.6 |
| | 18 | 1 | .1 | .1 | 99.7 |
| | 20 | 1 | .1 | .1 | 99.8 |
| | 23 | 1 | .1 | .1 | 99.9 |
| | 25 | 1 | .1 | .1 | 100.0 |
| Total | | 975 | 55.1 | 100.0 | |
| Missing | System | 793 | 44.9 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
A. Your role

**q7d. How many students / staff are you currently a primary supervisor for?
(Technical assistants)**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--------|-----------|---------|---------------|--------------------|
| Valid | 0 | 329 | 18.6 | 67.8 | 67.8 |
| | 1 | 90 | 5.1 | 18.6 | 86.4 |
| | 2 | 39 | 2.2 | 8.0 | 94.4 |
| | 3 | 13 | .7 | 2.7 | 97.1 |
| | 4 | 8 | .5 | 1.6 | 98.8 |
| | 5 | 1 | .1 | .2 | 99.0 |
| | 6 | 1 | .1 | .2 | 99.2 |
| | 8 | 2 | .1 | .4 | 99.6 |
| | 12 | 1 | .1 | .2 | 99.8 |
| | 15 | 1 | .1 | .2 | 100.0 |
| | Total | | 485 | 27.4 | 100.0 |
| Missing | System | 1283 | 72.6 | | |
| Total | | 1768 | 100.0 | | |

**q7e. How many students / staff are you currently a primary supervisor for?
(Research assistants)**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--------|-----------|---------|---------------|--------------------|
| Valid | 0 | 145 | 8.2 | 17.7 | 17.7 |
| | 1 | 278 | 15.7 | 33.9 | 51.5 |
| | 2 | 187 | 10.6 | 22.8 | 74.3 |
| | 3 | 84 | 4.8 | 10.2 | 84.5 |
| | 4 | 37 | 2.1 | 4.5 | 89.0 |
| | 5 | 39 | 2.2 | 4.8 | 93.8 |
| | 6 | 19 | 1.1 | 2.3 | 96.1 |
| | 7 | 3 | .2 | .4 | 96.5 |
| | 8 | 9 | .5 | 1.1 | 97.6 |
| | 9 | 1 | .1 | .1 | 97.7 |
| | 10 | 10 | .6 | 1.2 | 98.9 |
| | 11 | 1 | .1 | .1 | 99.0 |
| | 12 | 1 | .1 | .1 | 99.1 |
| | 13 | 1 | .1 | .1 | 99.3 |
| | 15 | 2 | .1 | .2 | 99.5 |
| | 17 | 1 | .1 | .1 | 99.6 |
| | 24 | 1 | .1 | .1 | 99.8 |
| | 27 | 1 | .1 | .1 | 99.9 |
| | 120 | 1 | .1 | .1 | 100.0 |
| | Total | | 821 | 46.4 | 100.0 |
| Missing | System | 947 | 53.6 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
A. Your role

**q7f. How many students / staff are you currently a primary supervisor for?
(Postdoctoral researchers)**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--------|-----------|---------|---------------|--------------------|
| Valid | 0 | 156 | 8.8 | 18.4 | 18.4 |
| | 1 | 237 | 13.4 | 27.9 | 46.3 |
| | 2 | 185 | 10.5 | 21.8 | 68.1 |
| | 3 | 109 | 6.2 | 12.8 | 80.9 |
| | 4 | 65 | 3.7 | 7.7 | 88.6 |
| | 5 | 36 | 2.0 | 4.2 | 92.8 |
| | 6 | 16 | .9 | 1.9 | 94.7 |
| | 7 | 13 | .7 | 1.5 | 96.2 |
| | 8 | 15 | .8 | 1.8 | 98.0 |
| | 9 | 4 | .2 | .5 | 98.5 |
| | 10 | 5 | .3 | .6 | 99.1 |
| | 12 | 4 | .2 | .5 | 99.5 |
| | 15 | 1 | .1 | .1 | 99.6 |
| | 25 | 1 | .1 | .1 | 99.8 |
| | 30 | 2 | .1 | .2 | 100.0 |
| Total | | 849 | 48.0 | 100.0 | |
| Missing | System | 919 | 52.0 | | |
| Total | | 1768 | 100.0 | | |

**q7g. How many students / staff are you currently a primary supervisor for?
(Clinical researchers)**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--------|-----------|---------|---------------|--------------------|
| Valid | 0 | 305 | 17.3 | 57.8 | 57.8 |
| | 1 | 75 | 4.2 | 14.2 | 72.0 |
| | 2 | 54 | 3.1 | 10.2 | 82.2 |
| | 3 | 25 | 1.4 | 4.7 | 86.9 |
| | 4 | 30 | 1.7 | 5.7 | 92.6 |
| | 5 | 18 | 1.0 | 3.4 | 96.0 |
| | 6 | 2 | .1 | .4 | 96.4 |
| | 8 | 6 | .3 | 1.1 | 97.5 |
| | 10 | 7 | .4 | 1.3 | 98.9 |
| | 12 | 1 | .1 | .2 | 99.1 |
| | 15 | 2 | .1 | .4 | 99.4 |
| | 18 | 1 | .1 | .2 | 99.6 |
| | 30 | 1 | .1 | .2 | 99.8 |
| | 40 | 1 | .1 | .2 | 100.0 |
| | Total | | 528 | 29.9 | 100.0 |
| Missing | System | 1240 | 70.1 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
A. Your role

Descriptive Statistics

| | N | Minimum | Maximum | Mean | Std. Deviation |
|--|-----|---------|---------|------|----------------|
| q7a. How many students / staff are you currently a primary supervisor for? (Honours students, including MBBS research years) | 732 | 0 | 20 | 1.24 | 1.774 |
| q7b. How many students / staff are you currently a primary supervisor for? (Masters students) | 684 | 0 | 125 | 1.19 | 4.994 |
| q7c. How many students / staff are you currently a primary supervisor for? (Doctoral students) | 975 | 0 | 25 | 3.24 | 2.868 |
| q7d. How many students / staff are you currently a primary supervisor for? (Technical assistants) | 485 | 0 | 15 | .60 | 1.342 |
| q7e. How many students / staff are you currently a primary supervisor for? (Research assistants) | 821 | 0 | 120 | 2.21 | 4.775 |
| q7f. How many students / staff are you currently a primary supervisor for? (Postdoctoral researchers) | 849 | 0 | 30 | 2.26 | 2.616 |
| q7g. How many students / staff are you currently a primary supervisor for? (Clinical researchers) | 528 | 0 | 40 | 1.38 | 3.085 |
| Valid N (listwise) | 387 | | | | |

q8. Approximately how many researchers are there at your institution?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|---------------|-----------|---------|---------------|--------------------|
| Valid | 1 to 20 | 5 | .3 | 4.8 | 4.8 |
| | 21 to 50 | 5 | .3 | 4.8 | 9.6 |
| | 51 to 100 | 7 | .4 | 6.7 | 16.3 |
| | 101 to 150 | 5 | .3 | 4.8 | 21.2 |
| | 151 to 200 | 5 | .3 | 4.8 | 26.0 |
| | More than 200 | 77 | 4.4 | 74.0 | 100.0 |
| | Total | 104 | 5.9 | 100.0 | |
| Missing | System | 1664 | 94.1 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
B. Knowledge and attitudes

q9mr. What motivates you in your work as a researcher? (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|--|-----------|------------------|
| Valid | Improving my knowledge and understanding | 690 | 46.4% |
| | Making research discoveries for the benefit of society | 1235 | 83.0% |
| | Gaining recognition from my peers | 102 | 6.9% |
| | Progressing my career | 261 | 17.5% |
| | Gaining recognition from the public | 18 | 1.2% |
| | Satisfying my curiosity | 478 | 32.1% |
| | Working as part of a team | 336 | 22.6% |
| | Communicating research to others | 287 | 19.3% |
| | Training the next generation of researchers | 627 | 42.1% |
| | Earning a salary | 233 | 15.7% |
| | None of the above | 5 | 0.3% |
| | Don't know / can't say | 1 | 0.1% |
| Number of Respondents | | 1488 | 100.0% |

q10mr. Which of the following do you believe are most important for 'high quality research'? (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|-----------------------|-----------|------------------|
| Valid | Rigorous | 1290 | 73.0% |
| | Transparent | 720 | 40.8% |
| | Honest | 620 | 35.1% |
| | Beneficial to society | 1010 | 57.2% |
| | Respectful | 315 | 17.8% |
| | Innovative | 735 | 41.6% |
| | Legal | 134 | 7.6% |
| | Original | 571 | 32.3% |
| | Justified | 424 | 24.0% |
| | Accurate | 930 | 52.7% |
| | Ethical | 1227 | 69.5% |
| | Open | 183 | 10.4% |
| | Other | 38 | 2.2% |
| Number of Respondents | | 1766 | 100.0% |

q12. To what extent do you feel that your department / research group prioritises honesty and integrity when researchers propose, perform and report research?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Not at all | 18 | 1.0 | 1.2 | 1.2 |
| | Somewhat | 74 | 4.2 | 5.1 | 6.3 |
| | Moderately | 184 | 10.4 | 12.7 | 19.0 |
| | Very much | 551 | 31.2 | 38.0 | 57.1 |
| | Completely | 622 | 35.2 | 42.9 | 100.0 |
| | Total | 1449 | 82.0 | 100.0 | |
| Missing | Don't know / can't say | 28 | 1.6 | | |
| | System | 291 | 16.5 | | |
| | Total | 319 | 18.0 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
 B. Knowledge and attitudes

**q13mr. Which of the following do you think matters most to the validity of your research?
 (Multiple Response)**

| | | Frequency | % of respondents |
|-----------------------|---|-----------|------------------|
| Valid | The past work of others | 111 | 7.5% |
| | Your hypothesis | 261 | 17.7% |
| | Your experimental design | 1159 | 78.7% |
| | The statistical power of your experiments | 622 | 42.3% |
| | Avoidance of experimental biases | 897 | 60.9% |
| | The absence of conflicts of interest | 381 | 25.9% |
| | Validation via publication in a peer-review journal | 494 | 33.6% |
| | None of the above | 36 | 2.4% |
| Number of Respondents | | 1472 | 100.0% |

q14a. Failure to build on what is already known from previous research

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Not at all | 44 | 2.5 | 3.0 | 3.0 |
| | A little | 301 | 17.0 | 20.7 | 23.8 |
| | A fair amount | 395 | 22.3 | 27.2 | 51.0 |
| | A lot | 412 | 23.3 | 28.4 | 79.3 |
| | To a great extent | 300 | 17.0 | 20.7 | 100.0 |
| | Total | 1452 | 82.1 | 100.0 | |
| Missing | Don't know / can't say | 13 | .7 | | |
| | System | 303 | 17.1 | | |
| | Total | 316 | 17.9 | | |
| Total | | 1768 | 100.0 | | |

q14b. Conduct of unnecessary research that might have been avoided if all negative or neutral studies were routinely published

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Not at all | 17 | 1.0 | 1.2 | 1.2 |
| | A little | 201 | 11.4 | 14.1 | 15.3 |
| | A fair amount | 385 | 21.8 | 27.0 | 42.3 |
| | A lot | 445 | 25.2 | 31.2 | 73.5 |
| | To a great extent | 378 | 21.4 | 26.5 | 100.0 |
| | Total | 1426 | 80.7 | 100.0 | |
| Missing | Don't know / can't say | 38 | 2.1 | | |
| | System | 304 | 17.2 | | |
| | Total | 342 | 19.3 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
 B. Knowledge and attitudes

q14c. Problems for researchers when previous experiments / studies are unreliable because of biases or inadequate sample size

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Not at all | 10 | .6 | .7 | .7 |
| | A little | 249 | 14.1 | 17.4 | 18.1 |
| | A fair amount | 466 | 26.4 | 32.6 | 50.7 |
| | A lot | 457 | 25.8 | 31.9 | 82.6 |
| | To a great extent | 249 | 14.1 | 17.4 | 100.0 |
| | Total | 1431 | 80.9 | 100.0 | |
| Missing | Don't know / can't say | 32 | 1.8 | | |
| | System | 305 | 17.3 | | |
| | Total | 337 | 19.1 | | |
| Total | | 1768 | 100.0 | | |

q14d. Time wasted when essential information on study methods or materials are poorly described or inaccessible

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Not at all | 15 | .8 | 1.0 | 1.0 |
| | A little | 332 | 18.8 | 23.0 | 24.0 |
| | A fair amount | 445 | 25.2 | 30.8 | 54.9 |
| | A lot | 406 | 23.0 | 28.1 | 83.0 |
| | To a great extent | 245 | 13.9 | 17.0 | 100.0 |
| | Total | 1443 | 81.6 | 100.0 | |
| Missing | Don't know / can't say | 21 | 1.2 | | |
| | System | 304 | 17.2 | | |
| | Total | 325 | 18.4 | | |
| Total | | 1768 | 100.0 | | |

q14e. Failure to consider whether and how research results might have value to downstream users (other researchers, clinicians, etc)

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Not at all | 91 | 5.1 | 6.4 | 6.4 |
| | A little | 415 | 23.5 | 29.1 | 35.4 |
| | A fair amount | 375 | 21.2 | 26.3 | 61.7 |
| | A lot | 308 | 17.4 | 21.6 | 83.3 |
| | To a great extent | 239 | 13.5 | 16.7 | 100.0 |
| | Total | 1428 | 80.8 | 100.0 | |
| Missing | Don't know / can't say | 33 | 1.9 | | |
| | System | 307 | 17.4 | | |
| | Total | 340 | 19.2 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
 B. Knowledge and attitudes

q15. How important do you think reproducibility is to research?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Not at all important | 4 | .2 | .2 | .2 |
| | Not that important | 9 | .5 | .5 | .8 |
| | Somewhat important | 97 | 5.5 | 5.7 | 6.5 |
| | Quite important | 239 | 13.5 | 14.1 | 20.7 |
| | Very important | 1341 | 75.8 | 79.3 | 100.0 |
| Total | | 1690 | 95.6 | 100.0 | |
| Missing | Don't know / can't say | 9 | .5 | | |
| | System | 69 | 3.9 | | |
| | Total | 78 | 4.4 | | |
| Total | | 1768 | 100.0 | | |

q16mr. Before today, had you heard of the term 'crisis of reproducibility' in relation to issues in research? (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|---|-----------|------------------|
| Valid | Yes, from the mainstream media | 478 | 28.2% |
| | Yes, from research journals | 739 | 43.5% |
| | Yes, from discussions at conferences | 589 | 34.7% |
| | Yes, from discussions with my colleagues | 817 | 48.1% |
| | Yes, from online sources (e.g. social media, podcasts, blogs) | 41 | 2.4% |
| | Yes, from elsewhere | 69 | 4.1% |
| | No | 436 | 25.7% |
| | Don't know / can't say | 30 | 1.8% |
| Number of Respondents | | 1698 | 100.0% |

q17. Which of the following statements do you feel is most accurate when thinking about reproducibility in research?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--|-----------|---------|---------------|--------------------|
| Valid | There is no crisis of reproducibility | 53 | 3.0 | 4.1 | 4.1 |
| | There is a slight crisis of reproducibility | 520 | 29.4 | 40.0 | 44.0 |
| | There is a significant crisis of reproducibility | 728 | 41.2 | 56.0 | 100.0 |
| | Total | 1301 | 73.6 | 100.0 | |
| Missing | Don't know / can't say | 391 | 22.1 | | |
| | System | 76 | 4.3 | | |
| | Total | 467 | 26.4 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
 B. Knowledge and attitudes

q18a. I think that a failure to reproduce a result most often means that the original finding is wrong

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|----------------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 99 | 5.6 | 6.1 | 6.1 |
| | Disagree | 589 | 33.3 | 36.3 | 42.4 |
| | Neither agree nor disagree | 631 | 35.7 | 38.9 | 81.4 |
| | Agree | 271 | 15.3 | 16.7 | 98.1 |
| | Strongly agree | 31 | 1.8 | 1.9 | 100.0 |
| | Total | 1621 | 91.7 | 100.0 | |
| Missing | Don't know / can't say | 61 | 3.5 | | |
| | System | 86 | 4.9 | | |
| | Total | 147 | 8.3 | | |
| Total | | 1768 | 100.0 | | |

q18b. I think that a failure to reproduce a result rarely detracts from the validity of the original finding

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|----------------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 127 | 7.2 | 7.9 | 7.9 |
| | Disagree | 784 | 44.3 | 49.0 | 56.9 |
| | Neither agree nor disagree | 404 | 22.9 | 25.2 | 82.1 |
| | Agree | 256 | 14.5 | 16.0 | 98.1 |
| | Strongly agree | 30 | 1.7 | 1.9 | 100.0 |
| | Total | 1601 | 90.6 | 100.0 | |
| Missing | Don't know / can't say | 78 | 4.4 | | |
| | System | 89 | 5.0 | | |
| | Total | 167 | 9.4 | | |
| Total | | 1768 | 100.0 | | |

q18c. I think that the failure to reproduce research is a major problem in my field

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|----------------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 54 | 3.1 | 3.9 | 3.9 |
| | Disagree | 340 | 19.2 | 24.9 | 28.8 |
| | Neither agree nor disagree | 355 | 20.1 | 26.0 | 54.8 |
| | Agree | 495 | 28.0 | 36.2 | 90.9 |
| | Strongly agree | 124 | 7.0 | 9.1 | 100.0 |
| | Total | 1368 | 77.4 | 100.0 | |
| Missing | Don't know / can't say | 52 | 2.9 | | |
| | System | 348 | 19.7 | | |
| | Total | 400 | 22.6 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
B. Knowledge and attitudes

q18d. I think that the failure to reproduce research is a major problem for all fields

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|----------------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 29 | 1.6 | 2.3 | 2.3 |
| | Disagree | 192 | 10.9 | 15.4 | 17.7 |
| | Neither agree nor disagree | 351 | 19.9 | 28.1 | 45.9 |
| | Agree | 541 | 30.6 | 43.4 | 89.3 |
| | Strongly agree | 134 | 7.6 | 10.7 | 100.0 |
| | Total | 1247 | 70.5 | 100.0 | |
| Missing | Don't know / can't say | 171 | 9.7 | | |
| | System | 350 | 19.8 | | |
| | Total | 521 | 29.5 | | |
| Total | | 1768 | 100.0 | | |

q19a. Pressure to publish for career advancement

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Not at all | 37 | 2.1 | 2.7 | 2.7 |
| | Slightly | 164 | 9.3 | 11.8 | 14.5 |
| | Moderately | 328 | 18.6 | 23.7 | 38.2 |
| | Considerably | 461 | 26.1 | 33.3 | 71.4 |
| | To a great extent | 396 | 22.4 | 28.6 | 100.0 |
| | Total | 1386 | 78.4 | 100.0 | |
| Missing | Don't know / can't say | 115 | 6.5 | | |
| | System | 267 | 15.1 | | |
| | Total | 382 | 21.6 | | |
| Total | | 1768 | 100.0 | | |

**q19b. Insufficient oversight / mentoring by principal investigator for the research group
(e.g. reviewing raw data)**

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Not at all | 39 | 2.2 | 2.8 | 2.8 |
| | Slightly | 242 | 13.7 | 17.5 | 20.3 |
| | Moderately | 489 | 27.7 | 35.4 | 55.8 |
| | Considerably | 446 | 25.2 | 32.3 | 88.1 |
| | To a great extent | 165 | 9.3 | 11.9 | 100.0 |
| | Total | 1381 | 78.1 | 100.0 | |
| Missing | Don't know / can't say | 116 | 6.6 | | |
| | System | 271 | 15.3 | | |
| | Total | 387 | 21.9 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
B. Knowledge and attitudes

q19c. Insufficient peer review of grant applications

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Not at all | 315 | 17.8 | 23.4 | 23.4 |
| | Slightly | 496 | 28.1 | 36.8 | 60.3 |
| | Moderately | 329 | 18.6 | 24.4 | 84.7 |
| | Considerably | 140 | 7.9 | 10.4 | 95.1 |
| | To a great extent | 66 | 3.7 | 4.9 | 100.0 |
| | Total | 1346 | 76.1 | 100.0 | |
| Missing | Don't know / can't say | 154 | 8.7 | | |
| | System | 268 | 15.2 | | |
| | Total | 422 | 23.9 | | |
| Total | | 1768 | 100.0 | | |

q19d. Insufficient peer review of research publications

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Not at all | 124 | 7.0 | 8.9 | 8.9 |
| | Slightly | 388 | 21.9 | 27.8 | 36.7 |
| | Moderately | 451 | 25.5 | 32.4 | 69.1 |
| | Considerably | 322 | 18.2 | 23.1 | 92.2 |
| | To a great extent | 109 | 6.2 | 7.8 | 100.0 |
| | Total | 1394 | 78.8 | 100.0 | |
| Missing | Don't know / can't say | 104 | 5.9 | | |
| | System | 270 | 15.3 | | |
| | Total | 374 | 21.2 | | |
| Total | | 1768 | 100.0 | | |

q19e. Selective reporting of results

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Not at all | 12 | .7 | .8 | .8 |
| | Slightly | 84 | 4.8 | 5.9 | 6.7 |
| | Moderately | 318 | 18.0 | 22.3 | 29.1 |
| | Considerably | 587 | 33.2 | 41.2 | 70.2 |
| | To a great extent | 424 | 24.0 | 29.8 | 100.0 |
| | Total | 1425 | 80.6 | 100.0 | |
| Missing | Don't know / can't say | 71 | 4.0 | | |
| | System | 272 | 15.4 | | |
| | Total | 343 | 19.4 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
B. Knowledge and attitudes

q19f. Original findings were inadequately robust because of insufficient replication by the research group publishing the work

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Not at all | 25 | 1.4 | 2.0 | 2.0 |
| | Slightly | 233 | 13.2 | 18.4 | 20.3 |
| | Moderately | 443 | 25.1 | 34.9 | 55.2 |
| | Considerably | 422 | 23.9 | 33.3 | 88.5 |
| | To a great extent | 146 | 8.3 | 11.5 | 100.0 |
| | Total | 1269 | 71.8 | 100.0 | |
| Missing | Don't know / can't say | 229 | 13.0 | | |
| | System | 270 | 15.3 | | |
| | Total | 499 | 28.2 | | |
| Total | | 1768 | 100.0 | | |

q19g. Original findings obtained with low statistical power / poor statistical analysis

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Not at all | 15 | .8 | 1.1 | 1.1 |
| | Slightly | 184 | 10.4 | 13.3 | 14.4 |
| | Moderately | 469 | 26.5 | 33.9 | 48.2 |
| | Considerably | 492 | 27.8 | 35.5 | 83.8 |
| | To a great extent | 225 | 12.7 | 16.2 | 100.0 |
| | Total | 1385 | 78.3 | 100.0 | |
| Missing | Don't know / can't say | 116 | 6.6 | | |
| | System | 267 | 15.1 | | |
| | Total | 383 | 21.7 | | |
| Total | | 1768 | 100.0 | | |

q19h. Mistakes or inadequate expertise in reproduction efforts

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Not at all | 37 | 2.1 | 2.8 | 2.8 |
| | Slightly | 392 | 22.2 | 30.1 | 32.9 |
| | Moderately | 514 | 29.1 | 39.5 | 72.4 |
| | Considerably | 293 | 16.6 | 22.5 | 94.9 |
| | To a great extent | 66 | 3.7 | 5.1 | 100.0 |
| | Total | 1302 | 73.6 | 100.0 | |
| Missing | Don't know / can't say | 195 | 11.0 | | |
| | System | 271 | 15.3 | | |
| | Total | 466 | 26.4 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
 B. Knowledge and attitudes

q19i. Information not available from the original research group (e.g. protocols, data, code, reagent information)

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Not at all | 18 | 1.0 | 1.3 | 1.3 |
| | Slightly | 255 | 14.4 | 18.5 | 19.8 |
| | Moderately | 437 | 24.7 | 31.8 | 51.6 |
| | Considerably | 460 | 26.0 | 33.4 | 85.0 |
| | To a great extent | 206 | 11.7 | 15.0 | 100.0 |
| | Total | 1376 | 77.8 | 100.0 | |
| Missing | Don't know / can't say | 119 | 6.7 | | |
| | System | 273 | 15.4 | | |
| | Total | 392 | 22.2 | | |
| Total | | 1768 | 100.0 | | |

q19j. Methods need technical expertise that is difficult for others to reproduce

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Not at all | 69 | 3.9 | 5.1 | 5.1 |
| | Slightly | 386 | 21.8 | 28.4 | 33.4 |
| | Moderately | 444 | 25.1 | 32.6 | 66.1 |
| | Considerably | 358 | 20.2 | 26.3 | 92.4 |
| | To a great extent | 104 | 5.9 | 7.6 | 100.0 |
| | Total | 1361 | 77.0 | 100.0 | |
| Missing | Don't know / can't say | 137 | 7.7 | | |
| | System | 270 | 15.3 | | |
| | Total | 407 | 23.0 | | |
| Total | | 1768 | 100.0 | | |

q19k. Variability in standard reagents

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Not at all | 84 | 4.8 | 8.6 | 8.6 |
| | Slightly | 321 | 18.2 | 32.8 | 41.4 |
| | Moderately | 339 | 19.2 | 34.6 | 76.0 |
| | Considerably | 186 | 10.5 | 19.0 | 95.0 |
| | To a great extent | 49 | 2.8 | 5.0 | 100.0 |
| | Total | 979 | 55.4 | 100.0 | |
| Missing | Don't know / can't say | 518 | 29.3 | | |
| | System | 271 | 15.3 | | |
| | Total | 789 | 44.6 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
B. Knowledge and attitudes

q19l. Poor experimental design

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Not at all | 28 | 1.6 | 2.0 | 2.0 |
| | Slightly | 268 | 15.2 | 19.4 | 21.5 |
| | Moderately | 484 | 27.4 | 35.1 | 56.6 |
| | Considerably | 436 | 24.7 | 31.6 | 88.2 |
| | To a great extent | 163 | 9.2 | 11.8 | 100.0 |
| | Total | 1379 | 78.0 | 100.0 | |
| Missing | Don't know / can't say | 115 | 6.5 | | |
| | System | 274 | 15.5 | | |
| | Total | 389 | 22.0 | | |
| Total | | 1768 | 100.0 | | |

q19m. Fraud (i.e. fabricated or falsified results)

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Not at all | 111 | 6.3 | 9.0 | 9.0 |
| | Slightly | 652 | 36.9 | 52.8 | 61.8 |
| | Moderately | 237 | 13.4 | 19.2 | 81.0 |
| | Considerably | 125 | 7.1 | 10.1 | 91.1 |
| | To a great extent | 110 | 6.2 | 8.9 | 100.0 |
| | Total | 1235 | 69.9 | 100.0 | |
| Missing | Don't know / can't say | 265 | 15.0 | | |
| | System | 268 | 15.2 | | |
| | Total | 533 | 30.1 | | |
| Total | | 1768 | 100.0 | | |

q19n. Bad luck

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Not at all | 460 | 26.0 | 37.3 | 37.3 |
| | Slightly | 468 | 26.5 | 38.0 | 75.3 |
| | Moderately | 233 | 13.2 | 18.9 | 94.2 |
| | Considerably | 59 | 3.3 | 4.8 | 98.9 |
| | To a great extent | 13 | .7 | 1.1 | 100.0 |
| | Total | 1233 | 69.7 | 100.0 | |
| Missing | Don't know / can't say | 264 | 14.9 | | |
| | System | 271 | 15.3 | | |
| | Total | 535 | 30.3 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
C. Environment

q20a. Research practices in my department / research group follow established institutional policies regarding research

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 15 | .8 | 1.1 | 1.1 |
| | Disagree | 33 | 1.9 | 2.5 | 3.7 |
| | Neither agree nor disagree | 80 | 4.5 | 6.1 | 9.8 |
| | Agree | 651 | 36.8 | 49.7 | 59.5 |
| | Strongly agree | 530 | 30.0 | 40.5 | 100.0 |
| | Total | 1309 | 74.0 | 100.0 | |
| Missing | Don't know / not applicable | 25 | 1.4 | | |
| | System | 434 | 24.5 | | |
| | Total | 459 | 26.0 | | |
| Total | | 1768 | 100.0 | | |

q20b. People in my department / research group implement data management principles within their research projects

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 17 | 1.0 | 1.3 | 1.3 |
| | Disagree | 53 | 3.0 | 4.1 | 5.4 |
| | Neither agree nor disagree | 116 | 6.6 | 8.9 | 14.3 |
| | Agree | 695 | 39.3 | 53.5 | 67.8 |
| | Strongly agree | 419 | 23.7 | 32.2 | 100.0 |
| | Total | 1300 | 73.5 | 100.0 | |
| Missing | Don't know / not applicable | 33 | 1.9 | | |
| | System | 435 | 24.6 | | |
| | Total | 468 | 26.5 | | |
| Total | | 1768 | 100.0 | | |

q20c. People in my department / research group appropriately handle data from collection to archival with an intention for potential future re-use

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 20 | 1.1 | 1.6 | 1.6 |
| | Disagree | 81 | 4.6 | 6.3 | 7.9 |
| | Neither agree nor disagree | 173 | 9.8 | 13.5 | 21.4 |
| | Agree | 640 | 36.2 | 50.0 | 71.4 |
| | Strongly agree | 366 | 20.7 | 28.6 | 100.0 |
| | Total | 1280 | 72.4 | 100.0 | |
| Missing | Don't know / not applicable | 48 | 2.7 | | |
| | System | 440 | 24.9 | | |
| | Total | 488 | 27.6 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
C. Environment

q20d. Junior researchers are effectively mentored about responsible research practices

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 54 | 3.1 | 3.9 | 3.9 |
| | Disagree | 175 | 9.9 | 12.5 | 16.3 |
| | Neither agree nor disagree | 194 | 11.0 | 13.8 | 30.2 |
| | Agree | 665 | 37.6 | 47.5 | 77.7 |
| | Strongly agree | 313 | 17.7 | 22.3 | 100.0 |
| | Total | 1401 | 79.2 | 100.0 | |
| Missing | Don't know / not applicable | 17 | 1.0 | | |
| | System | 350 | 19.8 | | |
| | Total | 367 | 20.8 | | |
| Total | | 1768 | 100.0 | | |

q20e. Researchers in my immediate research environment are committed to appropriate data and code sharing when publishing research results

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 21 | 1.2 | 1.6 | 1.6 |
| | Disagree | 96 | 5.4 | 7.4 | 9.1 |
| | Neither agree nor disagree | 209 | 11.8 | 16.2 | 25.3 |
| | Agree | 582 | 32.9 | 45.1 | 70.4 |
| | Strongly agree | 382 | 21.6 | 29.6 | 100.0 |
| | Total | 1290 | 73.0 | 100.0 | |
| Missing | Don't know / not applicable | 40 | 2.3 | | |
| | System | 438 | 24.8 | | |
| | Total | 478 | 27.0 | | |
| Total | | 1768 | 100.0 | | |

q20f. Researchers in my immediate research environment are committed to open access publishing when publishing research results

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 38 | 2.1 | 3.0 | 3.0 |
| | Disagree | 178 | 10.1 | 13.9 | 16.8 |
| | Neither agree nor disagree | 367 | 20.8 | 28.6 | 45.5 |
| | Agree | 445 | 25.2 | 34.7 | 80.2 |
| | Strongly agree | 254 | 14.4 | 19.8 | 100.0 |
| | Total | 1282 | 72.5 | 100.0 | |
| Missing | Don't know / not applicable | 48 | 2.7 | | |
| | System | 438 | 24.8 | | |
| | Total | 486 | 27.5 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
C. Environment

q21mr. Which of the following procedures have you / your research group established to ensure reproducibility in your work? (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|---|-----------|------------------|
| Valid | Estimate required number of participants / animals per experimental cohort | 881 | 66.1% |
| | Estimate statistical power | 979 | 73.4% |
| | Randomly allocate participants / animals to experimental cohorts | 817 | 61.3% |
| | Apply inclusion or exclusion criteria | 926 | 69.5% |
| | Procedures for accounting for dropouts / losses documented in the analysis plan | 677 | 50.8% |
| | Blind outcome assessment | 687 | 51.5% |
| | Transparent reporting of study design and methods | 1168 | 87.6% |
| | In house replication before publication | 458 | 34.4% |
| | Inclusion of positive and negative controls | 793 | 59.5% |
| | Validation of tools or reagents such as antibodies, SiRNAs, small molecules | 600 | 45.0% |
| | Other | 139 | 10.4% |
| | No procedures have been established to ensure reproducibility in our work | 14 | 1.1% |
| | Don't know / can't say | 21 | 1.6% |
| Number of Respondents | | 1333 | 100.0% |

q22. When were such procedures first established within your research group?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--|-----------|---------|---------------|--------------------|
| Valid | Within the last year | 11 | .6 | .9 | .9 |
| | 1 year to less than 2 years ago | 21 | 1.2 | 1.7 | 2.5 |
| | 2 years to less than 5 years ago | 113 | 6.4 | 8.9 | 11.4 |
| | More than 5 years ago | 284 | 16.1 | 22.4 | 33.9 |
| | These procedures have been in place since I started working in my research group | 838 | 47.4 | 66.1 | 100.0 |
| | Total | 1267 | 71.7 | 100.0 | |
| Missing | System | 501 | 28.3 | | |
| Total | | 1768 | 100.0 | | |

q23. Did the quality of your research change after these procedures were introduced?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|---|-----------|---------|---------------|--------------------|
| Valid | Yes, the quality of my research improved | 189 | 10.7 | 61.2 | 61.2 |
| | Yes, the quality of my research worsened | 3 | .2 | 1.0 | 62.1 |
| | No, the quality of my research remained unchanged | 117 | 6.6 | 37.9 | 100.0 |
| | Total | 309 | 17.5 | 100.0 | |
| Missing | Don't know / can't say | 120 | 6.8 | | |
| | System | 1339 | 75.7 | | |
| | Total | 1459 | 82.5 | | |
| Total | | 1768 | 100.0 | | |

q24. Have you / your research group experienced any barriers when trying to implement procedures to improve reproducibility of research?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--|-----------|---------|---------------|--------------------|
| Valid | Yes | 253 | 14.3 | 19.2 | 19.2 |
| | No | 735 | 41.6 | 55.9 | 75.1 |
| | I / we haven't ever tried to implement such procedures | 103 | 5.8 | 7.8 | 83.0 |
| | Don't know / can't say | 224 | 12.7 | 17.0 | 100.0 |
| | Total | 1315 | 74.4 | 100.0 | |
| Missing | System | 453 | 25.6 | | |
| Total | | 1768 | 100.0 | | |

q26mr. Have you ever tried to reproduce a finding from a published paper? (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|--|-----------|------------------|
| Valid | Yes, and I was able to fully reproduce the finding | 388 | 29.6% |
| | Yes, but I was not able to fully reproduce the finding | 576 | 43.9% |
| | No, I have not tried to reproduce a finding from a published paper | 526 | 40.1% |
| Number of Respondents | | 1313 | 100.0% |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
C. Environment

q27. Did you try to publish findings that disagreed with those in a published paper?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--------|-----------|---------|---------------|--------------------|
| Valid | Yes | 381 | 21.5 | 66.3 | 66.3 |
| | No | 194 | 11.0 | 33.7 | 100.0 |
| | Total | 575 | 32.5 | 100.0 | |
| Missing | System | 1193 | 67.5 | | |
| Total | | 1768 | 100.0 | | |

q29. Were the differences in findings ever resolved by you or another researcher?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--------|-----------|---------|---------------|--------------------|
| Valid | Yes | 172 | 9.7 | 30.1 | 30.1 |
| | No | 400 | 22.6 | 69.9 | 100.0 |
| | Total | 572 | 32.4 | 100.0 | |
| Missing | System | 1196 | 67.6 | | |
| Total | | 1768 | 100.0 | | |

q30mr. Have you ever tried to reproduce a finding from your own published paper? (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|---|-----------|------------------|
| Valid | Yes, and I was able to fully reproduce the finding | 662 | 49.9% |
| | Yes, but I was not able to fully reproduce the finding | 112 | 8.4% |
| | No, I have not tried to reproduce a finding from my own published paper | 558 | 42.1% |
| | I have not published any work to date | 49 | 3.7% |
| Number of Respondents | | 1326 | 100.0% |

q31. Have you ever been aware that a finding you had published was not able to be reproduced?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--------|-----------|---------|---------------|--------------------|
| Valid | Yes | 130 | 7.4 | 10.2 | 10.2 |
| | No | 1141 | 64.5 | 89.8 | 100.0 |
| | Total | 1271 | 71.9 | 100.0 | |
| Missing | System | 497 | 28.1 | | |
| Total | | 1768 | 100.0 | | |

q33a. in class / tutorials

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Never | 23 | 1.3 | 28.0 | 28.0 |
| | Annually or less often | 20 | 1.1 | 24.4 | 52.4 |
| | Quarterly | 22 | 1.2 | 26.8 | 79.3 |
| | Monthly | 10 | .6 | 12.2 | 91.5 |
| | Weekly | 7 | .4 | 8.5 | 100.0 |
| | Total | 82 | 4.6 | 100.0 | |
| Missing | Don't know / can't say | 35 | 2.0 | | |
| | System | 1651 | 93.4 | | |
| Total | | 1686 | 95.4 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
C. Environment

q33b. with your immediate peers

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Never | 35 | 2.0 | 2.7 | 2.7 |
| | Annually or less often | 158 | 8.9 | 12.3 | 15.1 |
| | Quarterly | 272 | 15.4 | 21.2 | 36.3 |
| | Monthly | 379 | 21.4 | 29.6 | 65.9 |
| | Weekly | 360 | 20.4 | 28.1 | 94.0 |
| | Daily | 77 | 4.4 | 6.0 | 100.0 |
| | Total | 1281 | 72.5 | 100.0 | |
| Missing | Don't know / can't say | 20 | 1.1 | | |
| | System | 467 | 26.4 | | |
| | Total | 487 | 27.5 | | |
| Total | | 1768 | 100.0 | | |

q33c. with a supervisor

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Never | 20 | 1.1 | 5.7 | 5.7 |
| | Annually or less often | 45 | 2.5 | 12.7 | 18.4 |
| | Quarterly | 77 | 4.4 | 21.8 | 40.2 |
| | Monthly | 130 | 7.4 | 36.8 | 77.1 |
| | Weekly | 80 | 4.5 | 22.7 | 99.7 |
| | Daily | 1 | .1 | .3 | 100.0 |
| | Total | 353 | 20.0 | 100.0 | |
| Missing | Don't know / can't say | 8 | .5 | | |
| | System | 1407 | 79.6 | | |
| | Total | 1415 | 80.0 | | |
| Total | | 1768 | 100.0 | | |

q33d. with a mentor

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Never | 208 | 11.8 | 18.0 | 18.0 |
| | Annually or less often | 309 | 17.5 | 26.8 | 44.8 |
| | Quarterly | 259 | 14.6 | 22.4 | 67.2 |
| | Monthly | 257 | 14.5 | 22.3 | 89.5 |
| | Weekly | 114 | 6.4 | 9.9 | 99.4 |
| | Daily | 7 | .4 | .6 | 100.0 |
| | Total | 1154 | 65.3 | 100.0 | |
| Missing | Don't know / can't say | 136 | 7.7 | | |
| | System | 478 | 27.0 | | |
| | Total | 614 | 34.7 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
C. Environment

q33e. with a senior staff member

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Never | 163 | 9.2 | 11.2 | 11.2 |
| | Annually or less often | 341 | 19.3 | 23.4 | 34.6 |
| | Quarterly | 351 | 19.9 | 24.1 | 58.6 |
| | Monthly | 383 | 21.7 | 26.3 | 84.9 |
| | Weekly | 190 | 10.7 | 13.0 | 97.9 |
| | Daily | 30 | 1.7 | 2.1 | 100.0 |
| | Total | 1458 | 82.5 | 100.0 | |
| Missing | Don't know / can't say | 79 | 4.5 | | |
| | System | 231 | 13.1 | | |
| | Total | 310 | 17.5 | | |
| Total | | 1768 | 100.0 | | |

q33f. with an ethics committee member

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Never | 364 | 20.6 | 29.7 | 29.7 |
| | Annually or less often | 482 | 27.3 | 39.3 | 69.0 |
| | Quarterly | 228 | 12.9 | 18.6 | 87.6 |
| | Monthly | 128 | 7.2 | 10.4 | 98.0 |
| | Weekly | 23 | 1.3 | 1.9 | 99.9 |
| | Daily | 1 | .1 | .1 | 100.0 |
| | Total | 1226 | 69.3 | 100.0 | |
| Missing | Don't know / can't say | 66 | 3.7 | | |
| | System | 476 | 26.9 | | |
| | Total | 542 | 30.7 | | |
| Total | | 1768 | 100.0 | | |

q33g. with another member of the ethics committee

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Never | 3 | .2 | 1.8 | 1.8 |
| | Annually or less often | 14 | .8 | 8.6 | 10.4 |
| | Quarterly | 47 | 2.7 | 28.8 | 39.3 |
| | Monthly | 84 | 4.8 | 51.5 | 90.8 |
| | Weekly | 12 | .7 | 7.4 | 98.2 |
| | Daily | 3 | .2 | 1.8 | 100.0 |
| | Total | 163 | 9.2 | 100.0 | |
| Missing | Don't know / can't say | 6 | .3 | | |
| | System | 1599 | 90.4 | | |
| | Total | 1605 | 90.8 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
C. Environment

q33h. with staff at my institutional research office or equivalent

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Never | 38 | 2.1 | 16.5 | 16.5 |
| | Annually or less often | 35 | 2.0 | 15.2 | 31.6 |
| | Quarterly | 30 | 1.7 | 13.0 | 44.6 |
| | Monthly | 60 | 3.4 | 26.0 | 70.6 |
| | Weekly | 45 | 2.5 | 19.5 | 90.0 |
| | Daily | 23 | 1.3 | 10.0 | 100.0 |
| | Total | 231 | 13.1 | 100.0 | |
| Missing | Don't know / can't say | 17 | 1.0 | | |
| | System | 1520 | 86.0 | | |
| | Total | 1537 | 86.9 | | |
| Total | 1768 | 100.0 | | | |

q33i. with a librarian

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Never | 985 | 55.7 | 79.9 | 79.9 |
| | Annually or less often | 189 | 10.7 | 15.3 | 95.2 |
| | Quarterly | 47 | 2.7 | 3.8 | 99.0 |
| | Monthly | 11 | .6 | .9 | 99.9 |
| | Weekly | 1 | .1 | .1 | 100.0 |
| | Total | 1233 | 69.7 | 100.0 | |
| Missing | Don't know / can't say | 58 | 3.3 | | |
| | System | 477 | 27.0 | | |
| | Total | 535 | 30.3 | | |
| Total | 1768 | 100.0 | | | |

q33j. with a colleague from another institution

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Never | 214 | 12.1 | 14.3 | 14.3 |
| | Annually or less often | 503 | 28.5 | 33.7 | 48.0 |
| | Quarterly | 439 | 24.8 | 29.4 | 77.4 |
| | Monthly | 261 | 14.8 | 17.5 | 94.9 |
| | Weekly | 68 | 3.8 | 4.6 | 99.5 |
| | Daily | 8 | .5 | .5 | 100.0 |
| | Total | 1493 | 84.4 | 100.0 | |
| Missing | Don't know / can't say | 48 | 2.7 | | |
| | System | 227 | 12.8 | | |
| | Total | 275 | 15.6 | | |
| Total | 1768 | 100.0 | | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
C. Environment

q33k. with a friend or relative

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Never | 534 | 30.2 | 35.7 | 35.7 |
| | Annually or less often | 378 | 21.4 | 25.3 | 61.0 |
| | Quarterly | 244 | 13.8 | 16.3 | 77.3 |
| | Monthly | 193 | 10.9 | 12.9 | 90.2 |
| | Weekly | 126 | 7.1 | 8.4 | 98.6 |
| | Daily | 21 | 1.2 | 1.4 | 100.0 |
| | Total | 1496 | 84.6 | 100.0 | |
| Missing | Don't know / can't say | 49 | 2.8 | | |
| | System | 223 | 12.6 | | |
| | Total | 272 | 15.4 | | |
| Total | | 1768 | 100.0 | | |

q33l. with a member of the general public

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Never | 686 | 38.8 | 46.7 | 46.7 |
| | Annually or less often | 484 | 27.4 | 32.9 | 79.6 |
| | Quarterly | 180 | 10.2 | 12.3 | 91.9 |
| | Monthly | 93 | 5.3 | 6.3 | 98.2 |
| | Weekly | 23 | 1.3 | 1.6 | 99.8 |
| | Daily | 3 | .2 | .2 | 100.0 |
| | Total | 1469 | 83.1 | 100.0 | |
| Missing | Don't know / can't say | 74 | 4.2 | | |
| | System | 225 | 12.7 | | |
| | Total | 299 | 16.9 | | |
| Total | | 1768 | 100.0 | | |

q34. Do you have informal discussions about responsible research practices (e.g. after work, in social situations)?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-------------------------|-----------|---------|---------------|--------------------|
| Valid | Yes | 1061 | 60.0 | 67.4 | 67.4 |
| | No | 411 | 23.2 | 26.1 | 93.5 |
| | Not relevant to my role | 57 | 3.2 | 3.6 | 97.1 |
| | Don't know / can't say | 46 | 2.6 | 2.9 | 100.0 |
| | Total | 1575 | 89.1 | 100.0 | |
| Missing | System | 193 | 10.9 | | |
| Total | | 1768 | 100.0 | | |

q35. Have you wanted to have discussions about responsible research practices but felt unable to do so?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--------|-----------|---------|---------------|--------------------|
| Valid | Yes | 247 | 14.0 | 15.7 | 15.7 |
| | No | 1324 | 74.9 | 84.3 | 100.0 |
| | Total | 1571 | 88.9 | 100.0 | |
| Missing | System | 197 | 11.1 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
C. Environment

q36mr. At what stages do you generally discuss responsible research practices with your supervisors / senior colleagues / senior administrators? (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|---|-----------|------------------|
| Valid | When ethics / grant applications are being prepared | 914 | 69.5% |
| | When papers are being prepared for publication | 887 | 67.4% |
| | During annual career development sessions | 315 | 23.9% |
| | At regular research group meetings | 897 | 68.2% |
| | When data analysis is being discussed | 1010 | 76.7% |
| | When I first started work / study, but not since | 16 | 1.2% |
| | Other | 90 | 6.8% |
| | Never | 35 | 2.7% |
| | Don't know / can't say | 24 | 1.8% |
| Number of Respondents | | 1316 | 100.0% |

q37a. I have easy access to an individual(s) with appropriate expertise that I can ask for advice about responsible research practices

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 28 | 1.6 | 1.9 | 1.9 |
| | Disagree | 99 | 5.6 | 6.6 | 8.5 |
| | Neither agree nor disagree | 143 | 8.1 | 9.5 | 18.0 |
| | Agree | 674 | 38.1 | 44.9 | 62.9 |
| | Strongly agree | 556 | 31.4 | 37.1 | 100.0 |
| | Total | 1500 | 84.8 | 100.0 | |
| Missing | Don't know / not applicable | 24 | 1.4 | | |
| | System | 244 | 13.8 | | |
| | Total | 268 | 15.2 | | |
| Total | | 1768 | 100.0 | | |

q37b. I have easy access to my institution's policies / guidelines about responsible research practices

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 15 | .8 | 1.0 | 1.0 |
| | Disagree | 65 | 3.7 | 4.4 | 5.4 |
| | Neither agree nor disagree | 146 | 8.3 | 9.8 | 15.2 |
| | Agree | 679 | 38.4 | 45.7 | 60.9 |
| | Strongly agree | 581 | 32.9 | 39.1 | 100.0 |
| | Total | 1486 | 84.0 | 100.0 | |
| Missing | Don't know / not applicable | 37 | 2.1 | | |
| | System | 245 | 13.9 | | |
| | Total | 282 | 16.0 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
C. Environment

q37c. The regulatory committees that review my research (e.g. ethics committees) understand the kind of research I do

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 43 | 2.4 | 3.6 | 3.6 |
| | Disagree | 121 | 6.8 | 10.0 | 13.6 |
| | Neither agree nor disagree | 237 | 13.4 | 19.6 | 33.2 |
| | Agree | 592 | 33.5 | 49.0 | 82.2 |
| | Strongly agree | 215 | 12.2 | 17.8 | 100.0 |
| | Total | 1208 | 68.3 | 100.0 | |
| Missing | Don't know / not applicable | 56 | 3.2 | | |
| | System | 504 | 28.5 | | |
| | Total | 560 | 31.7 | | |
| Total | | 1768 | 100.0 | | |

q37d. I have access to sufficient material resources (e.g. space, equipment or technology) to conduct my research

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 41 | 2.3 | 3.2 | 3.2 |
| | Disagree | 147 | 8.3 | 11.6 | 14.9 |
| | Neither agree nor disagree | 137 | 7.7 | 10.8 | 25.7 |
| | Agree | 631 | 35.7 | 49.9 | 75.6 |
| | Strongly agree | 308 | 17.4 | 24.4 | 100.0 |
| | Total | 1264 | 71.5 | 100.0 | |
| Missing | Don't know / not applicable | 4 | .2 | | |
| | System | 500 | 28.3 | | |
| | Total | 504 | 28.5 | | |
| Total | | 1768 | 100.0 | | |

q37e. I find it difficult to conduct research in a responsible manner because of insufficient access to human resources (e.g. statistical expertise, technical / administrative support)

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 288 | 16.3 | 22.9 | 22.9 |
| | Disagree | 536 | 30.3 | 42.7 | 65.6 |
| | Neither agree nor disagree | 205 | 11.6 | 16.3 | 81.9 |
| | Agree | 170 | 9.6 | 13.5 | 95.5 |
| | Strongly agree | 57 | 3.2 | 4.5 | 100.0 |
| | Total | 1256 | 71.0 | 100.0 | |
| Missing | Don't know / not applicable | 11 | .6 | | |
| | System | 501 | 28.3 | | |
| | Total | 512 | 29.0 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
C. Environment

q37f. Senior administrators in my institution support data and code sharing when publishing research results

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 26 | 1.5 | 2.5 | 2.5 |
| | Disagree | 96 | 5.4 | 9.1 | 11.6 |
| | Neither agree nor disagree | 283 | 16.0 | 27.0 | 38.6 |
| | Agree | 484 | 27.4 | 46.1 | 84.7 |
| | Strongly agree | 161 | 9.1 | 15.3 | 100.0 |
| | Total | 1050 | 59.4 | 100.0 | |
| Missing | Don't know / not applicable | 219 | 12.4 | | |
| | System | 499 | 28.2 | | |
| | Total | 718 | 40.6 | | |
| Total | | 1768 | 100.0 | | |

q37g. Senior administrators in my institution support open access publishing when publishing research results

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 46 | 2.6 | 4.1 | 4.1 |
| | Disagree | 145 | 8.2 | 12.9 | 17.0 |
| | Neither agree nor disagree | 345 | 19.5 | 30.7 | 47.8 |
| | Agree | 431 | 24.4 | 38.4 | 86.2 |
| | Strongly agree | 155 | 8.8 | 13.8 | 100.0 |
| | Total | 1122 | 63.5 | 100.0 | |
| Missing | Don't know / not applicable | 146 | 8.3 | | |
| | System | 500 | 28.3 | | |
| | Total | 646 | 36.5 | | |
| Total | | 1768 | 100.0 | | |

q38mr. Which of the following information is required in proposals that your ethics committee considers? (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|---|-----------|------------------|
| Valid | How the number of participants / animals per experimental cohort was determined | 125 | 74.9% |
| | How statistical power was determined | 105 | 62.9% |
| | Whether participants / animals are to be randomly allocated to experimental cohorts | 103 | 61.7% |
| | Whether inclusion or exclusion criteria will be applied | 121 | 72.5% |
| | How dropouts / losses will be accounted for in the analysis plan | 81 | 48.5% |
| | Whether outcome assessment will be blinded | 84 | 50.3% |
| | Inclusion of positive and negative controls | 78 | 46.7% |
| | Validation of tools or reagents such as antibodies, siRNAs, small molecules | 69 | 41.3% |
| | None of the above | 6 | 3.6% |
| | Don't know / can't say | 7 | 4.2% |
| Number of Respondents | | 167 | 100.0% |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
C. Environment

**q39mr. Which of the following information is routinely provided in proposals that your ethics committee considers?
(Multiple Response)**

| | | Frequency | % of respondents |
|-----------------------|---|-----------|------------------|
| Valid | How the number of participants / animals per experimental cohort was determined | 119 | 71.7% |
| | How statistical power was determined | 97 | 58.4% |
| | Whether participants / animals are to be randomly allocated to experimental cohorts | 112 | 67.5% |
| | Whether inclusion or exclusion criteria will be applied | 127 | 76.5% |
| | How dropouts / losses will be accounted for in the analysis plan | 76 | 45.8% |
| | Whether outcome assessment will be blinded | 76 | 45.8% |
| | Inclusion of positive and negative controls | 77 | 46.4% |
| | Validation of tools or reagents such as antibodies, siRNAs, small molecules | 60 | 36.1% |
| | None of the above | 2 | 1.2% |
| | Don't know / can't say | 5 | 3.0% |
| Number of Respondents | | 166 | 100.0% |

q40mr. How are you assured about the quality of the design and methods for a project outlined in applications considered by your committee? (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|---|-----------|------------------|
| Valid | I trust the expertise of other members of the ethics committee | 122 | 73.5% |
| | I have sufficient expertise to assess these aspects of an application | 75 | 45.2% |
| | Independent external review | 33 | 19.9% |
| | Independent internal (institutional) peer review | 70 | 42.2% |
| | Peer review by a funding body | 50 | 30.1% |
| | I assume these aspects of the applications are appropriate if they are before the committee | 34 | 20.5% |
| | Other | 11 | 6.6% |
| Number of Respondents | | 166 | 100.0% |

q43mr. How does your institution offer / how have you received education and training about responsible research practices? (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|---|-----------|------------------|
| Valid | As part of undergraduate courses | 431 | 28.5% |
| | As part of postgraduate courses | 20 | 1.3% |
| | Training by supervisor / mentor | 832 | 55.0% |
| | Mandatory institutional training (including induction and refresher training) | 940 | 62.1% |
| | Non-mandatory institutional training (including induction and refresher training) | 461 | 30.5% |
| | Ad hoc training | 692 | 45.7% |
| | Attendance at external conferences / workshops etc. | 671 | 44.3% |
| | My institution does not offer training | 10 | 0.7% |
| | I don't need training | 2 | 0.1% |
| | I have never received such training | 70 | 4.6% |
| | Other | 101 | 6.7% |
| Number of Respondents | | 1513 | 100.0% |

q44. How frequently do you receive training about responsible research practices from your institution?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|---------------------------------|-----------|---------|---------------|--------------------|
| Valid | Only once as induction training | 211 | 11.9 | 15.0 | 15.0 |
| | More than once per year | 239 | 13.5 | 17.0 | 32.0 |
| | Once a year | 355 | 20.1 | 25.2 | 57.2 |
| | Once every 2 years | 238 | 13.5 | 16.9 | 74.1 |
| | Less often | 364 | 20.6 | 25.9 | 100.0 |
| | Total | 1407 | 79.6 | 100.0 | |
| Missing | System | 361 | 20.4 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
C. Environment

**q45mr. Education and training about responsible research practices is provided to...
(Multiple Response)**

| | | Frequency | % of respondents |
|-----------------------|---|-----------|------------------|
| Valid | Undergraduate students | 31 | 37.8% |
| | Masters and PhD students | 70 | 85.4% |
| | Early and mid-career researchers | 69 | 84.1% |
| | Senior researchers | 51 | 62.2% |
| | Research support staff | 51 | 62.2% |
| | Human Research Ethics Committee members | 49 | 59.8% |
| | Animal Ethics Committee members | 42 | 51.2% |
| | Other | 9 | 11.0% |
| Number of Respondents | | 82 | 100.0% |

q46a. The educational and training opportunities available at my institution about responsible research practices are effective

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 41 | 2.3 | 3.0 | 3.0 |
| | Disagree | 181 | 10.2 | 13.3 | 16.3 |
| | Neither disagree nor agree | 422 | 23.9 | 31.1 | 47.4 |
| | Agree | 603 | 34.1 | 44.4 | 91.8 |
| | Strongly agree | 111 | 6.3 | 8.2 | 100.0 |
| | Total | 1358 | 76.8 | 100.0 | |
| Missing | Don't know / Not applicable | 148 | 8.4 | | |
| | System | 262 | 14.8 | | |
| | Total | 410 | 23.2 | | |
| Total | | 1768 | 100.0 | | |

q46b. Education and training about responsible research practices is beneficial for my work / role

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 13 | .7 | .9 | .9 |
| | Disagree | 40 | 2.3 | 2.7 | 3.6 |
| | Neither disagree nor agree | 169 | 9.6 | 11.6 | 15.2 |
| | Agree | 839 | 47.5 | 57.6 | 72.8 |
| | Strongly agree | 396 | 22.4 | 27.2 | 100.0 |
| | Total | 1457 | 82.4 | 100.0 | |
| Missing | Don't know / Not applicable | 49 | 2.8 | | |
| | System | 262 | 14.8 | | |
| | Total | 311 | 17.6 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
C. Environment

q46c. Appropriately educating and training researchers about responsible research practices will improve research quality

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 14 | .8 | .9 | .9 |
| | Disagree | 50 | 2.8 | 3.4 | 4.3 |
| | Neither disagree nor agree | 131 | 7.4 | 8.8 | 13.2 |
| | Agree | 679 | 38.4 | 45.8 | 59.0 |
| | Strongly agree | 607 | 34.3 | 41.0 | 100.0 |
| | Total | 1481 | 83.8 | 100.0 | |
| Missing | Don't know / Not applicable | 25 | 1.4 | | |
| | System | 262 | 14.8 | | |
| | Total | 287 | 16.2 | | |
| Total | | 1768 | 100.0 | | |

q47mr. When you write a report / paper about your research, which of the following do you specify? (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|---|-----------|------------------|
| Valid | How the number of participants / animals per experimental cohort was determined | 876 | 69.5% |
| | How statistical power was determined | 927 | 73.5% |
| | Whether participants / animals were randomly allocated to experimental cohorts | 903 | 71.6% |
| | Whether inclusion or exclusion criteria were applied | 974 | 77.2% |
| | How dropouts / losses were accounted for in the analysis plan | 792 | 62.8% |
| | Whether outcome assessment was blinded | 847 | 67.2% |
| | Inclusion of positive and negative controls | 813 | 64.5% |
| | Validation of tools or reagents such as antibodies, siRNAs, small molecules | 652 | 51.7% |
| | I have not yet written a report / paper about my research | 15 | 1.2% |
| | None of the above | 2 | 0.2% |
| | I do not specify any of the above as they are not relevant to my research | 30 | 2.4% |
| | Don't know / can't say | 12 | 1.0% |
| Number of Respondents | | 1261 | 100.0% |

q48a. Reporting of study methods and procedures

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Valid | Not at all | 56 | 3.2 | 4.9 | 4.9 |
| | To a small extent | 165 | 9.3 | 14.4 | 19.3 |
| | To a moderate extent | 433 | 24.5 | 37.8 | 57.1 |
| | To a large extent | 492 | 27.8 | 42.9 | 100.0 |
| | Total | 1146 | 64.8 | 100.0 | |
| Missing | Don't know / not applicable | 113 | 6.4 | | |
| | System | 509 | 28.8 | | |
| | Total | 622 | 35.2 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
C. Environment

q48b. Adoption of practices to reduce bias (blinding, randomisation)

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Valid | Not at all | 74 | 4.2 | 6.9 | 6.9 |
| | To a small extent | 183 | 10.4 | 17.2 | 24.1 |
| | To a moderate extent | 390 | 22.1 | 36.6 | 60.7 |
| | To a large extent | 419 | 23.7 | 39.3 | 100.0 |
| | Total | 1066 | 60.3 | 100.0 | |
| Missing | Don't know / not applicable | 192 | 10.9 | | |
| | System | 510 | 28.8 | | |
| | Total | 702 | 39.7 | | |
| Total | | 1768 | 100.0 | | |

q48c. Statistical analysis of studies

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Valid | Not at all | 74 | 4.2 | 6.6 | 6.6 |
| | To a small extent | 211 | 11.9 | 18.9 | 25.5 |
| | To a moderate extent | 422 | 23.9 | 37.7 | 63.2 |
| | To a large extent | 411 | 23.2 | 36.8 | 100.0 |
| | Total | 1118 | 63.2 | 100.0 | |
| Missing | Don't know / not applicable | 141 | 8.0 | | |
| | System | 509 | 28.8 | | |
| | Total | 650 | 36.8 | | |
| Total | | 1768 | 100.0 | | |

q48d. Reporting of reagents

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Valid | Not at all | 59 | 3.3 | 9.6 | 9.6 |
| | To a small extent | 149 | 8.4 | 24.3 | 33.9 |
| | To a moderate extent | 230 | 13.0 | 37.5 | 71.5 |
| | To a large extent | 175 | 9.9 | 28.5 | 100.0 |
| | Total | 613 | 34.7 | 100.0 | |
| Missing | Don't know / not applicable | 633 | 35.8 | | |
| | System | 522 | 29.5 | | |
| | Total | 1155 | 65.3 | | |
| Total | | 1768 | 100.0 | | |

q48e. Reporting of animal models

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Valid | Not at all | 55 | 3.1 | 10.2 | 10.2 |
| | To a small extent | 118 | 6.7 | 21.8 | 32.0 |
| | To a moderate extent | 190 | 10.7 | 35.1 | 67.1 |
| | To a large extent | 178 | 10.1 | 32.9 | 100.0 |
| | Total | 541 | 30.6 | 100.0 | |
| Missing | Don't know / not applicable | 706 | 39.9 | | |
| | System | 521 | 29.5 | | |
| | Total | 1227 | 69.4 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
 C. Environment

q48f. Increased data deposition in public repositories

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Valid | Not at all | 146 | 8.3 | 14.9 | 14.9 |
| | To a small extent | 273 | 15.4 | 27.9 | 42.8 |
| | To a moderate extent | 307 | 17.4 | 31.4 | 74.2 |
| | To a large extent | 253 | 14.3 | 25.8 | 100.0 |
| | Total | 979 | 55.4 | 100.0 | |
| Missing | Don't know / not applicable | 278 | 15.7 | | |
| | System | 511 | 28.9 | | |
| | Total | 789 | 44.6 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
D. Pressures

q49. Have you ever been aware of other researchers feeling tempted or under pressure to compromise on research quality?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--------|-----------|---------|---------------|--------------------|
| Valid | Yes | 805 | 45.5 | 53.6 | 53.6 |
| | No | 696 | 39.4 | 46.4 | 100.0 |
| | Total | 1501 | 84.9 | 100.0 | |
| Missing | System | 267 | 15.1 | | |
| Total | | 1768 | 100.0 | | |

q50. Have you ever personally felt tempted or under pressure to compromise on research quality?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--------|-----------|---------|---------------|--------------------|
| Valid | Yes | 344 | 19.5 | 27.5 | 27.5 |
| | No | 908 | 51.4 | 72.5 | 100.0 |
| | Total | 1252 | 70.8 | 100.0 | |
| Missing | System | 516 | 29.2 | | |
| Total | | 1768 | 100.0 | | |

q51a. My department's / research group's expectations of researchers for obtaining external funding are reasonable

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 117 | 6.6 | 9.7 | 9.7 |
| | Disagree | 294 | 16.6 | 24.3 | 34.0 |
| | Neither agree nor disagree | 241 | 13.6 | 19.9 | 53.9 |
| | Agree | 498 | 28.2 | 41.2 | 95.0 |
| | Strongly agree | 60 | 3.4 | 5.0 | 100.0 |
| | Total | 1210 | 68.4 | 100.0 | |
| Missing | Don't know / not applicable | 42 | 2.4 | | |
| | System | 516 | 29.2 | | |
| | Total | 558 | 31.6 | | |
| Total | | 1768 | 100.0 | | |

q51b. Pressure to obtain external funding has a negative effect on the quality of research in my department / research group

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 69 | 3.9 | 5.8 | 5.8 |
| | Disagree | 246 | 13.9 | 20.7 | 26.4 |
| | Neither agree nor disagree | 250 | 14.1 | 21.0 | 47.4 |
| | Agree | 355 | 20.1 | 29.8 | 77.2 |
| | Strongly agree | 271 | 15.3 | 22.8 | 100.0 |
| | Total | 1191 | 67.4 | 100.0 | |
| Missing | Don't know / not applicable | 58 | 3.3 | | |
| | System | 519 | 29.4 | | |
| | Total | 577 | 32.6 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
D. Pressures

q52a. My department's / research group's expectations of researchers with respect to publishing are reasonable

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 54 | 3.1 | 4.4 | 4.4 |
| | Disagree | 161 | 9.1 | 13.2 | 17.6 |
| | Neither agree nor disagree | 204 | 11.5 | 16.7 | 34.3 |
| | Agree | 707 | 40.0 | 57.9 | 92.1 |
| | Strongly agree | 96 | 5.4 | 7.9 | 100.0 |
| | Total | 1222 | 69.1 | 100.0 | |
| Missing | Don't know / not applicable | 27 | 1.5 | | |
| | System | 519 | 29.4 | | |
| | Total | 546 | 30.9 | | |
| Total | | 1768 | 100.0 | | |

q52b. The pressure to publish findings has a negative effect on the quality of research in my department / research group

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 82 | 4.6 | 6.8 | 6.8 |
| | Disagree | 430 | 24.3 | 35.8 | 42.7 |
| | Neither agree nor disagree | 290 | 16.4 | 24.2 | 66.8 |
| | Agree | 283 | 16.0 | 23.6 | 90.4 |
| | Strongly agree | 115 | 6.5 | 9.6 | 100.0 |
| | Total | 1200 | 67.9 | 100.0 | |
| Missing | Don't know / not applicable | 43 | 2.4 | | |
| | System | 525 | 29.7 | | |
| | Total | 568 | 32.1 | | |
| Total | | 1768 | 100.0 | | |

q52c. It is necessary to have a first authored publication in a prestigious journal (e.g. Cell, Nature, Science, NEJM, Lancet) when seeking an academic position or promotion

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 75 | 4.2 | 6.3 | 6.3 |
| | Disagree | 319 | 18.0 | 26.7 | 32.9 |
| | Neither agree nor disagree | 221 | 12.5 | 18.5 | 51.4 |
| | Agree | 351 | 19.9 | 29.3 | 80.8 |
| | Strongly agree | 230 | 13.0 | 19.2 | 100.0 |
| | Total | 1196 | 67.6 | 100.0 | |
| Missing | Don't know / not applicable | 52 | 2.9 | | |
| | System | 520 | 29.4 | | |
| | Total | 572 | 32.4 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
D. Pressures

q52d. I experience stress at the thought of my colleagues' assessment of my publication output

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 124 | 7.0 | 10.1 | 10.1 |
| | Disagree | 311 | 17.6 | 25.3 | 35.4 |
| | Neither agree nor disagree | 173 | 9.8 | 14.1 | 49.4 |
| | Agree | 392 | 22.2 | 31.9 | 81.3 |
| | Strongly agree | 230 | 13.0 | 18.7 | 100.0 |
| | Total | 1230 | 69.6 | 100.0 | |
| Missing | Don't know / not applicable | 15 | .8 | | |
| | System | 523 | 29.6 | | |
| | Total | 538 | 30.4 | | |
| Total | | 1768 | 100.0 | | |

q52e. Publication pressure leads some colleagues (whether intentionally or not) to cut corners

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Valid | Strongly disagree | 25 | 1.4 | 2.3 | 2.3 |
| | Disagree | 143 | 8.1 | 12.9 | 15.2 |
| | Neither agree nor disagree | 193 | 10.9 | 17.4 | 32.6 |
| | Agree | 475 | 26.9 | 42.9 | 75.5 |
| | Strongly agree | 271 | 15.3 | 24.5 | 100.0 |
| | Total | 1107 | 62.6 | 100.0 | |
| Missing | Don't know / not applicable | 139 | 7.9 | | |
| | System | 522 | 29.5 | | |
| | Total | 661 | 37.4 | | |
| Total | | 1768 | 100.0 | | |

q53a. Making discoveries

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Not at all competitive | 14 | .8 | 1.2 | 1.2 |
| | Not that competitive | 86 | 4.9 | 7.4 | 8.6 |
| | Somewhat competitive | 255 | 14.4 | 21.8 | 30.4 |
| | Quite competitive | 408 | 23.1 | 34.9 | 65.3 |
| | Very competitive | 405 | 22.9 | 34.7 | 100.0 |
| | Total | 1168 | 66.1 | 100.0 | |
| Missing | Don't know / can't say | 76 | 4.3 | | |
| | System | 524 | 29.6 | | |
| | Total | 600 | 33.9 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
D. Pressures

q53b. Applying for funding

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Not at all competitive | 1 | .1 | .1 | .1 |
| | Not that competitive | 6 | .3 | .5 | .6 |
| | Somewhat competitive | 11 | .6 | .9 | 1.5 |
| | Quite competitive | 86 | 4.9 | 6.9 | 8.4 |
| | Very competitive | 1134 | 64.1 | 91.6 | 100.0 |
| | Total | 1238 | 70.0 | 100.0 | |
| Missing | Don't know / can't say | 9 | .5 | | |
| | System | 521 | 29.5 | | |
| | Total | 530 | 30.0 | | |
| Total | | 1768 | 100.0 | | |

q53c. Applying for jobs and promotions

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Not that competitive | 10 | .6 | .8 | .8 |
| | Somewhat competitive | 93 | 5.3 | 7.6 | 8.4 |
| | Quite competitive | 353 | 20.0 | 28.7 | 37.1 |
| | Very competitive | 772 | 43.7 | 62.9 | 100.0 |
| | Total | 1228 | 69.5 | 100.0 | |
| Missing | Don't know / can't say | 19 | 1.1 | | |
| | System | 521 | 29.5 | | |
| | Total | 540 | 30.5 | | |
| Total | | 1768 | 100.0 | | |

q53d. Gaining peer recognition

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Not at all competitive | 5 | .3 | .4 | .4 |
| | Not that competitive | 47 | 2.7 | 3.8 | 4.3 |
| | Somewhat competitive | 223 | 12.6 | 18.2 | 22.5 |
| | Quite competitive | 502 | 28.4 | 41.0 | 63.5 |
| | Very competitive | 446 | 25.2 | 36.5 | 100.0 |
| | Total | 1223 | 69.2 | 100.0 | |
| Missing | Don't know / can't say | 24 | 1.4 | | |
| | System | 521 | 29.5 | | |
| | Total | 545 | 30.8 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
D. Pressures

q53e. Gaining public recognition

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Not at all competitive | 24 | 1.4 | 2.0 | 2.0 |
| | Not that competitive | 164 | 9.3 | 13.8 | 15.8 |
| | Somewhat competitive | 351 | 19.9 | 29.5 | 45.4 |
| | Quite competitive | 329 | 18.6 | 27.7 | 73.1 |
| | Very competitive | 320 | 18.1 | 26.9 | 100.0 |
| | Total | 1188 | 67.2 | 100.0 | |
| Missing | Don't know / can't say | 59 | 3.3 | | |
| | System | 521 | 29.5 | | |
| | Total | 580 | 32.8 | | |
| Total | | 1768 | 100.0 | | |

q53f. Journal publication

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Not at all competitive | 6 | .3 | .5 | .5 |
| | Not that competitive | 42 | 2.4 | 3.4 | 3.9 |
| | Somewhat competitive | 192 | 10.9 | 15.5 | 19.4 |
| | Quite competitive | 432 | 24.4 | 35.0 | 54.4 |
| | Very competitive | 563 | 31.8 | 45.6 | 100.0 |
| | Total | 1235 | 69.9 | 100.0 | |
| Missing | Don't know / can't say | 10 | .6 | | |
| | System | 523 | 29.6 | | |
| | Total | 533 | 30.1 | | |
| Total | | 1768 | 100.0 | | |

q54. What effect do you think that competition in research is having on the production of high quality research?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | A very negative effect | 259 | 14.6 | 20.3 | 20.3 |
| | A negative effect | 636 | 36.0 | 49.9 | 70.2 |
| | No effect | 62 | 3.5 | 4.9 | 75.1 |
| | A positive effect | 299 | 16.9 | 23.5 | 98.5 |
| | A very positive effect | 19 | 1.1 | 1.5 | 100.0 |
| | Total | 1275 | 72.1 | 100.0 | |
| Missing | Don't know / can't say | 224 | 12.7 | | |
| | System | 269 | 15.2 | | |
| | Total | 493 | 27.9 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
D. Pressures

q56. Have you experienced pressure from a research colleague to prove that his / her hypothesis was correct, even though the data you generated may not support the hypothesis?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Yes | 281 | 15.9 | 22.5 | 22.5 |
| | No | 917 | 51.9 | 73.5 | 96.1 |
| | Don't know / can't say | 49 | 2.8 | 3.9 | 100.0 |
| | Total | 1247 | 70.5 | 100.0 | |
| Missing | System | 521 | 29.5 | | |
| Total | | 1768 | 100.0 | | |

q57. Has a research colleague ever asked you alter / suppress your results, or to select the best results which may not be representative of all the results?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | Yes | 203 | 11.5 | 16.3 | 16.3 |
| | No | 1023 | 57.9 | 81.9 | 98.2 |
| | Don't know / can't say | 23 | 1.3 | 1.8 | 100.0 |
| | Total | 1249 | 70.6 | 100.0 | |
| Missing | System | 519 | 29.4 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
E. Actions

q58a. The Excellence in Research for Australia (ERA) framework

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------------|-----------|---------|---------------|--------------------|
| Valid | Very negative effect overall | 34 | 1.9 | 3.6 | 3.6 |
| | Negative effect overall | 150 | 8.5 | 15.9 | 19.5 |
| | No effect overall | 385 | 21.8 | 40.9 | 60.4 |
| | Positive effect overall | 342 | 19.3 | 36.3 | 96.7 |
| | Very positive effect overall | 31 | 1.8 | 3.3 | 100.0 |
| | Total | 942 | 53.3 | 100.0 | |
| Missing | Don't know / can't say | 502 | 28.4 | | |
| | System | 324 | 18.3 | | |
| | Total | 826 | 46.7 | | |
| Total | | 1768 | 100.0 | | |

q58b. International and national University rankings

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------------|-----------|---------|---------------|--------------------|
| Valid | Very negative effect overall | 61 | 3.5 | 4.9 | 4.9 |
| | Negative effect overall | 289 | 16.3 | 23.3 | 28.3 |
| | No effect overall | 472 | 26.7 | 38.1 | 66.4 |
| | Positive effect overall | 394 | 22.3 | 31.8 | 98.2 |
| | Very positive effect overall | 22 | 1.2 | 1.8 | 100.0 |
| | Total | 1238 | 70.0 | 100.0 | |
| Missing | Don't know / can't say | 203 | 11.5 | | |
| | System | 327 | 18.5 | | |
| | Total | 530 | 30.0 | | |
| Total | | 1768 | 100.0 | | |

q58c. How funding for specific projects and programmes is awarded

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------------|-----------|---------|---------------|--------------------|
| Valid | Very negative effect overall | 172 | 9.7 | 13.4 | 13.4 |
| | Negative effect overall | 502 | 28.4 | 39.0 | 52.4 |
| | No effect overall | 147 | 8.3 | 11.4 | 63.8 |
| | Positive effect overall | 412 | 23.3 | 32.0 | 95.9 |
| | Very positive effect overall | 53 | 3.0 | 4.1 | 100.0 |
| | Total | 1286 | 72.7 | 100.0 | |
| Missing | Don't know / can't say | 150 | 8.5 | | |
| | System | 332 | 18.8 | | |
| | Total | 482 | 27.3 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
E. Actions

q58d. How multidisciplinary & collaborative research is supported

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------------|-----------|---------|---------------|--------------------|
| Valid | Very negative effect overall | 96 | 5.4 | 7.5 | 7.5 |
| | Negative effect overall | 270 | 15.3 | 21.0 | 28.4 |
| | No effect overall | 216 | 12.2 | 16.8 | 45.2 |
| | Positive effect overall | 593 | 33.5 | 46.0 | 91.2 |
| | Very positive effect overall | 113 | 6.4 | 8.8 | 100.0 |
| | Total | 1288 | 72.9 | 100.0 | |
| Missing | Don't know / can't say | 151 | 8.5 | | |
| | System | 329 | 18.6 | | |
| | Total | 480 | 27.1 | | |
| Total | | 1768 | 100.0 | | |

q58e. Support of open access publishing

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------------|-----------|---------|---------------|--------------------|
| Valid | Very negative effect overall | 28 | 1.6 | 2.2 | 2.2 |
| | Negative effect overall | 96 | 5.4 | 7.6 | 9.8 |
| | No effect overall | 486 | 27.5 | 38.4 | 48.1 |
| | Positive effect overall | 531 | 30.0 | 41.9 | 90.1 |
| | Very positive effect overall | 126 | 7.1 | 9.9 | 100.0 |
| | Total | 1267 | 71.7 | 100.0 | |
| Missing | Don't know / can't say | 174 | 9.8 | | |
| | System | 327 | 18.5 | | |
| | Total | 501 | 28.3 | | |
| Total | | 1768 | 100.0 | | |

q58f. The grant peer review system

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------------|-----------|---------|---------------|--------------------|
| Valid | Very negative effect overall | 178 | 10.1 | 13.7 | 13.7 |
| | Negative effect overall | 385 | 21.8 | 29.5 | 43.2 |
| | No effect overall | 149 | 8.4 | 11.4 | 54.6 |
| | Positive effect overall | 527 | 29.8 | 40.4 | 95.1 |
| | Very positive effect overall | 64 | 3.6 | 4.9 | 100.0 |
| | Total | 1303 | 73.7 | 100.0 | |
| Missing | Don't know / can't say | 139 | 7.9 | | |
| | System | 326 | 18.4 | | |
| | Total | 465 | 26.3 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
E. Actions

q58g. The journal peer review system

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------------|-----------|---------|---------------|--------------------|
| Valid | Very negative effect overall | 54 | 3.1 | 4.0 | 4.0 |
| | Negative effect overall | 202 | 11.4 | 14.9 | 18.9 |
| | No effect overall | 231 | 13.1 | 17.0 | 35.9 |
| | Positive effect overall | 776 | 43.9 | 57.3 | 93.2 |
| | Very positive effect overall | 92 | 5.2 | 6.8 | 100.0 |
| | Total | 1355 | 76.6 | 100.0 | |
| Missing | Don't know / can't say | 88 | 5.0 | | |
| | System | 325 | 18.4 | | |
| | Total | 413 | 23.4 | | |
| Total | | 1768 | 100.0 | | |

q58h. Media coverage of research

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------------|-----------|---------|---------------|--------------------|
| Valid | Very negative effect overall | 76 | 4.3 | 5.9 | 5.9 |
| | Negative effect overall | 301 | 17.0 | 23.4 | 29.3 |
| | No effect overall | 517 | 29.2 | 40.2 | 69.5 |
| | Positive effect overall | 355 | 20.1 | 27.6 | 97.1 |
| | Very positive effect overall | 37 | 2.1 | 2.9 | 100.0 |
| | Total | 1286 | 72.7 | 100.0 | |
| Missing | Don't know / can't say | 153 | 8.7 | | |
| | System | 329 | 18.6 | | |
| | Total | 482 | 27.3 | | |
| Total | | 1768 | 100.0 | | |

q58i. How researchers are assessed for promotion during their careers

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------------|-----------|---------|---------------|--------------------|
| Valid | Very negative effect overall | 115 | 6.5 | 9.2 | 9.2 |
| | Negative effect overall | 433 | 24.5 | 34.5 | 43.6 |
| | No effect overall | 253 | 14.3 | 20.1 | 63.8 |
| | Positive effect overall | 419 | 23.7 | 33.4 | 97.1 |
| | Very positive effect overall | 36 | 2.0 | 2.9 | 100.0 |
| | Total | 1256 | 71.0 | 100.0 | |
| Missing | Don't know / can't say | 185 | 10.5 | | |
| | System | 327 | 18.5 | | |
| | Total | 512 | 29.0 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
E. Actions

q58j. Provision of professional education, training and supervision

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------------|-----------|---------|---------------|--------------------|
| Valid | Very negative effect overall | 11 | .6 | .8 | .8 |
| | Negative effect overall | 64 | 3.6 | 4.9 | 5.8 |
| | No effect overall | 290 | 16.4 | 22.3 | 28.1 |
| | Positive effect overall | 785 | 44.4 | 60.4 | 88.5 |
| | Very positive effect overall | 149 | 8.4 | 11.5 | 100.0 |
| | Total | 1299 | 73.5 | 100.0 | |
| Missing | Don't know / can't say | 135 | 7.6 | | |
| | System | 334 | 18.9 | | |
| | Total | 469 | 26.5 | | |
| Total | | 1768 | 100.0 | | |

q58k. Commercialisation of research

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------------|-----------|---------|---------------|--------------------|
| Valid | Very negative effect overall | 71 | 4.0 | 6.2 | 6.2 |
| | Negative effect overall | 285 | 16.1 | 25.0 | 31.2 |
| | No effect overall | 378 | 21.4 | 33.1 | 64.3 |
| | Positive effect overall | 359 | 20.3 | 31.5 | 95.8 |
| | Very positive effect overall | 48 | 2.7 | 4.2 | 100.0 |
| | Total | 1141 | 64.5 | 100.0 | |
| Missing | Don't know / can't say | 292 | 16.5 | | |
| | System | 335 | 18.9 | | |
| | Total | 627 | 35.5 | | |
| Total | | 1768 | 100.0 | | |

q58l. Ethical review processes

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------------|-----------|---------|---------------|--------------------|
| Valid | Very negative effect overall | 32 | 1.8 | 2.3 | 2.3 |
| | Negative effect overall | 94 | 5.3 | 6.9 | 9.2 |
| | No effect overall | 247 | 14.0 | 18.1 | 27.4 |
| | Positive effect overall | 756 | 42.8 | 55.5 | 82.8 |
| | Very positive effect overall | 234 | 13.2 | 17.2 | 100.0 |
| | Total | 1363 | 77.1 | 100.0 | |
| Missing | Don't know / can't say | 73 | 4.1 | | |
| | System | 332 | 18.8 | | |
| | Total | 405 | 22.9 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
E. Actions

q58m. Research governance and contractual processes

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------------|-----------|---------|---------------|--------------------|
| Valid | Very negative effect overall | 75 | 4.2 | 5.9 | 5.9 |
| | Negative effect overall | 197 | 11.1 | 15.6 | 21.6 |
| | No effect overall | 352 | 19.9 | 27.9 | 49.4 |
| | Positive effect overall | 535 | 30.3 | 42.4 | 91.8 |
| | Very positive effect overall | 103 | 5.8 | 8.2 | 100.0 |
| | Total | 1262 | 71.4 | 100.0 | |
| Missing | Don't know / can't say | 176 | 10.0 | | |
| | System | 330 | 18.7 | | |
| | Total | 506 | 28.6 | | |
| Total | | 1768 | 100.0 | | |

q58n. Initiatives that promote integrity in research, such as codes of conduct

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------------|-----------|---------|---------------|--------------------|
| Valid | Very negative effect overall | 7 | .4 | .5 | .5 |
| | Negative effect overall | 28 | 1.6 | 2.1 | 2.6 |
| | No effect overall | 283 | 16.0 | 20.9 | 23.5 |
| | Positive effect overall | 823 | 46.5 | 60.8 | 84.3 |
| | Very positive effect overall | 212 | 12.0 | 15.7 | 100.0 |
| | Total | 1353 | 76.5 | 100.0 | |
| Missing | Don't know / can't say | 82 | 4.6 | | |
| | System | 333 | 18.8 | | |
| | Total | 415 | 23.5 | | |
| Total | | 1768 | 100.0 | | |

q58o. Data sharing policies

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------------|-----------|---------|---------------|--------------------|
| Valid | Very negative effect overall | 7 | .4 | .5 | .5 |
| | Negative effect overall | 43 | 2.4 | 3.4 | 3.9 |
| | No effect overall | 301 | 17.0 | 23.6 | 27.5 |
| | Positive effect overall | 744 | 42.1 | 58.2 | 85.7 |
| | Very positive effect overall | 183 | 10.4 | 14.3 | 100.0 |
| | Total | 1278 | 72.3 | 100.0 | |
| Missing | Don't know / can't say | 160 | 9.0 | | |
| | System | 330 | 18.7 | | |
| | Total | 490 | 27.7 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
E. Actions

q58p. Monetary rewards for research achievements

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------------|-----------|---------|---------------|--------------------|
| Valid | Very negative effect overall | 141 | 8.0 | 12.1 | 12.1 |
| | Negative effect overall | 320 | 18.1 | 27.4 | 39.4 |
| | No effect overall | 405 | 22.9 | 34.6 | 74.0 |
| | Positive effect overall | 265 | 15.0 | 22.6 | 96.7 |
| | Very positive effect overall | 39 | 2.2 | 3.3 | 100.0 |
| | Total | 1170 | 66.2 | 100.0 | |
| Missing | Don't know / can't say | 267 | 15.1 | | |
| | System | 331 | 18.7 | | |
| | Total | 598 | 33.8 | | |
| Total | | 1768 | 100.0 | | |

q58q. Emphasis on publishing in top-tier journals

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------------|-----------|---------|---------------|--------------------|
| Valid | Very negative effect overall | 182 | 10.3 | 13.7 | 13.7 |
| | Negative effect overall | 410 | 23.2 | 30.8 | 44.4 |
| | No effect overall | 218 | 12.3 | 16.4 | 60.8 |
| | Positive effect overall | 448 | 25.3 | 33.6 | 94.4 |
| | Very positive effect overall | 74 | 4.2 | 5.6 | 100.0 |
| | Total | 1332 | 75.3 | 100.0 | |
| Missing | Don't know / can't say | 106 | 6.0 | | |
| | System | 330 | 18.7 | | |
| | Total | 436 | 24.7 | | |
| Total | | 1768 | 100.0 | | |

q59mr. Of the following, who has the largest potential to improve research quality (directly or indirectly)? (Multiple Response)

| | | Frequency | % of respondents |
|-------|--------------------------------|-----------|------------------|
| Valid | Funders | 784 | 53.8% |
| | Publishers | 373 | 25.6% |
| | Research group heads | 672 | 46.1% |
| | Ethics committees | 218 | 15.0% |
| | Department heads | 200 | 13.7% |
| | Professional societies | 127 | 8.7% |
| | Researchers | 909 | 62.3% |
| | Research institutions | 782 | 53.6% |
| | General public and politicians | 97 | 6.7% |
| | None of the above | 1 | 0.1% |
| | Don't know / can't say | 6 | 0.4% |
| | Number of Respondents | 1458 | 100.0% |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
E. Actions

q60mr. Which of the following actions by funders do you think has the largest potential to improve research quality? (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|---|-----------|------------------|
| Valid | Providing guidance for training of researchers about research quality | 681 | 46.9% |
| | Providing guidance for researchers on how to ensure research quality is addressed in grant applications | 839 | 57.7% |
| | Ensuring grant application processes support submission and assessment of critical and relevant information | 865 | 59.5% |
| | Ensuring appropriate training for peer review panel members about research quality | 959 | 66.0% |
| | Encouraging open publishing practices e.g. data sharing, publishing openly (preprint servers, open access journals) | 702 | 48.3% |
| | Providing a publishing platform for all research outputs | 496 | 34.1% |
| | Providing public recognition of initiatives that ensure and promote research quality | 496 | 34.1% |
| | Providing appropriate / increased / improved funding | 93 | 6.4% |
| | Other | 112 | 7.7% |
| | None of the above | 17 | 1.2% |
| | Don't know / can't say | 28 | 1.9% |
| Number of Respondents | | 1453 | 100.0% |

q61mr. Which of the following actions by academic / research institutions do you think has the largest potential to improve research quality? (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|---|-----------|------------------|
| Valid | Providing appropriate education and training for researchers about research quality | 1012 | 69.9% |
| | Requiring compliance with best practice for research design in ethics and grant applications and publications | 859 | 59.3% |
| | Developing mentoring programs that address research quality as well as career development | 1038 | 71.7% |
| | Rewarding researchers who perform high quality research | 738 | 51.0% |
| | Conducting audits to ensure maintenance of record keeping and responsible research practice | 588 | 40.6% |
| | Encouraging open publishing practices e.g. data sharing, publishing openly (preprint servers, open access journals) | 686 | 47.4% |
| | Promoting an environment where high quality research and reproducible research is considered the required norm | 1219 | 84.2% |
| | Providing increased funding / support | 18 | 1.2% |
| | Other | 82 | 5.7% |
| | None of the above | 3 | 0.2% |
| | Don't know / can't say | 16 | 1.1% |
| Number of Respondents | | 1448 | 100.0% |

q62mr. Which of the following actions by researchers do you think has the largest potential to improve research quality? (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|---|-----------|------------------|
| Valid | Participation in appropriate education and training about research quality | 874 | 60.3% |
| | Specifying critical research design elements (e.g. power analysis, bias avoidance, randomisation, blinding) | 1035 | 71.4% |
| | Clearly distinguishing between discovery and hypothesis testing experiments | 558 | 38.5% |
| | Obtaining statistical advice and developing a statistical plan before commencing a study | 1002 | 69.2% |
| | Pre-registration of research protocols | 535 | 36.9% |
| | Appropriate disclosures of interests including funding sources | 747 | 51.6% |
| | Replication by outside research groups | 540 | 37.3% |
| | Use of reporting checklists | 652 | 45.0% |
| | Reporting exclusions | 575 | 39.7% |
| | Open publishing practices e.g. data sharing, publishing openly (preprint servers, open access journals) | 665 | 45.9% |
| | Other | 70 | 4.8% |
| | None of the above | 14 | 1.0% |
| | Don't know / can't say | 22 | 1.5% |
| Number of Respondents | | 1449 | 100.0% |

q63. Do you think that ensuring research quality adds to your workload?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|------------------------|-----------|---------|---------------|--------------------|
| Valid | No, not at all | 269 | 15.2 | 19.2 | 19.2 |
| | Yes, a little | 423 | 23.9 | 30.3 | 49.5 |
| | Yes, a moderate amount | 427 | 24.2 | 30.5 | 80.0 |
| | Yes, a large amount | 279 | 15.8 | 20.0 | 100.0 |
| | Total | 1398 | 79.1 | 100.0 | |
| Missing | Don't know / can't say | 49 | 2.8 | | |
| | System | 321 | 18.2 | | |
| | Total | 370 | 20.9 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
F. Current and past behaviours

q64amr. Proposed research questions which are easy to answer rather than needed (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|-----------------------------|-----------|------------------|
| Valid | No | 539 | 48.0% |
| | Yes, I've done it myself | 172 | 15.3% |
| | Yes, I've seen others do it | 481 | 42.8% |
| Number of Respondents | | 1124 | 100.0% |

q64bmr. Chosen an inadequate research design because it minimised costs (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|-----------------------------|-----------|------------------|
| Valid | No | 570 | 51.0% |
| | Yes, I've done it myself | 184 | 16.5% |
| | Yes, I've seen others do it | 445 | 39.8% |
| Number of Respondents | | 1117 | 100.0% |

q64cmr. Used unsuitable measurement methods because they were readily available (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|-----------------------------|-----------|------------------|
| Valid | No | 664 | 60.3% |
| | Yes, I've done it myself | 77 | 7.0% |
| | Yes, I've seen others do it | 390 | 35.4% |
| Number of Respondents | | 1102 | 100.0% |

q64dmr. Withheld information from a grant application that could have 'weakened' the application (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|-----------------------------|-----------|------------------|
| Valid | No | 699 | 67.0% |
| | Yes, I've done it myself | 134 | 12.8% |
| | Yes, I've seen others do it | 266 | 25.5% |
| Number of Respondents | | 1043 | 100.0% |

q64emr. Stopped data collection earlier than planned, without the application of pre-planned monitoring and stopping rules, because the results were already statistically significant (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|-----------------------------|-----------|------------------|
| Valid | No | 908 | 87.5% |
| | Yes, I've done it myself | 29 | 2.8% |
| | Yes, I've seen others do it | 109 | 10.5% |
| Number of Respondents | | 1038 | 100.0% |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
F. Current and past behaviours

q65amr. Excluded outlying data before performing data analysis without disclosure (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|-----------------------------|-----------|------------------|
| Valid | No | 877 | 78.0% |
| | Yes, I've done it myself | 41 | 3.6% |
| | Yes, I've seen others do it | 230 | 20.5% |
| Number of Respondents | | 1124 | 100.0% |

q65bmr. Selected the statistical method that provided the desired result (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|-----------------------------|-----------|------------------|
| Valid | No | 733 | 65.1% |
| | Yes, I've done it myself | 95 | 8.4% |
| | Yes, I've seen others do it | 342 | 30.4% |
| Number of Respondents | | 1126 | 100.0% |

q65cmr. Performed data analyses not described in the study protocol without disclosure (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|-----------------------------|-----------|------------------|
| Valid | No | 803 | 77.7% |
| | Yes, I've done it myself | 86 | 8.3% |
| | Yes, I've seen others do it | 178 | 17.2% |
| Number of Respondents | | 1034 | 100.0% |

q65dmr. Reported an incorrect downwardly rounded p-value (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|-----------------------------|-----------|------------------|
| Valid | No | 1059 | 94.5% |
| | Yes, I've done it myself | 6 | 0.5% |
| | Yes, I've seen others do it | 59 | 5.3% |
| Number of Respondents | | 1121 | 100.0% |

q65emr. Incrementally added more data until the results became statistically significant (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|-----------------------------|-----------|------------------|
| Valid | No | 896 | 79.8% |
| | Yes, I've done it myself | 76 | 6.8% |
| | Yes, I've seen others do it | 183 | 16.3% |
| Number of Respondents | | 1123 | 100.0% |

q65fmr. Concealed results that contradict earlier findings or hypotheses (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|-----------------------------|-----------|------------------|
| Valid | No | 972 | 85.1% |
| | Yes, I've done it myself | 13 | 1.1% |
| | Yes, I've seen others do it | 165 | 14.4% |
| Number of Respondents | | 1142 | 100.0% |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
F. Current and past behaviours

q65gmr. Fabricated / falsified data to complete a project or paper (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|-----------------------------|-----------|------------------|
| Valid | No | 1066 | 93.5% |
| | Yes, I've done it myself | 2 | 0.2% |
| | Yes, I've seen others do it | 73 | 6.4% |
| Number of Respondents | | 1140 | 100.0% |

q66amr. Not attempted to publish a valid 'negative' or 'neutral' study (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|-----------------------------|-----------|------------------|
| Valid | No | 626 | 56.8% |
| | Yes, I've done it myself | 275 | 24.9% |
| | Yes, I've seen others do it | 299 | 27.1% |
| Number of Respondents | | 1103 | 100.0% |

q66bmr. Reported an unexpected finding as having been hypothesised from the start (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|-----------------------------|-----------|------------------|
| Valid | No | 809 | 73.6% |
| | Yes, I've done it myself | 111 | 10.1% |
| | Yes, I've seen others do it | 215 | 19.6% |
| Number of Respondents | | 1099 | 100.0% |

q66cmr. Not reported all study protocol stipulated results (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|-----------------------------|-----------|------------------|
| Valid | No | 860 | 82.3% |
| | Yes, I've done it myself | 39 | 3.7% |
| | Yes, I've seen others do it | 163 | 15.6% |
| Number of Respondents | | 1045 | 100.0% |

q66dmr. Selection of the best data for publication, rather than representative data (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|-----------------------------|-----------|------------------|
| Valid | No | 775 | 68.5% |
| | Yes, I've done it myself | 82 | 7.2% |
| | Yes, I've seen others do it | 313 | 27.7% |
| Number of Respondents | | 1132 | 100.0% |

q66emr. Use of other researchers' ideas or phrases without permission or referencing (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|-----------------------------|-----------|------------------|
| Valid | No | 906 | 79.3% |
| | Yes, I've done it myself | 8 | 0.7% |
| | Yes, I've seen others do it | 231 | 20.2% |
| Number of Respondents | | 1142 | 100.0% |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
F. Current and past behaviours

q66fmr. Not reported replication problems (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|-----------------------------|-----------|------------------|
| Valid | No | 908 | 86.9% |
| | Yes, I've done it myself | 36 | 3.4% |
| | Yes, I've seen others do it | 114 | 10.9% |
| Number of Respondents | | 1045 | 100.0% |

q66gmr. Selective citation (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|-----------------------------|-----------|------------------|
| Valid | No | 628 | 57.7% |
| | Yes, I've done it myself | 150 | 13.8% |
| | Yes, I've seen others do it | 369 | 33.9% |
| Number of Respondents | | 1088 | 100.0% |

q67amr. Insufficiently reported study flaws and limitations (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|-----------------------------|-----------|------------------|
| Valid | No | 712 | 63.7% |
| | Yes, I've done it myself | 62 | 5.5% |
| | Yes, I've seen others do it | 374 | 33.5% |
| Number of Respondents | | 1118 | 100.0% |

q67bmr. Submitted or resubmitted a paper or grant application without consent from all authors (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|-----------------------------|-----------|------------------|
| Valid | No | 848 | 74.6% |
| | Yes, I've done it myself | 37 | 3.3% |
| | Yes, I've seen others do it | 261 | 23.0% |
| Number of Respondents | | 1137 | 100.0% |

q67cmr. Duplication of a publication without disclosure (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|-----------------------------|-----------|------------------|
| Valid | No | 1055 | 92.7% |
| | Yes, I've done it myself | 1 | 0.1% |
| | Yes, I've seen others do it | 82 | 7.2% |
| Number of Respondents | | 1138 | 100.0% |

q67dmr. Inappropriately added or omitted an author or contributor (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|-----------------------------|-----------|------------------|
| Valid | No | 746 | 65.2% |
| | Yes, I've done it myself | 62 | 5.4% |
| | Yes, I've seen others do it | 363 | 31.7% |
| Number of Respondents | | 1144 | 100.0% |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
F. Current and past behaviours

q68amr. Modification of the results or conclusions of a study due to pressure of a sponsor / funder (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|-----------------------------|-----------|------------------|
| Valid | No | 1050 | 92.0% |
| | Yes, I've done it myself | 8 | 0.7% |
| | Yes, I've seen others do it | 87 | 7.6% |
| Number of Respondents | | 1141 | 100.0% |

q68bmr. Failure to disclose a sponsor / funder of a study (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|-----------------------------|-----------|------------------|
| Valid | No | 1077 | 94.5% |
| | Yes, I've done it myself | 3 | 0.3% |
| | Yes, I've seen others do it | 61 | 5.4% |
| Number of Respondents | | 1140 | 100.0% |

q68cmr. Failure to disclose a relevant financial or intellectual conflict of interest (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|-----------------------------|-----------|------------------|
| Valid | No | 1030 | 89.9% |
| | Yes, I've done it myself | 2 | 0.2% |
| | Yes, I've seen others do it | 116 | 10.1% |
| Number of Respondents | | 1146 | 100.0% |

q68dmr. Refused to share data (that you have the rights to share) with bona fide colleagues (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|-----------------------------|-----------|------------------|
| Valid | No | 973 | 84.5% |
| | Yes, I've done it myself | 10 | 0.9% |
| | Yes, I've seen others do it | 172 | 14.9% |
| Number of Respondents | | 1151 | 100.0% |

q68emr. Refused to respond to an allegation of a breach of research integrity (Multiple Response)

| | | Frequency | % of respondents |
|-----------------------|-----------------------------|-----------|------------------|
| Valid | No | 1038 | 94.1% |
| | Yes, I've done it myself | 1 | 0.1% |
| | Yes, I've seen others do it | 64 | 5.8% |
| Number of Respondents | | 1103 | 100.0% |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
G. About you

q69. Are you:

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--|-----------|---------|---------------|--------------------|
| Valid | Female | 761 | 43.0 | 53.6 | 53.6 |
| | Male | 656 | 37.1 | 46.2 | 99.9 |
| | X (Indeterminate / Intersex / Unspecified) | 2 | .1 | .1 | 100.0 |
| | Total | 1419 | 80.3 | 100.0 | |
| Missing | Prefer not to say | 22 | 1.2 | | |
| | System | 327 | 18.5 | | |
| | Total | 349 | 19.7 | | |
| Total | | 1768 | 100.0 | | |

q70. How old are you?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|-------------------|-----------|---------|---------------|--------------------|
| Valid | 18 - 24 years | 16 | .9 | 1.1 | 1.1 |
| | 25 - 34 years | 195 | 11.0 | 13.7 | 14.8 |
| | 35 - 44 years | 373 | 21.1 | 26.1 | 40.9 |
| | 45 - 54 years | 376 | 21.3 | 26.3 | 67.3 |
| | 55 - 64 years | 330 | 18.7 | 23.1 | 90.4 |
| | 65 - 74 years | 116 | 6.6 | 8.1 | 98.5 |
| | 75 years or older | 21 | 1.2 | 1.5 | 100.0 |
| | Total | 1427 | 80.7 | 100.0 | |
| Missing | Prefer not to say | 17 | 1.0 | | |
| | System | 324 | 18.3 | | |
| | Total | 341 | 19.3 | | |
| Total | | 1768 | 100.0 | | |

q71. How many years have you been working in research / your role / as a member or Chair of the ethics committee?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--------------------|-----------|---------|---------------|--------------------|
| Valid | Less than 3 years | 160 | 9.0 | 11.2 | 11.2 |
| | 3 to 10 years | 375 | 21.2 | 26.2 | 37.4 |
| | More than 10 years | 896 | 50.7 | 62.6 | 100.0 |
| | Total | 1431 | 80.9 | 100.0 | |
| Missing | Prefer not to say | 9 | .5 | | |
| | System | 328 | 18.6 | | |
| | Total | 337 | 19.1 | | |
| Total | | 1768 | 100.0 | | |

q72. What type of institution are you primarily associated with?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|--------------------|-----------|---------|---------------|--------------------|
| Valid | University | 906 | 51.2 | 62.7 | 62.7 |
| | Hospital | 142 | 8.0 | 9.8 | 72.6 |
| | Research institute | 355 | 20.1 | 24.6 | 97.2 |
| | Company | 9 | .5 | .6 | 97.8 |
| | Other | 32 | 1.8 | 2.2 | 100.0 |
| | Total | 1444 | 81.7 | 100.0 | |
| Missing | System | 324 | 18.3 | | |
| Total | | 1768 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Overall results
G. About you

q73. How many members are in your research group?

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---------|----------------------|-----------|---------|---------------|--------------------|
| Valid | 1 to 5 members | 279 | 15.8 | 23.3 | 23.3 |
| | 6 to 10 members | 403 | 22.8 | 33.7 | 57.1 |
| | 11 to 25 members | 371 | 21.0 | 31.0 | 88.1 |
| | 26 to 50 members | 94 | 5.3 | 7.9 | 96.0 |
| | More than 50 members | 48 | 2.7 | 4.0 | 100.0 |
| | Total | 1195 | 67.6 | 100.0 | |
| Missing | System | 573 | 32.4 | | |
| Total | | 1768 | 100.0 | | |



Australian Government

National Health and Medical Research Council

2019 Survey of research culture in Australian NHMRC-funded institutions

Appendix C: Frequency results by participant group

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group

A. Your role

q3mr. How would you describe your research / the research conducted at your institution / the proposals considered by your ethics committee? (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-------|--------------------------------------|-----------|------------------|
| Senior researcher | Valid | Discovery | 335 | 50.9% |
| | | Preclinical | 196 | 29.8% |
| | | Hospital clinical | 148 | 22.5% |
| | | Other clinical | 124 | 18.8% |
| | | Health services | 149 | 22.6% |
| | | Public health | 189 | 28.7% |
| | | Epidemiology | 157 | 23.9% |
| | | Implementation research | 123 | 18.7% |
| | | Qualitative research | 111 | 16.9% |
| | | Quantitative research | 266 | 40.4% |
| | | Translational research | 300 | 45.6% |
| | | Research on research (meta-research) | 36 | 5.5% |
| | | Other | 19 | 2.9% |
| | | Number of Respondents | | |
| Mid-career researcher | Valid | Discovery | 168 | 42.3% |
| | | Preclinical | 107 | 27.0% |
| | | Hospital clinical | 76 | 19.1% |
| | | Other clinical | 51 | 12.8% |
| | | Health services | 83 | 20.9% |
| | | Public health | 121 | 30.5% |
| | | Epidemiology | 106 | 26.7% |
| | | Implementation research | 65 | 16.4% |
| | | Qualitative research | 82 | 20.7% |
| | | Quantitative research | 183 | 46.1% |
| | | Translational research | 142 | 35.8% |
| | | Research on research (meta-research) | 24 | 6.0% |
| | | Other | 18 | 4.5% |
| | | Number of Respondents | | |
| Junior researcher | Valid | Discovery | 89 | 31.3% |
| | | Preclinical | 61 | 21.5% |
| | | Hospital clinical | 49 | 17.3% |
| | | Other clinical | 44 | 15.5% |
| | | Health services | 72 | 25.4% |
| | | Public health | 101 | 35.6% |
| | | Epidemiology | 73 | 25.7% |
| | | Implementation research | 57 | 20.1% |
| | | Qualitative research | 82 | 28.9% |
| | | Quantitative research | 145 | 51.1% |
| | | Translational research | 111 | 39.1% |
| | | Research on research (meta-research) | 16 | 5.6% |
| | | Other | 5 | 1.8% |
| | | Number of Respondents | | |
| Research student | Valid | Discovery | 40 | 26.8% |
| | | Preclinical | 18 | 12.1% |
| | | Hospital clinical | 27 | 18.1% |
| | | Other clinical | 15 | 10.1% |
| | | Health services | 34 | 22.8% |
| | | Public health | 53 | 35.6% |
| | | Epidemiology | 24 | 16.1% |
| | | Implementation research | 20 | 13.4% |
| | | Qualitative research | 49 | 32.9% |
| | | Quantitative research | 67 | 45.0% |
| | | Translational research | 43 | 28.9% |
| | | Research on research (meta-research) | 9 | 6.0% |
| | | Other | 10 | 6.7% |
| | | Number of Respondents | | |
| Representative of an institution | Valid | Discovery | 82 | 77.4% |
| | | Preclinical | 66 | 62.3% |
| | | Hospital clinical | 62 | 58.5% |
| | | Other clinical | 55 | 51.9% |
| | | Health services | 81 | 76.4% |
| | | Public health | 81 | 76.4% |
| | | Epidemiology | 63 | 59.4% |
| | | Implementation research | 63 | 59.4% |
| | | Qualitative research | 84 | 79.2% |
| | | Quantitative research | 85 | 80.2% |
| Translational research | 93 | 87.7% | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group

A. Your role

q3mr. How would you describe your research / the research conducted at your institution / the proposals considered by your ethics committee? (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents | |
|--|-------|--------------------------------------|-----------|------------------|--------|
| Current member of a Human Research Ethics Committee (HREC) | Valid | Research on research (meta-research) | 33 | 31.1% | |
| | | Other | 3 | 2.8% | |
| | | Number of Respondents | | 106 | 100.0% |
| | | Discovery | 52 | 41.3% | |
| | | Preclinical | 51 | 40.5% | |
| | | Hospital clinical | 80 | 63.5% | |
| | | Other clinical | 63 | 50.0% | |
| | | Health services | 92 | 73.0% | |
| | | Public health | 78 | 61.9% | |
| | | Epidemiology | 59 | 46.8% | |
| | | Implementation research | 59 | 46.8% | |
| | | Qualitative research | 109 | 86.5% | |
| | | Quantitative research | 101 | 80.2% | |
| | | Translational research | 51 | 40.5% | |
| Research on research (meta-research) | 31 | 24.6% | | | |
| Other | 9 | 7.1% | | | |
| Number of Respondents | | 126 | 100.0% | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Discovery | 30 | 62.5% | |
| | | Preclinical | 18 | 37.5% | |
| | | Hospital clinical | 1 | 2.1% | |
| | | Other clinical | 4 | 8.3% | |
| | | Health services | 3 | 6.3% | |
| | | Public health | 10 | 20.8% | |
| | | Epidemiology | 10 | 20.8% | |
| | | Implementation research | 15 | 31.3% | |
| | | Qualitative research | 23 | 47.9% | |
| | | Quantitative research | 28 | 58.3% | |
| | | Translational research | 18 | 37.5% | |
| | | Research on research (meta-research) | 4 | 8.3% | |
| | | Other | 8 | 16.7% | |
| | | Number of Respondents | | 48 | 100.0% |

q4. Which of the following most closely matches your current primary role / job title?

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent | |
|--|---------|--|-----------|---------|---------------|--------------------|--|
| Senior researcher | Missing | System | 658 | 100.0 | | | |
| Mid-career researcher | Missing | System | 397 | 100.0 | | | |
| Junior researcher | Missing | System | 284 | 100.0 | | | |
| Research student | Missing | System | 149 | 100.0 | | | |
| Representative of an institution | Valid | Chief Executive Officer | 1 | .9 | 1.0 | 1.0 | |
| | | Executive Director | 1 | .9 | 1.0 | 1.9 | |
| | | General Manager | 2 | 1.9 | 1.9 | 3.8 | |
| | | Deputy Vice-Chancellor | 4 | 3.8 | 3.8 | 7.6 | |
| | | Pro Vice-Chancellor | 2 | 1.9 | 1.9 | 9.5 | |
| | | Director | 15 | 14.2 | 14.3 | 23.8 | |
| | | Department / Faculty / Research Group Head | 3 | 2.8 | 2.9 | 26.7 | |
| | | Research Administration Officer | 39 | 36.8 | 37.1 | 63.8 | |
| | | Research Integrity Advisor | 2 | 1.9 | 1.9 | 65.7 | |
| | | Research Integrity Officer | 14 | 13.2 | 13.3 | 79.0 | |
| | | Other | 22 | 20.8 | 21.0 | 100.0 | |
| | | Total | 105 | 99.1 | 100.0 | | |
| | | Missing | System | 1 | .9 | | |
| | | Total | | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
A. Your role

q5. What is your current role on the Human Research Ethics Committee (HREC)?

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|--|-----------|---------|---------------|--------------------|
| Senior researcher | Missing | System | 658 | 100.0 | | |
| Mid-career researcher | Missing | System | 397 | 100.0 | | |
| Junior researcher | Missing | System | 284 | 100.0 | | |
| Research student | Missing | System | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Chair | 17 | 13.5 | 13.5 | 13.5 |
| | | Layperson | 31 | 24.6 | 24.6 | 38.1 |
| | | Person with knowledge of, and current experience in, the professional care, counselling or treatment of people | 18 | 14.3 | 14.3 | 52.4 |
| | | Person who performs a pastoral care role in a community | 8 | 6.3 | 6.3 | 58.7 |
| | | Lawyer | 6 | 4.8 | 4.8 | 63.5 |
| | | Person with knowledge of, and current experience in, the areas of research regularly considered by the HREC | 39 | 31.0 | 31.0 | 94.4 |
| | | Other | 7 | 5.6 | 5.6 | 100.0 |
| | | Total | 126 | 100.0 | 100.0 | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

q6. What is your current role on the Animal Ethics Committee (AEC)?

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|--|-----------|---------|---------------|--------------------|
| Senior researcher | Missing | System | 658 | 100.0 | | |
| Mid-career researcher | Missing | System | 397 | 100.0 | | |
| Junior researcher | Missing | System | 284 | 100.0 | | |
| Research student | Missing | System | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Chair | 8 | 16.7 | 16.7 | 16.7 |
| | | Category A member | 8 | 16.7 | 16.7 | 33.3 |
| | | Category B member | 3 | 6.3 | 6.3 | 39.6 |
| | | Category C member | 9 | 18.8 | 18.8 | 58.3 |
| | | Category D member | 12 | 25.0 | 25.0 | 83.3 |
| | | Person responsible for the routine care of animals | 4 | 8.3 | 8.3 | 91.7 |
| | | Other | 4 | 8.3 | 8.3 | 100.0 |
| | | | | Total | 48 | 100.0 |

q7a. How many students / staff are you currently a primary supervisor for? (Honours students, including MBBS research years)

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent | | |
|--|---------|-----------------------|-----------|---------|---------------|--------------------|-------|------|
| Senior researcher | Valid | 0 | 184 | 28.0 | 40.1 | 40.1 | | |
| | | 1 | 134 | 20.4 | 29.2 | 69.3 | | |
| | | 2 | 87 | 13.2 | 19.0 | 88.2 | | |
| | | 3 | 31 | 4.7 | 6.8 | 95.0 | | |
| | | 4 | 13 | 2.0 | 2.8 | 97.8 | | |
| | | 5 | 3 | .5 | .7 | 98.5 | | |
| | | 6 | 2 | .3 | .4 | 98.9 | | |
| | | 8 | 2 | .3 | .4 | 99.3 | | |
| | | 12 | 1 | .2 | .2 | 99.6 | | |
| | | 14 | 1 | .2 | .2 | 99.8 | | |
| | | 20 | 1 | .2 | .2 | 100.0 | | |
| | | | | Total | 459 | 69.8 | 100.0 | |
| | | | Missing | System | 199 | 30.2 | | |
| | | | | Total | 658 | 100.0 | | |
| | | Mid-career researcher | Valid | 0 | 90 | 22.7 | 33.0 | 33.0 |
| 1 | 102 | | | 25.7 | 37.4 | 70.3 | | |
| 2 | 47 | | | 11.8 | 17.2 | 87.5 | | |
| 3 | 14 | | | 3.5 | 5.1 | 92.7 | | |
| 4 | 5 | | | 1.3 | 1.8 | 94.5 | | |
| 5 | 6 | | | 1.5 | 2.2 | 96.7 | | |
| 6 | 3 | | | .8 | 1.1 | 97.8 | | |
| 8 | 2 | | | .5 | .7 | 98.5 | | |
| 10 | 2 | | | .5 | .7 | 99.3 | | |
| 12 | 1 | | | .3 | .4 | 99.6 | | |
| 15 | 1 | | | .3 | .4 | 100.0 | | |
| | | | | Total | 273 | 68.8 | 100.0 | |
| | Missing | | | System | 124 | 31.2 | | |
| | | | | Total | 397 | 100.0 | | |
| Junior researcher | Missing | | | System | 284 | 100.0 | | |
| Research student | Missing | System | 149 | 100.0 | | | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
A. Your role

q7a. How many students / staff are you currently a primary supervisor for? (Honours students, including MBBS research years)

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|--------|-----------|---------|---------------|--------------------|
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

q7b. How many students / staff are you currently a primary supervisor for? (Masters students)

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent | |
|--|---------|---------|-----------|---------|---------------|--------------------|--|
| Senior researcher | Valid | 0 | 187 | 28.4 | 43.6 | 43.6 | |
| | | 1 | 149 | 22.6 | 34.7 | 78.3 | |
| | | 2 | 56 | 8.5 | 13.1 | 91.4 | |
| | | 3 | 16 | 2.4 | 3.7 | 95.1 | |
| | | 4 | 10 | 1.5 | 2.3 | 97.4 | |
| | | 5 | 6 | .9 | 1.4 | 98.8 | |
| | | 6 | 2 | .3 | .5 | 99.3 | |
| | | 7 | 1 | .2 | .2 | 99.5 | |
| | | 13 | 1 | .2 | .2 | 99.8 | |
| | | 125 | 1 | .2 | .2 | 100.0 | |
| | | Total | | 429 | 65.2 | 100.0 | |
| | | Missing | System | 229 | 34.8 | | |
| Total | | 658 | 100.0 | | | | |
| Mid-career researcher | Valid | 0 | 111 | 28.0 | 43.5 | 43.5 | |
| | | 1 | 86 | 21.7 | 33.7 | 77.3 | |
| | | 2 | 38 | 9.6 | 14.9 | 92.2 | |
| | | 3 | 10 | 2.5 | 3.9 | 96.1 | |
| | | 4 | 3 | .8 | 1.2 | 97.3 | |
| | | 6 | 2 | .5 | .8 | 98.0 | |
| | | 8 | 1 | .3 | .4 | 98.4 | |
| | | 10 | 1 | .3 | .4 | 98.8 | |
| | | 12 | 2 | .5 | .8 | 99.6 | |
| | | 19 | 1 | .3 | .4 | 100.0 | |
| | | Total | | 255 | 64.2 | 100.0 | |
| | | Missing | System | 142 | 35.8 | | |
| Total | | 397 | 100.0 | | | | |
| Junior researcher | Missing | System | 284 | 100.0 | | | |
| Research student | Missing | System | 149 | 100.0 | | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
A. Your role

q7c. How many students / staff are you currently a primary supervisor for? (Doctoral students)

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent | | |
|--|---------|-----------------------|-----------|---------|---------------|--------------------|-------|------|
| Senior researcher | Valid | 0 | 40 | 6.1 | 6.4 | 6.4 | | |
| | | 1 | 103 | 15.7 | 16.5 | 22.8 | | |
| | | 2 | 117 | 17.8 | 18.7 | 41.5 | | |
| | | 3 | 97 | 14.7 | 15.5 | 57.0 | | |
| | | 4 | 80 | 12.2 | 12.8 | 69.8 | | |
| | | 5 | 74 | 11.2 | 11.8 | 81.6 | | |
| | | 6 | 52 | 7.9 | 8.3 | 89.9 | | |
| | | 7 | 14 | 2.1 | 2.2 | 92.2 | | |
| | | 8 | 14 | 2.1 | 2.2 | 94.4 | | |
| | | 9 | 10 | 1.5 | 1.6 | 96.0 | | |
| | | 10 | 5 | .8 | .8 | 96.8 | | |
| | | 11 | 2 | .3 | .3 | 97.1 | | |
| | | 12 | 4 | .6 | .6 | 97.8 | | |
| | | 13 | 2 | .3 | .3 | 98.1 | | |
| | | 14 | 6 | .9 | 1.0 | 99.0 | | |
| | | 16 | 1 | .2 | .2 | 99.2 | | |
| | | 17 | 1 | .2 | .2 | 99.4 | | |
| | | 18 | 1 | .2 | .2 | 99.5 | | |
| | | 20 | 1 | .2 | .2 | 99.7 | | |
| | | 23 | 1 | .2 | .2 | 99.8 | | |
| | | 25 | 1 | .2 | .2 | 100.0 | | |
| | | | Total | | 626 | 95.1 | 100.0 | |
| | | | Missing | System | 32 | 4.9 | | |
| | | | Total | | 658 | 100.0 | | |
| | | Mid-career researcher | Valid | 0 | 60 | 15.1 | 17.2 | 17.2 |
| 1 | 77 | | | 19.4 | 22.1 | 39.3 | | |
| 2 | 78 | | | 19.6 | 22.3 | 61.6 | | |
| 3 | 48 | | | 12.1 | 13.8 | 75.4 | | |
| 4 | 31 | | | 7.8 | 8.9 | 84.2 | | |
| 5 | 23 | | | 5.8 | 6.6 | 90.8 | | |
| 6 | 9 | | | 2.3 | 2.6 | 93.4 | | |
| 7 | 4 | | | 1.0 | 1.1 | 94.6 | | |
| 8 | 9 | | | 2.3 | 2.6 | 97.1 | | |
| 9 | 2 | | | .5 | .6 | 97.7 | | |
| 10 | 4 | | | 1.0 | 1.1 | 98.9 | | |
| 12 | 4 | | | 1.0 | 1.1 | 100.0 | | |
| | Total | | | | 349 | 87.9 | 100.0 | |
| | Missing | System | 48 | 12.1 | | | | |
| | Total | | 397 | 100.0 | | | | |
| Junior researcher | Missing | System | 284 | 100.0 | | | | |
| Research student | Missing | System | 149 | 100.0 | | | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
A. Your role

q7d. How many students / staff are you currently a primary supervisor for? (Technical assistants)

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent | | |
|--|---------|-----------------------|-----------|---------|---------------|--------------------|------|------|
| Senior researcher | Valid | 0 | 195 | 29.6 | 62.7 | 62.7 | | |
| | | 1 | 63 | 9.6 | 20.3 | 83.0 | | |
| | | 2 | 33 | 5.0 | 10.6 | 93.6 | | |
| | | 3 | 7 | 1.1 | 2.3 | 95.8 | | |
| | | 4 | 7 | 1.1 | 2.3 | 98.1 | | |
| | | 5 | 1 | .2 | .3 | 98.4 | | |
| | | 6 | 1 | .2 | .3 | 98.7 | | |
| | | 8 | 2 | .3 | .6 | 99.4 | | |
| | | 12 | 1 | .2 | .3 | 99.7 | | |
| | | 15 | 1 | .2 | .3 | 100.0 | | |
| | | Total | | 311 | 47.3 | 100.0 | | |
| | | Missing | System | | 347 | 52.7 | | |
| | | Total | | | 658 | 100.0 | | |
| | | Mid-career researcher | Valid | 0 | 134 | 33.8 | 77.0 | 77.0 |
| | | | | 1 | 27 | 6.8 | 15.5 | 92.5 |
| 2 | 6 | | | 1.5 | 3.4 | 96.0 | | |
| 3 | 6 | | | 1.5 | 3.4 | 99.4 | | |
| 4 | 1 | | | .3 | .6 | 100.0 | | |
| Total | | | | 174 | 43.8 | 100.0 | | |
| Missing | System | | 223 | 56.2 | | | | |
| Total | | | 397 | 100.0 | | | | |
| Junior researcher | Missing | System | 284 | 100.0 | | | | |
| Research student | Missing | System | 149 | 100.0 | | | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | | | |

q7e. How many students / staff are you currently a primary supervisor for? (Research assistants)

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent | |
|--|---------|---------|-----------|---------|---------------|--------------------|--|
| Senior researcher | Valid | 0 | 80 | 12.2 | 15.7 | 15.7 | |
| | | 1 | 153 | 23.3 | 29.9 | 45.6 | |
| | | 2 | 119 | 18.1 | 23.3 | 68.9 | |
| | | 3 | 62 | 9.4 | 12.1 | 81.0 | |
| | | 4 | 24 | 3.6 | 4.7 | 85.7 | |
| | | 5 | 31 | 4.7 | 6.1 | 91.8 | |
| | | 6 | 14 | 2.1 | 2.7 | 94.5 | |
| | | 7 | 3 | .5 | .6 | 95.1 | |
| | | 8 | 8 | 1.2 | 1.6 | 96.7 | |
| | | 9 | 1 | .2 | .2 | 96.9 | |
| | | 10 | 8 | 1.2 | 1.6 | 98.4 | |
| | | 11 | 1 | .2 | .2 | 98.6 | |
| | | 12 | 1 | .2 | .2 | 98.8 | |
| | | 13 | 1 | .2 | .2 | 99.0 | |
| | | 15 | 2 | .3 | .4 | 99.4 | |
| | | 24 | 1 | .2 | .2 | 99.6 | |
| | | 27 | 1 | .2 | .2 | 99.8 | |
| | | 120 | 1 | .2 | .2 | 100.0 | |
| | | Total | | 511 | 77.7 | 100.0 | |
| | | Missing | System | | 147 | 22.3 | |
| Total | | | 658 | 100.0 | | | |
| Mid-career researcher | Valid | 0 | 65 | 16.4 | 21.0 | 21.0 | |
| | | 1 | 125 | 31.5 | 40.3 | 61.3 | |
| | | 2 | 68 | 17.1 | 21.9 | 83.2 | |
| | | 3 | 22 | 5.5 | 7.1 | 90.3 | |
| | | 4 | 13 | 3.3 | 4.2 | 94.5 | |
| | | 5 | 8 | 2.0 | 2.6 | 97.1 | |
| | | 6 | 5 | 1.3 | 1.6 | 98.7 | |
| | | 8 | 1 | .3 | .3 | 99.0 | |
| | | 10 | 2 | .5 | .6 | 99.7 | |
| | | 17 | 1 | .3 | .3 | 100.0 | |
| | | Total | | 310 | 78.1 | 100.0 | |
| | | Missing | System | | 87 | 21.9 | |
| | | Total | | | 397 | 100.0 | |
| Junior researcher | Missing | System | 284 | 100.0 | | | |
| Research student | Missing | System | 149 | 100.0 | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
A. Your role

q7e. How many students / staff are you currently a primary supervisor for? (Research assistants)

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|--------|-----------|---------|---------------|--------------------|
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

q7f. How many students / staff are you currently a primary supervisor for? (Postdoctoral researchers)

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|--------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | 0 | 72 | 10.9 | 12.7 | 12.7 |
| | | 1 | 136 | 20.7 | 24.0 | 36.7 |
| | | 2 | 130 | 19.8 | 22.9 | 59.6 |
| | | 3 | 87 | 13.2 | 15.3 | 75.0 |
| | | 4 | 58 | 8.8 | 10.2 | 85.2 |
| | | 5 | 31 | 4.7 | 5.5 | 90.7 |
| | | 6 | 12 | 1.8 | 2.1 | 92.8 |
| | | 7 | 11 | 1.7 | 1.9 | 94.7 |
| | | 8 | 13 | 2.0 | 2.3 | 97.0 |
| | | 9 | 4 | .6 | .7 | 97.7 |
| | | 10 | 5 | .8 | .9 | 98.6 |
| | | 12 | 4 | .6 | .7 | 99.3 |
| | | 15 | 1 | .2 | .2 | 99.5 |
| | | 25 | 1 | .2 | .2 | 99.6 |
| | | 30 | 2 | .3 | .4 | 100.0 |
| | | Total | | | 567 | 86.2 |
| Missing | System | | 91 | 13.8 | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | 0 | 84 | 21.2 | 29.8 | 29.8 |
| | | 1 | 101 | 25.4 | 35.8 | 65.6 |
| | | 2 | 55 | 13.9 | 19.5 | 85.1 |
| | | 3 | 22 | 5.5 | 7.8 | 92.9 |
| | | 4 | 7 | 1.8 | 2.5 | 95.4 |
| | | 5 | 5 | 1.3 | 1.8 | 97.2 |
| | | 6 | 4 | 1.0 | 1.4 | 98.6 |
| | | 7 | 2 | .5 | .7 | 99.3 |
| | | 8 | 2 | .5 | .7 | 100.0 |
| | | Total | | | 282 | 71.0 |
| Missing | System | | 115 | 29.0 | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Missing | System | 284 | 100.0 | | |
| Research student | Missing | System | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
A. Your role

q7g. How many students / staff are you currently a primary supervisor for? (Clinical researchers)

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent | |
|--|---------|---------|-----------|---------|---------------|--------------------|-------|
| Senior researcher | Valid | 0 | 171 | 26.0 | 51.4 | 51.4 | |
| | | 1 | 50 | 7.6 | 15.0 | 66.4 | |
| | | 2 | 40 | 6.1 | 12.0 | 78.4 | |
| | | 3 | 18 | 2.7 | 5.4 | 83.8 | |
| | | 4 | 23 | 3.5 | 6.9 | 90.7 | |
| | | 5 | 14 | 2.1 | 4.2 | 94.9 | |
| | | 6 | 2 | .3 | .6 | 95.5 | |
| | | 8 | 5 | .8 | 1.5 | 97.0 | |
| | | 10 | 4 | .6 | 1.2 | 98.2 | |
| | | 12 | 1 | .2 | .3 | 98.5 | |
| | | 15 | 2 | .3 | .6 | 99.1 | |
| | | 18 | 1 | .2 | .3 | 99.4 | |
| | | 30 | 1 | .2 | .3 | 99.7 | |
| | | 40 | 1 | .2 | .3 | 100.0 | |
| | | Total | | | 333 | 50.6 | 100.0 |
| | | Missing | System | | 325 | 49.4 | |
| Total | | | 658 | 100.0 | | | |
| Mid-career researcher | Valid | 0 | 134 | 33.8 | 68.7 | 68.7 | |
| | | 1 | 25 | 6.3 | 12.8 | 81.5 | |
| | | 2 | 14 | 3.5 | 7.2 | 88.7 | |
| | | 3 | 7 | 1.8 | 3.6 | 92.3 | |
| | | 4 | 7 | 1.8 | 3.6 | 95.9 | |
| | | 5 | 4 | 1.0 | 2.1 | 97.9 | |
| | | 8 | 1 | .3 | .5 | 98.5 | |
| | | 10 | 3 | .8 | 1.5 | 100.0 | |
| | | Total | | | 195 | 49.1 | 100.0 |
| | | Missing | System | | 202 | 50.9 | |
| Total | | | 397 | 100.0 | | | |
| Junior researcher | Missing | System | 284 | 100.0 | | | |
| Research student | Missing | System | 149 | 100.0 | | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group

A. Your role

Descriptive Statistics^a

| q1. In what capacity are you participating in this survey? | | N | Minimum | Maximum | Mean | Std. Deviation |
|--|--|-----|---------|---------|------|----------------|
| Senior researcher | q7a. How many students / staff are you currently a primary supervisor for? (Honours students, including MBBS research years) | 459 | 0 | 20 | 1.18 | 1.713 |
| | q7b. How many students / staff are you currently a primary supervisor for? (Masters students) | 429 | 0 | 125 | 1.25 | 6.128 |
| | q7c. How many students / staff are you currently a primary supervisor for? (Doctoral students) | 626 | 0 | 25 | 3.64 | 3.045 |
| | q7d. How many students / staff are you currently a primary supervisor for? (Technical assistants) | 311 | 0 | 15 | .75 | 1.561 |
| | q7e. How many students / staff are you currently a primary supervisor for? (Research assistants) | 511 | 0 | 120 | 2.59 | 5.867 |
| | q7f. How many students / staff are you currently a primary supervisor for? (Postdoctoral researchers) | 567 | 0 | 30 | 2.70 | 2.931 |
| | q7g. How many students / staff are you currently a primary supervisor for? (Clinical researchers) | 333 | 0 | 40 | 1.71 | 3.612 |
| | Valid N (listwise) | 235 | | | | |
| | | | | | | |
| Mid-career researcher | q7a. How many students / staff are you currently a primary supervisor for? (Honours students, including MBBS research years) | 273 | 0 | 15 | 1.35 | 1.871 |
| | q7b. How many students / staff are you currently a primary supervisor for? (Masters students) | 255 | 0 | 19 | 1.09 | 1.944 |
| | q7c. How many students / staff are you currently a primary supervisor for? (Doctoral students) | 349 | 0 | 12 | 2.51 | 2.353 |
| | q7d. How many students / staff are you currently a primary supervisor for? (Technical assistants) | 174 | 0 | 4 | .35 | .759 |
| | q7e. How many students / staff are you currently a primary supervisor for? (Research assistants) | 310 | 0 | 17 | 1.59 | 1.752 |
| | q7f. How many students / staff are you currently a primary supervisor for? (Postdoctoral researchers) | 282 | 0 | 8 | 1.36 | 1.465 |
| | q7g. How many students / staff are you currently a primary supervisor for? (Clinical researchers) | 195 | 0 | 10 | .82 | 1.742 |
| | Valid N (listwise) | 152 | | | | |
| | | | | | | |

a. No statistics are computed for one or more split files because there are no valid cases.

q8. Approximately how many researchers are there at your institution?

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|---------------|-----------|---------|---------------|--------------------|
| Senior researcher | Missing | System | 658 | 100.0 | | |
| Mid-career researcher | Missing | System | 397 | 100.0 | | |
| Junior researcher | Missing | System | 284 | 100.0 | | |
| Research student | Missing | System | 149 | 100.0 | | |
| Representative of an institution | Valid | 1 to 20 | 5 | 4.7 | 4.8 | 4.8 |
| | | 21 to 50 | 5 | 4.7 | 4.8 | 9.6 |
| | | 51 to 100 | 7 | 6.6 | 6.7 | 16.3 |
| | | 101 to 150 | 5 | 4.7 | 4.8 | 21.2 |
| | | 151 to 200 | 5 | 4.7 | 4.8 | 26.0 |
| | | More than 200 | 77 | 72.6 | 74.0 | 100.0 |
| | | Total | 104 | 98.1 | 100.0 | |
| | | Missing | System | 2 | 1.9 | |
| | Total | 106 | 100.0 | | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
 B. Knowledge and attitudes

q9mr. What motivates you in your work as a researcher? (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-------|--|-----------|------------------|
| Senior researcher | Valid | Improving my knowledge and understanding | 258 | 39.2% |
| | | Making research discoveries for the benefit of society | 571 | 86.8% |
| | | Gaining recognition from my peers | 48 | 7.3% |
| | | Progressing my career | 45 | 6.8% |
| | | Gaining recognition from the public | 3 | 0.5% |
| | | Satisfying my curiosity | 214 | 32.5% |
| | | Working as part of a team | 150 | 22.8% |
| | | Communicating research to others | 122 | 18.5% |
| | | Training the next generation of researchers | 395 | 60.0% |
| | | Earning a salary | 88 | 13.4% |
| | | None of the above | 2 | 0.3% |
| | | Don't know / can't say | | |
| Number of Respondents | | | 658 | 100.0% |
| Mid-career researcher | Valid | Improving my knowledge and understanding | 196 | 49.4% |
| | | Making research discoveries for the benefit of society | 327 | 82.4% |
| | | Gaining recognition from my peers | 28 | 7.1% |
| | | Progressing my career | 73 | 18.4% |
| | | Gaining recognition from the public | 9 | 2.3% |
| | | Satisfying my curiosity | 123 | 31.0% |
| | | Working as part of a team | 93 | 23.4% |
| | | Communicating research to others | 62 | 15.6% |
| | | Training the next generation of researchers | 151 | 38.0% |
| | | Earning a salary | 71 | 17.9% |
| | | None of the above | 2 | 0.5% |
| | | Don't know / can't say | | |
| Number of Respondents | | | 397 | 100.0% |
| Junior researcher | Valid | Improving my knowledge and understanding | 138 | 48.6% |
| | | Making research discoveries for the benefit of society | 234 | 82.4% |
| | | Gaining recognition from my peers | 16 | 5.6% |
| | | Progressing my career | 72 | 25.4% |
| | | Gaining recognition from the public | 6 | 2.1% |
| | | Satisfying my curiosity | 94 | 33.1% |
| | | Working as part of a team | 64 | 22.5% |
| | | Communicating research to others | 71 | 25.0% |
| | | Training the next generation of researchers | 60 | 21.1% |
| | | Earning a salary | 57 | 20.1% |
| | | None of the above | 1 | 0.4% |
| | | Don't know / can't say | | |
| Number of Respondents | | | 284 | 100.0% |
| Research student | Valid | Improving my knowledge and understanding | 98 | 65.8% |
| | | Making research discoveries for the benefit of society | 103 | 69.1% |
| | | Gaining recognition from my peers | 10 | 6.7% |
| | | Progressing my career | 71 | 47.7% |
| | | Gaining recognition from the public | | |
| | | Satisfying my curiosity | 47 | 31.5% |
| | | Working as part of a team | 29 | 19.5% |
| | | Communicating research to others | 32 | 21.5% |
| | | Training the next generation of researchers | 21 | 14.1% |
| | | Earning a salary | 17 | 11.4% |
| | | None of the above | | |
| | | Don't know / can't say | 1 | 0.7% |
| Number of Respondents | | | 149 | 100.0% |
| Representative of an institution | Valid | Improving my knowledge and understanding | | |
| | | Making research discoveries for the benefit of society | | |
| | | Gaining recognition from my peers | | |
| | | Progressing my career | | |
| | | Gaining recognition from the public | | |
| | | Satisfying my curiosity | | |
| | | Working as part of a team | | |
| | | Communicating research to others | | |
| | | Training the next generation of researchers | | |
| | | Earning a salary | | |
| | | None of the above | | |
| | | Don't know / can't say | | |
| Number of Respondents | | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Improving my knowledge and understanding | | |
| | | Making research discoveries for the benefit of society | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
 B. Knowledge and attitudes

q9mr. What motivates you in your work as a researcher? (Multiple Response)

| q1. In what capacity are you participating in this survey? | | Frequency | % of respondents |
|--|------------------------|--|------------------|
| | | Gaining recognition from my peers | |
| | | Progressing my career | |
| | | Gaining recognition from the public | |
| | | Satisfying my curiosity | |
| | | Working as part of a team | |
| | | Communicating research to others | |
| | | Training the next generation of researchers | |
| | | Earning a salary | |
| | | None of the above | |
| | | Don't know / can't say | |
| | Number of Respondents | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Improving my knowledge and understanding | |
| | | Making research discoveries for the benefit of society | |
| | | Gaining recognition from my peers | |
| | | Progressing my career | |
| | | Gaining recognition from the public | |
| | | Satisfying my curiosity | |
| | | Working as part of a team | |
| | | Communicating research to others | |
| | | Training the next generation of researchers | |
| | | Earning a salary | |
| | | None of the above | |
| | Don't know / can't say | | |
| Number of Respondents | | | |

q10mr. Which of the following do you believe are most important for 'high quality research'? (Multiple Response)

| q1. In what capacity are you participating in this survey? | | Frequency | % of respondents |
|--|-------|-----------------------|------------------|
| Senior researcher | Valid | Rigorous | 518 78.8% |
| | | Transparent | 222 33.8% |
| | | Honest | 266 40.5% |
| | | Beneficial to society | 328 49.9% |
| | | Respectful | 84 12.8% |
| | | Innovative | 334 50.8% |
| | | Legal | 28 4.3% |
| | | Original | 252 38.4% |
| | | Justified | 121 18.4% |
| | | Accurate | 348 53.0% |
| | | Ethical | 424 64.5% |
| | | Open | 62 9.4% |
| | | Other | 17 2.6% |
| Number of Respondents | | 657 | 100.0% |
| Mid-career researcher | Valid | Rigorous | 311 78.3% |
| | | Transparent | 151 38.0% |
| | | Honest | 139 35.0% |
| | | Beneficial to society | 234 58.9% |
| | | Respectful | 58 14.6% |
| | | Innovative | 161 40.6% |
| | | Legal | 19 4.8% |
| | | Original | 148 37.3% |
| | | Justified | 75 18.9% |
| | | Accurate | 218 54.9% |
| | | Ethical | 252 63.5% |
| | | Open | 45 11.3% |
| | | Other | 9 2.3% |
| Number of Respondents | | 397 | 100.0% |
| Junior researcher | Valid | Rigorous | 190 66.9% |
| | | Transparent | 142 50.0% |
| | | Honest | 83 29.2% |
| | | Beneficial to society | 193 68.0% |
| | | Respectful | 55 19.4% |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
B. Knowledge and attitudes

q10mr. Which of the following do you believe are most important for 'high quality research'? (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents | |
|--|-------|--|-----------|------------------|--------|
| Research student | Valid | Innovative | 106 | 37.3% | |
| | | Legal | 19 | 6.7% | |
| | | Original | 75 | 26.4% | |
| | | Justified | 71 | 25.0% | |
| | | Accurate | 150 | 52.8% | |
| | | Ethical | 192 | 67.6% | |
| | | Open | 36 | 12.7% | |
| | | Other | 3 | 1.1% | |
| | | Number of Respondents | | 284 | 100.0% |
| | | Rigorous | 89 | 59.7% | |
| | | Transparent | 83 | 55.7% | |
| | | Honest | 57 | 38.3% | |
| | | Beneficial to society | 101 | 67.8% | |
| | | Respectful | 28 | 18.8% | |
| | | Innovative | 56 | 37.6% | |
| Legal | 9 | 6.0% | | | |
| Original | 37 | 24.8% | | | |
| Justified | 36 | 24.2% | | | |
| Accurate | 80 | 53.7% | | | |
| Ethical | 111 | 74.5% | | | |
| Open | 24 | 16.1% | | | |
| Other | 3 | 2.0% | | | |
| Number of Respondents | | 149 | 100.0% | | |
| Representative of an institution | Valid | Rigorous | 77 | 73.3% | |
| | | Transparent | 51 | 48.6% | |
| | | Honest | 35 | 33.3% | |
| | | Beneficial to society | 56 | 53.3% | |
| | | Respectful | 16 | 15.2% | |
| | | Innovative | 41 | 39.0% | |
| | | Legal | 19 | 18.1% | |
| | | Original | 31 | 29.5% | |
| | | Justified | 32 | 30.5% | |
| | | Accurate | 54 | 51.4% | |
| | | Ethical | 90 | 85.7% | |
| | | Open | 7 | 6.7% | |
| | | Other | 2 | 1.9% | |
| | | Number of Respondents | | 105 | 100.0% |
| | | Current member of a Human Research Ethics Committee (HREC) | Valid | Rigorous | 80 |
| Transparent | 53 | | | 42.1% | |
| Honest | 31 | | | 24.6% | |
| Beneficial to society | 80 | | | 63.5% | |
| Respectful | 58 | | | 46.0% | |
| Innovative | 24 | | | 19.0% | |
| Legal | 26 | | | 20.6% | |
| Original | 19 | | | 15.1% | |
| Justified | 55 | | | 43.7% | |
| Accurate | 57 | | | 45.2% | |
| Ethical | 114 | | | 90.5% | |
| Open | 8 | | | 6.3% | |
| Other | 2 | | | 1.6% | |
| Number of Respondents | | | | 126 | 100.0% |
| Current member of an Animal Ethics Committee (AEC) | Valid | | | Rigorous | 25 |
| | | Transparent | 18 | 37.5% | |
| | | Honest | 9 | 18.8% | |
| | | Beneficial to society | 18 | 37.5% | |
| | | Respectful | 16 | 33.3% | |
| | | Innovative | 13 | 27.1% | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
B. Knowledge and attitudes

q10mr. Which of the following do you believe are most important for 'high quality research'? (Multiple Response)

| q1. In what capacity are you participating in this survey? | | Frequency | % of respondents |
|--|-----------|-----------|------------------|
| | Legal | 14 | 29.2% |
| | Original | 9 | 18.8% |
| | Justified | 34 | 70.8% |
| | Accurate | 23 | 47.9% |
| | Ethical | 44 | 91.7% |
| | Open | 1 | 2.1% |
| | Other | 2 | 4.2% |
| Number of Respondents | | 48 | 100.0% |

q12. To what extent do you feel that your department / research group prioritises honesty and integrity when researchers propose, perform and report research?

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Not at all | 9 | 1.4 | 1.4 | 1.4 |
| | | Somewhat | 22 | 3.3 | 3.4 | 4.8 |
| | | Moderately | 72 | 10.9 | 11.2 | 16.0 |
| | | Very much | 229 | 34.8 | 35.5 | 51.5 |
| | | Completely | 313 | 47.6 | 48.5 | 100.0 |
| | | Total | 645 | 98.0 | 100.0 | |
| | Missing | Don't know / can't say | 10 | 1.5 | | |
| | System | 3 | .5 | | | |
| | Total | 13 | 2.0 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Not at all | 5 | 1.3 | 1.3 | 1.3 |
| | | Somewhat | 26 | 6.5 | 6.7 | 8.0 |
| | | Moderately | 56 | 14.1 | 14.5 | 22.5 |
| | | Very much | 162 | 40.8 | 41.9 | 64.3 |
| | | Completely | 138 | 34.8 | 35.7 | 100.0 |
| | | Total | 387 | 97.5 | 100.0 | |
| | Missing | Don't know / can't say | 6 | 1.5 | | |
| | System | 4 | 1.0 | | | |
| | Total | 10 | 2.5 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Not at all | 3 | 1.1 | 1.1 | 1.1 |
| | | Somewhat | 18 | 6.3 | 6.5 | 7.6 |
| | | Moderately | 39 | 13.7 | 14.1 | 21.7 |
| | | Very much | 110 | 38.7 | 39.7 | 61.4 |
| | | Completely | 107 | 37.7 | 38.6 | 100.0 |
| | | Total | 277 | 97.5 | 100.0 | |
| | Missing | Don't know / can't say | 4 | 1.4 | | |
| | System | 3 | 1.1 | | | |
| | Total | 7 | 2.5 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Not at all | 1 | .7 | .7 | .7 |
| | | Somewhat | 8 | 5.4 | 5.7 | 6.4 |
| | | Moderately | 17 | 11.4 | 12.1 | 18.6 |
| | | Very much | 50 | 33.6 | 35.7 | 54.3 |
| | | Completely | 64 | 43.0 | 45.7 | 100.0 |
| | | Total | 140 | 94.0 | 100.0 | |
| | Missing | Don't know / can't say | 8 | 5.4 | | |
| | System | 1 | .7 | | | |
| | Total | 9 | 6.0 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
 B. Knowledge and attitudes

q13mr. Which of the following do you think matters most to the validity of your research? (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-------|---|-----------|------------------|
| Senior researcher | Valid | The past work of others | 39 | 6.0% |
| | | Your hypothesis | 126 | 19.3% |
| | | Your experimental design | 503 | 76.9% |
| | | The statistical power of your experiments | 303 | 46.3% |
| | | Avoidance of experimental biases | 405 | 61.9% |
| | | The absence of conflicts of interest | 151 | 23.1% |
| | | Validation via publication in a peer-review journal | 239 | 36.5% |
| | | None of the above | 18 | 2.8% |
| | | Number of Respondents | | |
| Mid-career researcher | Valid | The past work of others | 29 | 7.4% |
| | | Your hypothesis | 62 | 15.8% |
| | | Your experimental design | 310 | 79.1% |
| | | The statistical power of your experiments | 154 | 39.3% |
| | | Avoidance of experimental biases | 233 | 59.4% |
| | | The absence of conflicts of interest | 105 | 26.8% |
| | | Validation via publication in a peer-review journal | 129 | 32.9% |
| | | None of the above | 11 | 2.8% |
| | | Number of Respondents | | |
| Junior researcher | Valid | The past work of others | 21 | 7.5% |
| | | Your hypothesis | 48 | 17.1% |
| | | Your experimental design | 237 | 84.6% |
| | | The statistical power of your experiments | 107 | 38.2% |
| | | Avoidance of experimental biases | 164 | 58.6% |
| | | The absence of conflicts of interest | 82 | 29.3% |
| | | Validation via publication in a peer-review journal | 80 | 28.6% |
| | | None of the above | 5 | 1.8% |
| | | Number of Respondents | | |
| Research student | Valid | The past work of others | 22 | 15.1% |
| | | Your hypothesis | 25 | 17.1% |
| | | Your experimental design | 109 | 74.7% |
| | | The statistical power of your experiments | 58 | 39.7% |
| | | Avoidance of experimental biases | 95 | 65.1% |
| | | The absence of conflicts of interest | 43 | 29.5% |
| | | Validation via publication in a peer-review journal | 46 | 31.5% |
| | | None of the above | 2 | 1.4% |
| | | Number of Respondents | | |
| Representative of an institution | Valid | The past work of others | | |
| | | Your hypothesis | | |
| | | Your experimental design | | |
| | | The statistical power of your experiments | | |
| | | Avoidance of experimental biases | | |
| | | The absence of conflicts of interest | | |
| | | Validation via publication in a peer-review journal | | |
| | | None of the above | | |
| | | Number of Respondents | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | The past work of others | | |
| | | Your hypothesis | | |
| | | Your experimental design | | |
| | | The statistical power of your experiments | | |
| | | Avoidance of experimental biases | | |
| | | The absence of conflicts of interest | | |
| | | Validation via publication in a peer-review journal | | |
| | | None of the above | | |
| | | Number of Respondents | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | The past work of others | | |
| | | Your hypothesis | | |
| | | Your experimental design | | |
| | | The statistical power of your experiments | | |
| | | Avoidance of experimental biases | | |
| | | The absence of conflicts of interest | | |
| | | Validation via publication in a peer-review journal | | |
| | | None of the above | | |
| | | Number of Respondents | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
 B. Knowledge and attitudes

q14a. Failure to build on what is already known from previous research

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Not at all | 16 | 2.4 | 2.5 | 2.5 |
| | | A little | 124 | 18.8 | 19.1 | 21.5 |
| | | A fair amount | 175 | 26.6 | 26.9 | 48.5 |
| | | A lot | 191 | 29.0 | 29.4 | 77.8 |
| | | To a great extent | 144 | 21.9 | 22.2 | 100.0 |
| | | Total | 650 | 98.8 | 100.0 | |
| | Missing | Don't know / can't say | 3 | .5 | | |
| | | System | 5 | .8 | | |
| | | Total | 8 | 1.2 | | |
| | Total | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Not at all | 12 | 3.0 | 3.1 | 3.1 |
| | | A little | 84 | 21.2 | 21.8 | 24.9 |
| | | A fair amount | 102 | 25.7 | 26.4 | 51.3 |
| | | A lot | 119 | 30.0 | 30.8 | 82.1 |
| | | To a great extent | 69 | 17.4 | 17.9 | 100.0 |
| | | Total | 386 | 97.2 | 100.0 | |
| | Missing | Don't know / can't say | 3 | .8 | | |
| | | System | 8 | 2.0 | | |
| | | Total | 11 | 2.8 | | |
| | Total | | 397 | 100.0 | | |
| Junior researcher | Valid | Not at all | 11 | 3.9 | 4.0 | 4.0 |
| | | A little | 61 | 21.5 | 22.3 | 26.4 |
| | | A fair amount | 70 | 24.6 | 25.6 | 52.0 |
| | | A lot | 72 | 25.4 | 26.4 | 78.4 |
| | | To a great extent | 59 | 20.8 | 21.6 | 100.0 |
| | | Total | 273 | 96.1 | 100.0 | |
| | Missing | Don't know / can't say | 5 | 1.8 | | |
| | | System | 6 | 2.1 | | |
| | | Total | 11 | 3.9 | | |
| | Total | | 284 | 100.0 | | |
| Research student | Valid | Not at all | 5 | 3.4 | 3.5 | 3.5 |
| | | A little | 32 | 21.5 | 22.4 | 25.9 |
| | | A fair amount | 48 | 32.2 | 33.6 | 59.4 |
| | | A lot | 30 | 20.1 | 21.0 | 80.4 |
| | | To a great extent | 28 | 18.8 | 19.6 | 100.0 |
| | | Total | 143 | 96.0 | 100.0 | |
| | Missing | Don't know / can't say | 2 | 1.3 | | |
| | | System | 4 | 2.7 | | |
| | | Total | 6 | 4.0 | | |
| | Total | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
B. Knowledge and attitudes

q14b. Conduct of unnecessary research that might have been avoided if all negative or neutral studies were routinely published

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Not at all | 7 | 1.1 | 1.1 | 1.1 |
| | | A little | 107 | 16.3 | 16.8 | 17.9 |
| | | A fair amount | 191 | 29.0 | 29.9 | 47.8 |
| | | A lot | 190 | 28.9 | 29.8 | 77.6 |
| | | To a great extent | 143 | 21.7 | 22.4 | 100.0 |
| | | Total | 638 | 97.0 | 100.0 | |
| | Missing | Don't know / can't say | 15 | 2.3 | | |
| | System | 5 | .8 | | | |
| | Total | 20 | 3.0 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Not at all | 5 | 1.3 | 1.3 | 1.3 |
| | | A little | 57 | 14.4 | 15.0 | 16.4 |
| | | A fair amount | 103 | 25.9 | 27.2 | 43.5 |
| | | A lot | 114 | 28.7 | 30.1 | 73.6 |
| | | To a great extent | 100 | 25.2 | 26.4 | 100.0 |
| | | Total | 379 | 95.5 | 100.0 | |
| | Missing | Don't know / can't say | 9 | 2.3 | | |
| | System | 9 | 2.3 | | | |
| | Total | 18 | 4.5 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Not at all | 2 | .7 | .7 | .7 |
| | | A little | 26 | 9.2 | 9.6 | 10.4 |
| | | A fair amount | 63 | 22.2 | 23.3 | 33.7 |
| | | A lot | 89 | 31.3 | 33.0 | 66.7 |
| | | To a great extent | 90 | 31.7 | 33.3 | 100.0 |
| | | Total | 270 | 95.1 | 100.0 | |
| | Missing | Don't know / can't say | 8 | 2.8 | | |
| | System | 6 | 2.1 | | | |
| | Total | 14 | 4.9 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Not at all | 3 | 2.0 | 2.2 | 2.2 |
| | | A little | 11 | 7.4 | 7.9 | 10.1 |
| | | A fair amount | 28 | 18.8 | 20.1 | 30.2 |
| | | A lot | 52 | 34.9 | 37.4 | 67.6 |
| | | To a great extent | 45 | 30.2 | 32.4 | 100.0 |
| | | Total | 139 | 93.3 | 100.0 | |
| | Missing | Don't know / can't say | 6 | 4.0 | | |
| | System | 4 | 2.7 | | | |
| | Total | 10 | 6.7 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
 B. Knowledge and attitudes

q14c. Problems for researchers when previous experiments / studies are unreliable because of biases or inadequate sample size

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Not at all | 4 | .6 | .6 | .6 |
| | | A little | 116 | 17.6 | 18.1 | 18.8 |
| | | A fair amount | 209 | 31.8 | 32.7 | 51.4 |
| | | A lot | 197 | 29.9 | 30.8 | 82.2 |
| | | To a great extent | 114 | 17.3 | 17.8 | 100.0 |
| | | Total | 640 | 97.3 | 100.0 | |
| | Missing | Don't know / can't say | 12 | 1.8 | | |
| | System | 6 | .9 | | | |
| | Total | 18 | 2.7 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Not at all | 4 | 1.0 | 1.0 | 1.0 |
| | | A little | 65 | 16.4 | 17.0 | 18.0 |
| | | A fair amount | 119 | 30.0 | 31.1 | 49.1 |
| | | A lot | 127 | 32.0 | 33.2 | 82.2 |
| | | To a great extent | 68 | 17.1 | 17.8 | 100.0 |
| | | Total | 383 | 96.5 | 100.0 | |
| | Missing | Don't know / can't say | 6 | 1.5 | | |
| | System | 8 | 2.0 | | | |
| | Total | 14 | 3.5 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Not at all | 1 | .4 | .4 | .4 |
| | | A little | 47 | 16.5 | 17.5 | 17.9 |
| | | A fair amount | 88 | 31.0 | 32.8 | 50.7 |
| | | A lot | 90 | 31.7 | 33.6 | 84.3 |
| | | To a great extent | 42 | 14.8 | 15.7 | 100.0 |
| | | Total | 268 | 94.4 | 100.0 | |
| | Missing | Don't know / can't say | 10 | 3.5 | | |
| | System | 6 | 2.1 | | | |
| | Total | 16 | 5.6 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Not at all | 1 | .7 | .7 | .7 |
| | | A little | 21 | 14.1 | 15.0 | 15.7 |
| | | A fair amount | 50 | 33.6 | 35.7 | 51.4 |
| | | A lot | 43 | 28.9 | 30.7 | 82.1 |
| | | To a great extent | 25 | 16.8 | 17.9 | 100.0 |
| | | Total | 140 | 94.0 | 100.0 | |
| | Missing | Don't know / can't say | 4 | 2.7 | | |
| | System | 5 | 3.4 | | | |
| | Total | 9 | 6.0 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
 B. Knowledge and attitudes

q14d. Time wasted when essential information on study methods or materials are poorly described or inaccessible

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Not at all | 7 | 1.1 | 1.1 | 1.1 |
| | | A little | 161 | 24.5 | 24.8 | 25.9 |
| | | A fair amount | 212 | 32.2 | 32.7 | 58.6 |
| | | A lot | 168 | 25.5 | 25.9 | 84.6 |
| | | To a great extent | 100 | 15.2 | 15.4 | 100.0 |
| | | Total | 648 | 98.5 | 100.0 | |
| | Missing | Don't know / can't say | 6 | .9 | | |
| | | System | 4 | .6 | | |
| | | Total | 10 | 1.5 | | |
| | Total | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Not at all | 4 | 1.0 | 1.0 | 1.0 |
| | | A little | 100 | 25.2 | 26.1 | 27.2 |
| | | A fair amount | 109 | 27.5 | 28.5 | 55.6 |
| | | A lot | 108 | 27.2 | 28.2 | 83.8 |
| | | To a great extent | 62 | 15.6 | 16.2 | 100.0 |
| | | Total | 383 | 96.5 | 100.0 | |
| | Missing | Don't know / can't say | 5 | 1.3 | | |
| | | System | 9 | 2.3 | | |
| | | Total | 14 | 3.5 | | |
| | Total | | 397 | 100.0 | | |
| Junior researcher | Valid | Not at all | 3 | 1.1 | 1.1 | 1.1 |
| | | A little | 51 | 18.0 | 18.8 | 19.9 |
| | | A fair amount | 87 | 30.6 | 32.0 | 51.8 |
| | | A lot | 76 | 26.8 | 27.9 | 79.8 |
| | | To a great extent | 55 | 19.4 | 20.2 | 100.0 |
| | | Total | 272 | 95.8 | 100.0 | |
| | Missing | Don't know / can't say | 6 | 2.1 | | |
| | | System | 6 | 2.1 | | |
| | | Total | 12 | 4.2 | | |
| | Total | | 284 | 100.0 | | |
| Research student | Valid | Not at all | 1 | .7 | .7 | .7 |
| | | A little | 20 | 13.4 | 14.3 | 15.0 |
| | | A fair amount | 37 | 24.8 | 26.4 | 41.4 |
| | | A lot | 54 | 36.2 | 38.6 | 80.0 |
| | | To a great extent | 28 | 18.8 | 20.0 | 100.0 |
| | | Total | 140 | 94.0 | 100.0 | |
| | Missing | Don't know / can't say | 4 | 2.7 | | |
| | | System | 5 | 3.4 | | |
| | | Total | 9 | 6.0 | | |
| | Total | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
 B. Knowledge and attitudes

q14e. Failure to consider whether and how research results might have value to downstream users (other researchers, clinicians, etc)

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Not at all | 54 | 8.2 | 8.5 | 8.5 |
| | | A little | 202 | 30.7 | 31.6 | 40.1 |
| | | A fair amount | 178 | 27.1 | 27.9 | 67.9 |
| | | A lot | 117 | 17.8 | 18.3 | 86.2 |
| | | To a great extent | 88 | 13.4 | 13.8 | 100.0 |
| | | Total | 639 | 97.1 | 100.0 | |
| | Missing | Don't know / can't say | 12 | 1.8 | | |
| | System | 7 | 1.1 | | | |
| | Total | 19 | 2.9 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Not at all | 19 | 4.8 | 5.0 | 5.0 |
| | | A little | 118 | 29.7 | 31.3 | 36.3 |
| | | A fair amount | 99 | 24.9 | 26.3 | 62.6 |
| | | A lot | 83 | 20.9 | 22.0 | 84.6 |
| | | To a great extent | 58 | 14.6 | 15.4 | 100.0 |
| | | Total | 377 | 95.0 | 100.0 | |
| | Missing | Don't know / can't say | 11 | 2.8 | | |
| | System | 9 | 2.3 | | | |
| | Total | 20 | 5.0 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Not at all | 14 | 4.9 | 5.2 | 5.2 |
| | | A little | 64 | 22.5 | 23.6 | 28.8 |
| | | A fair amount | 71 | 25.0 | 26.2 | 55.0 |
| | | A lot | 68 | 23.9 | 25.1 | 80.1 |
| | | To a great extent | 54 | 19.0 | 19.9 | 100.0 |
| | | Total | 271 | 95.4 | 100.0 | |
| | Missing | Don't know / can't say | 7 | 2.5 | | |
| | System | 6 | 2.1 | | | |
| | Total | 13 | 4.6 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Not at all | 4 | 2.7 | 2.8 | 2.8 |
| | | A little | 31 | 20.8 | 22.0 | 24.8 |
| | | A fair amount | 27 | 18.1 | 19.1 | 44.0 |
| | | A lot | 40 | 26.8 | 28.4 | 72.3 |
| | | To a great extent | 39 | 26.2 | 27.7 | 100.0 |
| | | Total | 141 | 94.6 | 100.0 | |
| | Missing | Don't know / can't say | 3 | 2.0 | | |
| | System | 5 | 3.4 | | | |
| | Total | 8 | 5.4 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
B. Knowledge and attitudes

q15. How important do you think reproducibility is to research?

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|------------------------|------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Somewhat important | 26 | 4.0 | 4.0 | 4.0 |
| | | Quite important | 62 | 9.4 | 9.6 | 13.6 |
| | | Very important | 561 | 85.3 | 86.4 | 100.0 |
| | | Total | 649 | 98.6 | 100.0 | |
| | Missing | Don't know / can't say | 1 | .2 | | |
| | | System | 8 | 1.2 | | |
| Total | | | 9 | 1.4 | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Not at all important | 1 | .3 | .3 | .3 |
| | | Not that important | 4 | 1.0 | 1.1 | 1.3 |
| | | Somewhat important | 25 | 6.3 | 6.6 | 8.0 |
| | | Quite important | 60 | 15.1 | 15.9 | 23.9 |
| | | Very important | 287 | 72.3 | 76.1 | 100.0 |
| | Total | 377 | 95.0 | 100.0 | | |
| Missing | System | 20 | 5.0 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Not at all important | 1 | .4 | .4 | .4 |
| | | Not that important | 2 | .7 | .8 | 1.1 |
| | | Somewhat important | 12 | 4.2 | 4.5 | 5.6 |
| | | Quite important | 56 | 19.7 | 21.1 | 26.7 |
| | | Very important | 195 | 68.7 | 73.3 | 100.0 |
| | Total | 266 | 93.7 | 100.0 | | |
| Missing | System | 18 | 6.3 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Not at all important | 1 | .7 | .7 | .7 |
| | | Somewhat important | 14 | 9.4 | 10.2 | 10.9 |
| | | Quite important | 26 | 17.4 | 19.0 | 29.9 |
| | | Very important | 96 | 64.4 | 70.1 | 100.0 |
| | | Total | 137 | 91.9 | 100.0 | |
| | Missing | Don't know / can't say | 1 | .7 | | |
| System | | 11 | 7.4 | | | |
| Total | | | 12 | 8.1 | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Valid | Somewhat important | 6 | 5.7 | 6.3 | 6.3 |
| | | Quite important | 15 | 14.2 | 15.6 | 21.9 |
| | | Very important | 75 | 70.8 | 78.1 | 100.0 |
| | | Total | 96 | 90.6 | 100.0 | |
| | Missing | Don't know / can't say | 1 | .9 | | |
| | | System | 9 | 8.5 | | |
| Total | | | 10 | 9.4 | | |
| Total | | | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Not at all important | 1 | .8 | .9 | .9 |
| | | Not that important | 3 | 2.4 | 2.6 | 3.4 |
| | | Somewhat important | 12 | 9.5 | 10.3 | 13.7 |
| | | Quite important | 14 | 11.1 | 12.0 | 25.6 |
| | | Very important | 87 | 69.0 | 74.4 | 100.0 |
| | Total | 117 | 92.9 | 100.0 | | |
| Missing | Don't know / can't say | 6 | 4.8 | | | |
| System | | 3 | 2.4 | | | |
| Total | | | 9 | 7.1 | | |
| Total | | | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Somewhat important | 2 | 4.2 | 4.2 | 4.2 |
| | | Quite important | 6 | 12.5 | 12.5 | 16.7 |
| | | Very important | 40 | 83.3 | 83.3 | 100.0 |
| | | Total | 48 | 100.0 | 100.0 | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
 B. Knowledge and attitudes

q16mr. Before today, had you heard of the term 'crisis of reproducibility' in relation to issues in research? (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|------------------------|---|-----------|------------------|
| Senior researcher | Valid | Yes, from the mainstream media | 196 | 30.2% |
| | | Yes, from research journals | 332 | 51.1% |
| | | Yes, from discussions at conferences | 248 | 38.2% |
| | | Yes, from discussions with my colleagues | 335 | 51.5% |
| | | Yes, from online sources (e.g. social media, podcasts, blogs) | 17 | 2.6% |
| | | Yes, from elsewhere | 28 | 4.3% |
| | | No | 130 | 20.0% |
| | | Don't know / can't say | 8 | 1.2% |
| | Number of Respondents | | 650 | 100.0% |
| Mid-career researcher | Valid | Yes, from the mainstream media | 121 | 32.1% |
| | | Yes, from research journals | 185 | 49.1% |
| | | Yes, from discussions at conferences | 142 | 37.7% |
| | | Yes, from discussions with my colleagues | 193 | 51.2% |
| | | Yes, from online sources (e.g. social media, podcasts, blogs) | 9 | 2.4% |
| | | Yes, from elsewhere | 11 | 2.9% |
| | | No | 96 | 25.5% |
| | Don't know / can't say | 4 | 1.1% | |
| Number of Respondents | | 377 | 100.0% | |
| Junior researcher | Valid | Yes, from the mainstream media | 81 | 30.5% |
| | | Yes, from research journals | 109 | 41.0% |
| | | Yes, from discussions at conferences | 93 | 35.0% |
| | | Yes, from discussions with my colleagues | 142 | 53.4% |
| | | Yes, from online sources (e.g. social media, podcasts, blogs) | 9 | 3.4% |
| | | Yes, from elsewhere | 11 | 4.1% |
| | | No | 65 | 24.4% |
| | Don't know / can't say | 6 | 2.3% | |
| Number of Respondents | | 266 | 100.0% | |
| Research student | Valid | Yes, from the mainstream media | 21 | 15.3% |
| | | Yes, from research journals | 32 | 23.4% |
| | | Yes, from discussions at conferences | 28 | 20.4% |
| | | Yes, from discussions with my colleagues | 54 | 39.4% |
| | | Yes, from online sources (e.g. social media, podcasts, blogs) | 3 | 2.2% |
| | | Yes, from elsewhere | 7 | 5.1% |
| | | No | 54 | 39.4% |
| | Don't know / can't say | 6 | 4.4% | |
| Number of Respondents | | 137 | 100.0% | |
| Representative of an institution | Valid | Yes, from the mainstream media | 32 | 33.3% |
| | | Yes, from research journals | 41 | 42.7% |
| | | Yes, from discussions at conferences | 38 | 39.6% |
| | | Yes, from discussions with my colleagues | 48 | 50.0% |
| | | Yes, from online sources (e.g. social media, podcasts, blogs) | 2 | 2.1% |
| | | Yes, from elsewhere | 5 | 5.2% |
| | | No | 16 | 16.7% |
| | Don't know / can't say | | | |
| Number of Respondents | | 96 | 100.0% | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Yes, from the mainstream media | 19 | 15.3% |
| | | Yes, from research journals | 31 | 25.0% |
| | | Yes, from discussions at conferences | 28 | 22.6% |
| | | Yes, from discussions with my colleagues | 37 | 29.8% |
| | | Yes, from online sources (e.g. social media, podcasts, blogs) | 1 | 0.8% |
| | | Yes, from elsewhere | 5 | 4.0% |
| | | No | 54 | 43.5% |
| | Don't know / can't say | 3 | 2.4% | |
| Number of Respondents | | 124 | 100.0% | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Yes, from the mainstream media | 8 | 16.7% |
| | | Yes, from research journals | 9 | 18.8% |
| | | Yes, from discussions at conferences | 12 | 25.0% |
| | | Yes, from discussions with my colleagues | 8 | 16.7% |
| | | Yes, from online sources (e.g. social media, podcasts, blogs) | | |
| | | Yes, from elsewhere | 2 | 4.2% |
| | | No | 21 | 43.8% |
| | Don't know / can't say | 3 | 6.3% | |
| Number of Respondents | | 48 | 100.0% | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
B. Knowledge and attitudes

q17. Which of the following statements do you feel is most accurate when thinking about reproducibility in research?

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|--|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | There is no crisis of reproducibility | 28 | 4.3 | 5.2 | 5.2 |
| | | There is a slight crisis of reproducibility | 210 | 31.9 | 38.7 | 43.8 |
| | | There is a significant crisis of reproducibility | 305 | 46.4 | 56.2 | 100.0 |
| | | Total | 543 | 82.5 | 100.0 | |
| | Missing | Don't know / can't say | 105 | 16.0 | | |
| | | System | 10 | 1.5 | | |
| Total | | 115 | 17.5 | | | |
| Total | | 658 | 100.0 | | | |
| Mid-career researcher | Valid | There is no crisis of reproducibility | 11 | 2.8 | 3.6 | 3.6 |
| | | There is a slight crisis of reproducibility | 121 | 30.5 | 39.8 | 43.4 |
| | | There is a significant crisis of reproducibility | 172 | 43.3 | 56.6 | 100.0 |
| | | Total | 304 | 76.6 | 100.0 | |
| | Missing | Don't know / can't say | 73 | 18.4 | | |
| | | System | 20 | 5.0 | | |
| Total | | 93 | 23.4 | | | |
| Total | | 397 | 100.0 | | | |
| Junior researcher | Valid | There is no crisis of reproducibility | 4 | 1.4 | 2.0 | 2.0 |
| | | There is a slight crisis of reproducibility | 76 | 26.8 | 37.8 | 39.8 |
| | | There is a significant crisis of reproducibility | 121 | 42.6 | 60.2 | 100.0 |
| | | Total | 201 | 70.8 | 100.0 | |
| | Missing | Don't know / can't say | 64 | 22.5 | | |
| | | System | 19 | 6.7 | | |
| Total | | 83 | 29.2 | | | |
| Total | | 284 | 100.0 | | | |
| Research student | Valid | There is no crisis of reproducibility | 3 | 2.0 | 3.4 | 3.4 |
| | | There is a slight crisis of reproducibility | 39 | 26.2 | 43.8 | 47.2 |
| | | There is a significant crisis of reproducibility | 47 | 31.5 | 52.8 | 100.0 |
| | | Total | 89 | 59.7 | 100.0 | |
| | Missing | Don't know / can't say | 47 | 31.5 | | |
| | | System | 13 | 8.7 | | |
| Total | | 60 | 40.3 | | | |
| Total | | 149 | 100.0 | | | |
| Representative of an institution | Valid | There is no crisis of reproducibility | 2 | 1.9 | 2.8 | 2.8 |
| | | There is a slight crisis of reproducibility | 32 | 30.2 | 44.4 | 47.2 |
| | | There is a significant crisis of reproducibility | 38 | 35.8 | 52.8 | 100.0 |
| | | Total | 72 | 67.9 | 100.0 | |
| | Missing | Don't know / can't say | 23 | 21.7 | | |
| | | System | 11 | 10.4 | | |
| Total | | 34 | 32.1 | | | |
| Total | | 106 | 100.0 | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | There is no crisis of reproducibility | 5 | 4.0 | 7.9 | 7.9 |
| | | There is a slight crisis of reproducibility | 32 | 25.4 | 50.8 | 58.7 |
| | | There is a significant crisis of reproducibility | 26 | 20.6 | 41.3 | 100.0 |
| | | Total | 63 | 50.0 | 100.0 | |
| | Missing | Don't know / can't say | 61 | 48.4 | | |
| | | System | 2 | 1.6 | | |
| Total | | 63 | 50.0 | | | |
| Total | | 126 | 100.0 | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | There is a slight crisis of reproducibility | 10 | 20.8 | 34.5 | 34.5 |
| | | There is a significant crisis of reproducibility | 19 | 39.6 | 65.5 | 100.0 |
| | | Total | 29 | 60.4 | 100.0 | |
| | Missing | Don't know / can't say | 18 | 37.5 | | |
| | | System | 1 | 2.1 | | |
| | | Total | 19 | 39.6 | | |
| Total | | 48 | 100.0 | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
B. Knowledge and attitudes

q18a. I think that a failure to reproduce a result most often means that the original finding is wrong

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|----------------------------|------------------------|---------|---------------|--------------------|
| Senior researcher | Valid | Strongly disagree | 34 | 5.2 | 5.4 | 5.4 |
| | | Disagree | 217 | 33.0 | 34.6 | 40.0 |
| | | Neither agree nor disagree | 232 | 35.3 | 37.0 | 77.0 |
| | | Agree | 130 | 19.8 | 20.7 | 97.8 |
| | | Strongly agree | 14 | 2.1 | 2.2 | 100.0 |
| | | Total | 627 | 95.3 | 100.0 | |
| | Missing | Don't know / can't say | 17 | 2.6 | | |
| | System | 14 | 2.1 | | | |
| | Total | 31 | 4.7 | | | |
| | Total | 658 | 100.0 | | | |
| Mid-career researcher | Valid | Strongly disagree | 25 | 6.3 | 6.9 | 6.9 |
| | | Disagree | 131 | 33.0 | 36.3 | 43.2 |
| | | Neither agree nor disagree | 144 | 36.3 | 39.9 | 83.1 |
| | | Agree | 53 | 13.4 | 14.7 | 97.8 |
| | | Strongly agree | 8 | 2.0 | 2.2 | 100.0 |
| | | Total | 361 | 90.9 | 100.0 | |
| | Missing | Don't know / can't say | 13 | 3.3 | | |
| | System | 23 | 5.8 | | | |
| | Total | 36 | 9.1 | | | |
| | Total | 397 | 100.0 | | | |
| Junior researcher | Valid | Strongly disagree | 18 | 6.3 | 7.0 | 7.0 |
| | | Disagree | 112 | 39.4 | 43.6 | 50.6 |
| | | Neither agree nor disagree | 95 | 33.5 | 37.0 | 87.5 |
| | | Agree | 29 | 10.2 | 11.3 | 98.8 |
| | | Strongly agree | 3 | 1.1 | 1.2 | 100.0 |
| | | Total | 257 | 90.5 | 100.0 | |
| | Missing | Don't know / can't say | 8 | 2.8 | | |
| | System | 19 | 6.7 | | | |
| | Total | 27 | 9.5 | | | |
| | Total | 284 | 100.0 | | | |
| Research student | Valid | Strongly disagree | 8 | 5.4 | 6.2 | 6.2 |
| | | Disagree | 51 | 34.2 | 39.2 | 45.4 |
| | | Neither agree nor disagree | 59 | 39.6 | 45.4 | 90.8 |
| | | Agree | 12 | 8.1 | 9.2 | 100.0 |
| | | Total | 130 | 87.2 | 100.0 | |
| | | Missing | Don't know / can't say | 7 | 4.7 | |
| | | System | 12 | 8.1 | | |
| | Total | 19 | 12.8 | | | |
| | Total | 149 | 100.0 | | | |
| Representative of an institution | Valid | Strongly disagree | 7 | 6.6 | 8.0 | 8.0 |
| | | Disagree | 28 | 26.4 | 31.8 | 39.8 |
| | | Neither agree nor disagree | 33 | 31.1 | 37.5 | 77.3 |
| | | Agree | 17 | 16.0 | 19.3 | 96.6 |
| | | Strongly agree | 3 | 2.8 | 3.4 | 100.0 |
| | | Total | 88 | 83.0 | 100.0 | |
| | Missing | Don't know / can't say | 5 | 4.7 | | |
| | System | 13 | 12.3 | | | |
| | Total | 18 | 17.0 | | | |
| | Total | 106 | 100.0 | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Strongly disagree | 4 | 3.2 | 3.5 | 3.5 |
| | | Disagree | 38 | 30.2 | 33.0 | 36.5 |
| | | Neither agree nor disagree | 49 | 38.9 | 42.6 | 79.1 |
| | | Agree | 21 | 16.7 | 18.3 | 97.4 |
| | | Strongly agree | 3 | 2.4 | 2.6 | 100.0 |
| | | Total | 115 | 91.3 | 100.0 | |
| | Missing | Don't know / can't say | 7 | 5.6 | | |
| | System | 4 | 3.2 | | | |
| | Total | 11 | 8.7 | | | |
| | Total | 126 | 100.0 | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Strongly disagree | 3 | 6.3 | 7.0 | 7.0 |
| | | Disagree | 12 | 25.0 | 27.9 | 34.9 |
| | | Neither agree nor disagree | 19 | 39.6 | 44.2 | 79.1 |
| | | Agree | 9 | 18.8 | 20.9 | 100.0 |
| | | Total | 43 | 89.6 | 100.0 | |
| | | Missing | Don't know / can't say | 4 | 8.3 | |
| | | System | 1 | 2.1 | | |
| | Total | 5 | 10.4 | | | |
| | Total | 48 | 100.0 | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
B. Knowledge and attitudes

q18b. I think that a failure to reproduce a result rarely detracts from the validity of the original finding

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|----------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Strongly disagree | 68 | 10.3 | 11.0 | 11.0 |
| | | Disagree | 311 | 47.3 | 50.2 | 61.2 |
| | | Neither agree nor disagree | 151 | 22.9 | 24.4 | 85.6 |
| | | Agree | 83 | 12.6 | 13.4 | 99.0 |
| | | Strongly agree | 6 | .9 | 1.0 | 100.0 |
| | | Total | 619 | 94.1 | 100.0 | |
| | Missing | Don't know / can't say | 23 | 3.5 | | |
| | System | 16 | 2.4 | | | |
| | Total | 39 | 5.9 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Strongly disagree | 25 | 6.3 | 6.9 | 6.9 |
| | | Disagree | 167 | 42.1 | 46.4 | 53.3 |
| | | Neither agree nor disagree | 100 | 25.2 | 27.8 | 81.1 |
| | | Agree | 58 | 14.6 | 16.1 | 97.2 |
| | | Strongly agree | 10 | 2.5 | 2.8 | 100.0 |
| | | Total | 360 | 90.7 | 100.0 | |
| | Missing | Don't know / can't say | 14 | 3.5 | | |
| | System | 23 | 5.8 | | | |
| | Total | 37 | 9.3 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Strongly disagree | 10 | 3.5 | 3.9 | 3.9 |
| | | Disagree | 124 | 43.7 | 48.6 | 52.5 |
| | | Neither agree nor disagree | 71 | 25.0 | 27.8 | 80.4 |
| | | Agree | 45 | 15.8 | 17.6 | 98.0 |
| | | Strongly agree | 5 | 1.8 | 2.0 | 100.0 |
| | | Total | 255 | 89.8 | 100.0 | |
| | Missing | Don't know / can't say | 9 | 3.2 | | |
| | System | 20 | 7.0 | | | |
| | Total | 29 | 10.2 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Strongly disagree | 4 | 2.7 | 3.2 | 3.2 |
| | | Disagree | 56 | 37.6 | 44.8 | 48.0 |
| | | Neither agree nor disagree | 33 | 22.1 | 26.4 | 74.4 |
| | | Agree | 30 | 20.1 | 24.0 | 98.4 |
| | | Strongly agree | 2 | 1.3 | 1.6 | 100.0 |
| | | Total | 125 | 83.9 | 100.0 | |
| | Missing | Don't know / can't say | 12 | 8.1 | | |
| | System | 12 | 8.1 | | | |
| | Total | 24 | 16.1 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Valid | Strongly disagree | 8 | 7.5 | 9.0 | 9.0 |
| | | Disagree | 48 | 45.3 | 53.9 | 62.9 |
| | | Neither agree nor disagree | 19 | 17.9 | 21.3 | 84.3 |
| | | Agree | 12 | 11.3 | 13.5 | 97.8 |
| | | Strongly agree | 2 | 1.9 | 2.2 | 100.0 |
| | | Total | 89 | 84.0 | 100.0 | |
| | Missing | Don't know / can't say | 5 | 4.7 | | |
| | System | 12 | 11.3 | | | |
| | Total | 17 | 16.0 | | | |
| Total | | | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Strongly disagree | 6 | 4.8 | 5.4 | 5.4 |
| | | Disagree | 58 | 46.0 | 51.8 | 57.1 |
| | | Neither agree nor disagree | 23 | 18.3 | 20.5 | 77.7 |
| | | Agree | 21 | 16.7 | 18.8 | 96.4 |
| | | Strongly agree | 4 | 3.2 | 3.6 | 100.0 |
| | | Total | 112 | 88.9 | 100.0 | |
| | Missing | Don't know / can't say | 9 | 7.1 | | |
| | System | 5 | 4.0 | | | |
| | Total | 14 | 11.1 | | | |
| Total | | | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Strongly disagree | 6 | 12.5 | 14.6 | 14.6 |
| | | Disagree | 20 | 41.7 | 48.8 | 63.4 |
| | | Neither agree nor disagree | 7 | 14.6 | 17.1 | 80.5 |
| | | Agree | 7 | 14.6 | 17.1 | 97.6 |
| | | Strongly agree | 1 | 2.1 | 2.4 | 100.0 |
| | | Total | 41 | 85.4 | 100.0 | |
| | Missing | Don't know / can't say | 6 | 12.5 | | |
| | System | 1 | 2.1 | | | |
| | Total | 7 | 14.6 | | | |
| Total | | | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
 B. Knowledge and attitudes

q18c. I think that the failure to reproduce research is a major problem in my field

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|----------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Strongly disagree | 27 | 4.1 | 4.3 | 4.3 |
| | | Disagree | 167 | 25.4 | 26.6 | 30.9 |
| | | Neither agree nor disagree | 139 | 21.1 | 22.2 | 53.1 |
| | | Agree | 236 | 35.9 | 37.6 | 90.7 |
| | | Strongly agree | 58 | 8.8 | 9.3 | 100.0 |
| | | Total | 627 | 95.3 | 100.0 | |
| | Missing | Don't know / can't say | 18 | 2.7 | | |
| | System | 13 | 2.0 | | | |
| | Total | 31 | 4.7 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Strongly disagree | 13 | 3.3 | 3.6 | 3.6 |
| | | Disagree | 84 | 21.2 | 23.1 | 26.6 |
| | | Neither agree nor disagree | 111 | 28.0 | 30.5 | 57.1 |
| | | Agree | 120 | 30.2 | 33.0 | 90.1 |
| | | Strongly agree | 36 | 9.1 | 9.9 | 100.0 |
| | | Total | 364 | 91.7 | 100.0 | |
| | Missing | Don't know / can't say | 10 | 2.5 | | |
| | System | 23 | 5.8 | | | |
| | Total | 33 | 8.3 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Strongly disagree | 8 | 2.8 | 3.1 | 3.1 |
| | | Disagree | 57 | 20.1 | 22.4 | 25.6 |
| | | Neither agree nor disagree | 68 | 23.9 | 26.8 | 52.4 |
| | | Agree | 96 | 33.8 | 37.8 | 90.2 |
| | | Strongly agree | 25 | 8.8 | 9.8 | 100.0 |
| | | Total | 254 | 89.4 | 100.0 | |
| | Missing | Don't know / can't say | 10 | 3.5 | | |
| | System | 20 | 7.0 | | | |
| | Total | 30 | 10.6 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Strongly disagree | 6 | 4.0 | 4.9 | 4.9 |
| | | Disagree | 32 | 21.5 | 26.0 | 30.9 |
| | | Neither agree nor disagree | 37 | 24.8 | 30.1 | 61.0 |
| | | Agree | 43 | 28.9 | 35.0 | 95.9 |
| | | Strongly agree | 5 | 3.4 | 4.1 | 100.0 |
| | | Total | 123 | 82.6 | 100.0 | |
| | Missing | Don't know / can't say | 14 | 9.4 | | |
| | System | 12 | 8.1 | | | |
| | Total | 26 | 17.4 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
 B. Knowledge and attitudes

q18d. I think that the failure to reproduce research is a major problem for all fields

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|----------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Strongly disagree | 10 | 1.5 | 1.8 | 1.8 |
| | | Disagree | 100 | 15.2 | 17.5 | 19.3 |
| | | Neither agree nor disagree | 149 | 22.6 | 26.1 | 45.4 |
| | | Agree | 248 | 37.7 | 43.4 | 88.8 |
| | | Strongly agree | 64 | 9.7 | 11.2 | 100.0 |
| | | Total | 571 | 86.8 | 100.0 | |
| | Missing | Don't know / can't say | 72 | 10.9 | | |
| | System | 15 | 2.3 | | | |
| | Total | 87 | 13.2 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Strongly disagree | 11 | 2.8 | 3.3 | 3.3 |
| | | Disagree | 46 | 11.6 | 13.6 | 16.9 |
| | | Neither agree nor disagree | 104 | 26.2 | 30.9 | 47.8 |
| | | Agree | 139 | 35.0 | 41.2 | 89.0 |
| | | Strongly agree | 37 | 9.3 | 11.0 | 100.0 |
| | | Total | 337 | 84.9 | 100.0 | |
| | Missing | Don't know / can't say | 38 | 9.6 | | |
| | System | 22 | 5.5 | | | |
| | Total | 60 | 15.1 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Strongly disagree | 6 | 2.1 | 2.7 | 2.7 |
| | | Disagree | 27 | 9.5 | 12.0 | 14.7 |
| | | Neither agree nor disagree | 68 | 23.9 | 30.2 | 44.9 |
| | | Agree | 96 | 33.8 | 42.7 | 87.6 |
| | | Strongly agree | 28 | 9.9 | 12.4 | 100.0 |
| | | Total | 225 | 79.2 | 100.0 | |
| | Missing | Don't know / can't say | 39 | 13.7 | | |
| | System | 20 | 7.0 | | | |
| | Total | 59 | 20.8 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Strongly disagree | 2 | 1.3 | 1.8 | 1.8 |
| | | Disagree | 19 | 12.8 | 16.7 | 18.4 |
| | | Neither agree nor disagree | 30 | 20.1 | 26.3 | 44.7 |
| | | Agree | 58 | 38.9 | 50.9 | 95.6 |
| | | Strongly agree | 5 | 3.4 | 4.4 | 100.0 |
| | | Total | 114 | 76.5 | 100.0 | |
| | Missing | Don't know / can't say | 22 | 14.8 | | |
| | System | 13 | 8.7 | | | |
| | Total | 35 | 23.5 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
B. Knowledge and attitudes

q19a. Pressure to publish for career advancement

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Not at all | 15 | 2.3 | 2.5 | 2.5 |
| | | Slightly | 83 | 12.6 | 13.8 | 16.3 |
| | | Moderately | 149 | 22.6 | 24.7 | 41.0 |
| | | Considerably | 205 | 31.2 | 34.0 | 75.0 |
| | | To a great extent | 151 | 22.9 | 25.0 | 100.0 |
| | Total | 603 | 91.6 | 100.0 | | |
| | Missing | Don't know / can't say | 39 | 5.9 | | |
| | System | 16 | 2.4 | | | |
| | Total | 55 | 8.4 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Not at all | 11 | 2.8 | 3.1 | 3.1 |
| | | Slightly | 31 | 7.8 | 8.8 | 12.0 |
| | | Moderately | 84 | 21.2 | 23.9 | 35.9 |
| | | Considerably | 112 | 28.2 | 31.9 | 67.8 |
| | | To a great extent | 113 | 28.5 | 32.2 | 100.0 |
| | Total | 351 | 88.4 | 100.0 | | |
| | Missing | Don't know / can't say | 23 | 5.8 | | |
| | System | 23 | 5.8 | | | |
| | Total | 46 | 11.6 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Not at all | 7 | 2.5 | 3.0 | 3.0 |
| | | Slightly | 28 | 9.9 | 12.0 | 15.0 |
| | | Moderately | 41 | 14.4 | 17.5 | 32.5 |
| | | Considerably | 80 | 28.2 | 34.2 | 66.7 |
| | | To a great extent | 78 | 27.5 | 33.3 | 100.0 |
| | Total | 234 | 82.4 | 100.0 | | |
| | Missing | Don't know / can't say | 25 | 8.8 | | |
| | System | 25 | 8.8 | | | |
| | Total | 50 | 17.6 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Not at all | 1 | .7 | .9 | .9 |
| | | Slightly | 12 | 8.1 | 10.3 | 11.2 |
| | | Moderately | 32 | 21.5 | 27.6 | 38.8 |
| | | Considerably | 34 | 22.8 | 29.3 | 68.1 |
| | | To a great extent | 37 | 24.8 | 31.9 | 100.0 |
| | Total | 116 | 77.9 | 100.0 | | |
| | Missing | Don't know / can't say | 18 | 12.1 | | |
| | System | 15 | 10.1 | | | |
| | Total | 33 | 22.1 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Valid | Not at all | 3 | 2.8 | 3.7 | 3.7 |
| | | Slightly | 10 | 9.4 | 12.2 | 15.9 |
| | | Moderately | 22 | 20.8 | 26.8 | 42.7 |
| | | Considerably | 30 | 28.3 | 36.6 | 79.3 |
| | | To a great extent | 17 | 16.0 | 20.7 | 100.0 |
| | Total | 82 | 77.4 | 100.0 | | |
| | Missing | Don't know / can't say | 10 | 9.4 | | |
| | System | 14 | 13.2 | | | |
| | Total | 24 | 22.6 | | | |
| Total | | | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
 B. Knowledge and attitudes

q19b. Insufficient oversight / mentoring by principal investigator for the research group (e.g. reviewing raw data)

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Not at all | 16 | 2.4 | 2.7 | 2.7 |
| | | Slightly | 126 | 19.1 | 21.1 | 23.7 |
| | | Moderately | 215 | 32.7 | 36.0 | 59.7 |
| | | Considerably | 178 | 27.1 | 29.8 | 89.5 |
| | | To a great extent | 63 | 9.6 | 10.5 | 100.0 |
| | Total | 598 | 90.9 | 100.0 | | |
| | Missing | Don't know / can't say | 42 | 6.4 | | |
| | System | 18 | 2.7 | | | |
| | Total | 60 | 9.1 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Not at all | 12 | 3.0 | 3.5 | 3.5 |
| | | Slightly | 59 | 14.9 | 17.0 | 20.5 |
| | | Moderately | 110 | 27.7 | 31.7 | 52.2 |
| | | Considerably | 120 | 30.2 | 34.6 | 86.7 |
| | | To a great extent | 46 | 11.6 | 13.3 | 100.0 |
| | Total | 347 | 87.4 | 100.0 | | |
| | Missing | Don't know / can't say | 26 | 6.5 | | |
| | System | 24 | 6.0 | | | |
| | Total | 50 | 12.6 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Not at all | 4 | 1.4 | 1.7 | 1.7 |
| | | Slightly | 34 | 12.0 | 14.7 | 16.4 |
| | | Moderately | 94 | 33.1 | 40.5 | 56.9 |
| | | Considerably | 71 | 25.0 | 30.6 | 87.5 |
| | | To a great extent | 29 | 10.2 | 12.5 | 100.0 |
| | Total | 232 | 81.7 | 100.0 | | |
| | Missing | Don't know / can't say | 28 | 9.9 | | |
| | System | 24 | 8.5 | | | |
| | Total | 52 | 18.3 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Not at all | 4 | 2.7 | 3.4 | 3.4 |
| | | Slightly | 14 | 9.4 | 11.8 | 15.1 |
| | | Moderately | 41 | 27.5 | 34.5 | 49.6 |
| | | Considerably | 43 | 28.9 | 36.1 | 85.7 |
| | | To a great extent | 17 | 11.4 | 14.3 | 100.0 |
| | Total | 119 | 79.9 | 100.0 | | |
| | Missing | Don't know / can't say | 14 | 9.4 | | |
| | System | 16 | 10.7 | | | |
| | Total | 30 | 20.1 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Valid | Not at all | 3 | 2.8 | 3.5 | 3.5 |
| | | Slightly | 9 | 8.5 | 10.6 | 14.1 |
| | | Moderately | 29 | 27.4 | 34.1 | 48.2 |
| | | Considerably | 34 | 32.1 | 40.0 | 88.2 |
| | | To a great extent | 10 | 9.4 | 11.8 | 100.0 |
| | Total | 85 | 80.2 | 100.0 | | |
| | Missing | Don't know / can't say | 6 | 5.7 | | |
| | System | 15 | 14.2 | | | |
| | Total | 21 | 19.8 | | | |
| Total | | | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
B. Knowledge and attitudes

q19c. Insufficient peer review of grant applications

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Not at all | 150 | 22.8 | 25.1 | 25.1 |
| | | Slightly | 224 | 34.0 | 37.5 | 62.5 |
| | | Moderately | 134 | 20.4 | 22.4 | 84.9 |
| | | Considerably | 58 | 8.8 | 9.7 | 94.6 |
| | | To a great extent | 32 | 4.9 | 5.4 | 100.0 |
| | | Total | 598 | 90.9 | 100.0 | |
| | Missing | Don't know / can't say | 41 | 6.2 | | |
| | System | 19 | 2.9 | | | |
| | Total | 60 | 9.1 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Not at all | 84 | 21.2 | 23.9 | 23.9 |
| | | Slightly | 135 | 34.0 | 38.5 | 62.4 |
| | | Moderately | 89 | 22.4 | 25.4 | 87.7 |
| | | Considerably | 28 | 7.1 | 8.0 | 95.7 |
| | | To a great extent | 15 | 3.8 | 4.3 | 100.0 |
| | | Total | 351 | 88.4 | 100.0 | |
| | Missing | Don't know / can't say | 24 | 6.0 | | |
| | System | 22 | 5.5 | | | |
| | Total | 46 | 11.6 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Not at all | 48 | 16.9 | 22.0 | 22.0 |
| | | Slightly | 78 | 27.5 | 35.8 | 57.8 |
| | | Moderately | 53 | 18.7 | 24.3 | 82.1 |
| | | Considerably | 28 | 9.9 | 12.8 | 95.0 |
| | | To a great extent | 11 | 3.9 | 5.0 | 100.0 |
| | | Total | 218 | 76.8 | 100.0 | |
| | Missing | Don't know / can't say | 43 | 15.1 | | |
| | System | 23 | 8.1 | | | |
| | Total | 66 | 23.2 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Not at all | 13 | 8.7 | 13.4 | 13.4 |
| | | Slightly | 27 | 18.1 | 27.8 | 41.2 |
| | | Moderately | 36 | 24.2 | 37.1 | 78.4 |
| | | Considerably | 15 | 10.1 | 15.5 | 93.8 |
| | | To a great extent | 6 | 4.0 | 6.2 | 100.0 |
| | | Total | 97 | 65.1 | 100.0 | |
| | Missing | Don't know / can't say | 37 | 24.8 | | |
| | System | 15 | 10.1 | | | |
| | Total | 52 | 34.9 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Valid | Not at all | 20 | 18.9 | 24.4 | 24.4 |
| | | Slightly | 32 | 30.2 | 39.0 | 63.4 |
| | | Moderately | 17 | 16.0 | 20.7 | 84.1 |
| | | Considerably | 11 | 10.4 | 13.4 | 97.6 |
| | | To a great extent | 2 | 1.9 | 2.4 | 100.0 |
| | | Total | 82 | 77.4 | 100.0 | |
| | Missing | Don't know / can't say | 9 | 8.5 | | |
| | System | 15 | 14.2 | | | |
| | Total | 24 | 22.6 | | | |
| Total | | | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
B. Knowledge and attitudes

q19d. Insufficient peer review of research publications

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Not at all | 42 | 6.4 | 6.9 | 6.9 |
| | | Slightly | 167 | 25.4 | 27.4 | 34.3 |
| | | Moderately | 191 | 29.0 | 31.3 | 65.6 |
| | | Considerably | 161 | 24.5 | 26.4 | 92.0 |
| | | To a great extent | 49 | 7.4 | 8.0 | 100.0 |
| | | Total | 610 | 92.7 | 100.0 | |
| | Missing | Don't know / can't say | 29 | 4.4 | | |
| | System | 19 | 2.9 | | | |
| | Total | 48 | 7.3 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Not at all | 32 | 8.1 | 8.9 | 8.9 |
| | | Slightly | 103 | 25.9 | 28.7 | 37.6 |
| | | Moderately | 117 | 29.5 | 32.6 | 70.2 |
| | | Considerably | 81 | 20.4 | 22.6 | 92.8 |
| | | To a great extent | 26 | 6.5 | 7.2 | 100.0 |
| | | Total | 359 | 90.4 | 100.0 | |
| | Missing | Don't know / can't say | 16 | 4.0 | | |
| | System | 22 | 5.5 | | | |
| | Total | 38 | 9.6 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Not at all | 33 | 11.6 | 14.1 | 14.1 |
| | | Slightly | 66 | 23.2 | 28.2 | 42.3 |
| | | Moderately | 68 | 23.9 | 29.1 | 71.4 |
| | | Considerably | 49 | 17.3 | 20.9 | 92.3 |
| | | To a great extent | 18 | 6.3 | 7.7 | 100.0 |
| | | Total | 234 | 82.4 | 100.0 | |
| | Missing | Don't know / can't say | 27 | 9.5 | | |
| | System | 23 | 8.1 | | | |
| | Total | 50 | 17.6 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Not at all | 10 | 6.7 | 9.1 | 9.1 |
| | | Slightly | 25 | 16.8 | 22.7 | 31.8 |
| | | Moderately | 42 | 28.2 | 38.2 | 70.0 |
| | | Considerably | 22 | 14.8 | 20.0 | 90.0 |
| | | To a great extent | 11 | 7.4 | 10.0 | 100.0 |
| | | Total | 110 | 73.8 | 100.0 | |
| | Missing | Don't know / can't say | 22 | 14.8 | | |
| | System | 17 | 11.4 | | | |
| | Total | 39 | 26.2 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Valid | Not at all | 7 | 6.6 | 8.6 | 8.6 |
| | | Slightly | 27 | 25.5 | 33.3 | 42.0 |
| | | Moderately | 33 | 31.1 | 40.7 | 82.7 |
| | | Considerably | 9 | 8.5 | 11.1 | 93.8 |
| | | To a great extent | 5 | 4.7 | 6.2 | 100.0 |
| | | Total | 81 | 76.4 | 100.0 | |
| | Missing | Don't know / can't say | 10 | 9.4 | | |
| | System | 15 | 14.2 | | | |
| | Total | 25 | 23.6 | | | |
| Total | | | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
B. Knowledge and attitudes

q19e. Selective reporting of results

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|--|------------------------|------------|---------|---------------|--------------------|
| Senior researcher | Valid | Not at all | 5 | .8 | .8 | .8 |
| | | Slightly | 40 | 6.1 | 6.5 | 7.3 |
| | | Moderately | 140 | 21.3 | 22.7 | 29.9 |
| | | Considerably | 265 | 40.3 | 42.9 | 72.8 |
| | | To a great extent | 168 | 25.5 | 27.2 | 100.0 |
| | Missing | Don't know / can't say | 21 | 3.2 | | |
| | | System | 19 | 2.9 | | |
| | | Total | 40 | 6.1 | | |
| | Total | | 658 | 100.0 | | |
| | Mid-career researcher | Valid | Not at all | 2 | .5 | .6 |
| Slightly | | | 22 | 5.5 | 6.1 | 6.7 |
| Moderately | | | 76 | 19.1 | 21.2 | 27.9 |
| Considerably | | | 148 | 37.3 | 41.2 | 69.1 |
| To a great extent | | | 111 | 28.0 | 30.9 | 100.0 |
| Missing | | Don't know / can't say | 14 | 3.5 | | |
| | | System | 24 | 6.0 | | |
| | | Total | 38 | 9.6 | | |
| Total | | 397 | 100.0 | | | |
| Junior researcher | | Valid | Not at all | 2 | .7 | .8 |
| | Slightly | | 11 | 3.9 | 4.6 | 5.4 |
| | Moderately | | 54 | 19.0 | 22.5 | 27.9 |
| | Considerably | | 93 | 32.7 | 38.8 | 66.7 |
| | To a great extent | | 80 | 28.2 | 33.3 | 100.0 |
| | Missing | Don't know / can't say | 19 | 6.7 | | |
| | | System | 25 | 8.8 | | |
| | | Total | 44 | 15.5 | | |
| | Total | | 284 | 100.0 | | |
| | Research student | Valid | Not at all | 2 | 1.3 | 1.6 |
| Slightly | | | 1 | .7 | .8 | 2.4 |
| Moderately | | | 25 | 16.8 | 20.3 | 22.8 |
| Considerably | | | 50 | 33.6 | 40.7 | 63.4 |
| To a great extent | | | 45 | 30.2 | 36.6 | 100.0 |
| Missing | | Don't know / can't say | 12 | 8.1 | | |
| | | System | 14 | 9.4 | | |
| | | Total | 26 | 17.4 | | |
| Total | | 149 | 100.0 | | | |
| Representative of an institution | | Valid | Not at all | 1 | .9 | 1.2 |
| | Slightly | | 10 | 9.4 | 11.8 | 12.9 |
| | Moderately | | 23 | 21.7 | 27.1 | 40.0 |
| | Considerably | | 31 | 29.2 | 36.5 | 76.5 |
| | To a great extent | | 20 | 18.9 | 23.5 | 100.0 |
| | Missing | Don't know / can't say | 5 | 4.7 | | |
| | | System | 16 | 15.1 | | |
| | | Total | 21 | 19.8 | | |
| | Total | | 106 | 100.0 | | |
| | Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
B. Knowledge and attitudes

q19f. Original findings were inadequately robust because of insufficient replication by the research group publishing the work

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Not at all | 11 | 1.7 | 2.0 | 2.0 |
| | | Slightly | 93 | 14.1 | 16.6 | 18.6 |
| | | Moderately | 194 | 29.5 | 34.7 | 53.3 |
| | | Considerably | 193 | 29.3 | 34.5 | 87.8 |
| | | To a great extent | 68 | 10.3 | 12.2 | 100.0 |
| | | Total | 559 | 85.0 | 100.0 | |
| | Missing | Don't know / can't say | 78 | 11.9 | | |
| | System | 21 | 3.2 | | | |
| | Total | 99 | 15.0 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Not at all | 6 | 1.5 | 1.9 | 1.9 |
| | | Slightly | 67 | 16.9 | 20.9 | 22.7 |
| | | Moderately | 111 | 28.0 | 34.6 | 57.3 |
| | | Considerably | 101 | 25.4 | 31.5 | 88.8 |
| | | To a great extent | 36 | 9.1 | 11.2 | 100.0 |
| | | Total | 321 | 80.9 | 100.0 | |
| | Missing | Don't know / can't say | 53 | 13.4 | | |
| | System | 23 | 5.8 | | | |
| | Total | 76 | 19.1 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Not at all | 5 | 1.8 | 2.5 | 2.5 |
| | | Slightly | 44 | 15.5 | 21.7 | 24.1 |
| | | Moderately | 68 | 23.9 | 33.5 | 57.6 |
| | | Considerably | 65 | 22.9 | 32.0 | 89.7 |
| | | To a great extent | 21 | 7.4 | 10.3 | 100.0 |
| | | Total | 203 | 71.5 | 100.0 | |
| | Missing | Don't know / can't say | 58 | 20.4 | | |
| | System | 23 | 8.1 | | | |
| | Total | 81 | 28.5 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Not at all | 1 | .7 | .9 | .9 |
| | | Slightly | 11 | 7.4 | 10.3 | 11.2 |
| | | Moderately | 42 | 28.2 | 39.3 | 50.5 |
| | | Considerably | 39 | 26.2 | 36.4 | 86.9 |
| | | To a great extent | 14 | 9.4 | 13.1 | 100.0 |
| | | Total | 107 | 71.8 | 100.0 | |
| | Missing | Don't know / can't say | 28 | 18.8 | | |
| | System | 14 | 9.4 | | | |
| | Total | 42 | 28.2 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Valid | Not at all | 2 | 1.9 | 2.5 | 2.5 |
| | | Slightly | 18 | 17.0 | 22.8 | 25.3 |
| | | Moderately | 28 | 26.4 | 35.4 | 60.8 |
| | | Considerably | 24 | 22.6 | 30.4 | 91.1 |
| | | To a great extent | 7 | 6.6 | 8.9 | 100.0 |
| | | Total | 79 | 74.5 | 100.0 | |
| | Missing | Don't know / can't say | 12 | 11.3 | | |
| | System | 15 | 14.2 | | | |
| | Total | 27 | 25.5 | | | |
| Total | | | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
B. Knowledge and attitudes

q19g. Original findings obtained with low statistical power / poor statistical analysis

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Not at all | 5 | .8 | .8 | .8 |
| | | Slightly | 85 | 12.9 | 14.2 | 15.1 |
| | | Moderately | 200 | 30.4 | 33.4 | 48.5 |
| | | Considerably | 207 | 31.5 | 34.6 | 83.1 |
| | | To a great extent | 101 | 15.3 | 16.9 | 100.0 |
| | | Total | 598 | 90.9 | 100.0 | |
| | Missing | Don't know / can't say | 42 | 6.4 | | |
| | System | 18 | 2.7 | | | |
| | Total | 60 | 9.1 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Not at all | 7 | 1.8 | 2.0 | 2.0 |
| | | Slightly | 42 | 10.6 | 12.0 | 14.0 |
| | | Moderately | 122 | 30.7 | 35.0 | 49.0 |
| | | Considerably | 128 | 32.2 | 36.7 | 85.7 |
| | | To a great extent | 50 | 12.6 | 14.3 | 100.0 |
| | | Total | 349 | 87.9 | 100.0 | |
| | Missing | Don't know / can't say | 25 | 6.3 | | |
| | System | 23 | 5.8 | | | |
| | Total | 48 | 12.1 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Not at all | 1 | .4 | .4 | .4 |
| | | Slightly | 28 | 9.9 | 11.9 | 12.3 |
| | | Moderately | 85 | 29.9 | 36.0 | 48.3 |
| | | Considerably | 82 | 28.9 | 34.7 | 83.1 |
| | | To a great extent | 40 | 14.1 | 16.9 | 100.0 |
| | | Total | 236 | 83.1 | 100.0 | |
| | Missing | Don't know / can't say | 25 | 8.8 | | |
| | System | 23 | 8.1 | | | |
| | Total | 48 | 16.9 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Not at all | 1 | .7 | .8 | .8 |
| | | Slightly | 14 | 9.4 | 11.7 | 12.5 |
| | | Moderately | 38 | 25.5 | 31.7 | 44.2 |
| | | Considerably | 44 | 29.5 | 36.7 | 80.8 |
| | | To a great extent | 23 | 15.4 | 19.2 | 100.0 |
| | | Total | 120 | 80.5 | 100.0 | |
| | Missing | Don't know / can't say | 15 | 10.1 | | |
| | System | 14 | 9.4 | | | |
| | Total | 29 | 19.5 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Valid | Not at all | 1 | .9 | 1.2 | 1.2 |
| | | Slightly | 15 | 14.2 | 18.3 | 19.5 |
| | | Moderately | 24 | 22.6 | 29.3 | 48.8 |
| | | Considerably | 31 | 29.2 | 37.8 | 86.6 |
| | | To a great extent | 11 | 10.4 | 13.4 | 100.0 |
| | | Total | 82 | 77.4 | 100.0 | |
| | Missing | Don't know / can't say | 9 | 8.5 | | |
| | System | 15 | 14.2 | | | |
| | Total | 24 | 22.6 | | | |
| Total | | | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
B. Knowledge and attitudes

q19h. Mistakes or inadequate expertise in reproduction efforts

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Not at all | 17 | 2.6 | 3.0 | 3.0 |
| | | Slightly | 175 | 26.6 | 31.0 | 34.0 |
| | | Moderately | 224 | 34.0 | 39.6 | 73.6 |
| | | Considerably | 129 | 19.6 | 22.8 | 96.5 |
| | | To a great extent | 20 | 3.0 | 3.5 | 100.0 |
| | Total | 565 | 85.9 | 100.0 | | |
| | Missing | Don't know / can't say | 74 | 11.2 | | |
| | System | 19 | 2.9 | | | |
| | Total | 93 | 14.1 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Not at all | 10 | 2.5 | 3.0 | 3.0 |
| | | Slightly | 107 | 27.0 | 32.4 | 35.5 |
| | | Moderately | 122 | 30.7 | 37.0 | 72.4 |
| | | Considerably | 72 | 18.1 | 21.8 | 94.2 |
| | | To a great extent | 19 | 4.8 | 5.8 | 100.0 |
| | Total | 330 | 83.1 | 100.0 | | |
| | Missing | Don't know / can't say | 44 | 11.1 | | |
| | System | 23 | 5.8 | | | |
| | Total | 67 | 16.9 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Not at all | 4 | 1.4 | 1.8 | 1.8 |
| | | Slightly | 55 | 19.4 | 25.2 | 27.1 |
| | | Moderately | 96 | 33.8 | 44.0 | 71.1 |
| | | Considerably | 50 | 17.6 | 22.9 | 94.0 |
| | | To a great extent | 13 | 4.6 | 6.0 | 100.0 |
| | Total | 218 | 76.8 | 100.0 | | |
| | Missing | Don't know / can't say | 42 | 14.8 | | |
| | System | 24 | 8.5 | | | |
| | Total | 66 | 23.2 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Not at all | 2 | 1.3 | 1.9 | 1.9 |
| | | Slightly | 28 | 18.8 | 26.7 | 28.6 |
| | | Moderately | 41 | 27.5 | 39.0 | 67.6 |
| | | Considerably | 26 | 17.4 | 24.8 | 92.4 |
| | | To a great extent | 8 | 5.4 | 7.6 | 100.0 |
| | Total | 105 | 70.5 | 100.0 | | |
| | Missing | Don't know / can't say | 29 | 19.5 | | |
| | System | 15 | 10.1 | | | |
| | Total | 44 | 29.5 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Valid | Not at all | 4 | 3.8 | 4.8 | 4.8 |
| | | Slightly | 27 | 25.5 | 32.1 | 36.9 |
| | | Moderately | 31 | 29.2 | 36.9 | 73.8 |
| | | Considerably | 16 | 15.1 | 19.0 | 92.9 |
| | | To a great extent | 6 | 5.7 | 7.1 | 100.0 |
| | Total | 84 | 79.2 | 100.0 | | |
| | Missing | Don't know / can't say | 6 | 5.7 | | |
| | System | 16 | 15.1 | | | |
| | Total | 22 | 20.8 | | | |
| Total | | | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
B. Knowledge and attitudes

q19i. Information not available from the original research group (e.g. protocols, data, code, reagent information)

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|-------------------|------------------------|------------|---------|---------------|--------------------|
| Senior researcher | Valid | Not at all | 12 | 1.8 | 2.0 | 2.0 |
| | | Slightly | 134 | 20.4 | 22.8 | 24.8 |
| | | Moderately | 201 | 30.5 | 34.1 | 58.9 |
| | | Considerably | 177 | 26.9 | 30.1 | 89.0 |
| | | To a great extent | 65 | 9.9 | 11.0 | 100.0 |
| | Total | | 589 | 89.5 | 100.0 | |
| | | | | | | |
| | Missing | Don't know / can't say | 49 | 7.4 | | |
| | | System | 20 | 3.0 | | |
| | | Total | 69 | 10.5 | | |
| Total | | 658 | 100.0 | | | |
| Mid-career researcher | Valid | Not at all | 2 | .5 | .6 | .6 |
| | | Slightly | 69 | 17.4 | 19.8 | 20.3 |
| | | Moderately | 111 | 28.0 | 31.8 | 52.1 |
| | | Considerably | 113 | 28.5 | 32.4 | 84.5 |
| | | To a great extent | 54 | 13.6 | 15.5 | 100.0 |
| | Total | | 349 | 87.9 | 100.0 | |
| | | | | | | |
| | Missing | Don't know / can't say | 24 | 6.0 | | |
| | | System | 24 | 6.0 | | |
| | | Total | 48 | 12.1 | | |
| Total | | 397 | 100.0 | | | |
| Junior researcher | Valid | Slightly | 26 | 9.2 | 11.1 | 11.1 |
| | | Moderately | 66 | 23.2 | 28.2 | 39.3 |
| | | Considerably | 99 | 34.9 | 42.3 | 81.6 |
| | | To a great extent | 43 | 15.1 | 18.4 | 100.0 |
| | | Total | 234 | 82.4 | 100.0 | |
| | Missing | Don't know / can't say | 25 | 8.8 | | |
| | | System | 25 | 8.8 | | |
| | | Total | 50 | 17.6 | | |
| | Total | | 284 | 100.0 | | |
| | Research student | Valid | Slightly | 11 | 7.4 | 9.0 |
| Moderately | | | 42 | 28.2 | 34.4 | 43.4 |
| Considerably | | | 44 | 29.5 | 36.1 | 79.5 |
| To a great extent | | | 25 | 16.8 | 20.5 | 100.0 |
| Total | | | 122 | 81.9 | 100.0 | |
| Missing | | Don't know / can't say | 12 | 8.1 | | |
| | | System | 15 | 10.1 | | |
| | | Total | 27 | 18.1 | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | | Valid | Not at all | 4 | 3.8 | 4.9 |
| | Slightly | | 15 | 14.2 | 18.3 | 23.2 |
| | Moderately | | 17 | 16.0 | 20.7 | 43.9 |
| | Considerably | | 27 | 25.5 | 32.9 | 76.8 |
| | To a great extent | | 19 | 17.9 | 23.2 | 100.0 |
| | Total | | 82 | 77.4 | 100.0 | |
| | | | | | | |
| | Missing | Don't know / can't say | 9 | 8.5 | | |
| | | System | 15 | 14.2 | | |
| | | Total | 24 | 22.6 | | |
| Total | | 106 | 100.0 | | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
B. Knowledge and attitudes

q19j. Methods need technical expertise that is difficult for others to reproduce

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Not at all | 29 | 4.4 | 4.9 | 4.9 |
| | | Slightly | 169 | 25.7 | 28.7 | 33.7 |
| | | Moderately | 212 | 32.2 | 36.1 | 69.7 |
| | | Considerably | 140 | 21.3 | 23.8 | 93.5 |
| | | To a great extent | 38 | 5.8 | 6.5 | 100.0 |
| | Total | 588 | 89.4 | 100.0 | | |
| | Missing | Don't know / can't say | 52 | 7.9 | | |
| | System | 18 | 2.7 | | | |
| | Total | 70 | 10.6 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Not at all | 17 | 4.3 | 4.9 | 4.9 |
| | | Slightly | 113 | 28.5 | 32.5 | 37.4 |
| | | Moderately | 98 | 24.7 | 28.2 | 65.5 |
| | | Considerably | 91 | 22.9 | 26.1 | 91.7 |
| | | To a great extent | 29 | 7.3 | 8.3 | 100.0 |
| | Total | 348 | 87.7 | 100.0 | | |
| | Missing | Don't know / can't say | 26 | 6.5 | | |
| | System | 23 | 5.8 | | | |
| | Total | 49 | 12.3 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Not at all | 14 | 4.9 | 6.2 | 6.2 |
| | | Slightly | 49 | 17.3 | 21.8 | 28.0 |
| | | Moderately | 61 | 21.5 | 27.1 | 55.1 |
| | | Considerably | 74 | 26.1 | 32.9 | 88.0 |
| | | To a great extent | 27 | 9.5 | 12.0 | 100.0 |
| | Total | 225 | 79.2 | 100.0 | | |
| | Missing | Don't know / can't say | 35 | 12.3 | | |
| | System | 24 | 8.5 | | | |
| | Total | 59 | 20.8 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Not at all | 6 | 4.0 | 5.2 | 5.2 |
| | | Slightly | 27 | 18.1 | 23.3 | 28.4 |
| | | Moderately | 41 | 27.5 | 35.3 | 63.8 |
| | | Considerably | 35 | 23.5 | 30.2 | 94.0 |
| | | To a great extent | 7 | 4.7 | 6.0 | 100.0 |
| | Total | 116 | 77.9 | 100.0 | | |
| | Missing | Don't know / can't say | 17 | 11.4 | | |
| | System | 16 | 10.7 | | | |
| | Total | 33 | 22.1 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Valid | Not at all | 3 | 2.8 | 3.6 | 3.6 |
| | | Slightly | 28 | 26.4 | 33.3 | 36.9 |
| | | Moderately | 32 | 30.2 | 38.1 | 75.0 |
| | | Considerably | 18 | 17.0 | 21.4 | 96.4 |
| | | To a great extent | 3 | 2.8 | 3.6 | 100.0 |
| | Total | 84 | 79.2 | 100.0 | | |
| | Missing | Don't know / can't say | 7 | 6.6 | | |
| | System | 15 | 14.2 | | | |
| | Total | 22 | 20.8 | | | |
| Total | | | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
B. Knowledge and attitudes

q19k. Variability in standard reagents

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Not at all | 43 | 6.5 | 9.8 | 9.8 |
| | | Slightly | 153 | 23.3 | 34.9 | 44.6 |
| | | Moderately | 160 | 24.3 | 36.4 | 81.1 |
| | | Considerably | 75 | 11.4 | 17.1 | 98.2 |
| | | To a great extent | 8 | 1.2 | 1.8 | 100.0 |
| | Total | 439 | 66.7 | 100.0 | | |
| | Missing | Don't know / can't say | 200 | 30.4 | | |
| | System | 19 | 2.9 | | | |
| | Total | 219 | 33.3 | | | |
| | Total | 658 | 100.0 | | | |
| Mid-career researcher | Valid | Not at all | 19 | 4.8 | 8.1 | 8.1 |
| | | Slightly | 78 | 19.6 | 33.1 | 41.1 |
| | | Moderately | 72 | 18.1 | 30.5 | 71.6 |
| | | Considerably | 51 | 12.8 | 21.6 | 93.2 |
| | | To a great extent | 16 | 4.0 | 6.8 | 100.0 |
| | Total | 236 | 59.4 | 100.0 | | |
| | Missing | Don't know / can't say | 137 | 34.5 | | |
| | System | 24 | 6.0 | | | |
| | Total | 161 | 40.6 | | | |
| | Total | 397 | 100.0 | | | |
| Junior researcher | Valid | Not at all | 10 | 3.5 | 6.5 | 6.5 |
| | | Slightly | 45 | 15.8 | 29.0 | 35.5 |
| | | Moderately | 57 | 20.1 | 36.8 | 72.3 |
| | | Considerably | 27 | 9.5 | 17.4 | 89.7 |
| | | To a great extent | 16 | 5.6 | 10.3 | 100.0 |
| | Total | 155 | 54.6 | 100.0 | | |
| | Missing | Don't know / can't say | 106 | 37.3 | | |
| | System | 23 | 8.1 | | | |
| | Total | 129 | 45.4 | | | |
| | Total | 284 | 100.0 | | | |
| Research student | Valid | Not at all | 7 | 4.7 | 8.3 | 8.3 |
| | | Slightly | 24 | 16.1 | 28.6 | 36.9 |
| | | Moderately | 25 | 16.8 | 29.8 | 66.7 |
| | | Considerably | 21 | 14.1 | 25.0 | 91.7 |
| | | To a great extent | 7 | 4.7 | 8.3 | 100.0 |
| | Total | 84 | 56.4 | 100.0 | | |
| | Missing | Don't know / can't say | 49 | 32.9 | | |
| | System | 16 | 10.7 | | | |
| | Total | 65 | 43.6 | | | |
| | Total | 149 | 100.0 | | | |
| Representative of an institution | Valid | Not at all | 5 | 4.7 | 7.7 | 7.7 |
| | | Slightly | 21 | 19.8 | 32.3 | 40.0 |
| | | Moderately | 25 | 23.6 | 38.5 | 78.5 |
| | | Considerably | 12 | 11.3 | 18.5 | 96.9 |
| | | To a great extent | 2 | 1.9 | 3.1 | 100.0 |
| | Total | 65 | 61.3 | 100.0 | | |
| | Missing | Don't know / can't say | 26 | 24.5 | | |
| | System | 15 | 14.2 | | | |
| | Total | 41 | 38.7 | | | |
| | Total | 106 | 100.0 | | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
B. Knowledge and attitudes

q19I. Poor experimental design

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Not at all | 13 | 2.0 | 2.2 | 2.2 |
| | | Slightly | 114 | 17.3 | 19.0 | 21.2 |
| | | Moderately | 221 | 33.6 | 36.9 | 58.1 |
| | | Considerably | 182 | 27.7 | 30.4 | 88.5 |
| | | To a great extent | 69 | 10.5 | 11.5 | 100.0 |
| | | Total | 599 | 91.0 | 100.0 | |
| | Missing | Don't know / can't say | 39 | 5.9 | | |
| | System | 20 | 3.0 | | | |
| | Total | 59 | 9.0 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Not at all | 4 | 1.0 | 1.1 | 1.1 |
| | | Slightly | 72 | 18.1 | 20.7 | 21.8 |
| | | Moderately | 134 | 33.8 | 38.5 | 60.3 |
| | | Considerably | 105 | 26.4 | 30.2 | 90.5 |
| | | To a great extent | 33 | 8.3 | 9.5 | 100.0 |
| | | Total | 348 | 87.7 | 100.0 | |
| | Missing | Don't know / can't say | 25 | 6.3 | | |
| | System | 24 | 6.0 | | | |
| | Total | 49 | 12.3 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Not at all | 7 | 2.5 | 3.0 | 3.0 |
| | | Slightly | 42 | 14.8 | 18.2 | 21.2 |
| | | Moderately | 64 | 22.5 | 27.7 | 48.9 |
| | | Considerably | 89 | 31.3 | 38.5 | 87.4 |
| | | To a great extent | 29 | 10.2 | 12.6 | 100.0 |
| | | Total | 231 | 81.3 | 100.0 | |
| | Missing | Don't know / can't say | 28 | 9.9 | | |
| | System | 25 | 8.8 | | | |
| | Total | 53 | 18.7 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Not at all | 2 | 1.3 | 1.7 | 1.7 |
| | | Slightly | 23 | 15.4 | 19.5 | 21.2 |
| | | Moderately | 39 | 26.2 | 33.1 | 54.2 |
| | | Considerably | 35 | 23.5 | 29.7 | 83.9 |
| | | To a great extent | 19 | 12.8 | 16.1 | 100.0 |
| | | Total | 118 | 79.2 | 100.0 | |
| | Missing | Don't know / can't say | 15 | 10.1 | | |
| | System | 16 | 10.7 | | | |
| | Total | 31 | 20.8 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Valid | Not at all | 2 | 1.9 | 2.4 | 2.4 |
| | | Slightly | 17 | 16.0 | 20.5 | 22.9 |
| | | Moderately | 26 | 24.5 | 31.3 | 54.2 |
| | | Considerably | 25 | 23.6 | 30.1 | 84.3 |
| | | To a great extent | 13 | 12.3 | 15.7 | 100.0 |
| | | Total | 83 | 78.3 | 100.0 | |
| | Missing | Don't know / can't say | 8 | 7.5 | | |
| | System | 15 | 14.2 | | | |
| | Total | 23 | 21.7 | | | |
| Total | | | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
B. Knowledge and attitudes

q19m. Fraud (i.e. fabricated or falsified results)

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Not at all | 32 | 4.9 | 6.0 | 6.0 |
| | | Slightly | 306 | 46.5 | 57.4 | 63.4 |
| | | Moderately | 110 | 16.7 | 20.6 | 84.1 |
| | | Considerably | 54 | 8.2 | 10.1 | 94.2 |
| | | To a great extent | 31 | 4.7 | 5.8 | 100.0 |
| | Total | 533 | 81.0 | 100.0 | | |
| | Missing | Don't know / can't say | 106 | 16.1 | | |
| | System | 19 | 2.9 | | | |
| | Total | 125 | 19.0 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Not at all | 32 | 8.1 | 10.1 | 10.1 |
| | | Slightly | 166 | 41.8 | 52.4 | 62.5 |
| | | Moderately | 52 | 13.1 | 16.4 | 78.9 |
| | | Considerably | 39 | 9.8 | 12.3 | 91.2 |
| | | To a great extent | 28 | 7.1 | 8.8 | 100.0 |
| | Total | 317 | 79.8 | 100.0 | | |
| | Missing | Don't know / can't say | 58 | 14.6 | | |
| | System | 22 | 5.5 | | | |
| | Total | 80 | 20.2 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Not at all | 33 | 11.6 | 16.0 | 16.0 |
| | | Slightly | 94 | 33.1 | 45.6 | 61.7 |
| | | Moderately | 39 | 13.7 | 18.9 | 80.6 |
| | | Considerably | 14 | 4.9 | 6.8 | 87.4 |
| | | To a great extent | 26 | 9.2 | 12.6 | 100.0 |
| | Total | 206 | 72.5 | 100.0 | | |
| | Missing | Don't know / can't say | 55 | 19.4 | | |
| | System | 23 | 8.1 | | | |
| | Total | 78 | 27.5 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Not at all | 4 | 2.7 | 3.9 | 3.9 |
| | | Slightly | 42 | 28.2 | 41.2 | 45.1 |
| | | Moderately | 21 | 14.1 | 20.6 | 65.7 |
| | | Considerably | 14 | 9.4 | 13.7 | 79.4 |
| | | To a great extent | 21 | 14.1 | 20.6 | 100.0 |
| | Total | 102 | 68.5 | 100.0 | | |
| | Missing | Don't know / can't say | 32 | 21.5 | | |
| | System | 15 | 10.1 | | | |
| | Total | 47 | 31.5 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Valid | Not at all | 10 | 9.4 | 13.0 | 13.0 |
| | | Slightly | 44 | 41.5 | 57.1 | 70.1 |
| | | Moderately | 15 | 14.2 | 19.5 | 89.6 |
| | | Considerably | 4 | 3.8 | 5.2 | 94.8 |
| | | To a great extent | 4 | 3.8 | 5.2 | 100.0 |
| | Total | 77 | 72.6 | 100.0 | | |
| | Missing | Don't know / can't say | 14 | 13.2 | | |
| | System | 15 | 14.2 | | | |
| | Total | 29 | 27.4 | | | |
| Total | | | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
B. Knowledge and attitudes

q19n. Bad luck

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Not at all | 183 | 27.8 | 34.7 | 34.7 |
| | | Slightly | 201 | 30.5 | 38.1 | 72.9 |
| | | Moderately | 113 | 17.2 | 21.4 | 94.3 |
| | | Considerably | 26 | 4.0 | 4.9 | 99.2 |
| | | To a great extent | 4 | .6 | .8 | 100.0 |
| | | Total | 527 | 80.1 | 100.0 | |
| | Missing | Don't know / can't say | 111 | 16.9 | | |
| | System | 20 | 3.0 | | | |
| | Total | 131 | 19.9 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Not at all | 130 | 32.7 | 41.3 | 41.3 |
| | | Slightly | 121 | 30.5 | 38.4 | 79.7 |
| | | Moderately | 49 | 12.3 | 15.6 | 95.2 |
| | | Considerably | 13 | 3.3 | 4.1 | 99.4 |
| | | To a great extent | 2 | .5 | .6 | 100.0 |
| | | Total | 315 | 79.3 | 100.0 | |
| | Missing | Don't know / can't say | 59 | 14.9 | | |
| | System | 23 | 5.8 | | | |
| | Total | 82 | 20.7 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Not at all | 80 | 28.2 | 38.1 | 38.1 |
| | | Slightly | 79 | 27.8 | 37.6 | 75.7 |
| | | Moderately | 37 | 13.0 | 17.6 | 93.3 |
| | | Considerably | 10 | 3.5 | 4.8 | 98.1 |
| | | To a great extent | 4 | 1.4 | 1.9 | 100.0 |
| | | Total | 210 | 73.9 | 100.0 | |
| | Missing | Don't know / can't say | 50 | 17.6 | | |
| | System | 24 | 8.5 | | | |
| | Total | 74 | 26.1 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Not at all | 35 | 23.5 | 33.0 | 33.0 |
| | | Slightly | 42 | 28.2 | 39.6 | 72.6 |
| | | Moderately | 19 | 12.8 | 17.9 | 90.6 |
| | | Considerably | 8 | 5.4 | 7.5 | 98.1 |
| | | To a great extent | 2 | 1.3 | 1.9 | 100.0 |
| | | Total | 106 | 71.1 | 100.0 | |
| | Missing | Don't know / can't say | 28 | 18.8 | | |
| | System | 15 | 10.1 | | | |
| | Total | 43 | 28.9 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Valid | Not at all | 32 | 30.2 | 42.7 | 42.7 |
| | | Slightly | 25 | 23.6 | 33.3 | 76.0 |
| | | Moderately | 15 | 14.2 | 20.0 | 96.0 |
| | | Considerably | 2 | 1.9 | 2.7 | 98.7 |
| | | To a great extent | 1 | .9 | 1.3 | 100.0 |
| | | Total | 75 | 70.8 | 100.0 | |
| | Missing | Don't know / can't say | 16 | 15.1 | | |
| | System | 15 | 14.2 | | | |
| | Total | 31 | 29.2 | | | |
| Total | | | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q20a. Research practices in my department / research group follow established institutional policies regarding research

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Strongly disagree | 8 | 1.2 | 1.3 | 1.3 |
| | | Disagree | 12 | 1.8 | 1.9 | 3.2 |
| | | Neither agree nor disagree | 33 | 5.0 | 5.3 | 8.6 |
| | | Agree | 301 | 45.7 | 48.8 | 57.4 |
| | | Strongly agree | 263 | 40.0 | 42.6 | 100.0 |
| | Missing | Don't know / not applicable | 5 | .8 | | |
| | | System | 36 | 5.5 | | |
| Total | | Total | 617 | 93.8 | 100.0 | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Strongly disagree | 4 | 1.0 | 1.2 | 1.2 |
| | | Disagree | 11 | 2.8 | 3.3 | 4.5 |
| | | Neither agree nor disagree | 20 | 5.0 | 5.9 | 10.4 |
| | | Agree | 171 | 43.1 | 50.7 | 61.1 |
| | | Strongly agree | 131 | 33.0 | 38.9 | 100.0 |
| | Missing | Don't know / not applicable | 8 | 2.0 | | |
| | | System | 52 | 13.1 | | |
| Total | | Total | 337 | 84.9 | 100.0 | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Strongly disagree | 2 | .7 | .8 | .8 |
| | | Disagree | 6 | 2.1 | 2.5 | 3.4 |
| | | Neither agree nor disagree | 18 | 6.3 | 7.6 | 11.0 |
| | | Agree | 124 | 43.7 | 52.5 | 63.6 |
| | | Strongly agree | 86 | 30.3 | 36.4 | 100.0 |
| | Missing | Don't know / not applicable | 6 | 2.1 | | |
| | | System | 42 | 14.8 | | |
| Total | | Total | 236 | 83.1 | 100.0 | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Strongly disagree | 1 | .7 | .8 | .8 |
| | | Disagree | 4 | 2.7 | 3.4 | 4.2 |
| | | Neither agree nor disagree | 9 | 6.0 | 7.6 | 11.8 |
| | | Agree | 55 | 36.9 | 46.2 | 58.0 |
| | | Strongly agree | 50 | 33.6 | 42.0 | 100.0 |
| | Missing | Don't know / not applicable | 6 | 4.0 | | |
| | | System | 24 | 16.1 | | |
| Total | | Total | 119 | 79.9 | 100.0 | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q20b. People in my department / research group implement data management principles within their research projects

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Strongly disagree | 5 | .8 | .8 | .8 |
| | | Disagree | 18 | 2.7 | 3.0 | 3.8 |
| | | Neither agree nor disagree | 63 | 9.6 | 10.3 | 14.1 |
| | | Agree | 313 | 47.6 | 51.3 | 65.4 |
| | | Strongly agree | 211 | 32.1 | 34.6 | 100.0 |
| | Total | 610 | 92.7 | 100.0 | | |
| | Missing | Don't know / not applicable | 11 | 1.7 | | |
| | System | 37 | 5.6 | | | |
| | Total | 48 | 7.3 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Strongly disagree | 5 | 1.3 | 1.5 | 1.5 |
| | | Disagree | 14 | 3.5 | 4.1 | 5.6 |
| | | Neither agree nor disagree | 23 | 5.8 | 6.8 | 12.4 |
| | | Agree | 195 | 49.1 | 57.4 | 69.7 |
| | | Strongly agree | 103 | 25.9 | 30.3 | 100.0 |
| | Total | 340 | 85.6 | 100.0 | | |
| | Missing | Don't know / not applicable | 5 | 1.3 | | |
| | System | 52 | 13.1 | | | |
| | Total | 57 | 14.4 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Strongly disagree | 2 | .7 | .9 | .9 |
| | | Disagree | 15 | 5.3 | 6.5 | 7.4 |
| | | Neither agree nor disagree | 17 | 6.0 | 7.4 | 14.7 |
| | | Agree | 130 | 45.8 | 56.3 | 71.0 |
| | | Strongly agree | 67 | 23.6 | 29.0 | 100.0 |
| | Total | 231 | 81.3 | 100.0 | | |
| | Missing | Don't know / not applicable | 11 | 3.9 | | |
| | System | 42 | 14.8 | | | |
| | Total | 53 | 18.7 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Strongly disagree | 5 | 3.4 | 4.2 | 4.2 |
| | | Disagree | 6 | 4.0 | 5.0 | 9.2 |
| | | Neither agree nor disagree | 13 | 8.7 | 10.9 | 20.2 |
| | | Agree | 57 | 38.3 | 47.9 | 68.1 |
| | | Strongly agree | 38 | 25.5 | 31.9 | 100.0 |
| | Total | 119 | 79.9 | 100.0 | | |
| | Missing | Don't know / not applicable | 6 | 4.0 | | |
| | System | 24 | 16.1 | | | |
| | Total | 30 | 20.1 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q20c. People in my department / research group appropriately handle data from collection to archival with an intention for potential future re-use

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Strongly disagree | 6 | .9 | 1.0 | 1.0 |
| | | Disagree | 36 | 5.5 | 6.0 | 7.0 |
| | | Neither agree nor disagree | 92 | 14.0 | 15.3 | 22.3 |
| | | Agree | 292 | 44.4 | 48.5 | 70.8 |
| | | Strongly agree | 176 | 26.7 | 29.2 | 100.0 |
| | Total | 602 | 91.5 | 100.0 | | |
| | Missing | Don't know / not applicable | 17 | 2.6 | | |
| | System | 39 | 5.9 | | | |
| | Total | 56 | 8.5 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Strongly disagree | 6 | 1.5 | 1.8 | 1.8 |
| | | Disagree | 9 | 2.3 | 2.7 | 4.5 |
| | | Neither agree nor disagree | 42 | 10.6 | 12.7 | 17.2 |
| | | Agree | 176 | 44.3 | 53.0 | 70.2 |
| | | Strongly agree | 99 | 24.9 | 29.8 | 100.0 |
| | Total | 332 | 83.6 | 100.0 | | |
| | Missing | Don't know / not applicable | 10 | 2.5 | | |
| | System | 55 | 13.9 | | | |
| | Total | 65 | 16.4 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Strongly disagree | 5 | 1.8 | 2.2 | 2.2 |
| | | Disagree | 23 | 8.1 | 9.9 | 12.1 |
| | | Neither agree nor disagree | 22 | 7.7 | 9.5 | 21.6 |
| | | Agree | 123 | 43.3 | 53.0 | 74.6 |
| | | Strongly agree | 59 | 20.8 | 25.4 | 100.0 |
| | Total | 232 | 81.7 | 100.0 | | |
| | Missing | Don't know / not applicable | 10 | 3.5 | | |
| | System | 42 | 14.8 | | | |
| | Total | 52 | 18.3 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Strongly disagree | 3 | 2.0 | 2.6 | 2.6 |
| | | Disagree | 13 | 8.7 | 11.4 | 14.0 |
| | | Neither agree nor disagree | 17 | 11.4 | 14.9 | 28.9 |
| | | Agree | 49 | 32.9 | 43.0 | 71.9 |
| | | Strongly agree | 32 | 21.5 | 28.1 | 100.0 |
| | Total | 114 | 76.5 | 100.0 | | |
| | Missing | Don't know / not applicable | 11 | 7.4 | | |
| | System | 24 | 16.1 | | | |
| | Total | 35 | 23.5 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q20d. Junior researchers are effectively mentored about responsible research practices

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Strongly disagree | 15 | 2.3 | 2.4 | 2.4 |
| | | Disagree | 35 | 5.3 | 5.7 | 8.1 |
| | | Neither agree nor disagree | 62 | 9.4 | 10.1 | 18.2 |
| | | Agree | 337 | 51.2 | 54.7 | 72.9 |
| | | Strongly agree | 167 | 25.4 | 27.1 | 100.0 |
| | | Total | 616 | 93.6 | 100.0 | |
| | Missing | Don't know / not applicable | 5 | .8 | | |
| | System | 37 | 5.6 | | | |
| | Total | 42 | 6.4 | | | |
| | Total | 658 | 100.0 | | | |
| Mid-career researcher | Valid | Strongly disagree | 7 | 1.8 | 2.1 | 2.1 |
| | | Disagree | 47 | 11.8 | 13.9 | 16.0 |
| | | Neither agree nor disagree | 46 | 11.6 | 13.6 | 29.6 |
| | | Agree | 167 | 42.1 | 49.4 | 79.0 |
| | | Strongly agree | 71 | 17.9 | 21.0 | 100.0 |
| | | Total | 338 | 85.1 | 100.0 | |
| | Missing | Don't know / not applicable | 3 | .8 | | |
| | System | 56 | 14.1 | | | |
| | Total | 59 | 14.9 | | | |
| | Total | 397 | 100.0 | | | |
| Junior researcher | Valid | Strongly disagree | 15 | 5.3 | 6.3 | 6.3 |
| | | Disagree | 45 | 15.8 | 18.8 | 25.1 |
| | | Neither agree nor disagree | 47 | 16.5 | 19.7 | 44.8 |
| | | Agree | 90 | 31.7 | 37.7 | 82.4 |
| | | Strongly agree | 42 | 14.8 | 17.6 | 100.0 |
| | | Total | 239 | 84.2 | 100.0 | |
| | Missing | Don't know / not applicable | 2 | .7 | | |
| | System | 43 | 15.1 | | | |
| | Total | 45 | 15.8 | | | |
| | Total | 284 | 100.0 | | | |
| Research student | Valid | Strongly disagree | 8 | 5.4 | 6.7 | 6.7 |
| | | Disagree | 23 | 15.4 | 19.3 | 26.1 |
| | | Neither agree nor disagree | 14 | 9.4 | 11.8 | 37.8 |
| | | Agree | 45 | 30.2 | 37.8 | 75.6 |
| | | Strongly agree | 29 | 19.5 | 24.4 | 100.0 |
| | | Total | 119 | 79.9 | 100.0 | |
| | Missing | Don't know / not applicable | 5 | 3.4 | | |
| | System | 25 | 16.8 | | | |
| | Total | 30 | 20.1 | | | |
| | Total | 149 | 100.0 | | | |
| Representative of an institution | Valid | Strongly disagree | 9 | 8.5 | 10.1 | 10.1 |
| | | Disagree | 25 | 23.6 | 28.1 | 38.2 |
| | | Neither agree nor disagree | 25 | 23.6 | 28.1 | 66.3 |
| | | Agree | 26 | 24.5 | 29.2 | 95.5 |
| | | Strongly agree | 4 | 3.8 | 4.5 | 100.0 |
| | | Total | 89 | 84.0 | 100.0 | |
| | Missing | Don't know / not applicable | 2 | 1.9 | | |
| | System | 15 | 14.2 | | | |
| | Total | 17 | 16.0 | | | |
| | Total | 106 | 100.0 | | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q20e. Researchers in my immediate research environment are committed to appropriate data and code sharing when publishing research results

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Strongly disagree | 7 | 1.1 | 1.1 | 1.1 |
| | | Disagree | 32 | 4.9 | 5.2 | 6.4 |
| | | Neither agree nor disagree | 78 | 11.9 | 12.8 | 19.1 |
| | | Agree | 289 | 43.9 | 47.3 | 66.4 |
| | | Strongly agree | 205 | 31.2 | 33.6 | 100.0 |
| | Missing | Don't know / not applicable | 9 | 1.4 | | |
| | | System | 38 | 5.8 | | |
| Total | | Total | 611 | 92.9 | 100.0 | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Strongly disagree | 4 | 1.0 | 1.2 | 1.2 |
| | | Disagree | 23 | 5.8 | 6.8 | 8.0 |
| | | Neither agree nor disagree | 62 | 15.6 | 18.4 | 26.4 |
| | | Agree | 161 | 40.6 | 47.8 | 74.2 |
| | | Strongly agree | 87 | 21.9 | 25.8 | 100.0 |
| | Missing | Don't know / not applicable | 6 | 1.5 | | |
| | | System | 54 | 13.6 | | |
| Total | | Total | 337 | 84.9 | 100.0 | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Strongly disagree | 8 | 2.8 | 3.4 | 3.4 |
| | | Disagree | 30 | 10.6 | 12.9 | 16.3 |
| | | Neither agree nor disagree | 49 | 17.3 | 21.0 | 37.3 |
| | | Agree | 88 | 31.0 | 37.8 | 75.1 |
| | | Strongly agree | 58 | 20.4 | 24.9 | 100.0 |
| | Missing | Don't know / not applicable | 9 | 3.2 | | |
| | | System | 42 | 14.8 | | |
| Total | | Total | 233 | 82.0 | 100.0 | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Strongly disagree | 2 | 1.3 | 1.8 | 1.8 |
| | | Disagree | 11 | 7.4 | 10.1 | 11.9 |
| | | Neither agree nor disagree | 20 | 13.4 | 18.3 | 30.3 |
| | | Agree | 44 | 29.5 | 40.4 | 70.6 |
| | | Strongly agree | 32 | 21.5 | 29.4 | 100.0 |
| | Missing | Don't know / not applicable | 16 | 10.7 | | |
| | | System | 24 | 16.1 | | |
| Total | | Total | 109 | 73.2 | 100.0 | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q20f. Researchers in my immediate research environment are committed to open access publishing when publishing research results

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Strongly disagree | 13 | 2.0 | 2.1 | 2.1 |
| | | Disagree | 70 | 10.6 | 11.6 | 13.7 |
| | | Neither agree nor disagree | 179 | 27.2 | 29.6 | 43.3 |
| | | Agree | 217 | 33.0 | 35.9 | 79.2 |
| | | Strongly agree | 126 | 19.1 | 20.8 | 100.0 |
| | | Total | 605 | 91.9 | 100.0 | |
| | Missing | Don't know / not applicable | 16 | 2.4 | | |
| | System | 37 | 5.6 | | | |
| | Total | 53 | 8.1 | | | |
| | Total | 658 | 100.0 | | | |
| Mid-career researcher | Valid | Strongly disagree | 9 | 2.3 | 2.7 | 2.7 |
| | | Disagree | 58 | 14.6 | 17.2 | 19.9 |
| | | Neither agree nor disagree | 97 | 24.4 | 28.8 | 48.7 |
| | | Agree | 120 | 30.2 | 35.6 | 84.3 |
| | | Strongly agree | 53 | 13.4 | 15.7 | 100.0 |
| | | Total | 337 | 84.9 | 100.0 | |
| | Missing | Don't know / not applicable | 5 | 1.3 | | |
| | System | 55 | 13.9 | | | |
| | Total | 60 | 15.1 | | | |
| | Total | 397 | 100.0 | | | |
| Junior researcher | Valid | Strongly disagree | 14 | 4.9 | 6.1 | 6.1 |
| | | Disagree | 37 | 13.0 | 16.2 | 22.3 |
| | | Neither agree nor disagree | 70 | 24.6 | 30.6 | 52.8 |
| | | Agree | 64 | 22.5 | 27.9 | 80.8 |
| | | Strongly agree | 44 | 15.5 | 19.2 | 100.0 |
| | | Total | 229 | 80.6 | 100.0 | |
| | Missing | Don't know / not applicable | 13 | 4.6 | | |
| | System | 42 | 14.8 | | | |
| | Total | 55 | 19.4 | | | |
| | Total | 284 | 100.0 | | | |
| Research student | Valid | Strongly disagree | 2 | 1.3 | 1.8 | 1.8 |
| | | Disagree | 13 | 8.7 | 11.7 | 13.5 |
| | | Neither agree nor disagree | 21 | 14.1 | 18.9 | 32.4 |
| | | Agree | 44 | 29.5 | 39.6 | 72.1 |
| | | Strongly agree | 31 | 20.8 | 27.9 | 100.0 |
| | | Total | 111 | 74.5 | 100.0 | |
| | Missing | Don't know / not applicable | 14 | 9.4 | | |
| | System | 24 | 16.1 | | | |
| | Total | 38 | 25.5 | | | |
| | Total | 149 | 100.0 | | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q21mr. Which of the following procedures have you / your research group established to ensure reproducibility in your work? (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-------|---|-----------|------------------|
| Senior researcher | Valid | Estimate required number of participants / animals per experimental cohort | 439 | 70.9% |
| | | Estimate statistical power | 482 | 77.9% |
| | | Randomly allocate participants / animals to experimental cohorts | 420 | 67.9% |
| | | Apply inclusion or exclusion criteria | 410 | 66.2% |
| | | Procedures for accounting for dropouts / losses documented in the analysis plan | 334 | 54.0% |
| | | Blind outcome assessment | 375 | 60.6% |
| | | Transparent reporting of study design and methods | 555 | 89.7% |
| | | In house replication before publication | 253 | 40.9% |
| | | Inclusion of positive and negative controls | 420 | 67.9% |
| | | Validation of tools or reagents such as antibodies, SiRNAs, small molecules | 321 | 51.9% |
| | | Other | 88 | 14.2% |
| | | No procedures have been established to ensure reproducibility in our work | 4 | 0.6% |
| | | Don't know / can't say | 4 | 0.6% |
| | | Number of Respondents | | |
| Mid-career researcher | Valid | Estimate required number of participants / animals per experimental cohort | 226 | 65.3% |
| | | Estimate statistical power | 248 | 71.7% |
| | | Randomly allocate participants / animals to experimental cohorts | 209 | 60.4% |
| | | Apply inclusion or exclusion criteria | 253 | 73.1% |
| | | Procedures for accounting for dropouts / losses documented in the analysis plan | 174 | 50.3% |
| | | Blind outcome assessment | 184 | 53.2% |
| | | Transparent reporting of study design and methods | 299 | 86.4% |
| | | In house replication before publication | 120 | 34.7% |
| | | Inclusion of positive and negative controls | 200 | 57.8% |
| | | Validation of tools or reagents such as antibodies, SiRNAs, small molecules | 149 | 43.1% |
| | | Other | 35 | 10.1% |
| | | No procedures have been established to ensure reproducibility in our work | 5 | 1.4% |
| | | Don't know / can't say | 4 | 1.2% |
| | | Number of Respondents | | |
| Junior researcher | Valid | Estimate required number of participants / animals per experimental cohort | 154 | 63.4% |
| | | Estimate statistical power | 174 | 71.6% |
| | | Randomly allocate participants / animals to experimental cohorts | 142 | 58.4% |
| | | Apply inclusion or exclusion criteria | 173 | 71.2% |
| | | Procedures for accounting for dropouts / losses documented in the analysis plan | 125 | 51.4% |
| | | Blind outcome assessment | 99 | 40.7% |
| | | Transparent reporting of study design and methods | 211 | 86.8% |
| | | In house replication before publication | 59 | 24.3% |
| | | Inclusion of positive and negative controls | 117 | 48.1% |
| | | Validation of tools or reagents such as antibodies, SiRNAs, small molecules | 82 | 33.7% |
| | | Other | 14 | 5.8% |
| | | No procedures have been established to ensure reproducibility in our work | 3 | 1.2% |
| | | Don't know / can't say | 5 | 2.1% |
| | | Number of Respondents | | |
| Research student | Valid | Estimate required number of participants / animals per experimental cohort | 62 | 49.6% |
| | | Estimate statistical power | 75 | 60.0% |
| | | Randomly allocate participants / animals to experimental cohorts | 46 | 36.8% |
| | | Apply inclusion or exclusion criteria | 90 | 72.0% |
| | | Procedures for accounting for dropouts / losses documented in the analysis plan | 44 | 35.2% |
| | | Blind outcome assessment | 29 | 23.2% |
| | | Transparent reporting of study design and methods | 103 | 82.4% |
| | | In house replication before publication | 26 | 20.8% |
| | | Inclusion of positive and negative controls | 56 | 44.8% |
| | | Validation of tools or reagents such as antibodies, SiRNAs, small molecules | 48 | 38.4% |
| | | Other | 2 | 1.6% |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q21mr. Which of the following procedures have you / your research group established to ensure reproducibility in your work? (Multiple Response)

| q1. In what capacity are you participating in this survey? | | Frequency | % of respondents |
|--|------------------------------|--|------------------|
| Representative of an institution | | No procedures have been established to ensure reproducibility in our work | 2 1.6% |
| | | Don't know / can't say | 8 6.4% |
| | Number of Respondents | | 125 100.0% |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Estimate required number of participants / animals per experimental cohort Estimate statistical power Randomly allocate participants / animals to experimental cohorts Apply inclusion or exclusion criteria Procedures for accounting for dropouts / losses documented in the analysis plan Blind outcome assessment Transparent reporting of study design and methods In house replication before publication Inclusion of positive and negative controls Validation of tools or reagents such as antibodies, SiRNAs, small molecules Other No procedures have been established to ensure reproducibility in our work Don't know / can't say | |
| | Number of Respondents | | |
| | Valid | Estimate required number of participants / animals per experimental cohort Estimate statistical power Randomly allocate participants / animals to experimental cohorts Apply inclusion or exclusion criteria Procedures for accounting for dropouts / losses documented in the analysis plan Blind outcome assessment Transparent reporting of study design and methods In house replication before publication Inclusion of positive and negative controls Validation of tools or reagents such as antibodies, SiRNAs, small molecules Other No procedures have been established to ensure reproducibility in our work Don't know / can't say | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Estimate required number of participants / animals per experimental cohort Estimate statistical power Randomly allocate participants / animals to experimental cohorts Apply inclusion or exclusion criteria Procedures for accounting for dropouts / losses documented in the analysis plan Blind outcome assessment Transparent reporting of study design and methods In house replication before publication Inclusion of positive and negative controls Validation of tools or reagents such as antibodies, SiRNAs, small molecules Other No procedures have been established to ensure reproducibility in our work Don't know / can't say | |
| | Number of Respondents | | |
| | Valid | Estimate required number of participants / animals per experimental cohort Estimate statistical power Randomly allocate participants / animals to experimental cohorts Apply inclusion or exclusion criteria Procedures for accounting for dropouts / losses documented in the analysis plan Blind outcome assessment Transparent reporting of study design and methods In house replication before publication Inclusion of positive and negative controls Validation of tools or reagents such as antibodies, SiRNAs, small molecules Other No procedures have been established to ensure reproducibility in our work Don't know / can't say | |
| Number of Respondents | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q22. When were such procedures first established within your research group?

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|--|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Within the last year | 1 | .2 | .2 | .2 |
| | | 1 year to less than 2 years ago | 2 | .3 | .3 | .5 |
| | | 2 years to less than 5 years ago | 49 | 7.4 | 8.2 | 8.7 |
| | | More than 5 years ago | 181 | 27.5 | 30.4 | 39.2 |
| | | These procedures have been in place since I started working in my research group | 362 | 55.0 | 60.8 | 100.0 |
| | | Total | 595 | 90.4 | 100.0 | |
| | Missing | System | 63 | 9.6 | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Within the last year | 5 | 1.3 | 1.5 | 1.5 |
| | | 1 year to less than 2 years ago | 9 | 2.3 | 2.7 | 4.2 |
| | | 2 years to less than 5 years ago | 39 | 9.8 | 11.7 | 16.0 |
| | | More than 5 years ago | 68 | 17.1 | 20.5 | 36.4 |
| | | These procedures have been in place since I started working in my research group | 211 | 53.1 | 63.6 | 100.0 |
| | | Total | 332 | 83.6 | 100.0 | |
| | Missing | System | 65 | 16.4 | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Within the last year | 2 | .7 | .9 | .9 |
| | | 1 year to less than 2 years ago | 8 | 2.8 | 3.5 | 4.3 |
| | | 2 years to less than 5 years ago | 18 | 6.3 | 7.8 | 12.2 |
| | | More than 5 years ago | 28 | 9.9 | 12.2 | 24.3 |
| | | These procedures have been in place since I started working in my research group | 174 | 61.3 | 75.7 | 100.0 |
| | | Total | 230 | 81.0 | 100.0 | |
| | Missing | System | 54 | 19.0 | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Within the last year | 3 | 2.0 | 2.7 | 2.7 |
| | | 1 year to less than 2 years ago | 2 | 1.3 | 1.8 | 4.5 |
| | | 2 years to less than 5 years ago | 7 | 4.7 | 6.4 | 10.9 |
| | | More than 5 years ago | 7 | 4.7 | 6.4 | 17.3 |
| | | These procedures have been in place since I started working in my research group | 91 | 61.1 | 82.7 | 100.0 |
| | | Total | 110 | 73.8 | 100.0 | |
| | Missing | System | 39 | 26.2 | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

q23. Did the quality of your research change after these procedures were introduced?

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent | |
|--|---------|---|------------------------|---------|---------------|--------------------|--|
| Senior researcher | Valid | Yes, the quality of my research improved | 103 | 15.7 | 58.5 | 58.5 | |
| | | No, the quality of my research remained unchanged | 73 | 11.1 | 41.5 | 100.0 | |
| | | Total | 176 | 26.7 | 100.0 | | |
| | | Missing | Don't know / can't say | 56 | 8.5 | | |
| | | | System | 426 | 64.7 | | |
| | | | Total | 482 | 73.3 | | |
| | Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Yes, the quality of my research improved | 57 | 14.4 | 63.3 | 63.3 | |
| | | Yes, the quality of my research worsened | 2 | .5 | 2.2 | 65.6 | |
| | | No, the quality of my research remained unchanged | 31 | 7.8 | 34.4 | 100.0 | |
| | | Total | 90 | 22.7 | 100.0 | | |
| | | Missing | Don't know / can't say | 31 | 7.8 | | |
| | | | System | 276 | 69.5 | | |
| | | Total | 307 | 77.3 | | | |
| Total | | | 397 | 100.0 | | | |
| Junior researcher | Valid | Yes, the quality of my research improved | 23 | 8.1 | 67.6 | 67.6 | |
| | | No, the quality of my research remained unchanged | 11 | 3.9 | 32.4 | 100.0 | |
| | | Total | 34 | 12.0 | 100.0 | | |
| | | Missing | Don't know / can't say | 22 | 7.7 | | |
| | | | System | 228 | 80.3 | | |
| | | | Total | 250 | 88.0 | | |
| | Total | | | 284 | 100.0 | | |
| Research student | Valid | Yes, the quality of my research improved | 6 | 4.0 | 66.7 | 66.7 | |
| | | Yes, the quality of my research worsened | 1 | .7 | 11.1 | 77.8 | |
| | | No, the quality of my research remained unchanged | 2 | 1.3 | 22.2 | 100.0 | |
| | | Total | 9 | 6.0 | 100.0 | | |
| | | Missing | Don't know / can't say | 11 | 7.4 | | |
| | | | System | 129 | 86.6 | | |
| | | Total | 140 | 94.0 | | | |
| Total | | | 149 | 100.0 | | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q24. Have you / your research group experienced any barriers when trying to implement procedures to improve reproducibility of research?

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|--|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Yes | 133 | 20.2 | 21.8 | 21.8 |
| | | No | 414 | 62.9 | 67.9 | 89.7 |
| | | I / we haven't ever tried to implement such procedures | 22 | 3.3 | 3.6 | 93.3 |
| | | Don't know / can't say | 41 | 6.2 | 6.7 | 100.0 |
| | | Total | 610 | 92.7 | 100.0 | |
| | Missing | System | 48 | 7.3 | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Yes | 64 | 16.1 | 18.8 | 18.8 |
| | | No | 197 | 49.6 | 57.8 | 76.5 |
| | | I / we haven't ever tried to implement such procedures | 25 | 6.3 | 7.3 | 83.9 |
| | | Don't know / can't say | 55 | 13.9 | 16.1 | 100.0 |
| | | Total | 341 | 85.9 | 100.0 | |
| | Missing | System | 56 | 14.1 | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Yes | 42 | 14.8 | 17.4 | 17.4 |
| | | No | 96 | 33.8 | 39.7 | 57.0 |
| | | I / we haven't ever tried to implement such procedures | 35 | 12.3 | 14.5 | 71.5 |
| | | Don't know / can't say | 69 | 24.3 | 28.5 | 100.0 |
| | | Total | 242 | 85.2 | 100.0 | |
| | Missing | System | 42 | 14.8 | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Yes | 14 | 9.4 | 11.5 | 11.5 |
| | | No | 28 | 18.8 | 23.0 | 34.4 |
| | | I / we haven't ever tried to implement such procedures | 21 | 14.1 | 17.2 | 51.6 |
| | | Don't know / can't say | 59 | 39.6 | 48.4 | 100.0 |
| | | Total | 122 | 81.9 | 100.0 | |
| | Missing | System | 27 | 18.1 | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

q26mr. Have you ever tried to reproduce a finding from a published paper? (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|---------|--|-----------|------------------|
| Senior researcher | Valid | Yes, and I was able to fully reproduce the finding | 223 | 36.4% |
| | | Yes, but I was not able to fully reproduce the finding | 325 | 53.1% |
| | | No, I have not tried to reproduce a finding from a published paper | 188 | 30.7% |
| | | Number of Respondents | 612 | 100.0% |
| | Missing | System | | |
| Mid-career researcher | Valid | Yes, and I was able to fully reproduce the finding | 98 | 28.7% |
| | | Yes, but I was not able to fully reproduce the finding | 162 | 47.4% |
| | | No, I have not tried to reproduce a finding from a published paper | 120 | 35.1% |
| | | Number of Respondents | 342 | 100.0% |
| | Missing | System | | |
| Junior researcher | Valid | Yes, and I was able to fully reproduce the finding | 50 | 20.9% |
| | | Yes, but I was not able to fully reproduce the finding | 67 | 28.0% |
| | | No, I have not tried to reproduce a finding from a published paper | 136 | 56.9% |
| | | Number of Respondents | 239 | 100.0% |
| | Missing | System | | |
| Research student | Valid | Yes, and I was able to fully reproduce the finding | 17 | 14.2% |
| | | Yes, but I was not able to fully reproduce the finding | 22 | 18.3% |
| | | No, I have not tried to reproduce a finding from a published paper | 82 | 68.3% |
| | | Number of Respondents | 120 | 100.0% |
| | Missing | System | | |
| Representative of an institution | Valid | Yes, and I was able to fully reproduce the finding | | |
| | | Yes, but I was not able to fully reproduce the finding | | |
| | | No, I have not tried to reproduce a finding from a published paper | | |
| | | Number of Respondents | | |
| | Missing | System | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Yes, and I was able to fully reproduce the finding | | |
| | | Yes, but I was not able to fully reproduce the finding | | |
| | | No, I have not tried to reproduce a finding from a published paper | | |
| | | Number of Respondents | | |
| | Missing | System | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Yes, and I was able to fully reproduce the finding | | |
| | | Yes, but I was not able to fully reproduce the finding | | |
| | | No, I have not tried to reproduce a finding from a published paper | | |
| | | Number of Respondents | | |
| | Missing | System | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q26mr. Have you ever tried to reproduce a finding from a published paper? (Multiple Response)

| q1. In what capacity are you participating in this survey? | Frequency | % of respondents |
|--|-----------|------------------|
| Number of Respondents | | |

q27. Did you try to publish findings that disagreed with those in a published paper?

| q1. In what capacity are you participating in this survey? | Frequency | Percent | Valid Percent | Cumulative Percent | |
|--|-----------|---------|---------------|--------------------|-------|
| Senior researcher | Valid | Yes | 250 | 38.0 | 77.2 |
| | | No | 74 | 11.2 | 22.8 |
| | | Total | 324 | 49.2 | 100.0 |
| | Missing | System | 334 | 50.8 | |
| Total | | | 658 | 100.0 | |
| Mid-career researcher | Valid | Yes | 94 | 23.7 | 58.0 |
| | | No | 68 | 17.1 | 42.0 |
| | | Total | 162 | 40.8 | 100.0 |
| | Missing | System | 235 | 59.2 | |
| Total | | | 397 | 100.0 | |
| Junior researcher | Valid | Yes | 32 | 11.3 | 47.8 |
| | | No | 35 | 12.3 | 52.2 |
| | | Total | 67 | 23.6 | 100.0 |
| | Missing | System | 217 | 76.4 | |
| Total | | | 284 | 100.0 | |
| Research student | Valid | Yes | 5 | 3.4 | 22.7 |
| | | No | 17 | 11.4 | 77.3 |
| | | Total | 22 | 14.8 | 100.0 |
| | Missing | System | 127 | 85.2 | |
| Total | | | 149 | 100.0 | |
| Representative of an institution | Missing | System | 106 | 100.0 | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | |

q29. Were the differences in findings ever resolved by you or another researcher?

| q1. In what capacity are you participating in this survey? | Frequency | Percent | Valid Percent | Cumulative Percent | |
|--|-----------|---------|---------------|--------------------|-------|
| Senior researcher | Valid | Yes | 114 | 17.3 | 35.4 |
| | | No | 208 | 31.6 | 64.6 |
| | | Total | 322 | 48.9 | 100.0 |
| | Missing | System | 336 | 51.1 | |
| Total | | | 658 | 100.0 | |
| Mid-career researcher | Valid | Yes | 44 | 11.1 | 27.3 |
| | | No | 117 | 29.5 | 72.7 |
| | | Total | 161 | 40.6 | 100.0 |
| | Missing | System | 236 | 59.4 | |
| Total | | | 397 | 100.0 | |
| Junior researcher | Valid | Yes | 12 | 4.2 | 17.9 |
| | | No | 55 | 19.4 | 82.1 |
| | | Total | 67 | 23.6 | 100.0 |
| | Missing | System | 217 | 76.4 | |
| Total | | | 284 | 100.0 | |
| Research student | Valid | Yes | 2 | 1.3 | 9.1 |
| | | No | 20 | 13.4 | 90.9 |
| | | Total | 22 | 14.8 | 100.0 |
| | Missing | System | 127 | 85.2 | |
| Total | | | 149 | 100.0 | |
| Representative of an institution | Missing | System | 106 | 100.0 | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q30mr. Have you ever tried to reproduce a finding from your own published paper? (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-----------------------|---|-----------|------------------|
| Senior researcher | Valid | Yes, and I was able to fully reproduce the finding | 390 | 63.5% |
| | | Yes, but I was not able to fully reproduce the finding | 85 | 13.8% |
| | | No, I have not tried to reproduce a finding from my own published paper | 183 | 29.8% |
| | | I have not published any work to date | 1 | 0.2% |
| | Number of Respondents | | | 614 |
| Mid-career researcher | Valid | Yes, and I was able to fully reproduce the finding | 173 | 50.3% |
| | | Yes, but I was not able to fully reproduce the finding | 20 | 5.8% |
| | | No, I have not tried to reproduce a finding from my own published paper | 159 | 46.2% |
| | | I have not published any work to date | 1 | 0.3% |
| | Number of Respondents | | | 344 |
| Junior researcher | Valid | Yes, and I was able to fully reproduce the finding | 83 | 34.2% |
| | | Yes, but I was not able to fully reproduce the finding | 4 | 1.6% |
| | | No, I have not tried to reproduce a finding from my own published paper | 148 | 60.9% |
| | | I have not published any work to date | 9 | 3.7% |
| | Number of Respondents | | | 243 |
| Research student | Valid | Yes, and I was able to fully reproduce the finding | 16 | 12.8% |
| | | Yes, but I was not able to fully reproduce the finding | 3 | 2.4% |
| | | No, I have not tried to reproduce a finding from my own published paper | 68 | 54.4% |
| | | I have not published any work to date | 38 | 30.4% |
| | Number of Respondents | | | 125 |
| Representative of an institution | Valid | Yes, and I was able to fully reproduce the finding | | |
| | | Yes, but I was not able to fully reproduce the finding | | |
| | | No, I have not tried to reproduce a finding from my own published paper | | |
| | | I have not published any work to date | | |
| | Number of Respondents | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Yes, and I was able to fully reproduce the finding | | |
| | | Yes, but I was not able to fully reproduce the finding | | |
| | | No, I have not tried to reproduce a finding from my own published paper | | |
| | | I have not published any work to date | | |
| | Number of Respondents | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Yes, and I was able to fully reproduce the finding | | |
| | | Yes, but I was not able to fully reproduce the finding | | |
| | | No, I have not tried to reproduce a finding from my own published paper | | |
| | | I have not published any work to date | | |
| | Number of Respondents | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q31. Have you ever been aware that a finding you had published was not able to be reproduced?

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|--------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Yes | 92 | 14.0 | 15.0 | 15.0 |
| | | No | 520 | 79.0 | 85.0 | 100.0 |
| | | Total | 612 | 93.0 | 100.0 | |
| | Missing | System | 46 | 7.0 | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Yes | 23 | 5.8 | 6.8 | 6.8 |
| | | No | 317 | 79.8 | 93.2 | 100.0 |
| | | Total | 340 | 85.6 | 100.0 | |
| | Missing | System | 57 | 14.4 | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Yes | 10 | 3.5 | 4.3 | 4.3 |
| | | No | 223 | 78.5 | 95.7 | 100.0 |
| | | Total | 233 | 82.0 | 100.0 | |
| | Missing | System | 51 | 18.0 | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Yes | 5 | 3.4 | 5.8 | 5.8 |
| | | No | 81 | 54.4 | 94.2 | 100.0 |
| | | Total | 86 | 57.7 | 100.0 | |
| | Missing | System | 63 | 42.3 | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

q33a. in class / tutorials

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Missing | System | 658 | 100.0 | | |
| Mid-career researcher | Missing | System | 397 | 100.0 | | |
| Junior researcher | Missing | System | 284 | 100.0 | | |
| Research student | Valid | Never | 23 | 15.4 | 28.0 | 28.0 |
| | | Annually or less often | 20 | 13.4 | 24.4 | 52.4 |
| | | Quarterly | 22 | 14.8 | 26.8 | 79.3 |
| | | Monthly | 10 | 6.7 | 12.2 | 91.5 |
| | | Weekly | 7 | 4.7 | 8.5 | 100.0 |
| | | Total | 82 | 55.0 | 100.0 | |
| | Missing | System | 32 | 21.5 | | |
| | | Don't know / can't say | 35 | 23.5 | | |
| Total | | | 67 | 45.0 | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q33b. with your immediate peers

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Never | 3 | .5 | .5 | .5 |
| | | Annually or less often | 80 | 12.2 | 13.5 | 14.0 |
| | | Quarterly | 148 | 22.5 | 24.9 | 38.9 |
| | | Monthly | 171 | 26.0 | 28.8 | 67.7 |
| | | Weekly | 157 | 23.9 | 26.4 | 94.1 |
| | | Daily | 35 | 5.3 | 5.9 | 100.0 |
| | | Total | 594 | 90.3 | 100.0 | |
| | Missing | Don't know / can't say | 7 | 1.1 | | |
| | | System | 57 | 8.7 | | |
| | | Total | 64 | 9.7 | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Never | 4 | 1.0 | 1.2 | 1.2 |
| | | Annually or less often | 39 | 9.8 | 11.6 | 12.8 |
| | | Quarterly | 54 | 13.6 | 16.1 | 29.0 |
| | | Monthly | 102 | 25.7 | 30.4 | 59.4 |
| | | Weekly | 111 | 28.0 | 33.1 | 92.5 |
| | | Daily | 25 | 6.3 | 7.5 | 100.0 |
| | | Total | 335 | 84.4 | 100.0 | |
| | Missing | Don't know / can't say | 2 | .5 | | |
| | | System | 60 | 15.1 | | |
| | | Total | 62 | 15.6 | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Never | 18 | 6.3 | 7.6 | 7.6 |
| | | Annually or less often | 20 | 7.0 | 8.4 | 16.0 |
| | | Quarterly | 47 | 16.5 | 19.8 | 35.9 |
| | | Monthly | 73 | 25.7 | 30.8 | 66.7 |
| | | Weekly | 69 | 24.3 | 29.1 | 95.8 |
| | | Daily | 10 | 3.5 | 4.2 | 100.0 |
| | | Total | 237 | 83.5 | 100.0 | |
| | Missing | Don't know / can't say | 4 | 1.4 | | |
| | | System | 43 | 15.1 | | |
| | | Total | 47 | 16.5 | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Never | 10 | 6.7 | 8.7 | 8.7 |
| | | Annually or less often | 19 | 12.8 | 16.5 | 25.2 |
| | | Quarterly | 23 | 15.4 | 20.0 | 45.2 |
| | | Monthly | 33 | 22.1 | 28.7 | 73.9 |
| | | Weekly | 23 | 15.4 | 20.0 | 93.9 |
| | | Daily | 7 | 4.7 | 6.1 | 100.0 |
| | | Total | 115 | 77.2 | 100.0 | |
| | Missing | Don't know / can't say | 7 | 4.7 | | |
| | | System | 27 | 18.1 | | |
| | | Total | 34 | 22.8 | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q33c. with a supervisor

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Missing | System | 658 | 100.0 | | |
| Mid-career researcher | Missing | System | 397 | 100.0 | | |
| Junior researcher | Valid | Never | 15 | 5.3 | 6.4 | 6.4 |
| | | Annually or less often | 28 | 9.9 | 11.9 | 18.3 |
| | | Quarterly | 53 | 18.7 | 22.6 | 40.9 |
| | | Monthly | 83 | 29.2 | 35.3 | 76.2 |
| | | Weekly | 55 | 19.4 | 23.4 | 99.6 |
| | | Daily | 1 | .4 | .4 | 100.0 |
| | | Total | 235 | 82.7 | 100.0 | |
| | Missing | System | 44 | 15.5 | | |
| | | Don't know / can't say | 5 | 1.8 | | |
| | | Total | 49 | 17.3 | | |
| Total | | 284 | 100.0 | | | |
| Research student | Valid | Never | 5 | 3.4 | 4.2 | 4.2 |
| | | Annually or less often | 17 | 11.4 | 14.4 | 18.6 |
| | | Quarterly | 24 | 16.1 | 20.3 | 39.0 |
| | | Monthly | 47 | 31.5 | 39.8 | 78.8 |
| | | Weekly | 25 | 16.8 | 21.2 | 100.0 |
| | Total | 118 | 79.2 | 100.0 | | |
| | Missing | System | 28 | 18.8 | | |
| | | Don't know / can't say | 3 | 2.0 | | |
| Total | | 31 | 20.8 | | | |
| Total | | 149 | 100.0 | | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

q33d. with a mentor

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Never | 111 | 16.9 | 21.1 | 21.1 |
| | | Annually or less often | 167 | 25.4 | 31.7 | 52.8 |
| | | Quarterly | 111 | 16.9 | 21.1 | 73.8 |
| | | Monthly | 99 | 15.0 | 18.8 | 92.6 |
| | | Weekly | 36 | 5.5 | 6.8 | 99.4 |
| | | Daily | 3 | .5 | .6 | 100.0 |
| | | Total | 527 | 80.1 | 100.0 | |
| | Missing | Don't know / can't say | 68 | 10.3 | | |
| | | System | 63 | 9.6 | | |
| | | Total | 131 | 19.9 | | |
| Total | | 658 | 100.0 | | | |
| Mid-career researcher | Valid | Never | 36 | 9.1 | 11.3 | 11.3 |
| | | Annually or less often | 81 | 20.4 | 25.4 | 36.7 |
| | | Quarterly | 77 | 19.4 | 24.1 | 60.8 |
| | | Monthly | 86 | 21.7 | 27.0 | 87.8 |
| | | Weekly | 38 | 9.6 | 11.9 | 99.7 |
| | | Daily | 1 | .3 | .3 | 100.0 |
| | | Total | 319 | 80.4 | 100.0 | |
| | Missing | Don't know / can't say | 16 | 4.0 | | |
| | | System | 62 | 15.6 | | |
| | | Total | 78 | 19.6 | | |
| Total | | 397 | 100.0 | | | |
| Junior researcher | Valid | Never | 43 | 15.1 | 20.3 | 20.3 |
| | | Annually or less often | 39 | 13.7 | 18.4 | 38.7 |
| | | Quarterly | 54 | 19.0 | 25.5 | 64.2 |
| | | Monthly | 50 | 17.6 | 23.6 | 87.7 |
| | | Weekly | 23 | 8.1 | 10.8 | 98.6 |
| | | Daily | 3 | 1.1 | 1.4 | 100.0 |
| | | Total | 212 | 74.6 | 100.0 | |
| | Missing | Don't know / can't say | 27 | 9.5 | | |
| | | System | 45 | 15.8 | | |
| | | Total | 72 | 25.4 | | |
| Total | | 284 | 100.0 | | | |
| Research student | Valid | Never | 18 | 12.1 | 18.8 | 18.8 |
| | | Annually or less often | 22 | 14.8 | 22.9 | 41.7 |
| | | Quarterly | 17 | 11.4 | 17.7 | 59.4 |
| | | Monthly | 22 | 14.8 | 22.9 | 82.3 |
| | | Weekly | 17 | 11.4 | 17.7 | 100.0 |
| | | Total | 96 | 64.4 | 100.0 | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q33d. with a mentor

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|------------------------|--------|-----------|---------|---------------|--------------------|
| Missing | Don't know / can't say | System | 25 | 16.8 | | |
| | | Total | 28 | 18.8 | | |
| | | | 53 | 35.6 | | |
| | | Total | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

q33e. with a senior staff member

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent | |
|--|---------|------------------------|------------------------|---------|---------------|--------------------|--|
| Senior researcher | Valid | Never | 44 | 6.7 | 7.7 | 7.7 | |
| | | Annually or less often | 148 | 22.5 | 25.9 | 33.6 | |
| | | Quarterly | 152 | 23.1 | 26.6 | 60.1 | |
| | | Monthly | 157 | 23.9 | 27.4 | 87.6 | |
| | | Weekly | 60 | 9.1 | 10.5 | 98.1 | |
| | | Daily | 11 | 1.7 | 1.9 | 100.0 | |
| | | Total | 572 | 86.9 | 100.0 | | |
| | Missing | Don't know / can't say | System | 25 | 3.8 | | |
| | | | Total | 61 | 9.3 | | |
| | | | Total | 86 | 13.1 | | |
| Total | | 658 | 100.0 | | | | |
| Mid-career researcher | Valid | Never | 32 | 8.1 | 9.7 | 9.7 | |
| | | Annually or less often | 73 | 18.4 | 22.1 | 31.8 | |
| | | Quarterly | 87 | 21.9 | 26.4 | 58.2 | |
| | | Monthly | 89 | 22.4 | 27.0 | 85.2 | |
| | | Weekly | 46 | 11.6 | 13.9 | 99.1 | |
| | | Daily | 3 | .8 | .9 | 100.0 | |
| | | Total | 330 | 83.1 | 100.0 | | |
| | Missing | Don't know / can't say | System | 6 | 1.5 | | |
| | | | Total | 61 | 15.4 | | |
| | | | Total | 67 | 16.9 | | |
| Total | | 397 | 100.0 | | | | |
| Junior researcher | Valid | Never | 33 | 11.6 | 14.3 | 14.3 | |
| | | Annually or less often | 52 | 18.3 | 22.6 | 37.0 | |
| | | Quarterly | 55 | 19.4 | 23.9 | 60.9 | |
| | | Monthly | 62 | 21.8 | 27.0 | 87.8 | |
| | | Weekly | 25 | 8.8 | 10.9 | 98.7 | |
| | | Daily | 3 | 1.1 | 1.3 | 100.0 | |
| | | Total | 230 | 81.0 | 100.0 | | |
| | Missing | Don't know / can't say | System | 9 | 3.2 | | |
| | | | Total | 45 | 15.8 | | |
| | | | Total | 54 | 19.0 | | |
| Total | | 284 | 100.0 | | | | |
| Research student | Valid | Never | 27 | 18.1 | 26.7 | 26.7 | |
| | | Annually or less often | 24 | 16.1 | 23.8 | 50.5 | |
| | | Quarterly | 13 | 8.7 | 12.9 | 63.4 | |
| | | Monthly | 20 | 13.4 | 19.8 | 83.2 | |
| | | Weekly | 17 | 11.4 | 16.8 | 100.0 | |
| | | Total | 101 | 67.8 | 100.0 | | |
| | | Missing | Don't know / can't say | System | 20 | 13.4 | |
| | Total | | | 28 | 18.8 | | |
| | Total | | | 48 | 32.2 | | |
| | Total | | 149 | 100.0 | | | |
| Representative of an institution | Valid | Never | 5 | 4.7 | 5.7 | 5.7 | |
| | | Annually or less often | 14 | 13.2 | 16.1 | 21.8 | |
| | | Quarterly | 15 | 14.2 | 17.2 | 39.1 | |
| | | Monthly | 20 | 18.9 | 23.0 | 62.1 | |
| | | Weekly | 22 | 20.8 | 25.3 | 87.4 | |
| | | Daily | 11 | 10.4 | 12.6 | 100.0 | |
| | | Total | 87 | 82.1 | 100.0 | | |
| | Missing | Don't know / can't say | System | 4 | 3.8 | | |
| | | | Total | 15 | 14.2 | | |
| | | | Total | 19 | 17.9 | | |
| Total | | 106 | 100.0 | | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Never | 15 | 11.9 | 15.0 | 15.0 | |
| | | Annually or less often | 18 | 14.3 | 18.0 | 33.0 | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q33e. with a senior staff member

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent | |
|--|--|------------------------|-----------|---------|---------------|--------------------|------|
| | | Quarterly | 24 | 19.0 | 24.0 | 57.0 | |
| | | Monthly | 27 | 21.4 | 27.0 | 84.0 | |
| | | Weekly | 15 | 11.9 | 15.0 | 99.0 | |
| | | Daily | 1 | .8 | 1.0 | 100.0 | |
| | | Total | 100 | 79.4 | 100.0 | | |
| | Missing | Don't know / can't say | 10 | 7.9 | | | |
| | | System | 16 | 12.7 | | | |
| | | Total | 26 | 20.6 | | | |
| | Total | | | 126 | 100.0 | | |
| | Current member of an Animal Ethics Committee (AEC) | Valid | Never | 7 | 14.6 | 18.4 | 18.4 |
| Annually or less often | | | 12 | 25.0 | 31.6 | 50.0 | |
| Quarterly | | | 5 | 10.4 | 13.2 | 63.2 | |
| Monthly | | | 8 | 16.7 | 21.1 | 84.2 | |
| Weekly | | | 5 | 10.4 | 13.2 | 97.4 | |
| Missing | | Don't know / can't say | 1 | 2.1 | 2.6 | 100.0 | |
| | | System | 38 | 79.2 | 100.0 | | |
| | | Total | 5 | 10.4 | | | |
| Total | | | 5 | 10.4 | | | |
| Total | | | 10 | 20.8 | | | |
| Total | | | 48 | 100.0 | | | |

q33f. with an ethics committee member

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent | |
|--|------------------------|------------------------|-----------|---------|---------------|--------------------|------|
| Senior researcher | Valid | Never | 161 | 24.5 | 27.9 | 27.9 | |
| | | Annually or less often | 233 | 35.4 | 40.4 | 68.3 | |
| | | Quarterly | 119 | 18.1 | 20.6 | 88.9 | |
| | | Monthly | 55 | 8.4 | 9.5 | 98.4 | |
| | | Weekly | 8 | 1.2 | 1.4 | 99.8 | |
| | Missing | Don't know / can't say | 1 | .2 | .2 | 100.0 | |
| | | System | 21 | 3.2 | | | |
| | | Total | 60 | 9.1 | | | |
| | Total | | | 81 | 12.3 | | |
| | Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Never | 87 | 21.9 | 27.2 | 27.2 | |
| | | Annually or less often | 124 | 31.2 | 38.8 | 65.9 | |
| | | Quarterly | 53 | 13.4 | 16.6 | 82.5 | |
| | | Monthly | 47 | 11.8 | 14.7 | 97.2 | |
| | | Weekly | 9 | 2.3 | 2.8 | 100.0 | |
| | Missing | Don't know / can't say | 15 | 3.8 | | | |
| | | System | 62 | 15.6 | | | |
| | | Total | 77 | 19.4 | | | |
| | Total | | | 397 | 100.0 | | |
| | Junior researcher | Valid | Never | 75 | 26.4 | 33.3 | 33.3 |
| Annually or less often | | | 84 | 29.6 | 37.3 | 70.7 | |
| Quarterly | | | 42 | 14.8 | 18.7 | 89.3 | |
| Monthly | | | 20 | 7.0 | 8.9 | 98.2 | |
| Weekly | | | 4 | 1.4 | 1.8 | 100.0 | |
| Missing | | Don't know / can't say | 13 | 4.6 | | | |
| | | System | 46 | 16.2 | | | |
| | | Total | 59 | 20.8 | | | |
| Total | | | 284 | 100.0 | | | |
| Research student | | Valid | Never | 41 | 27.5 | 39.4 | 39.4 |
| | Annually or less often | | 41 | 27.5 | 39.4 | 78.8 | |
| | Quarterly | | 14 | 9.4 | 13.5 | 92.3 | |
| | Monthly | | 6 | 4.0 | 5.8 | 98.1 | |
| | Weekly | | 2 | 1.3 | 1.9 | 100.0 | |
| | Missing | Don't know / can't say | 104 | 69.8 | 100.0 | | |
| | | System | 17 | 11.4 | | | |
| | | Total | 28 | 18.8 | | | |
| | Total | | | 45 | 30.2 | | |
| | Total | | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q33g. with another member of the ethics committee

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Missing | System | 658 | 100.0 | | |
| Mid-career researcher | Missing | System | 397 | 100.0 | | |
| Junior researcher | Missing | System | 284 | 100.0 | | |
| Research student | Missing | System | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Never | 3 | 2.4 | 2.6 | 2.6 |
| | | Annually or less often | 9 | 7.1 | 7.8 | 10.3 |
| | | Quarterly | 37 | 29.4 | 31.9 | 42.2 |
| | | Monthly | 58 | 46.0 | 50.0 | 92.2 |
| | | Weekly | 7 | 5.6 | 6.0 | 98.3 |
| | | Daily | 2 | 1.6 | 1.7 | 100.0 |
| | Missing | System | 5 | 4.0 | | |
| | | Don't know / can't say | 5 | 4.0 | | |
| | | Total | 10 | 7.9 | | |
| | | Total | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Annually or less often | 5 | 10.4 | 10.6 | 10.6 |
| | | Quarterly | 10 | 20.8 | 21.3 | 31.9 |
| | | Monthly | 26 | 54.2 | 55.3 | 87.2 |
| | | Weekly | 5 | 10.4 | 10.6 | 97.9 |
| | | Daily | 1 | 2.1 | 2.1 | 100.0 |
| | | Total | 47 | 97.9 | 100.0 | |
| | Missing | System | 1 | 2.1 | | |
| | | Don't know / can't say | 1 | 2.1 | | |
| Total | Total | 48 | 100.0 | | | |

q33h. with staff at my institutional research office or equivalent

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Missing | System | 658 | 100.0 | | |
| Mid-career researcher | Missing | System | 397 | 100.0 | | |
| Junior researcher | Missing | System | 284 | 100.0 | | |
| Research student | Missing | System | 149 | 100.0 | | |
| Representative of an institution | Valid | Never | 4 | 3.8 | 4.5 | 4.5 |
| | | Annually or less often | 12 | 11.3 | 13.6 | 18.2 |
| | | Quarterly | 10 | 9.4 | 11.4 | 29.5 |
| | | Monthly | 21 | 19.8 | 23.9 | 53.4 |
| | | Weekly | 23 | 21.7 | 26.1 | 79.5 |
| | | Daily | 18 | 17.0 | 20.5 | 100.0 |
| | Missing | System | 15 | 14.2 | | |
| | | Don't know / can't say | 3 | 2.8 | | |
| | | Total | 18 | 17.0 | | |
| | | Total | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Never | 25 | 19.8 | 24.5 | 24.5 |
| | | Annually or less often | 17 | 13.5 | 16.7 | 41.2 |
| | | Quarterly | 14 | 11.1 | 13.7 | 54.9 |
| | | Monthly | 25 | 19.8 | 24.5 | 79.4 |
| | | Weekly | 19 | 15.1 | 18.6 | 98.0 |
| | | Daily | 2 | 1.6 | 2.0 | 100.0 |
| | Missing | System | 13 | 10.3 | | |
| | | Don't know / can't say | 11 | 8.7 | | |
| | | Total | 24 | 19.0 | | |
| | | Total | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Never | 9 | 18.8 | 22.0 | 22.0 |
| | | Annually or less often | 6 | 12.5 | 14.6 | 36.6 |
| | | Quarterly | 6 | 12.5 | 14.6 | 51.2 |
| | | Monthly | 14 | 29.2 | 34.1 | 85.4 |
| | | Weekly | 3 | 6.3 | 7.3 | 92.7 |
| | | Daily | 3 | 6.3 | 7.3 | 100.0 |
| | Missing | System | 4 | 8.3 | | |
| | | Don't know / can't say | 3 | 6.3 | | |
| | | Total | 7 | 14.6 | | |
| | | Total | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q33i. with a librarian

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|------------------------|---------|---------------|--------------------|
| Senior researcher | Valid | Never | 473 | 71.9 | 82.0 | 82.0 |
| | | Annually or less often | 80 | 12.2 | 13.9 | 95.8 |
| | | Quarterly | 17 | 2.6 | 2.9 | 98.8 |
| | | Monthly | 6 | .9 | 1.0 | 99.8 |
| | | Weekly | 1 | .2 | .2 | 100.0 |
| | Missing | Don't know / can't say | 23 | 3.5 | | |
| | | System | 58 | 8.8 | | |
| | | Total | 81 | 12.3 | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Never | 258 | 65.0 | 80.6 | 80.6 |
| | | Annually or less often | 44 | 11.1 | 13.8 | 94.4 |
| | | Quarterly | 15 | 3.8 | 4.7 | 99.1 |
| | | Monthly | 3 | .8 | .9 | 100.0 |
| | | Total | 320 | 80.6 | 100.0 | |
| | Missing | Don't know / can't say | 13 | 3.3 | | |
| | | System | 64 | 16.1 | | |
| | | Total | 77 | 19.4 | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Never | 180 | 63.4 | 79.3 | 79.3 |
| | | Annually or less often | 37 | 13.0 | 16.3 | 95.6 |
| | | Quarterly | 8 | 2.8 | 3.5 | 99.1 |
| | | Monthly | 2 | .7 | .9 | 100.0 |
| | | Total | 227 | 79.9 | 100.0 | |
| | Missing | Don't know / can't say | 10 | 3.5 | | |
| | | System | 47 | 16.5 | | |
| | | Total | 57 | 20.1 | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Never | 74 | 49.7 | 67.9 | 67.9 |
| | | Annually or less often | 28 | 18.8 | 25.7 | 93.6 |
| | | Quarterly | 7 | 4.7 | 6.4 | 100.0 |
| | | Total | 109 | 73.2 | 100.0 | |
| | | Missing | Don't know / can't say | 12 | 8.1 | |
| | System | | 28 | 18.8 | | |
| | Total | | 40 | 26.8 | | |
| | Total | | | 149 | 100.0 | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q33j. with a colleague from another institution

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|------------------------|---------|---------------|--------------------|
| Senior researcher | Valid | Never | 51 | 7.8 | 8.7 | 8.7 |
| | | Annually or less often | 215 | 32.7 | 36.6 | 45.3 |
| | | Quarterly | 181 | 27.5 | 30.8 | 76.1 |
| | | Monthly | 110 | 16.7 | 18.7 | 94.9 |
| | | Weekly | 26 | 4.0 | 4.4 | 99.3 |
| | | Daily | 4 | .6 | .7 | 100.0 |
| | | Total | 587 | 89.2 | 100.0 | |
| | Missing | Don't know / can't say | 15 | 2.3 | | |
| | | System | 56 | 8.5 | | |
| | | Total | 71 | 10.8 | | |
| Total | | 658 | 100.0 | | | |
| Mid-career researcher | Valid | Never | 27 | 6.8 | 8.2 | 8.2 |
| | | Annually or less often | 119 | 30.0 | 36.1 | 44.2 |
| | | Quarterly | 104 | 26.2 | 31.5 | 75.8 |
| | | Monthly | 60 | 15.1 | 18.2 | 93.9 |
| | | Weekly | 18 | 4.5 | 5.5 | 99.4 |
| | | Daily | 2 | .5 | .6 | 100.0 |
| | | Total | 330 | 83.1 | 100.0 | |
| | Missing | Don't know / can't say | 4 | 1.0 | | |
| | | System | 63 | 15.9 | | |
| | | Total | 67 | 16.9 | | |
| Total | | 397 | 100.0 | | | |
| Junior researcher | Valid | Never | 47 | 16.5 | 19.9 | 19.9 |
| | | Annually or less often | 73 | 25.7 | 30.9 | 50.8 |
| | | Quarterly | 69 | 24.3 | 29.2 | 80.1 |
| | | Monthly | 36 | 12.7 | 15.3 | 95.3 |
| | | Weekly | 10 | 3.5 | 4.2 | 99.6 |
| | | Daily | 1 | .4 | .4 | 100.0 |
| | | Total | 236 | 83.1 | 100.0 | |
| | Missing | Don't know / can't say | 4 | 1.4 | | |
| | | System | 44 | 15.5 | | |
| | | Total | 48 | 16.9 | | |
| Total | | 284 | 100.0 | | | |
| Research student | Valid | Never | 40 | 26.8 | 35.7 | 35.7 |
| | | Annually or less often | 29 | 19.5 | 25.9 | 61.6 |
| | | Quarterly | 29 | 19.5 | 25.9 | 87.5 |
| | | Monthly | 12 | 8.1 | 10.7 | 98.2 |
| | | Weekly | 2 | 1.3 | 1.8 | 100.0 |
| | | Total | 112 | 75.2 | 100.0 | |
| | | Missing | Don't know / can't say | 9 | 6.0 | |
| | System | | 28 | 18.8 | | |
| | Total | | 37 | 24.8 | | |
| | Total | | 149 | 100.0 | | |
| Representative of an institution | Valid | Never | 9 | 8.5 | 10.6 | 10.6 |
| | | Annually or less often | 26 | 24.5 | 30.6 | 41.2 |
| | | Quarterly | 21 | 19.8 | 24.7 | 65.9 |
| | | Monthly | 20 | 18.9 | 23.5 | 89.4 |
| | | Weekly | 9 | 8.5 | 10.6 | 100.0 |
| | | Total | 85 | 80.2 | 100.0 | |
| | | Missing | Don't know / can't say | 6 | 5.7 | |
| | System | | 15 | 14.2 | | |
| | Total | | 21 | 19.8 | | |
| | Total | | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Never | 26 | 20.6 | 25.2 | 25.2 |
| | | Annually or less often | 29 | 23.0 | 28.2 | 53.4 |
| | | Quarterly | 30 | 23.8 | 29.1 | 82.5 |
| | | Monthly | 14 | 11.1 | 13.6 | 96.1 |
| | | Weekly | 3 | 2.4 | 2.9 | 99.0 |
| | | Daily | 1 | .8 | 1.0 | 100.0 |
| | | Total | 103 | 81.7 | 100.0 | |
| | Missing | Don't know / can't say | 7 | 5.6 | | |
| | | System | 16 | 12.7 | | |
| | | Total | 23 | 18.3 | | |
| Total | | 126 | 100.0 | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Never | 14 | 29.2 | 35.0 | 35.0 |
| | | Annually or less often | 12 | 25.0 | 30.0 | 65.0 |
| | | Quarterly | 5 | 10.4 | 12.5 | 77.5 |
| | | Monthly | 9 | 18.8 | 22.5 | 100.0 |
| | | Total | 40 | 83.3 | 100.0 | |
| | Missing | Don't know / can't say | 3 | 6.3 | | |
| | | System | 5 | 10.4 | | |
| | | Total | 8 | 16.7 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q33j. with a colleague from another institution

| q1. In what capacity are you participating in this survey? | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|-----------|---------|---------------|--------------------|
| Total | 48 | 100.0 | | |

q33k. with a friend or relative

| q1. In what capacity are you participating in this survey? | Frequency | Percent | Valid Percent | Cumulative Percent | | |
|--|-----------|------------------------|---------------|--------------------|-------|-------|
| Senior researcher | Valid | Never | 219 | 33.3 | 37.8 | 37.8 |
| | | Annually or less often | 157 | 23.9 | 27.1 | 64.8 |
| | | Quarterly | 82 | 12.5 | 14.1 | 79.0 |
| | | Monthly | 73 | 11.1 | 12.6 | 91.6 |
| | | Weekly | 42 | 6.4 | 7.2 | 98.8 |
| | | Daily | 7 | 1.1 | 1.2 | 100.0 |
| | | Total | 580 | 88.1 | 100.0 | |
| | Missing | Don't know / can't say | 21 | 3.2 | | |
| | | System | 57 | 8.7 | | |
| | | Total | 78 | 11.9 | | |
| | Total | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Never | 112 | 28.2 | 33.9 | 33.9 |
| | | Annually or less often | 91 | 22.9 | 27.6 | 61.5 |
| | | Quarterly | 60 | 15.1 | 18.2 | 79.7 |
| | | Monthly | 44 | 11.1 | 13.3 | 93.0 |
| | | Weekly | 23 | 5.8 | 7.0 | 100.0 |
| | | Total | 330 | 83.1 | 100.0 | |
| | Missing | Don't know / can't say | 5 | 1.3 | | |
| | | System | 62 | 15.6 | | |
| | | Total | 67 | 16.9 | | |
| | Total | | 397 | 100.0 | | |
| Junior researcher | Valid | Never | 99 | 34.9 | 42.3 | 42.3 |
| | | Annually or less often | 45 | 15.8 | 19.2 | 61.5 |
| | | Quarterly | 37 | 13.0 | 15.8 | 77.4 |
| | | Monthly | 28 | 9.9 | 12.0 | 89.3 |
| | | Weekly | 15 | 5.3 | 6.4 | 95.7 |
| | | Daily | 10 | 3.5 | 4.3 | 100.0 |
| | | Total | 234 | 82.4 | 100.0 | |
| | Missing | Don't know / can't say | 6 | 2.1 | | |
| | | System | 44 | 15.5 | | |
| | | Total | 50 | 17.6 | | |
| | Total | | 284 | 100.0 | | |
| Research student | Valid | Never | 39 | 26.2 | 33.3 | 33.3 |
| | | Annually or less often | 21 | 14.1 | 17.9 | 51.3 |
| | | Quarterly | 22 | 14.8 | 18.8 | 70.1 |
| | | Monthly | 20 | 13.4 | 17.1 | 87.2 |
| | | Weekly | 14 | 9.4 | 12.0 | 99.1 |
| | | Daily | 1 | .7 | .9 | 100.0 |
| | | Total | 117 | 78.5 | 100.0 | |
| | Missing | Don't know / can't say | 4 | 2.7 | | |
| | | System | 28 | 18.8 | | |
| | | Total | 32 | 21.5 | | |
| | Total | | 149 | 100.0 | | |
| Representative of an institution | Valid | Never | 24 | 22.6 | 28.6 | 28.6 |
| | | Annually or less often | 24 | 22.6 | 28.6 | 57.1 |
| | | Quarterly | 12 | 11.3 | 14.3 | 71.4 |
| | | Monthly | 5 | 4.7 | 6.0 | 77.4 |
| | | Weekly | 17 | 16.0 | 20.2 | 97.6 |
| | | Daily | 2 | 1.9 | 2.4 | 100.0 |
| | | Total | 84 | 79.2 | 100.0 | |
| | Missing | Don't know / can't say | 7 | 6.6 | | |
| | | System | 15 | 14.2 | | |
| | | Total | 22 | 20.8 | | |
| | Total | | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Never | 29 | 23.0 | 26.6 | 26.6 |
| | | Annually or less often | 28 | 22.2 | 25.7 | 52.3 |
| | | Quarterly | 22 | 17.5 | 20.2 | 72.5 |
| | | Monthly | 19 | 15.1 | 17.4 | 89.9 |
| | | Weekly | 11 | 8.7 | 10.1 | 100.0 |
| | | Total | 109 | 86.5 | 100.0 | |
| | Missing | Don't know / can't say | 3 | 2.4 | | |
| | | System | 14 | 11.1 | | |
| | | Total | 17 | 13.5 | | |
| | Total | | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Never | 12 | 25.0 | 28.6 | 28.6 |
| | | Annually or less often | 12 | 25.0 | 28.6 | 57.1 |
| | | Quarterly | 9 | 18.8 | 21.4 | 78.6 |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q33k. with a friend or relative

| q1. In what capacity are you participating in this survey? | | Frequency | Percent | Valid Percent | Cumulative Percent | |
|--|---------|------------------------|---------|---------------|--------------------|--|
| | Monthly | 4 | 8.3 | 9.5 | 88.1 | |
| | Weekly | 4 | 8.3 | 9.5 | 97.6 | |
| | Daily | 1 | 2.1 | 2.4 | 100.0 | |
| | Total | 42 | 87.5 | 100.0 | | |
| | Missing | Don't know / can't say | 3 | 6.3 | | |
| | System | 3 | 6.3 | | | |
| | Total | 6 | 12.5 | | | |
| Total | | 48 | 100.0 | | | |

q33l. with a member of the general public

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Never | 256 | 38.9 | 44.4 | 44.4 |
| | | Annually or less often | 216 | 32.8 | 37.5 | 81.9 |
| | | Quarterly | 67 | 10.2 | 11.6 | 93.6 |
| | | Monthly | 29 | 4.4 | 5.0 | 98.6 |
| | | Weekly | 7 | 1.1 | 1.2 | 99.8 |
| | | Daily | 1 | .2 | .2 | 100.0 |
| | Missing | Don't know / can't say | 25 | 3.8 | | |
| | | System | 57 | 8.7 | | |
| | | Total | 82 | 12.5 | | |
| | Total | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Never | 157 | 39.5 | 47.9 | 47.9 |
| | | Annually or less often | 109 | 27.5 | 33.2 | 81.1 |
| | | Quarterly | 41 | 10.3 | 12.5 | 93.6 |
| | | Monthly | 19 | 4.8 | 5.8 | 99.4 |
| | | Weekly | 2 | .5 | .6 | 100.0 |
| | | Total | 328 | 82.6 | 100.0 | |
| | Missing | Don't know / can't say | 7 | 1.8 | | |
| | | System | 62 | 15.6 | | |
| | | Total | 69 | 17.4 | | |
| | Total | | 397 | 100.0 | | |
| Junior researcher | Valid | Never | 124 | 43.7 | 54.6 | 54.6 |
| | | Annually or less often | 56 | 19.7 | 24.7 | 79.3 |
| | | Quarterly | 29 | 10.2 | 12.8 | 92.1 |
| | | Monthly | 11 | 3.9 | 4.8 | 96.9 |
| | | Weekly | 5 | 1.8 | 2.2 | 99.1 |
| | | Daily | 2 | .7 | .9 | 100.0 |
| | Missing | Don't know / can't say | 13 | 4.6 | | |
| | | System | 44 | 15.5 | | |
| | | Total | 57 | 20.1 | | |
| | Total | | 284 | 100.0 | | |
| Research student | Valid | Never | 68 | 45.6 | 62.4 | 62.4 |
| | | Annually or less often | 26 | 17.4 | 23.9 | 86.2 |
| | | Quarterly | 6 | 4.0 | 5.5 | 91.7 |
| | | Monthly | 8 | 5.4 | 7.3 | 99.1 |
| | | Weekly | 1 | .7 | .9 | 100.0 |
| | | Total | 109 | 73.2 | 100.0 | |
| | Missing | Don't know / can't say | 12 | 8.1 | | |
| | | System | 28 | 18.8 | | |
| | | Total | 40 | 26.8 | | |
| | Total | | 149 | 100.0 | | |
| Representative of an institution | Valid | Never | 26 | 24.5 | 31.0 | 31.0 |
| | | Annually or less often | 29 | 27.4 | 34.5 | 65.5 |
| | | Quarterly | 12 | 11.3 | 14.3 | 79.8 |
| | | Monthly | 12 | 11.3 | 14.3 | 94.0 |
| | | Weekly | 5 | 4.7 | 6.0 | 100.0 |
| | | Total | 84 | 79.2 | 100.0 | |
| | Missing | Don't know / can't say | 7 | 6.6 | | |
| | | System | 15 | 14.2 | | |
| | | Total | 22 | 20.8 | | |
| | Total | | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Never | 38 | 30.2 | 36.2 | 36.2 |
| | | Annually or less often | 38 | 30.2 | 36.2 | 72.4 |
| | | Quarterly | 17 | 13.5 | 16.2 | 88.6 |
| | | Monthly | 9 | 7.1 | 8.6 | 97.1 |
| | | Weekly | 3 | 2.4 | 2.9 | 100.0 |
| | | Total | 105 | 83.3 | 100.0 | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q33i. with a member of the general public

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent | |
|--|---------|------------------------|-----------|---------|---------------|--------------------|--|
| Current member of an Animal Ethics Committee (AEC) | Missing | Don't know / can't say | 5 | 4.0 | | | |
| | | System | 16 | 12.7 | | | |
| | | Total | 21 | 16.7 | | | |
| | Total | | | 126 | 100.0 | | |
| | Valid | Never | 17 | 35.4 | 42.5 | 42.5 | |
| | | Annually or less often | 10 | 20.8 | 25.0 | 67.5 | |
| | | Quarterly | 8 | 16.7 | 20.0 | 87.5 | |
| | | Monthly | 5 | 10.4 | 12.5 | 100.0 | |
| | | Total | 40 | 83.3 | 100.0 | | |
| | Missing | Don't know / can't say | 5 | 10.4 | | | |
| System | | 3 | 6.3 | | | | |
| Total | | 8 | 16.7 | | | | |
| Total | | | 48 | 100.0 | | | |

q34. Do you have informal discussions about responsible research practices (e.g. after work, in social situations)?

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|-------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Yes | 435 | 66.1 | 71.7 | 71.7 |
| | | No | 144 | 21.9 | 23.7 | 95.4 |
| | | Not relevant to my role | 9 | 1.4 | 1.5 | 96.9 |
| | | Don't know / can't say | 19 | 2.9 | 3.1 | 100.0 |
| | | Total | 607 | 92.2 | 100.0 | |
| | Missing | System | 51 | 7.8 | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Yes | 243 | 61.2 | 71.3 | 71.3 |
| | | No | 87 | 21.9 | 25.5 | 96.8 |
| | | Not relevant to my role | 3 | .8 | .9 | 97.7 |
| | | Don't know / can't say | 8 | 2.0 | 2.3 | 100.0 |
| | | Total | 341 | 85.9 | 100.0 | |
| | Missing | System | 56 | 14.1 | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Yes | 165 | 58.1 | 68.2 | 68.2 |
| | | No | 69 | 24.3 | 28.5 | 96.7 |
| | | Not relevant to my role | 1 | .4 | .4 | 97.1 |
| | | Don't know / can't say | 7 | 2.5 | 2.9 | 100.0 |
| | | Total | 242 | 85.2 | 100.0 | |
| | Missing | System | 42 | 14.8 | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Yes | 73 | 49.0 | 58.4 | 58.4 |
| | | No | 37 | 24.8 | 29.6 | 88.0 |
| | | Not relevant to my role | 7 | 4.7 | 5.6 | 93.6 |
| | | Don't know / can't say | 8 | 5.4 | 6.4 | 100.0 |
| | | Total | 125 | 83.9 | 100.0 | |
| | Missing | System | 24 | 16.1 | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Valid | Yes | 50 | 47.2 | 54.9 | 54.9 |
| | | No | 30 | 28.3 | 33.0 | 87.9 |
| | | Not relevant to my role | 9 | 8.5 | 9.9 | 97.8 |
| | | Don't know / can't say | 2 | 1.9 | 2.2 | 100.0 |
| | | Total | 91 | 85.8 | 100.0 | |
| | Missing | System | 15 | 14.2 | | |
| Total | | | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Yes | 70 | 55.6 | 57.4 | 57.4 |
| | | No | 32 | 25.4 | 26.2 | 83.6 |
| | | Not relevant to my role | 19 | 15.1 | 15.6 | 99.2 |
| | | Don't know / can't say | 1 | .8 | .8 | 100.0 |
| | | Total | 122 | 96.8 | 100.0 | |
| | Missing | System | 4 | 3.2 | | |
| Total | | | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Yes | 25 | 52.1 | 53.2 | 53.2 |
| | | No | 12 | 25.0 | 25.5 | 78.7 |
| | | Not relevant to my role | 9 | 18.8 | 19.1 | 97.9 |
| | | Don't know / can't say | 1 | 2.1 | 2.1 | 100.0 |
| | | Total | 47 | 97.9 | 100.0 | |
| | Missing | System | 1 | 2.1 | | |
| Total | | | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q35. Have you wanted to have discussions about responsible research practices but felt unable to do so?

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|--------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Yes | 67 | 10.2 | 11.0 | 11.0 |
| | | No | 541 | 82.2 | 89.0 | 100.0 |
| | | Total | 608 | 92.4 | 100.0 | |
| | Missing | System | 50 | 7.6 | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Yes | 50 | 12.6 | 14.7 | 14.7 |
| | | No | 289 | 72.8 | 85.3 | 100.0 |
| | | Total | 339 | 85.4 | 100.0 | |
| | Missing | System | 58 | 14.6 | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Yes | 53 | 18.7 | 21.9 | 21.9 |
| | | No | 189 | 66.5 | 78.1 | 100.0 |
| | | Total | 242 | 85.2 | 100.0 | |
| | Missing | System | 42 | 14.8 | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Yes | 30 | 20.1 | 24.2 | 24.2 |
| | | No | 94 | 63.1 | 75.8 | 100.0 |
| | | Total | 124 | 83.2 | 100.0 | |
| | Missing | System | 25 | 16.8 | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Valid | Yes | 15 | 14.2 | 16.5 | 16.5 |
| | | No | 76 | 71.7 | 83.5 | 100.0 |
| | | Total | 91 | 85.8 | 100.0 | |
| | Missing | System | 15 | 14.2 | | |
| Total | | | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Yes | 19 | 15.1 | 16.0 | 16.0 |
| | | No | 100 | 79.4 | 84.0 | 100.0 |
| | | Total | 119 | 94.4 | 100.0 | |
| | Missing | System | 7 | 5.6 | | |
| Total | | | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Yes | 13 | 27.1 | 27.1 | 27.1 |
| | | No | 35 | 72.9 | 72.9 | 100.0 |
| | | Total | 48 | 100.0 | 100.0 | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q36mr. At what stages do you generally discuss responsible research practices with your supervisors / senior colleagues / senior administrators? (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-------|---|-----------|------------------|
| Senior researcher | Valid | When ethics / grant applications are being prepared | 420 | 69.0% |
| | | When papers are being prepared for publication | 418 | 68.6% |
| | | During annual career development sessions | 161 | 26.4% |
| | | At regular research group meetings | 432 | 70.9% |
| | | When data analysis is being discussed | 456 | 74.9% |
| | | When I first started work / study, but not since | 7 | 1.1% |
| | | Other | 51 | 8.4% |
| | | Never | 20 | 3.3% |
| | | Don't know / can't say | 13 | 2.1% |
| | | Number of Respondents | | |
| Mid-career researcher | Valid | When ethics / grant applications are being prepared | 234 | 68.6% |
| | | When papers are being prepared for publication | 241 | 70.7% |
| | | During annual career development sessions | 80 | 23.5% |
| | | At regular research group meetings | 237 | 69.5% |
| | | When data analysis is being discussed | 277 | 81.2% |
| | | When I first started work / study, but not since | 1 | 0.3% |
| | | Other | 18 | 5.3% |
| | | Never | 9 | 2.6% |
| | | Don't know / can't say | 4 | 1.2% |
| | | Number of Respondents | | |
| Junior researcher | Valid | When ethics / grant applications are being prepared | 180 | 74.4% |
| | | When papers are being prepared for publication | 156 | 64.5% |
| | | During annual career development sessions | 49 | 20.2% |
| | | At regular research group meetings | 157 | 64.9% |
| | | When data analysis is being discussed | 190 | 78.5% |
| | | When I first started work / study, but not since | 1 | 0.4% |
| | | Other | 16 | 6.6% |
| | | Never | 4 | 1.7% |
| | | Don't know / can't say | 4 | 1.7% |
| | | Number of Respondents | | |
| Research student | Valid | When ethics / grant applications are being prepared | 80 | 64.5% |
| | | When papers are being prepared for publication | 72 | 58.1% |
| | | During annual career development sessions | 25 | 20.2% |
| | | At regular research group meetings | 71 | 57.3% |
| | | When data analysis is being discussed | 87 | 70.2% |
| | | When I first started work / study, but not since | 7 | 5.6% |
| | | Other | 5 | 4.0% |
| | | Never | 2 | 1.6% |
| | | Don't know / can't say | 3 | 2.4% |
| | | Number of Respondents | | |
| Representative of an institution | Valid | When ethics / grant applications are being prepared | | |
| | | When papers are being prepared for publication | | |
| | | During annual career development sessions | | |
| | | At regular research group meetings | | |
| | | When data analysis is being discussed | | |
| | | When I first started work / study, but not since | | |
| | | Other | | |
| | | Never | | |
| | | Don't know / can't say | | |
| | | Number of Respondents | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | When ethics / grant applications are being prepared | | |
| | | When papers are being prepared for publication | | |
| | | During annual career development sessions | | |
| | | At regular research group meetings | | |
| | | When data analysis is being discussed | | |
| | | When I first started work / study, but not since | | |
| | | Other | | |
| | | Never | | |
| | | Don't know / can't say | | |
| | | Number of Respondents | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | When ethics / grant applications are being prepared | | |
| | | When papers are being prepared for publication | | |
| | | During annual career development sessions | | |
| | | At regular research group meetings | | |
| | | When data analysis is being discussed | | |
| | | When I first started work / study, but not since | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q36m. At what stages do you generally discuss responsible research practices with your supervisors / senior colleagues / senior administrators? (Multiple Response)

| q1. In what capacity are you participating in this survey? | Frequency | % of respondents |
|--|-----------|------------------|
| Other | | |
| Never | | |
| Don't know / can't say | | |
| Number of Respondents | | |

q37a. I have easy access to an individual(s) with appropriate expertise that I can ask for advice about responsible research practices

| q1. In what capacity are you participating in this survey? | Frequency | Percent | Valid Percent | Cumulative Percent | |
|--|-----------|-----------------------------|-----------------------------|--------------------|-------|
| Senior researcher | Valid | Strongly disagree | 9 | 1.4 | 1.5 |
| | | Disagree | 29 | 4.4 | 5.0 |
| | | Neither agree nor disagree | 54 | 8.2 | 9.2 |
| | | Agree | 292 | 44.4 | 50.0 |
| | | Strongly agree | 200 | 30.4 | 34.2 |
| | | Total | 584 | 88.8 | 100.0 |
| | Missing | Don't know / not applicable | 12 | 1.8 | |
| | System | 62 | 9.4 | | |
| | Total | 74 | 11.2 | | |
| | Total | 658 | 100.0 | | |
| Mid-career researcher | Valid | Strongly disagree | 7 | 1.8 | 2.1 |
| | | Disagree | 26 | 6.5 | 8.0 |
| | | Neither agree nor disagree | 36 | 9.1 | 11.0 |
| | | Agree | 153 | 38.5 | 46.8 |
| | | Strongly agree | 105 | 26.4 | 32.1 |
| | | Total | 327 | 82.4 | 100.0 |
| | Missing | System | 70 | 17.6 | |
| | Total | 397 | 100.0 | | |
| Junior researcher | Valid | Strongly disagree | 5 | 1.8 | 2.2 |
| | | Disagree | 25 | 8.8 | 11.0 |
| | | Neither agree nor disagree | 21 | 7.4 | 9.3 |
| | | Agree | 97 | 34.2 | 42.7 |
| | | Strongly agree | 79 | 27.8 | 34.8 |
| | | Total | 227 | 79.9 | 100.0 |
| | Missing | Don't know / not applicable | 2 | .7 | |
| | System | 55 | 19.4 | | |
| | Total | 57 | 20.1 | | |
| | Total | 284 | 100.0 | | |
| Research student | Valid | Strongly disagree | 4 | 2.7 | 3.5 |
| | | Disagree | 8 | 5.4 | 7.0 |
| | | Neither agree nor disagree | 12 | 8.1 | 10.4 |
| | | Agree | 44 | 29.5 | 38.3 |
| | | Strongly agree | 47 | 31.5 | 40.9 |
| | | Total | 115 | 77.2 | 100.0 |
| | Missing | Don't know / not applicable | 2 | 1.3 | |
| | System | 32 | 21.5 | | |
| | Total | 34 | 22.8 | | |
| | Total | 149 | 100.0 | | |
| Representative of an institution | Valid | Disagree | 3 | 2.8 | 3.6 |
| | | Neither agree nor disagree | 6 | 5.7 | 7.2 |
| | | Agree | 29 | 27.4 | 34.9 |
| | | Strongly agree | 45 | 42.5 | 54.2 |
| | | Total | 83 | 78.3 | 100.0 |
| | | Missing | Don't know / not applicable | 4 | 3.8 |
| | | System | 19 | 17.9 | |
| | Total | 23 | 21.7 | | |
| | Total | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Strongly disagree | 3 | 2.4 | 2.5 |
| | | Disagree | 5 | 4.0 | 4.2 |
| | | Neither agree nor disagree | 10 | 7.9 | 8.5 |
| | | Agree | 41 | 32.5 | 34.7 |
| | | Strongly agree | 59 | 46.8 | 50.0 |
| | | Total | 118 | 93.7 | 100.0 |
| | Missing | Don't know / not applicable | 2 | 1.6 | |
| | System | 6 | 4.8 | | |
| | Total | 8 | 6.3 | | |
| | Total | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Disagree | 3 | 6.3 | 6.5 |
| | | Neither agree nor disagree | 4 | 8.3 | 8.7 |
| | | Agree | 18 | 37.5 | 39.1 |
| | | Strongly agree | 21 | 43.8 | 45.7 |
| | | Total | 46 | 95.8 | 100.0 |
| | | Missing | Don't know / not applicable | 2 | 4.2 |
| | | Total | 48 | 100.0 | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q37b. I have easy access to my institution's policies / guidelines about responsible research practices

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|-----------------------------|-----------------------------|---------|---------------|--------------------|
| Senior researcher | Valid | Strongly disagree | 5 | .8 | .9 | .9 |
| | | Disagree | 24 | 3.6 | 4.1 | 4.9 |
| | | Neither agree nor disagree | 46 | 7.0 | 7.8 | 12.8 |
| | | Agree | 288 | 43.8 | 49.0 | 61.7 |
| | | Strongly agree | 225 | 34.2 | 38.3 | 100.0 |
| | | Total | 588 | 89.4 | 100.0 | |
| | Missing | Don't know / not applicable | 7 | 1.1 | | |
| | System | 63 | 9.6 | | | |
| | Total | 70 | 10.6 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Strongly disagree | 3 | .8 | .9 | .9 |
| | | Disagree | 17 | 4.3 | 5.2 | 6.2 |
| | | Neither agree nor disagree | 37 | 9.3 | 11.4 | 17.6 |
| | | Agree | 164 | 41.3 | 50.6 | 68.2 |
| | | Strongly agree | 103 | 25.9 | 31.8 | 100.0 |
| | | Total | 324 | 81.6 | 100.0 | |
| | Missing | Don't know / not applicable | 3 | .8 | | |
| | System | 70 | 17.6 | | | |
| | Total | 73 | 18.4 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Strongly disagree | 3 | 1.1 | 1.4 | 1.4 |
| | | Disagree | 13 | 4.6 | 5.9 | 7.2 |
| | | Neither agree nor disagree | 33 | 11.6 | 14.9 | 22.2 |
| | | Agree | 93 | 32.7 | 42.1 | 64.3 |
| | | Strongly agree | 79 | 27.8 | 35.7 | 100.0 |
| | | Total | 221 | 77.8 | 100.0 | |
| | Missing | Don't know / not applicable | 9 | 3.2 | | |
| | System | 54 | 19.0 | | | |
| | Total | 63 | 22.2 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Disagree | 3 | 2.0 | 2.7 | 2.7 |
| | | Neither agree nor disagree | 17 | 11.4 | 15.0 | 17.7 |
| | | Agree | 53 | 35.6 | 46.9 | 64.6 |
| | | Strongly agree | 40 | 26.8 | 35.4 | 100.0 |
| | | Total | 113 | 75.8 | 100.0 | |
| | | Missing | Don't know / not applicable | 4 | 2.7 | |
| | | System | 32 | 21.5 | | |
| | Total | 36 | 24.2 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Valid | Strongly disagree | 1 | .9 | 1.2 | 1.2 |
| | | Disagree | 5 | 4.7 | 5.9 | 7.1 |
| | | Neither agree nor disagree | 3 | 2.8 | 3.5 | 10.6 |
| | | Agree | 20 | 18.9 | 23.5 | 34.1 |
| | | Strongly agree | 56 | 52.8 | 65.9 | 100.0 |
| | | Total | 85 | 80.2 | 100.0 | |
| | Missing | Don't know / not applicable | 2 | 1.9 | | |
| | System | 19 | 17.9 | | | |
| | Total | 21 | 19.8 | | | |
| Total | | | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Strongly disagree | 3 | 2.4 | 2.7 | 2.7 |
| | | Disagree | 3 | 2.4 | 2.7 | 5.4 |
| | | Neither agree nor disagree | 6 | 4.8 | 5.4 | 10.8 |
| | | Agree | 45 | 35.7 | 40.5 | 51.4 |
| | | Strongly agree | 54 | 42.9 | 48.6 | 100.0 |
| | | Total | 111 | 88.1 | 100.0 | |
| | Missing | Don't know / not applicable | 8 | 6.3 | | |
| | System | 7 | 5.6 | | | |
| | Total | 15 | 11.9 | | | |
| Total | | | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Neither agree nor disagree | 4 | 8.3 | 9.1 | 9.1 |
| | | Agree | 16 | 33.3 | 36.4 | 45.5 |
| | | Strongly agree | 24 | 50.0 | 54.5 | 100.0 |
| | | Total | 44 | 91.7 | 100.0 | |
| | Missing | Don't know / not applicable | 4 | 8.3 | | |
| Total | | | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q37c. The regulatory committees that review my research (e.g. ethics committees) understand the kind of research I do

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Strongly disagree | 18 | 2.7 | 3.1 | 3.1 |
| | | Disagree | 58 | 8.8 | 10.0 | 13.1 |
| | | Neither agree nor disagree | 113 | 17.2 | 19.5 | 32.6 |
| | | Agree | 295 | 44.8 | 50.9 | 83.6 |
| | | Strongly agree | 95 | 14.4 | 16.4 | 100.0 |
| | | Total | 579 | 88.0 | 100.0 | |
| | Missing | Don't know / not applicable | 14 | 2.1 | | |
| | System | 65 | 9.9 | | | |
| | Total | 79 | 12.0 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Strongly disagree | 16 | 4.0 | 5.1 | 5.1 |
| | | Disagree | 31 | 7.8 | 9.8 | 14.9 |
| | | Neither agree nor disagree | 65 | 16.4 | 20.6 | 35.4 |
| | | Agree | 155 | 39.0 | 49.1 | 84.5 |
| | | Strongly agree | 49 | 12.3 | 15.5 | 100.0 |
| | | Total | 316 | 79.6 | 100.0 | |
| | Missing | Don't know / not applicable | 10 | 2.5 | | |
| | System | 71 | 17.9 | | | |
| | Total | 81 | 20.4 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Strongly disagree | 6 | 2.1 | 2.9 | 2.9 |
| | | Disagree | 23 | 8.1 | 11.0 | 13.8 |
| | | Neither agree nor disagree | 44 | 15.5 | 21.0 | 34.8 |
| | | Agree | 92 | 32.4 | 43.8 | 78.6 |
| | | Strongly agree | 45 | 15.8 | 21.4 | 100.0 |
| | | Total | 210 | 73.9 | 100.0 | |
| | Missing | Don't know / not applicable | 18 | 6.3 | | |
| | System | 56 | 19.7 | | | |
| | Total | 74 | 26.1 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Strongly disagree | 3 | 2.0 | 2.9 | 2.9 |
| | | Disagree | 9 | 6.0 | 8.7 | 11.7 |
| | | Neither agree nor disagree | 15 | 10.1 | 14.6 | 26.2 |
| | | Agree | 50 | 33.6 | 48.5 | 74.8 |
| | | Strongly agree | 26 | 17.4 | 25.2 | 100.0 |
| | | Total | 103 | 69.1 | 100.0 | |
| | Missing | Don't know / not applicable | 14 | 9.4 | | |
| | System | 32 | 21.5 | | | |
| | Total | 46 | 30.9 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q37d. I have access to sufficient material resources (e.g. space, equipment or technology) to conduct my research

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Strongly disagree | 19 | 2.9 | 3.2 | 3.2 |
| | | Disagree | 74 | 11.2 | 12.5 | 15.7 |
| | | Neither agree nor disagree | 67 | 10.2 | 11.3 | 26.9 |
| | | Agree | 290 | 44.1 | 48.8 | 75.8 |
| | | Strongly agree | 144 | 21.9 | 24.2 | 100.0 |
| | | Total | 594 | 90.3 | 100.0 | |
| | Missing | Don't know / not applicable | 1 | .2 | | |
| | System | 63 | 9.6 | | | |
| | Total | 64 | 9.7 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Strongly disagree | 12 | 3.0 | 3.7 | 3.7 |
| | | Disagree | 36 | 9.1 | 11.0 | 14.7 |
| | | Neither agree nor disagree | 40 | 10.1 | 12.3 | 27.0 |
| | | Agree | 169 | 42.6 | 51.8 | 78.8 |
| | | Strongly agree | 69 | 17.4 | 21.2 | 100.0 |
| | | Total | 326 | 82.1 | 100.0 | |
| | Missing | Don't know / not applicable | 1 | .3 | | |
| | System | 70 | 17.6 | | | |
| | Total | 71 | 17.9 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Strongly disagree | 6 | 2.1 | 2.6 | 2.6 |
| | | Disagree | 26 | 9.2 | 11.5 | 14.1 |
| | | Neither agree nor disagree | 22 | 7.7 | 9.7 | 23.8 |
| | | Agree | 115 | 40.5 | 50.7 | 74.4 |
| | | Strongly agree | 58 | 20.4 | 25.6 | 100.0 |
| | | Total | 227 | 79.9 | 100.0 | |
| | Missing | Don't know / not applicable | 2 | .7 | | |
| | System | 55 | 19.4 | | | |
| | Total | 57 | 20.1 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Strongly disagree | 4 | 2.7 | 3.4 | 3.4 |
| | | Disagree | 11 | 7.4 | 9.4 | 12.8 |
| | | Neither agree nor disagree | 8 | 5.4 | 6.8 | 19.7 |
| | | Agree | 57 | 38.3 | 48.7 | 68.4 |
| | | Strongly agree | 37 | 24.8 | 31.6 | 100.0 |
| | | Total | 117 | 78.5 | 100.0 | |
| | Missing | System | 32 | 21.5 | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q37e. I find it difficult to conduct research in a responsible manner because of insufficient access to human resources (e.g. statistical expertise, technical / administrative support)

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Strongly disagree | 161 | 24.5 | 27.3 | 27.3 |
| | | Disagree | 244 | 37.1 | 41.4 | 68.6 |
| | | Neither agree nor disagree | 93 | 14.1 | 15.8 | 84.4 |
| | | Agree | 65 | 9.9 | 11.0 | 95.4 |
| | | Strongly agree | 27 | 4.1 | 4.6 | 100.0 |
| | | Total | 590 | 89.7 | 100.0 | |
| | Missing | Don't know / not applicable | 5 | .8 | | |
| | System | 63 | 9.6 | | | |
| | Total | 68 | 10.3 | | | |
| | Total | 658 | 100.0 | | | |
| Mid-career researcher | Valid | Strongly disagree | 68 | 17.1 | 21.1 | 21.1 |
| | | Disagree | 146 | 36.8 | 45.3 | 66.5 |
| | | Neither agree nor disagree | 49 | 12.3 | 15.2 | 81.7 |
| | | Agree | 45 | 11.3 | 14.0 | 95.7 |
| | | Strongly agree | 14 | 3.5 | 4.3 | 100.0 |
| | | Total | 322 | 81.1 | 100.0 | |
| | Missing | Don't know / not applicable | 4 | 1.0 | | |
| | System | 71 | 17.9 | | | |
| | Total | 75 | 18.9 | | | |
| | Total | 397 | 100.0 | | | |
| Junior researcher | Valid | Strongly disagree | 36 | 12.7 | 15.8 | 15.8 |
| | | Disagree | 95 | 33.5 | 41.7 | 57.5 |
| | | Neither agree nor disagree | 46 | 16.2 | 20.2 | 77.6 |
| | | Agree | 37 | 13.0 | 16.2 | 93.9 |
| | | Strongly agree | 14 | 4.9 | 6.1 | 100.0 |
| | | Total | 228 | 80.3 | 100.0 | |
| | Missing | Don't know / not applicable | 1 | .4 | | |
| | System | 55 | 19.4 | | | |
| | Total | 56 | 19.7 | | | |
| | Total | 284 | 100.0 | | | |
| Research student | Valid | Strongly disagree | 23 | 15.4 | 19.8 | 19.8 |
| | | Disagree | 51 | 34.2 | 44.0 | 63.8 |
| | | Neither agree nor disagree | 17 | 11.4 | 14.7 | 78.4 |
| | | Agree | 23 | 15.4 | 19.8 | 98.3 |
| | | Strongly agree | 2 | 1.3 | 1.7 | 100.0 |
| | | Total | 116 | 77.9 | 100.0 | |
| | Missing | Don't know / not applicable | 1 | .7 | | |
| | System | 32 | 21.5 | | | |
| | Total | 33 | 22.1 | | | |
| | Total | 149 | 100.0 | | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q37f. Senior administrators in my institution support data and code sharing when publishing research results

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Strongly disagree | 14 | 2.1 | 2.8 | 2.8 |
| | | Disagree | 34 | 5.2 | 6.7 | 9.4 |
| | | Neither agree nor disagree | 122 | 18.5 | 24.0 | 33.5 |
| | | Agree | 252 | 38.3 | 49.6 | 83.1 |
| | | Strongly agree | 86 | 13.1 | 16.9 | 100.0 |
| | | Total | 508 | 77.2 | 100.0 | |
| | Missing | Don't know / not applicable | 88 | 13.4 | | |
| | System | 62 | 9.4 | | | |
| | Total | 150 | 22.8 | | | |
| | Total | 658 | 100.0 | | | |
| Mid-career researcher | Valid | Strongly disagree | 5 | 1.3 | 1.8 | 1.8 |
| | | Disagree | 29 | 7.3 | 10.2 | 12.0 |
| | | Neither agree nor disagree | 94 | 23.7 | 33.1 | 45.1 |
| | | Agree | 126 | 31.7 | 44.4 | 89.4 |
| | | Strongly agree | 30 | 7.6 | 10.6 | 100.0 |
| | | Total | 284 | 71.5 | 100.0 | |
| | Missing | Don't know / not applicable | 43 | 10.8 | | |
| | System | 70 | 17.6 | | | |
| | Total | 113 | 28.5 | | | |
| | Total | 397 | 100.0 | | | |
| Junior researcher | Valid | Strongly disagree | 6 | 2.1 | 3.4 | 3.4 |
| | | Disagree | 26 | 9.2 | 14.5 | 17.9 |
| | | Neither agree nor disagree | 43 | 15.1 | 24.0 | 41.9 |
| | | Agree | 69 | 24.3 | 38.5 | 80.4 |
| | | Strongly agree | 35 | 12.3 | 19.6 | 100.0 |
| | | Total | 179 | 63.0 | 100.0 | |
| | Missing | Don't know / not applicable | 50 | 17.6 | | |
| | System | 55 | 19.4 | | | |
| | Total | 105 | 37.0 | | | |
| | Total | 284 | 100.0 | | | |
| Research student | Valid | Strongly disagree | 1 | .7 | 1.3 | 1.3 |
| | | Disagree | 7 | 4.7 | 8.9 | 10.1 |
| | | Neither agree nor disagree | 24 | 16.1 | 30.4 | 40.5 |
| | | Agree | 37 | 24.8 | 46.8 | 87.3 |
| | | Strongly agree | 10 | 6.7 | 12.7 | 100.0 |
| | | Total | 79 | 53.0 | 100.0 | |
| | Missing | Don't know / not applicable | 38 | 25.5 | | |
| | System | 32 | 21.5 | | | |
| | Total | 70 | 47.0 | | | |
| | Total | 149 | 100.0 | | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q37g. Senior administrators in my institution support open access publishing when publishing research results

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Strongly disagree | 21 | 3.2 | 3.9 | 3.9 |
| | | Disagree | 72 | 10.9 | 13.3 | 17.2 |
| | | Neither agree nor disagree | 156 | 23.7 | 28.8 | 45.9 |
| | | Agree | 217 | 33.0 | 40.0 | 86.0 |
| | | Strongly agree | 76 | 11.6 | 14.0 | 100.0 |
| | | Total | 542 | 82.4 | 100.0 | |
| | Missing | Don't know / not applicable | 53 | 8.1 | | |
| | System | 63 | 9.6 | | | |
| | Total | 116 | 17.6 | | | |
| | Total | 658 | 100.0 | | | |
| Mid-career researcher | Valid | Strongly disagree | 13 | 3.3 | 4.3 | 4.3 |
| | | Disagree | 41 | 10.3 | 13.5 | 17.8 |
| | | Neither agree nor disagree | 104 | 26.2 | 34.3 | 52.1 |
| | | Agree | 112 | 28.2 | 37.0 | 89.1 |
| | | Strongly agree | 33 | 8.3 | 10.9 | 100.0 |
| | | Total | 303 | 76.3 | 100.0 | |
| | Missing | Don't know / not applicable | 24 | 6.0 | | |
| | System | 70 | 17.6 | | | |
| | Total | 94 | 23.7 | | | |
| | Total | 397 | 100.0 | | | |
| Junior researcher | Valid | Strongly disagree | 11 | 3.9 | 5.6 | 5.6 |
| | | Disagree | 26 | 9.2 | 13.3 | 18.9 |
| | | Neither agree nor disagree | 59 | 20.8 | 30.1 | 49.0 |
| | | Agree | 70 | 24.6 | 35.7 | 84.7 |
| | | Strongly agree | 30 | 10.6 | 15.3 | 100.0 |
| | | Total | 196 | 69.0 | 100.0 | |
| | Missing | Don't know / not applicable | 33 | 11.6 | | |
| | System | 55 | 19.4 | | | |
| | Total | 88 | 31.0 | | | |
| | Total | 284 | 100.0 | | | |
| Research student | Valid | Strongly disagree | 1 | .7 | 1.2 | 1.2 |
| | | Disagree | 6 | 4.0 | 7.4 | 8.6 |
| | | Neither agree nor disagree | 26 | 17.4 | 32.1 | 40.7 |
| | | Agree | 32 | 21.5 | 39.5 | 80.2 |
| | | Strongly agree | 16 | 10.7 | 19.8 | 100.0 |
| | | Total | 81 | 54.4 | 100.0 | |
| | Missing | Don't know / not applicable | 36 | 24.2 | | |
| | System | 32 | 21.5 | | | |
| | Total | 68 | 45.6 | | | |
| | Total | 149 | 100.0 | | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q38m. Which of the following information is required in proposals that your ethics committee considers? (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-------|--|-----------|------------------|
| Senior researcher | Valid | How the number of participants / animals per experimental cohort was determined How statistical power was determined Whether participants / animals are to be randomly allocated to experimental cohorts Whether inclusion or exclusion criteria will be applied How dropouts / losses will be accounted for in the analysis plan Whether outcome assessment will be blinded Inclusion of positive and negative controls Validation of tools or reagents such as antibodies, siRNAs, small molecules None of the above Don't know / can't say | | |
| Number of Respondents | | | | |
| Mid-career researcher | Valid | How the number of participants / animals per experimental cohort was determined How statistical power was determined Whether participants / animals are to be randomly allocated to experimental cohorts Whether inclusion or exclusion criteria will be applied How dropouts / losses will be accounted for in the analysis plan Whether outcome assessment will be blinded Inclusion of positive and negative controls Validation of tools or reagents such as antibodies, siRNAs, small molecules None of the above Don't know / can't say | | |
| Number of Respondents | | | | |
| Junior researcher | Valid | How the number of participants / animals per experimental cohort was determined How statistical power was determined Whether participants / animals are to be randomly allocated to experimental cohorts Whether inclusion or exclusion criteria will be applied How dropouts / losses will be accounted for in the analysis plan Whether outcome assessment will be blinded Inclusion of positive and negative controls Validation of tools or reagents such as antibodies, siRNAs, small molecules None of the above Don't know / can't say | | |
| Number of Respondents | | | | |
| Research student | Valid | How the number of participants / animals per experimental cohort was determined How statistical power was determined Whether participants / animals are to be randomly allocated to experimental cohorts Whether inclusion or exclusion criteria will be applied How dropouts / losses will be accounted for in the analysis plan Whether outcome assessment will be blinded Inclusion of positive and negative controls Validation of tools or reagents such as antibodies, siRNAs, small molecules None of the above Don't know / can't say | | |
| Number of Respondents | | | | |
| Representative of an institution | Valid | How the number of participants / animals per experimental cohort was determined How statistical power was determined Whether participants / animals are to be randomly allocated to experimental cohorts Whether inclusion or exclusion criteria will be applied How dropouts / losses will be accounted for in the analysis plan Whether outcome assessment will be blinded Inclusion of positive and negative controls Validation of tools or reagents such as antibodies, siRNAs, small molecules | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q38mr. Which of the following information is required in proposals that your ethics committee considers? (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents | |
|--|-------|---|-----------|------------------|--------|
| Current member of a Human Research Ethics Committee (HREC) | Valid | None of the above | | | |
| | | Don't know / can't say | | | |
| | | Number of Respondents | | | |
| | | How the number of participants / animals per experimental cohort was determined | 83 | 69.7% | |
| | | How statistical power was determined | 70 | 58.8% | |
| | | Whether participants / animals are to be randomly allocated to experimental cohorts | 79 | 66.4% | |
| | | Whether inclusion or exclusion criteria will be applied | 105 | 88.2% | |
| | | How dropouts / losses will be accounted for in the analysis plan | 57 | 47.9% | |
| | | Whether outcome assessment will be blinded | 71 | 59.7% | |
| | | Inclusion of positive and negative controls | 50 | 42.0% | |
| | | Validation of tools or reagents such as antibodies, siRNAs, small molecules | 49 | 41.2% | |
| | | None of the above | 5 | 4.2% | |
| Don't know / can't say | 4 | 3.4% | | | |
| Number of Respondents | | 119 | 100.0% | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | How the number of participants / animals per experimental cohort was determined | 42 | 87.5% | |
| | | How statistical power was determined | 35 | 72.9% | |
| | | Whether participants / animals are to be randomly allocated to experimental cohorts | 24 | 50.0% | |
| | | Whether inclusion or exclusion criteria will be applied | 16 | 33.3% | |
| | | How dropouts / losses will be accounted for in the analysis plan | 24 | 50.0% | |
| | | Whether outcome assessment will be blinded | 13 | 27.1% | |
| | | Inclusion of positive and negative controls | 28 | 58.3% | |
| | | Validation of tools or reagents such as antibodies, siRNAs, small molecules | 20 | 41.7% | |
| | | None of the above | 1 | 2.1% | |
| | | Don't know / can't say | 3 | 6.3% | |
| | | Number of Respondents | | 48 | 100.0% |

q39mr. Which of the following information is routinely provided in proposals that your ethics committee considers? (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents | |
|---|-------|---|-----------|---|--|
| Senior researcher | Valid | How the number of participants / animals per experimental cohort was determined | | | |
| | | How statistical power was determined | | | |
| | | Whether participants / animals are to be randomly allocated to experimental cohorts | | | |
| | | Whether inclusion or exclusion criteria will be applied | | | |
| | | How dropouts / losses will be accounted for in the analysis plan | | | |
| | | Whether outcome assessment will be blinded | | | |
| | | Inclusion of positive and negative controls | | | |
| | | Validation of tools or reagents such as antibodies, siRNAs, small molecules | | | |
| | | None of the above | | | |
| | | Don't know / can't say | | | |
| | | Number of Respondents | | | |
| | | Mid-career researcher | Valid | How the number of participants / animals per experimental cohort was determined | |
| How statistical power was determined | | | | | |
| Whether participants / animals are to be randomly allocated to experimental cohorts | | | | | |
| Whether inclusion or exclusion criteria will be applied | | | | | |
| How dropouts / losses will be accounted for in the analysis plan | | | | | |
| Whether outcome assessment will be blinded | | | | | |
| Inclusion of positive and negative controls | | | | | |
| Validation of tools or reagents such as antibodies, siRNAs, small molecules | | | | | |
| None of the above | | | | | |
| Don't know / can't say | | | | | |
| Number of Respondents | | | | | |
| Junior researcher | Valid | | | How the number of participants / animals per experimental cohort was determined | |
| | | How statistical power was determined | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q39mr. Which of the following information is routinely provided in proposals that your ethics committee considers? (Multiple Response)

| q1. In what capacity are you participating in this survey? | | Frequency | % of respondents |
|--|------------------------------|---|------------------|
| Research student | | Whether participants / animals are to be randomly allocated to experimental cohorts | |
| | | Whether inclusion or exclusion criteria will be applied | |
| | | How dropouts / losses will be accounted for in the analysis plan | |
| | | Whether outcome assessment will be blinded | |
| | | Inclusion of positive and negative controls | |
| | | Validation of tools or reagents such as antibodies, siRNAs, small molecules | |
| | | None of the above | |
| | | Don't know / can't say | |
| | Number of Respondents | | |
| | Valid | How the number of participants / animals per experimental cohort was determined | |
| | | How statistical power was determined | |
| | | Whether participants / animals are to be randomly allocated to experimental cohorts | |
| | | Whether inclusion or exclusion criteria will be applied | |
| | | How dropouts / losses will be accounted for in the analysis plan | |
| | | Whether outcome assessment will be blinded | |
| | | Inclusion of positive and negative controls | |
| | | Validation of tools or reagents such as antibodies, siRNAs, small molecules | |
| | | None of the above | |
| | | Don't know / can't say | |
| | Number of Respondents | | |
| Representative of an institution | Valid | How the number of participants / animals per experimental cohort was determined | |
| | | How statistical power was determined | |
| | | Whether participants / animals are to be randomly allocated to experimental cohorts | |
| | | Whether inclusion or exclusion criteria will be applied | |
| | | How dropouts / losses will be accounted for in the analysis plan | |
| | | Whether outcome assessment will be blinded | |
| | | Inclusion of positive and negative controls | |
| | | Validation of tools or reagents such as antibodies, siRNAs, small molecules | |
| | | None of the above | |
| | | Don't know / can't say | |
| | Number of Respondents | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | How the number of participants / animals per experimental cohort was determined | 78 66.1% |
| | | How statistical power was determined | 65 55.1% |
| | | Whether participants / animals are to be randomly allocated to experimental cohorts | 80 67.8% |
| | | Whether inclusion or exclusion criteria will be applied | 107 90.7% |
| | | How dropouts / losses will be accounted for in the analysis plan | 52 44.1% |
| | | Whether outcome assessment will be blinded | 61 51.7% |
| | | Inclusion of positive and negative controls | 48 40.7% |
| | | Validation of tools or reagents such as antibodies, siRNAs, small molecules | 45 38.1% |
| | | None of the above | 1 0.8% |
| | | Don't know / can't say | 3 2.5% |
| | Number of Respondents | | 118 100.0% |
| Current member of an Animal Ethics Committee (AEC) | Valid | How the number of participants / animals per experimental cohort was determined | 41 85.4% |
| | | How statistical power was determined | 32 66.7% |
| | | Whether participants / animals are to be randomly allocated to experimental cohorts | 32 66.7% |
| | | Whether inclusion or exclusion criteria will be applied | 20 41.7% |
| | | How dropouts / losses will be accounted for in the analysis plan | 24 50.0% |
| | | Whether outcome assessment will be blinded | 15 31.3% |
| | | Inclusion of positive and negative controls | 29 60.4% |
| | | Validation of tools or reagents such as antibodies, siRNAs, small molecules | 15 31.3% |
| | | None of the above | 1 2.1% |
| | | Don't know / can't say | 2 4.2% |
| | Number of Respondents | | 48 100.0% |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q40mr. How are you assured about the quality of the design and methods for a project outlined in applications considered by your committee?
(Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-------|---|-----------|------------------|
| Senior researcher | Valid | I trust the expertise of other members of the ethics committee I have sufficient expertise to assess these aspects of an application Independent external review Independent internal (institutional) peer review Peer review by a funding body I assume these aspects of the applications are appropriate if they are before the committee Other | | |
| Number of Respondents | | | | |
| Mid-career researcher | Valid | I trust the expertise of other members of the ethics committee I have sufficient expertise to assess these aspects of an application Independent external review Independent internal (institutional) peer review Peer review by a funding body I assume these aspects of the applications are appropriate if they are before the committee Other | | |
| Number of Respondents | | | | |
| Junior researcher | Valid | I trust the expertise of other members of the ethics committee I have sufficient expertise to assess these aspects of an application Independent external review Independent internal (institutional) peer review Peer review by a funding body I assume these aspects of the applications are appropriate if they are before the committee Other | | |
| Number of Respondents | | | | |
| Research student | Valid | I trust the expertise of other members of the ethics committee I have sufficient expertise to assess these aspects of an application Independent external review Independent internal (institutional) peer review Peer review by a funding body I assume these aspects of the applications are appropriate if they are before the committee Other | | |
| Number of Respondents | | | | |
| Representative of an institution | Valid | I trust the expertise of other members of the ethics committee I have sufficient expertise to assess these aspects of an application Independent external review Independent internal (institutional) peer review Peer review by a funding body I assume these aspects of the applications are appropriate if they are before the committee Other | | |
| Number of Respondents | | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | I trust the expertise of other members of the ethics committee | 82 | 69.5% |
| | | I have sufficient expertise to assess these aspects of an application | 59 | 50.0% |
| | | Independent external review | 29 | 24.6% |
| | | Independent internal (institutional) peer review | 57 | 48.3% |
| | | Peer review by a funding body | 35 | 29.7% |
| | | I assume these aspects of the applications are appropriate if they are before the committee | 24 | 20.3% |
| | | Other | 8 | 6.8% |
| Number of Respondents | | | 118 | 100.0% |
| Current member of an Animal Ethics Committee (AEC) | Valid | I trust the expertise of other members of the ethics committee | 40 | 83.3% |
| | | I have sufficient expertise to assess these aspects of an application | 16 | 33.3% |
| | | Independent external review | 4 | 8.3% |
| | | Independent internal (institutional) peer review | 13 | 27.1% |
| | | Peer review by a funding body | 15 | 31.3% |
| | | I assume these aspects of the applications are appropriate if they are before the committee | 10 | 20.8% |
| | | Other | 3 | 6.3% |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q40mr. How are you assured about the quality of the design and methods for a project outlined in applications considered by your committee? (Multiple Response)

| q1. In what capacity are you participating in this survey? | Frequency | % of respondents |
|--|-----------|------------------|
| Number of Respondents | 48 | 100.0% |

q43mr. How does your institution offer / how have you received education and training about responsible research practices? (Multiple Response)

| q1. In what capacity are you participating in this survey? | Frequency | % of respondents | | |
|--|-----------|---|---|--|
| Senior researcher | Valid | As part of undergraduate courses As part of postgraduate courses Training by supervisor / mentor Mandatory institutional training (including induction and refresher training) Non-mandatory institutional training (including induction and refresher training) Ad hoc training Attendance at external conferences / workshops etc. My institution does not offer training I don't need training I have never received such training Other | 133 5 334 380 180 308 262 4 1 28 40 | 22.3% 0.8% 56.0% 63.8% 30.2% 51.7% 44.0% 0.7% 0.2% 4.7% 6.7% |
| Number of Respondents | | 596 | 100.0% | |
| Mid-career researcher | Valid | As part of undergraduate courses As part of postgraduate courses Training by supervisor / mentor Mandatory institutional training (including induction and refresher training) Non-mandatory institutional training (including induction and refresher training) Ad hoc training Attendance at external conferences / workshops etc. My institution does not offer training I don't need training I have never received such training Other | 103 6 192 212 102 142 139 1 1 10 20 | 31.7% 1.8% 59.1% 65.2% 31.4% 43.7% 42.8% 0.3% 0.3% 3.1% 6.2% |
| Number of Respondents | | 325 | 100.0% | |
| Junior researcher | Valid | As part of undergraduate courses As part of postgraduate courses Training by supervisor / mentor Mandatory institutional training (including induction and refresher training) Non-mandatory institutional training (including induction and refresher training) Ad hoc training Attendance at external conferences / workshops etc. My institution does not offer training I don't need training I have never received such training Other | 82 2 129 146 56 91 87 2 5 13 | 36.0% 0.9% 56.6% 64.0% 24.6% 39.9% 38.2% 0.9% 2.2% 5.7% |
| Number of Respondents | | 228 | 100.0% | |
| Research student | Valid | As part of undergraduate courses As part of postgraduate courses Training by supervisor / mentor Mandatory institutional training (including induction and refresher training) Non-mandatory institutional training (including induction and refresher training) Ad hoc training Attendance at external conferences / workshops etc. My institution does not offer training I don't need training I have never received such training Other | 54 1 64 80 24 29 36 7 2 | 46.6% 0.9% 55.2% 69.0% 20.7% 25.0% 31.0% 6.0% 1.7% |
| Number of Respondents | | 116 | 100.0% | |
| Representative of an institution | Valid | As part of undergraduate courses As part of postgraduate courses Training by supervisor / mentor Mandatory institutional training (including induction and refresher training) Non-mandatory institutional training (including induction and refresher training) Ad hoc training | 20 58 53 38 53 | 24.4% 70.7% 64.6% 46.3% 64.6% |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q43mr. How does your institution offer / how have you received education and training about responsible research practices? (Multiple Response)

| q1. In what capacity are you participating in this survey? | | Frequency | % of respondents | | |
|--|-----------------------|---|---|--------|-------|
| Current member of a Human Research Ethics Committee (HREC) | | Attendance at external conferences / workshops etc. | 46 | 56.1% | |
| | | My institution does not offer training | 1 | 1.2% | |
| | | I don't need training | | | |
| | | I have never received such training | | | |
| | | Other | 7 | 8.5% | |
| | Number of Respondents | | 82 | 100.0% | |
| | Valid | | As part of undergraduate courses | 33 | 27.7% |
| | | | As part of postgraduate courses | 5 | 4.2% |
| | | | Training by supervisor / mentor | 46 | 38.7% |
| | | | Mandatory institutional training (including induction and refresher training) | 48 | 40.3% |
| | | | Non-mandatory institutional training (including induction and refresher training) | 48 | 40.3% |
| | | | Ad hoc training | 56 | 47.1% |
| Attendance at external conferences / workshops etc. | | | 72 | 60.5% | |
| My institution does not offer training | | | 1 | 0.8% | |
| I don't need training | | | | | |
| | | | | | |
| I have never received such training | | | | | |
| | | | | | Other |
| Number of Respondents | | 119 | 100.0% | | |
| Current member of an Animal Ethics Committee (AEC) | | As part of undergraduate courses | 6 | 12.8% | |
| | | As part of postgraduate courses | 1 | 2.1% | |
| | | Training by supervisor / mentor | 9 | 19.1% | |
| | | Mandatory institutional training (including induction and refresher training) | 21 | 44.7% | |
| | | Non-mandatory institutional training (including induction and refresher training) | 13 | 27.7% | |
| | Number of Respondents | | 47 | 100.0% | |
| | Valid | | Ad hoc training | 13 | 27.7% |
| | | | Attendance at external conferences / workshops etc. | 29 | 61.7% |
| | | | My institution does not offer training | 1 | 2.1% |
| | | | I don't need training | | |
| | | | I have never received such training | 7 | 14.9% |
| | | | Other | 5 | 10.6% |
| Number of Respondents | | | 47 | 100.0% | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q44. How frequently do you receive training about responsible research practices from your institution?

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|---------------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Only once as induction training | 59 | 9.0 | 10.7 | 10.7 |
| | | More than once per year | 64 | 9.7 | 11.6 | 22.2 |
| | | Once a year | 137 | 20.8 | 24.8 | 47.0 |
| | | Once every 2 years | 110 | 16.7 | 19.9 | 66.9 |
| | | Less often | 183 | 27.8 | 33.1 | 100.0 |
| | | Total | 553 | 84.0 | 100.0 | |
| | Missing | System | 105 | 16.0 | | |
| | Total | 658 | 100.0 | | | |
| Mid-career researcher | Valid | Only once as induction training | 40 | 10.1 | 12.9 | 12.9 |
| | | More than once per year | 43 | 10.8 | 13.9 | 26.9 |
| | | Once a year | 85 | 21.4 | 27.5 | 54.4 |
| | | Once every 2 years | 64 | 16.1 | 20.7 | 75.1 |
| | | Less often | 77 | 19.4 | 24.9 | 100.0 |
| | | Total | 309 | 77.8 | 100.0 | |
| | Missing | System | 88 | 22.2 | | |
| | Total | 397 | 100.0 | | | |
| Junior researcher | Valid | Only once as induction training | 36 | 12.7 | 16.6 | 16.6 |
| | | More than once per year | 37 | 13.0 | 17.1 | 33.6 |
| | | Once a year | 58 | 20.4 | 26.7 | 60.4 |
| | | Once every 2 years | 34 | 12.0 | 15.7 | 76.0 |
| | | Less often | 52 | 18.3 | 24.0 | 100.0 |
| | | Total | 217 | 76.4 | 100.0 | |
| | Missing | System | 67 | 23.6 | | |
| | Total | 284 | 100.0 | | | |
| Research student | Valid | Only once as induction training | 39 | 26.2 | 36.4 | 36.4 |
| | | More than once per year | 15 | 10.1 | 14.0 | 50.5 |
| | | Once a year | 25 | 16.8 | 23.4 | 73.8 |
| | | Once every 2 years | 15 | 10.1 | 14.0 | 87.9 |
| | | Less often | 13 | 8.7 | 12.1 | 100.0 |
| | | Total | 107 | 71.8 | 100.0 | |
| | Missing | System | 42 | 28.2 | | |
| | Total | 149 | 100.0 | | | |
| Representative of an institution | Valid | Only once as induction training | 8 | 7.5 | 10.0 | 10.0 |
| | | More than once per year | 48 | 45.3 | 60.0 | 70.0 |
| | | Once a year | 13 | 12.3 | 16.3 | 86.3 |
| | | Once every 2 years | 3 | 2.8 | 3.8 | 90.0 |
| | | Less often | 8 | 7.5 | 10.0 | 100.0 |
| | | Total | 80 | 75.5 | 100.0 | |
| | Missing | System | 26 | 24.5 | | |
| | Total | 106 | 100.0 | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Only once as induction training | 19 | 15.1 | 18.4 | 18.4 |
| | | More than once per year | 25 | 19.8 | 24.3 | 42.7 |
| | | Once a year | 27 | 21.4 | 26.2 | 68.9 |
| | | Once every 2 years | 9 | 7.1 | 8.7 | 77.7 |
| | | Less often | 23 | 18.3 | 22.3 | 100.0 |
| | | Total | 103 | 81.7 | 100.0 | |
| | Missing | System | 23 | 18.3 | | |
| | Total | 126 | 100.0 | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Only once as induction training | 10 | 20.8 | 26.3 | 26.3 |
| | | More than once per year | 7 | 14.6 | 18.4 | 44.7 |
| | | Once a year | 10 | 20.8 | 26.3 | 71.1 |
| | | Once every 2 years | 3 | 6.3 | 7.9 | 78.9 |
| | | Less often | 8 | 16.7 | 21.1 | 100.0 |
| | | Total | 38 | 79.2 | 100.0 | |
| | Missing | System | 10 | 20.8 | | |
| | Total | 48 | 100.0 | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q45mr. Education and training about responsible research practices is provided to... (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-------|---|---|--|
| Senior researcher | Valid | Undergraduate students Masters and PhD students Early and mid-career researchers Senior researchers Research support staff Human Research Ethics Committee members Animal Ethics Committee members Other | | |
| Number of Respondents | | | | |
| Mid-career researcher | Valid | Undergraduate students Masters and PhD students Early and mid-career researchers Senior researchers Research support staff Human Research Ethics Committee members Animal Ethics Committee members Other | | |
| Number of Respondents | | | | |
| Junior researcher | Valid | Undergraduate students Masters and PhD students Early and mid-career researchers Senior researchers Research support staff Human Research Ethics Committee members Animal Ethics Committee members Other | | |
| Number of Respondents | | | | |
| Research student | Valid | Undergraduate students Masters and PhD students Early and mid-career researchers Senior researchers Research support staff Human Research Ethics Committee members Animal Ethics Committee members Other | | |
| Number of Respondents | | | | |
| Representative of an institution | Valid | Undergraduate students Masters and PhD students Early and mid-career researchers Senior researchers Research support staff Human Research Ethics Committee members Animal Ethics Committee members Other | 31 70 69 51 51 49 42 9 | 37.8% 85.4% 84.1% 62.2% 62.2% 59.8% 51.2% 11.0% |
| Number of Respondents | | | 82 | 100.0% |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Undergraduate students Masters and PhD students Early and mid-career researchers Senior researchers Research support staff Human Research Ethics Committee members Animal Ethics Committee members Other | | |
| Number of Respondents | | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Undergraduate students Masters and PhD students Early and mid-career researchers Senior researchers Research support staff Human Research Ethics Committee members Animal Ethics Committee members Other | | |
| Number of Respondents | | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q46a. The educational and training opportunities available at my institution about responsible research practices are effective

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|-----------------------------|-----------------------------|---------|---------------|--------------------|
| Senior researcher | Valid | Strongly disagree | 19 | 2.9 | 3.5 | 3.5 |
| | | Disagree | 57 | 8.7 | 10.4 | 13.8 |
| | | Neither disagree nor agree | 176 | 26.7 | 32.1 | 45.9 |
| | | Agree | 259 | 39.4 | 47.2 | 93.1 |
| | | Strongly agree | 38 | 5.8 | 6.9 | 100.0 |
| | | Total | 549 | 83.4 | 100.0 | |
| | Missing | Don't know / Not applicable | 43 | 6.5 | | |
| | System | 66 | 10.0 | | | |
| | Total | 109 | 16.6 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Strongly disagree | 7 | 1.8 | 2.3 | 2.3 |
| | | Disagree | 39 | 9.8 | 13.0 | 15.3 |
| | | Neither disagree nor agree | 101 | 25.4 | 33.7 | 49.0 |
| | | Agree | 127 | 32.0 | 42.3 | 91.3 |
| | | Strongly agree | 26 | 6.5 | 8.7 | 100.0 |
| | | Total | 300 | 75.6 | 100.0 | |
| | Missing | Don't know / Not applicable | 25 | 6.3 | | |
| | System | 72 | 18.1 | | | |
| | Total | 97 | 24.4 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Strongly disagree | 7 | 2.5 | 3.6 | 3.6 |
| | | Disagree | 32 | 11.3 | 16.2 | 19.8 |
| | | Neither disagree nor agree | 68 | 23.9 | 34.5 | 54.3 |
| | | Agree | 67 | 23.6 | 34.0 | 88.3 |
| | | Strongly agree | 23 | 8.1 | 11.7 | 100.0 |
| | | Total | 197 | 69.4 | 100.0 | |
| | Missing | Don't know / Not applicable | 28 | 9.9 | | |
| | System | 59 | 20.8 | | | |
| | Total | 87 | 30.6 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Strongly disagree | 3 | 2.0 | 3.0 | 3.0 |
| | | Disagree | 17 | 11.4 | 16.8 | 19.8 |
| | | Neither disagree nor agree | 19 | 12.8 | 18.8 | 38.6 |
| | | Agree | 49 | 32.9 | 48.5 | 87.1 |
| | | Strongly agree | 13 | 8.7 | 12.9 | 100.0 |
| | | Total | 101 | 67.8 | 100.0 | |
| | Missing | Don't know / Not applicable | 13 | 8.7 | | |
| | System | 35 | 23.5 | | | |
| | Total | 48 | 32.2 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Valid | Strongly disagree | 1 | .9 | 1.4 | 1.4 |
| | | Disagree | 18 | 17.0 | 24.7 | 26.0 |
| | | Neither disagree nor agree | 24 | 22.6 | 32.9 | 58.9 |
| | | Agree | 28 | 26.4 | 38.4 | 97.3 |
| | | Strongly agree | 2 | 1.9 | 2.7 | 100.0 |
| | | Total | 73 | 68.9 | 100.0 | |
| | Missing | Don't know / Not applicable | 11 | 10.4 | | |
| | System | 22 | 20.8 | | | |
| | Total | 33 | 31.1 | | | |
| Total | | | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Strongly disagree | 4 | 3.2 | 3.9 | 3.9 |
| | | Disagree | 13 | 10.3 | 12.6 | 16.5 |
| | | Neither disagree nor agree | 26 | 20.6 | 25.2 | 41.7 |
| | | Agree | 53 | 42.1 | 51.5 | 93.2 |
| | | Strongly agree | 7 | 5.6 | 6.8 | 100.0 |
| | | Total | 103 | 81.7 | 100.0 | |
| | Missing | Don't know / Not applicable | 16 | 12.7 | | |
| | System | 7 | 5.6 | | | |
| | Total | 23 | 18.3 | | | |
| Total | | | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Disagree | 5 | 10.4 | 14.3 | 14.3 |
| | | Neither disagree nor agree | 8 | 16.7 | 22.9 | 37.1 |
| | | Agree | 20 | 41.7 | 57.1 | 94.3 |
| | | Strongly agree | 2 | 4.2 | 5.7 | 100.0 |
| | | Total | 35 | 72.9 | 100.0 | |
| | | Missing | Don't know / Not applicable | 12 | 25.0 | |
| | | System | 1 | 2.1 | | |
| | Total | 13 | 27.1 | | | |
| Total | | | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q46b. Education and training about responsible research practices is beneficial for my work / role

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|-----------------------------|-----------------------------|---------|---------------|--------------------|
| Senior researcher | Valid | Strongly disagree | 8 | 1.2 | 1.4 | 1.4 |
| | | Disagree | 22 | 3.3 | 3.8 | 5.2 |
| | | Neither disagree nor agree | 87 | 13.2 | 15.0 | 20.2 |
| | | Agree | 343 | 52.1 | 59.1 | 79.3 |
| | | Strongly agree | 120 | 18.2 | 20.7 | 100.0 |
| | | Total | 580 | 88.1 | 100.0 | |
| | Missing | Don't know / Not applicable | 12 | 1.8 | | |
| | System | 66 | 10.0 | | | |
| | Total | 78 | 11.9 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Strongly disagree | 2 | .5 | .6 | .6 |
| | | Disagree | 9 | 2.3 | 2.8 | 3.4 |
| | | Neither disagree nor agree | 33 | 8.3 | 10.3 | 13.8 |
| | | Agree | 204 | 51.4 | 63.9 | 77.7 |
| | | Strongly agree | 71 | 17.9 | 22.3 | 100.0 |
| | | Total | 319 | 80.4 | 100.0 | |
| | Missing | Don't know / Not applicable | 5 | 1.3 | | |
| | System | 73 | 18.4 | | | |
| | Total | 78 | 19.6 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Disagree | 4 | 1.4 | 1.8 | 1.8 |
| | | Neither disagree nor agree | 29 | 10.2 | 13.3 | 15.1 |
| | | Agree | 117 | 41.2 | 53.7 | 68.8 |
| | | Strongly agree | 68 | 23.9 | 31.2 | 100.0 |
| | | Total | 218 | 76.8 | 100.0 | |
| | | Missing | Don't know / Not applicable | 7 | 2.5 | |
| | | System | 59 | 20.8 | | |
| | Total | 66 | 23.2 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Strongly disagree | 2 | 1.3 | 1.8 | 1.8 |
| | | Disagree | 2 | 1.3 | 1.8 | 3.6 |
| | | Neither disagree nor agree | 6 | 4.0 | 5.4 | 9.0 |
| | | Agree | 57 | 38.3 | 51.4 | 60.4 |
| | | Strongly agree | 44 | 29.5 | 39.6 | 100.0 |
| | | Total | 111 | 74.5 | 100.0 | |
| | Missing | Don't know / Not applicable | 4 | 2.7 | | |
| | System | 34 | 22.8 | | | |
| | Total | 38 | 25.5 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Valid | Disagree | 1 | .9 | 1.3 | 1.3 |
| | | Neither disagree nor agree | 3 | 2.8 | 3.9 | 5.2 |
| | | Agree | 37 | 34.9 | 48.1 | 53.2 |
| | | Strongly agree | 36 | 34.0 | 46.8 | 100.0 |
| | | Total | 77 | 72.6 | 100.0 | |
| | | Missing | Don't know / Not applicable | 7 | 6.6 | |
| | | System | 22 | 20.8 | | |
| | Total | 29 | 27.4 | | | |
| Total | | | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Strongly disagree | 1 | .8 | .9 | .9 |
| | | Disagree | 2 | 1.6 | 1.8 | 2.7 |
| | | Neither disagree nor agree | 8 | 6.3 | 7.1 | 9.8 |
| | | Agree | 55 | 43.7 | 49.1 | 58.9 |
| | | Strongly agree | 46 | 36.5 | 41.1 | 100.0 |
| | | Total | 112 | 88.9 | 100.0 | |
| | Missing | Don't know / Not applicable | 7 | 5.6 | | |
| | System | 7 | 5.6 | | | |
| | Total | 14 | 11.1 | | | |
| Total | | | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Neither disagree nor agree | 3 | 6.3 | 7.5 | 7.5 |
| | | Agree | 26 | 54.2 | 65.0 | 72.5 |
| | | Strongly agree | 11 | 22.9 | 27.5 | 100.0 |
| | | Total | 40 | 83.3 | 100.0 | |
| | Missing | Don't know / Not applicable | 7 | 14.6 | | |
| | | System | 1 | 2.1 | | |
| | | Total | 8 | 16.7 | | |
| Total | | | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q46c. Appropriately educating and training researchers about responsible research practices will improve research quality

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Strongly disagree | 8 | 1.2 | 1.4 | 1.4 |
| | | Disagree | 27 | 4.1 | 4.6 | 6.0 |
| | | Neither disagree nor agree | 57 | 8.7 | 9.7 | 15.7 |
| | | Agree | 294 | 44.7 | 50.2 | 65.9 |
| | | Strongly agree | 200 | 30.4 | 34.1 | 100.0 |
| | | Total | 586 | 89.1 | 100.0 | |
| | Missing | Don't know / Not applicable | 6 | .9 | | |
| | System | 66 | 10.0 | | | |
| | Total | 72 | 10.9 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Strongly disagree | 1 | .3 | .3 | .3 |
| | | Disagree | 12 | 3.0 | 3.7 | 4.0 |
| | | Neither disagree nor agree | 27 | 6.8 | 8.4 | 12.5 |
| | | Agree | 148 | 37.3 | 46.1 | 58.6 |
| | | Strongly agree | 133 | 33.5 | 41.4 | 100.0 |
| | | Total | 321 | 80.9 | 100.0 | |
| | Missing | Don't know / Not applicable | 3 | .8 | | |
| | System | 73 | 18.4 | | | |
| | Total | 76 | 19.1 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Strongly disagree | 1 | .4 | .5 | .5 |
| | | Disagree | 6 | 2.1 | 2.7 | 3.2 |
| | | Neither disagree nor agree | 21 | 7.4 | 9.5 | 12.6 |
| | | Agree | 104 | 36.6 | 46.8 | 59.5 |
| | | Strongly agree | 90 | 31.7 | 40.5 | 100.0 |
| | | Total | 222 | 78.2 | 100.0 | |
| | Missing | Don't know / Not applicable | 3 | 1.1 | | |
| | System | 59 | 20.8 | | | |
| | Total | 62 | 21.8 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Strongly disagree | 2 | 1.3 | 1.8 | 1.8 |
| | | Disagree | 3 | 2.0 | 2.7 | 4.4 |
| | | Neither disagree nor agree | 11 | 7.4 | 9.7 | 14.2 |
| | | Agree | 39 | 26.2 | 34.5 | 48.7 |
| | | Strongly agree | 58 | 38.9 | 51.3 | 100.0 |
| | | Total | 113 | 75.8 | 100.0 | |
| | Missing | Don't know / Not applicable | 2 | 1.3 | | |
| | System | 34 | 22.8 | | | |
| | Total | 36 | 24.2 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Valid | Neither disagree nor agree | 7 | 6.6 | 8.6 | 8.6 |
| | | Agree | 30 | 28.3 | 37.0 | 45.7 |
| | | Strongly agree | 44 | 41.5 | 54.3 | 100.0 |
| | | Total | 81 | 76.4 | 100.0 | |
| | Missing | Don't know / Not applicable | 3 | 2.8 | | |
| | | System | 22 | 20.8 | | |
| | | Total | 25 | 23.6 | | |
| Total | | | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Strongly disagree | 2 | 1.6 | 1.7 | 1.7 |
| | | Disagree | 1 | .8 | .9 | 2.6 |
| | | Neither disagree nor agree | 7 | 5.6 | 6.1 | 8.7 |
| | | Agree | 43 | 34.1 | 37.4 | 46.1 |
| | | Strongly agree | 62 | 49.2 | 53.9 | 100.0 |
| | | Total | 115 | 91.3 | 100.0 | |
| | Missing | Don't know / Not applicable | 4 | 3.2 | | |
| | System | 7 | 5.6 | | | |
| | Total | 11 | 8.7 | | | |
| Total | | | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Disagree | 1 | 2.1 | 2.3 | 2.3 |
| | | Neither disagree nor agree | 1 | 2.1 | 2.3 | 4.7 |
| | | Agree | 21 | 43.8 | 48.8 | 53.5 |
| | | Strongly agree | 20 | 41.7 | 46.5 | 100.0 |
| | | Total | 43 | 89.6 | 100.0 | |
| | Missing | Don't know / Not applicable | 4 | 8.3 | | |
| | | System | 1 | 2.1 | | |
| | Total | 5 | 10.4 | | | |
| Total | | | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q47mr. When you write a report / paper about your research, which of the following do you specify? (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents | | |
|--|-------|---|-----------|---|--------|--------|
| Senior researcher | Valid | How the number of participants / animals per experimental cohort was determined | 424 | 71.4% | | |
| | | How statistical power was determined | 460 | 77.4% | | |
| | | Whether participants / animals were randomly allocated to experimental cohorts | 449 | 75.6% | | |
| | | Whether inclusion or exclusion criteria were applied | 454 | 76.4% | | |
| | | How dropouts / losses were accounted for in the analysis plan | 383 | 64.5% | | |
| | | Whether outcome assessment was blinded | 435 | 73.2% | | |
| | | Inclusion of positive and negative controls | 419 | 70.5% | | |
| | | Validation of tools or reagents such as antibodies, siRNAs, small molecules | 346 | 58.2% | | |
| | | I have not yet written a report / paper about my research | 1 | 0.2% | | |
| | | None of the above | | | | |
| | | I do not specify any of the above as they are not relevant to my research | 11 | 1.9% | | |
| | | Don't know / can't say | 4 | 0.7% | | |
| | | Number of Respondents | | | 594 | 100.0% |
| | | Mid-career researcher | Valid | How the number of participants / animals per experimental cohort was determined | 225 | 69.4% |
| How statistical power was determined | 238 | | | 73.5% | | |
| Whether participants / animals were randomly allocated to experimental cohorts | 242 | | | 74.7% | | |
| Whether inclusion or exclusion criteria were applied | 253 | | | 78.1% | | |
| How dropouts / losses were accounted for in the analysis plan | 204 | | | 63.0% | | |
| Whether outcome assessment was blinded | 224 | | | 69.1% | | |
| Inclusion of positive and negative controls | 212 | | | 65.4% | | |
| Validation of tools or reagents such as antibodies, siRNAs, small molecules | 168 | | | 51.9% | | |
| I have not yet written a report / paper about my research | 1 | | | 0.3% | | |
| None of the above | 1 | | | 0.3% | | |
| I do not specify any of the above as they are not relevant to my research | 10 | | | 3.1% | | |
| Don't know / can't say | | | | | | |
| Number of Respondents | | | | 324 | 100.0% | |
| Junior researcher | Valid | | | How the number of participants / animals per experimental cohort was determined | 157 | 69.2% |
| | | How statistical power was determined | 163 | 71.8% | | |
| | | Whether participants / animals were randomly allocated to experimental cohorts | 154 | 67.8% | | |
| | | Whether inclusion or exclusion criteria were applied | 182 | 80.2% | | |
| | | How dropouts / losses were accounted for in the analysis plan | 146 | 64.3% | | |
| | | Whether outcome assessment was blinded | 144 | 63.4% | | |
| | | Inclusion of positive and negative controls | 135 | 59.5% | | |
| | | Validation of tools or reagents such as antibodies, siRNAs, small molecules | 97 | 42.7% | | |
| | | I have not yet written a report / paper about my research | 2 | 0.9% | | |
| | | None of the above | | | | |
| | | I do not specify any of the above as they are not relevant to my research | 6 | 2.6% | | |
| | | Don't know / can't say | 3 | 1.3% | | |
| | | Number of Respondents | | | 227 | 100.0% |
| | | Research student | Valid | How the number of participants / animals per experimental cohort was determined | 70 | 60.3% |
| How statistical power was determined | 66 | | | 56.9% | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q47mr. When you write a report / paper about your research, which of the following do you specify? (Multiple Response)

| q1. In what capacity are you participating in this survey? | | Frequency | % of respondents |
|---|---|---|------------------|
| Representative of an institution | | Whether participants / animals were randomly allocated to experimental cohorts | 58 50.0% |
| | | Whether inclusion or exclusion criteria were applied | 85 73.3% |
| | | How dropouts / losses were accounted for in the analysis plan | 59 50.9% |
| | | Whether outcome assessment was blinded | 44 37.9% |
| | | Inclusion of positive and negative controls | 47 40.5% |
| | | Validation of tools or reagents such as antibodies, siRNAs, small molecules | 41 35.3% |
| | | I have not yet written a report / paper about my research | 11 9.5% |
| | | None of the above | 1 0.9% |
| | | I do not specify any of the above as they are not relevant to my research | 3 2.6% |
| | | Don't know / can't say | 5 4.3% |
| | Number of Respondents | 116 | 100.0% |
| Valid | | How the number of participants / animals per experimental cohort was determined | |
| | | How statistical power was determined | |
| | | Whether participants / animals were randomly allocated to experimental cohorts | |
| | | Whether inclusion or exclusion criteria were applied | |
| | | How dropouts / losses were accounted for in the analysis plan | |
| | | Whether outcome assessment was blinded | |
| | | Inclusion of positive and negative controls | |
| | | Validation of tools or reagents such as antibodies, siRNAs, small molecules | |
| | | I have not yet written a report / paper about my research | |
| | | None of the above | |
| | I do not specify any of the above as they are not relevant to my research | | |
| | Don't know / can't say | | |
| | Number of Respondents | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | How the number of participants / animals per experimental cohort was determined | |
| | | How statistical power was determined | |
| | | Whether participants / animals were randomly allocated to experimental cohorts | |
| | | Whether inclusion or exclusion criteria were applied | |
| | | How dropouts / losses were accounted for in the analysis plan | |
| | | Whether outcome assessment was blinded | |
| | | Inclusion of positive and negative controls | |
| | | Validation of tools or reagents such as antibodies, siRNAs, small molecules | |
| | | I have not yet written a report / paper about my research | |
| | | None of the above | |
| I do not specify any of the above as they are not relevant to my research | | | |
| Don't know / can't say | | | |
| | Number of Respondents | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | How the number of participants / animals per experimental cohort was determined | |
| | | How statistical power was determined | |
| | | Whether participants / animals were randomly allocated to experimental cohorts | |
| | | Whether inclusion or exclusion criteria were applied | |
| | | How dropouts / losses were accounted for in the analysis plan | |
| | | Whether outcome assessment was blinded | |
| | | Inclusion of positive and negative controls | |
| | | Validation of tools or reagents such as antibodies, siRNAs, small molecules | |
| | | I have not yet written a report / paper about my research | |
| | | None of the above | |
| I do not specify any of the above as they are not relevant to my research | | | |
| Don't know / can't say | | | |
| | Number of Respondents | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q48a. Reporting of study methods and procedures

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Not at all | 34 | 5.2 | 6.2 | 6.2 |
| | | To a small extent | 99 | 15.0 | 18.1 | 24.3 |
| | | To a moderate extent | 215 | 32.7 | 39.2 | 63.5 |
| | | To a large extent | 200 | 30.4 | 36.5 | 100.0 |
| | | Total | 548 | 83.3 | 100.0 | |
| | Missing | Don't know / not applicable | 47 | 7.1 | | |
| | | System | 63 | 9.6 | | |
| Total | Total | 110 | 16.7 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Not at all | 14 | 3.5 | 4.6 | 4.6 |
| | | To a small extent | 44 | 11.1 | 14.3 | 18.9 |
| | | To a moderate extent | 114 | 28.7 | 37.1 | 56.0 |
| | | To a large extent | 135 | 34.0 | 44.0 | 100.0 |
| | | Total | 307 | 77.3 | 100.0 | |
| | Missing | Don't know / not applicable | 16 | 4.0 | | |
| | | System | 74 | 18.6 | | |
| Total | Total | 90 | 22.7 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Not at all | 6 | 2.1 | 2.9 | 2.9 |
| | | To a small extent | 18 | 6.3 | 8.7 | 11.6 |
| | | To a moderate extent | 72 | 25.4 | 34.8 | 46.4 |
| | | To a large extent | 111 | 39.1 | 53.6 | 100.0 |
| | | Total | 207 | 72.9 | 100.0 | |
| | Missing | Don't know / not applicable | 21 | 7.4 | | |
| | | System | 56 | 19.7 | | |
| Total | Total | 77 | 27.1 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Not at all | 2 | 1.3 | 2.4 | 2.4 |
| | | To a small extent | 4 | 2.7 | 4.8 | 7.1 |
| | | To a moderate extent | 32 | 21.5 | 38.1 | 45.2 |
| | | To a large extent | 46 | 30.9 | 54.8 | 100.0 |
| | | Total | 84 | 56.4 | 100.0 | |
| | Missing | Don't know / not applicable | 29 | 19.5 | | |
| | | System | 36 | 24.2 | | |
| Total | Total | 65 | 43.6 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q48b. Adoption of practices to reduce bias (blinding, randomisation)

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Not at all | 45 | 6.8 | 8.7 | 8.7 |
| | | To a small extent | 106 | 16.1 | 20.5 | 29.2 |
| | | To a moderate extent | 196 | 29.8 | 37.8 | 67.0 |
| | | To a large extent | 171 | 26.0 | 33.0 | 100.0 |
| | | Total | 518 | 78.7 | 100.0 | |
| | Missing | Don't know / not applicable | 76 | 11.6 | | |
| | | System | 64 | 9.7 | | |
| Total | Total | 140 | 21.3 | | | |
| | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Not at all | 19 | 4.8 | 6.7 | 6.7 |
| | | To a small extent | 48 | 12.1 | 16.8 | 23.5 |
| | | To a moderate extent | 99 | 24.9 | 34.7 | 58.2 |
| | | To a large extent | 119 | 30.0 | 41.8 | 100.0 |
| | | Total | 285 | 71.8 | 100.0 | |
| | Missing | Don't know / not applicable | 38 | 9.6 | | |
| | | System | 74 | 18.6 | | |
| Total | Total | 112 | 28.2 | | | |
| | | | 397 | 100.0 | | |
| Junior researcher | Valid | Not at all | 6 | 2.1 | 3.2 | 3.2 |
| | | To a small extent | 22 | 7.7 | 11.7 | 14.9 |
| | | To a moderate extent | 68 | 23.9 | 36.2 | 51.1 |
| | | To a large extent | 92 | 32.4 | 48.9 | 100.0 |
| | | Total | 188 | 66.2 | 100.0 | |
| | Missing | Don't know / not applicable | 40 | 14.1 | | |
| | | System | 56 | 19.7 | | |
| Total | Total | 96 | 33.8 | | | |
| | | | 284 | 100.0 | | |
| Research student | Valid | Not at all | 4 | 2.7 | 5.3 | 5.3 |
| | | To a small extent | 7 | 4.7 | 9.3 | 14.7 |
| | | To a moderate extent | 27 | 18.1 | 36.0 | 50.7 |
| | | To a large extent | 37 | 24.8 | 49.3 | 100.0 |
| | | Total | 75 | 50.3 | 100.0 | |
| | Missing | Don't know / not applicable | 38 | 25.5 | | |
| | | System | 36 | 24.2 | | |
| Total | Total | 74 | 49.7 | | | |
| | | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q48c. Statistical analysis of studies

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Not at all | 41 | 6.2 | 7.6 | 7.6 |
| | | To a small extent | 109 | 16.6 | 20.1 | 27.7 |
| | | To a moderate extent | 216 | 32.8 | 39.9 | 67.7 |
| | | To a large extent | 175 | 26.6 | 32.3 | 100.0 |
| | | Total | 541 | 82.2 | 100.0 | |
| | Missing | Don't know / not applicable | 53 | 8.1 | | |
| | | System | 64 | 9.7 | | |
| Total | Total | 117 | 17.8 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Not at all | 19 | 4.8 | 6.3 | 6.3 |
| | | To a small extent | 61 | 15.4 | 20.2 | 26.5 |
| | | To a moderate extent | 107 | 27.0 | 35.4 | 61.9 |
| | | To a large extent | 115 | 29.0 | 38.1 | 100.0 |
| | | Total | 302 | 76.1 | 100.0 | |
| | Missing | Don't know / not applicable | 21 | 5.3 | | |
| | | System | 74 | 18.6 | | |
| Total | Total | 95 | 23.9 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Not at all | 9 | 3.2 | 4.6 | 4.6 |
| | | To a small extent | 34 | 12.0 | 17.3 | 21.9 |
| | | To a moderate extent | 67 | 23.6 | 34.2 | 56.1 |
| | | To a large extent | 86 | 30.3 | 43.9 | 100.0 |
| | | Total | 196 | 69.0 | 100.0 | |
| | Missing | Don't know / not applicable | 32 | 11.3 | | |
| | | System | 56 | 19.7 | | |
| Total | Total | 88 | 31.0 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Not at all | 5 | 3.4 | 6.3 | 6.3 |
| | | To a small extent | 7 | 4.7 | 8.9 | 15.2 |
| | | To a moderate extent | 32 | 21.5 | 40.5 | 55.7 |
| | | To a large extent | 35 | 23.5 | 44.3 | 100.0 |
| | | Total | 79 | 53.0 | 100.0 | |
| | Missing | Don't know / not applicable | 35 | 23.5 | | |
| | | System | 35 | 23.5 | | |
| Total | Total | 70 | 47.0 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q48d. Reporting of reagents

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Not at all | 33 | 5.0 | 10.2 | 10.2 |
| | | To a small extent | 80 | 12.2 | 24.8 | 35.0 |
| | | To a moderate extent | 134 | 20.4 | 41.5 | 76.5 |
| | | To a large extent | 76 | 11.6 | 23.5 | 100.0 |
| | | Total | 323 | 49.1 | 100.0 | |
| | Missing | Don't know / not applicable | 263 | 40.0 | | |
| | | System | 72 | 10.9 | | |
| Total | Total | 335 | 50.9 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Not at all | 13 | 3.3 | 8.4 | 8.4 |
| | | To a small extent | 37 | 9.3 | 24.0 | 32.5 |
| | | To a moderate extent | 50 | 12.6 | 32.5 | 64.9 |
| | | To a large extent | 54 | 13.6 | 35.1 | 100.0 |
| | | Total | 154 | 38.8 | 100.0 | |
| | Missing | Don't know / not applicable | 166 | 41.8 | | |
| | | System | 77 | 19.4 | | |
| Total | Total | 243 | 61.2 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Not at all | 9 | 3.2 | 9.4 | 9.4 |
| | | To a small extent | 24 | 8.5 | 25.0 | 34.4 |
| | | To a moderate extent | 33 | 11.6 | 34.4 | 68.8 |
| | | To a large extent | 30 | 10.6 | 31.3 | 100.0 |
| | | Total | 96 | 33.8 | 100.0 | |
| | Missing | Don't know / not applicable | 131 | 46.1 | | |
| | | System | 57 | 20.1 | | |
| Total | Total | 188 | 66.2 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Not at all | 4 | 2.7 | 10.0 | 10.0 |
| | | To a small extent | 8 | 5.4 | 20.0 | 30.0 |
| | | To a moderate extent | 13 | 8.7 | 32.5 | 62.5 |
| | | To a large extent | 15 | 10.1 | 37.5 | 100.0 |
| | | Total | 40 | 26.8 | 100.0 | |
| | Missing | Don't know / not applicable | 73 | 49.0 | | |
| | | System | 36 | 24.2 | | |
| Total | Total | 109 | 73.2 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q48e. Reporting of animal models

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Not at all | 28 | 4.3 | 9.6 | 9.6 |
| | | To a small extent | 75 | 11.4 | 25.8 | 35.4 |
| | | To a moderate extent | 110 | 16.7 | 37.8 | 73.2 |
| | | To a large extent | 78 | 11.9 | 26.8 | 100.0 |
| | | Total | 291 | 44.2 | 100.0 | |
| | Missing | Don't know / not applicable | 294 | 44.7 | | |
| | | System | 73 | 11.1 | | |
| Total | Total | 367 | 55.8 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Not at all | 13 | 3.3 | 9.4 | 9.4 |
| | | To a small extent | 25 | 6.3 | 18.1 | 27.5 |
| | | To a moderate extent | 44 | 11.1 | 31.9 | 59.4 |
| | | To a large extent | 56 | 14.1 | 40.6 | 100.0 |
| | | Total | 138 | 34.8 | 100.0 | |
| | Missing | Don't know / not applicable | 184 | 46.3 | | |
| | | System | 75 | 18.9 | | |
| Total | Total | 259 | 65.2 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Not at all | 9 | 3.2 | 11.0 | 11.0 |
| | | To a small extent | 12 | 4.2 | 14.6 | 25.6 |
| | | To a moderate extent | 27 | 9.5 | 32.9 | 58.5 |
| | | To a large extent | 34 | 12.0 | 41.5 | 100.0 |
| | | Total | 82 | 28.9 | 100.0 | |
| | Missing | Don't know / not applicable | 145 | 51.1 | | |
| | | System | 57 | 20.1 | | |
| Total | Total | 202 | 71.1 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Not at all | 5 | 3.4 | 16.7 | 16.7 |
| | | To a small extent | 6 | 4.0 | 20.0 | 36.7 |
| | | To a moderate extent | 9 | 6.0 | 30.0 | 66.7 |
| | | To a large extent | 10 | 6.7 | 33.3 | 100.0 |
| | | Total | 30 | 20.1 | 100.0 | |
| | Missing | Don't know / not applicable | 83 | 55.7 | | |
| | | System | 36 | 24.2 | | |
| Total | Total | 119 | 79.9 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
C. Environment

q48f. Increased data deposition in public repositories

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Not at all | 79 | 12.0 | 16.0 | 16.0 |
| | | To a small extent | 150 | 22.8 | 30.4 | 46.4 |
| | | To a moderate extent | 155 | 23.6 | 31.4 | 77.7 |
| | | To a large extent | 110 | 16.7 | 22.3 | 100.0 |
| | | Total | 494 | 75.1 | 100.0 | |
| | Missing | Don't know / not applicable | 99 | 15.0 | | |
| | | System | 65 | 9.9 | | |
| Total | Total | 164 | 24.9 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Not at all | 39 | 9.8 | 14.7 | 14.7 |
| | | To a small extent | 68 | 17.1 | 25.6 | 40.2 |
| | | To a moderate extent | 85 | 21.4 | 32.0 | 72.2 |
| | | To a large extent | 74 | 18.6 | 27.8 | 100.0 |
| | | Total | 266 | 67.0 | 100.0 | |
| | Missing | Don't know / not applicable | 57 | 14.4 | | |
| | | System | 74 | 18.6 | | |
| Total | Total | 131 | 33.0 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Not at all | 19 | 6.7 | 11.9 | 11.9 |
| | | To a small extent | 44 | 15.5 | 27.7 | 39.6 |
| | | To a moderate extent | 45 | 15.8 | 28.3 | 67.9 |
| | | To a large extent | 51 | 18.0 | 32.1 | 100.0 |
| | | Total | 159 | 56.0 | 100.0 | |
| | Missing | Don't know / not applicable | 68 | 23.9 | | |
| | | System | 57 | 20.1 | | |
| Total | Total | 125 | 44.0 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Not at all | 9 | 6.0 | 15.0 | 15.0 |
| | | To a small extent | 11 | 7.4 | 18.3 | 33.3 |
| | | To a moderate extent | 22 | 14.8 | 36.7 | 70.0 |
| | | To a large extent | 18 | 12.1 | 30.0 | 100.0 |
| | | Total | 60 | 40.3 | 100.0 | |
| | Missing | Don't know / not applicable | 54 | 36.2 | | |
| | | System | 35 | 23.5 | | |
| Total | Total | 89 | 59.7 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
D. Pressures

q49. Have you ever been aware of other researchers feeling tempted or under pressure to compromise on research quality?

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|--------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Yes | 333 | 50.6 | 56.3 | 56.3 |
| | | No | 258 | 39.2 | 43.7 | 100.0 |
| | | Total | 591 | 89.8 | 100.0 | |
| | Missing | System | 67 | 10.2 | | |
| | Total | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Yes | 172 | 43.3 | 53.1 | 53.1 |
| | | No | 152 | 38.3 | 46.9 | 100.0 |
| | | Total | 324 | 81.6 | 100.0 | |
| | Missing | System | 73 | 18.4 | | |
| | Total | | 397 | 100.0 | | |
| Junior researcher | Valid | Yes | 130 | 45.8 | 58.0 | 58.0 |
| | | No | 94 | 33.1 | 42.0 | 100.0 |
| | | Total | 224 | 78.9 | 100.0 | |
| | Missing | System | 60 | 21.1 | | |
| | Total | | 284 | 100.0 | | |
| Research student | Valid | Yes | 54 | 36.2 | 48.2 | 48.2 |
| | | No | 58 | 38.9 | 51.8 | 100.0 |
| | | Total | 112 | 75.2 | 100.0 | |
| | Missing | System | 37 | 24.8 | | |
| | Total | | 149 | 100.0 | | |
| Representative of an institution | Valid | Yes | 47 | 44.3 | 56.0 | 56.0 |
| | | No | 37 | 34.9 | 44.0 | 100.0 |
| | | Total | 84 | 79.2 | 100.0 | |
| | Missing | System | 22 | 20.8 | | |
| | Total | | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Yes | 52 | 41.3 | 43.3 | 43.3 |
| | | No | 68 | 54.0 | 56.7 | 100.0 |
| | | Total | 120 | 95.2 | 100.0 | |
| | Missing | System | 6 | 4.8 | | |
| | Total | | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Yes | 17 | 35.4 | 37.0 | 37.0 |
| | | No | 29 | 60.4 | 63.0 | 100.0 |
| | | Total | 46 | 95.8 | 100.0 | |
| | Missing | System | 2 | 4.2 | | |
| | Total | | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
D. Pressures

q50. Have you ever personally felt tempted or under pressure to compromise on research quality?

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|--------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Yes | 129 | 19.6 | 21.8 | 21.8 |
| | | No | 462 | 70.2 | 78.2 | 100.0 |
| | | Total | 591 | 89.8 | 100.0 | |
| | Missing | System | 67 | 10.2 | | |
| | Total | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Yes | 98 | 24.7 | 30.3 | 30.3 |
| | | No | 225 | 56.7 | 69.7 | 100.0 |
| | | Total | 323 | 81.4 | 100.0 | |
| | Missing | System | 74 | 18.6 | | |
| | Total | | 397 | 100.0 | | |
| Junior researcher | Valid | Yes | 78 | 27.5 | 34.5 | 34.5 |
| | | No | 148 | 52.1 | 65.5 | 100.0 |
| | | Total | 226 | 79.6 | 100.0 | |
| | Missing | System | 58 | 20.4 | | |
| | Total | | 284 | 100.0 | | |
| Research student | Valid | Yes | 39 | 26.2 | 34.8 | 34.8 |
| | | No | 73 | 49.0 | 65.2 | 100.0 |
| | | Total | 112 | 75.2 | 100.0 | |
| | Missing | System | 37 | 24.8 | | |
| | Total | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

q51a. My department's / research group's expectations of researchers for obtaining external funding are reasonable

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Strongly disagree | 57 | 8.7 | 9.7 | 9.7 |
| | | Disagree | 127 | 19.3 | 21.7 | 31.5 |
| | | Neither agree nor disagree | 107 | 16.3 | 18.3 | 49.7 |
| | | Agree | 264 | 40.1 | 45.1 | 94.9 |
| | | Strongly agree | 30 | 4.6 | 5.1 | 100.0 |
| | | Total | 585 | 88.9 | 100.0 | |
| | Missing | Don't know / not applicable | 7 | 1.1 | | |
| | | System | 66 | 10.0 | | |
| | | Total | 73 | 11.1 | | |
| | Total | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Strongly disagree | 38 | 9.6 | 11.8 | 11.8 |
| | | Disagree | 83 | 20.9 | 25.8 | 37.6 |
| | | Neither agree nor disagree | 75 | 18.9 | 23.3 | 60.9 |
| | | Agree | 111 | 28.0 | 34.5 | 95.3 |
| | | Strongly agree | 15 | 3.8 | 4.7 | 100.0 |
| | | Total | 322 | 81.1 | 100.0 | |
| | Missing | Don't know / not applicable | 2 | .5 | | |
| | | System | 73 | 18.4 | | |
| | | Total | 75 | 18.9 | | |
| | Total | | 397 | 100.0 | | |
| Junior researcher | Valid | Strongly disagree | 19 | 6.7 | 9.0 | 9.0 |
| | | Disagree | 59 | 20.8 | 27.8 | 36.8 |
| | | Neither agree nor disagree | 43 | 15.1 | 20.3 | 57.1 |
| | | Agree | 83 | 29.2 | 39.2 | 96.2 |
| | | Strongly agree | 8 | 2.8 | 3.8 | 100.0 |
| | | Total | 212 | 74.6 | 100.0 | |
| | Missing | Don't know / not applicable | 12 | 4.2 | | |
| | | System | 60 | 21.1 | | |
| | | Total | 72 | 25.4 | | |
| | Total | | 284 | 100.0 | | |
| Research student | Valid | Strongly disagree | 3 | 2.0 | 3.3 | 3.3 |
| | | Disagree | 25 | 16.8 | 27.5 | 30.8 |
| | | Neither agree nor disagree | 16 | 10.7 | 17.6 | 48.4 |
| | | Agree | 40 | 26.8 | 44.0 | 92.3 |
| | | Strongly agree | 7 | 4.7 | 7.7 | 100.0 |
| | | Total | 91 | 61.1 | 100.0 | |
| | Missing | Don't know / not applicable | 21 | 14.1 | | |
| | | System | 37 | 24.8 | | |
| | | Total | 58 | 38.9 | | |
| | Total | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
D. Pressures

q51a. My department's / research group's expectations of researchers for obtaining external funding are reasonable

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|--------|-----------|---------|---------------|--------------------|
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

q51b. Pressure to obtain external funding has a negative effect on the quality of research in my department / research group

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Strongly disagree | 45 | 6.8 | 7.8 | 7.8 |
| | | Disagree | 142 | 21.6 | 24.6 | 32.4 |
| | | Neither agree nor disagree | 114 | 17.3 | 19.7 | 52.1 |
| | | Agree | 158 | 24.0 | 27.3 | 79.4 |
| | | Strongly agree | 119 | 18.1 | 20.6 | 100.0 |
| | | Total | 578 | 87.8 | 100.0 | |
| | Missing | Don't know / not applicable | 12 | 1.8 | | |
| | System | 68 | 10.3 | | | |
| | Total | 80 | 12.2 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Strongly disagree | 15 | 3.8 | 4.7 | 4.7 |
| | | Disagree | 60 | 15.1 | 18.9 | 23.6 |
| | | Neither agree nor disagree | 63 | 15.9 | 19.8 | 43.4 |
| | | Agree | 103 | 25.9 | 32.4 | 75.8 |
| | | Strongly agree | 77 | 19.4 | 24.2 | 100.0 |
| | | Total | 318 | 80.1 | 100.0 | |
| | Missing | Don't know / not applicable | 6 | 1.5 | | |
| | System | 73 | 18.4 | | | |
| | Total | 79 | 19.9 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Strongly disagree | 7 | 2.5 | 3.4 | 3.4 |
| | | Disagree | 25 | 8.8 | 12.1 | 15.5 |
| | | Neither agree nor disagree | 44 | 15.5 | 21.4 | 36.9 |
| | | Agree | 71 | 25.0 | 34.5 | 71.4 |
| | | Strongly agree | 59 | 20.8 | 28.6 | 100.0 |
| | | Total | 206 | 72.5 | 100.0 | |
| | Missing | Don't know / not applicable | 17 | 6.0 | | |
| | System | 61 | 21.5 | | | |
| | Total | 78 | 27.5 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Strongly disagree | 2 | 1.3 | 2.2 | 2.2 |
| | | Disagree | 19 | 12.8 | 21.3 | 23.6 |
| | | Neither agree nor disagree | 29 | 19.5 | 32.6 | 56.2 |
| | | Agree | 23 | 15.4 | 25.8 | 82.0 |
| | | Strongly agree | 16 | 10.7 | 18.0 | 100.0 |
| | | Total | 89 | 59.7 | 100.0 | |
| | Missing | Don't know / not applicable | 23 | 15.4 | | |
| | System | 37 | 24.8 | | | |
| | Total | 60 | 40.3 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
D. Pressures

q52a. My department's / research group's expectations of researchers with respect to publishing are reasonable

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Strongly disagree | 24 | 3.6 | 4.1 | 4.1 |
| | | Disagree | 68 | 10.3 | 11.7 | 15.8 |
| | | Neither agree nor disagree | 95 | 14.4 | 16.3 | 32.1 |
| | | Agree | 342 | 52.0 | 58.8 | 90.9 |
| | | Strongly agree | 53 | 8.1 | 9.1 | 100.0 |
| | | Total | 582 | 88.4 | 100.0 | |
| | Missing | Don't know / not applicable | 9 | 1.4 | | |
| | System | 67 | 10.2 | | | |
| | Total | 76 | 11.6 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Strongly disagree | 18 | 4.5 | 5.6 | 5.6 |
| | | Disagree | 49 | 12.3 | 15.3 | 20.9 |
| | | Neither agree nor disagree | 59 | 14.9 | 18.4 | 39.4 |
| | | Agree | 176 | 44.3 | 55.0 | 94.4 |
| | | Strongly agree | 18 | 4.5 | 5.6 | 100.0 |
| | | Total | 320 | 80.6 | 100.0 | |
| | Missing | Don't know / not applicable | 1 | .3 | | |
| | System | 76 | 19.1 | | | |
| | Total | 77 | 19.4 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Strongly disagree | 10 | 3.5 | 4.5 | 4.5 |
| | | Disagree | 35 | 12.3 | 15.8 | 20.4 |
| | | Neither agree nor disagree | 30 | 10.6 | 13.6 | 33.9 |
| | | Agree | 132 | 46.5 | 59.7 | 93.7 |
| | | Strongly agree | 14 | 4.9 | 6.3 | 100.0 |
| | | Total | 221 | 77.8 | 100.0 | |
| | Missing | Don't know / not applicable | 5 | 1.8 | | |
| | System | 58 | 20.4 | | | |
| | Total | 63 | 22.2 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Strongly disagree | 2 | 1.3 | 2.0 | 2.0 |
| | | Disagree | 9 | 6.0 | 9.1 | 11.1 |
| | | Neither agree nor disagree | 20 | 13.4 | 20.2 | 31.3 |
| | | Agree | 57 | 38.3 | 57.6 | 88.9 |
| | | Strongly agree | 11 | 7.4 | 11.1 | 100.0 |
| | | Total | 99 | 66.4 | 100.0 | |
| | Missing | Don't know / not applicable | 12 | 8.1 | | |
| | System | 38 | 25.5 | | | |
| | Total | 50 | 33.6 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
D. Pressures

q52b. The pressure to publish findings has a negative effect on the quality of research in my department / research group

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Strongly disagree | 48 | 7.3 | 8.3 | 8.3 |
| | | Disagree | 226 | 34.3 | 39.2 | 47.6 |
| | | Neither agree nor disagree | 138 | 21.0 | 24.0 | 71.5 |
| | | Agree | 115 | 17.5 | 20.0 | 91.5 |
| | | Strongly agree | 49 | 7.4 | 8.5 | 100.0 |
| | | Total | 576 | 87.5 | 100.0 | |
| | Missing | Don't know / not applicable | 11 | 1.7 | | |
| | System | 71 | 10.8 | | | |
| | Total | 82 | 12.5 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Strongly disagree | 16 | 4.0 | 5.0 | 5.0 |
| | | Disagree | 98 | 24.7 | 30.9 | 36.0 |
| | | Neither agree nor disagree | 85 | 21.4 | 26.8 | 62.8 |
| | | Agree | 83 | 20.9 | 26.2 | 89.0 |
| | | Strongly agree | 35 | 8.8 | 11.0 | 100.0 |
| | | Total | 317 | 79.8 | 100.0 | |
| | Missing | Don't know / not applicable | 4 | 1.0 | | |
| | System | 76 | 19.1 | | | |
| | Total | 80 | 20.2 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Strongly disagree | 12 | 4.2 | 5.7 | 5.7 |
| | | Disagree | 69 | 24.3 | 32.9 | 38.6 |
| | | Neither agree nor disagree | 35 | 12.3 | 16.7 | 55.2 |
| | | Agree | 68 | 23.9 | 32.4 | 87.6 |
| | | Strongly agree | 26 | 9.2 | 12.4 | 100.0 |
| | | Total | 210 | 73.9 | 100.0 | |
| | Missing | Don't know / not applicable | 14 | 4.9 | | |
| | System | 60 | 21.1 | | | |
| | Total | 74 | 26.1 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Strongly disagree | 6 | 4.0 | 6.2 | 6.2 |
| | | Disagree | 37 | 24.8 | 38.1 | 44.3 |
| | | Neither agree nor disagree | 32 | 21.5 | 33.0 | 77.3 |
| | | Agree | 17 | 11.4 | 17.5 | 94.8 |
| | | Strongly agree | 5 | 3.4 | 5.2 | 100.0 |
| | | Total | 97 | 65.1 | 100.0 | |
| | Missing | Don't know / not applicable | 14 | 9.4 | | |
| | System | 38 | 25.5 | | | |
| | Total | 52 | 34.9 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
D. Pressures

q52c. It is necessary to have a first authored publication in a prestigious journal (e.g. Cell, Nature, Science, NEJM, Lancet) when seeking an academic position or promotion

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Strongly disagree | 52 | 7.9 | 9.0 | 9.0 |
| | | Disagree | 184 | 28.0 | 31.8 | 40.8 |
| | | Neither agree nor disagree | 107 | 16.3 | 18.5 | 59.2 |
| | | Agree | 154 | 23.4 | 26.6 | 85.8 |
| | | Strongly agree | 82 | 12.5 | 14.2 | 100.0 |
| | | Total | 579 | 88.0 | 100.0 | |
| | Missing | Don't know / not applicable | 10 | 1.5 | | |
| | System | 69 | 10.5 | | | |
| | Total | 79 | 12.0 | | | |
| | Total | 658 | 100.0 | | | |
| Mid-career researcher | Valid | Strongly disagree | 17 | 4.3 | 5.4 | 5.4 |
| | | Disagree | 78 | 19.6 | 24.7 | 30.1 |
| | | Neither agree nor disagree | 49 | 12.3 | 15.5 | 45.6 |
| | | Agree | 98 | 24.7 | 31.0 | 76.6 |
| | | Strongly agree | 74 | 18.6 | 23.4 | 100.0 |
| | | Total | 316 | 79.6 | 100.0 | |
| | Missing | Don't know / not applicable | 5 | 1.3 | | |
| | System | 76 | 19.1 | | | |
| | Total | 81 | 20.4 | | | |
| | Total | 397 | 100.0 | | | |
| Junior researcher | Valid | Strongly disagree | 3 | 1.1 | 1.4 | 1.4 |
| | | Disagree | 40 | 14.1 | 18.8 | 20.2 |
| | | Neither agree nor disagree | 43 | 15.1 | 20.2 | 40.4 |
| | | Agree | 72 | 25.4 | 33.8 | 74.2 |
| | | Strongly agree | 55 | 19.4 | 25.8 | 100.0 |
| | | Total | 213 | 75.0 | 100.0 | |
| | Missing | Don't know / not applicable | 13 | 4.6 | | |
| | System | 58 | 20.4 | | | |
| | Total | 71 | 25.0 | | | |
| | Total | 284 | 100.0 | | | |
| Research student | Valid | Strongly disagree | 3 | 2.0 | 3.4 | 3.4 |
| | | Disagree | 17 | 11.4 | 19.3 | 22.7 |
| | | Neither agree nor disagree | 22 | 14.8 | 25.0 | 47.7 |
| | | Agree | 27 | 18.1 | 30.7 | 78.4 |
| | | Strongly agree | 19 | 12.8 | 21.6 | 100.0 |
| | | Total | 88 | 59.1 | 100.0 | |
| | Missing | Don't know / not applicable | 24 | 16.1 | | |
| | System | 37 | 24.8 | | | |
| | Total | 61 | 40.9 | | | |
| | Total | 149 | 100.0 | | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
D. Pressures

q52d. I experience stress at the thought of my colleagues' assessment of my publication output

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Strongly disagree | 82 | 12.5 | 14.1 | 14.1 |
| | | Disagree | 173 | 26.3 | 29.7 | 43.7 |
| | | Neither agree nor disagree | 89 | 13.5 | 15.3 | 59.0 |
| | | Agree | 156 | 23.7 | 26.8 | 85.8 |
| | | Strongly agree | 83 | 12.6 | 14.2 | 100.0 |
| | | Total | 583 | 88.6 | 100.0 | |
| | Missing | Don't know / not applicable | 3 | .5 | | |
| | System | 72 | 10.9 | | | |
| | Total | 75 | 11.4 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Strongly disagree | 22 | 5.5 | 6.9 | 6.9 |
| | | Disagree | 77 | 19.4 | 24.0 | 30.8 |
| | | Neither agree nor disagree | 50 | 12.6 | 15.6 | 46.4 |
| | | Agree | 109 | 27.5 | 34.0 | 80.4 |
| | | Strongly agree | 63 | 15.9 | 19.6 | 100.0 |
| | | Total | 321 | 80.9 | 100.0 | |
| | Missing | System | 76 | 19.1 | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Strongly disagree | 16 | 5.6 | 7.1 | 7.1 |
| | | Disagree | 40 | 14.1 | 17.9 | 25.0 |
| | | Neither agree nor disagree | 21 | 7.4 | 9.4 | 34.4 |
| | | Agree | 86 | 30.3 | 38.4 | 72.8 |
| | | Strongly agree | 61 | 21.5 | 27.2 | 100.0 |
| | | Total | 224 | 78.9 | 100.0 | |
| | Missing | Don't know / not applicable | 2 | .7 | | |
| | System | 58 | 20.4 | | | |
| | Total | 60 | 21.1 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Strongly disagree | 4 | 2.7 | 3.9 | 3.9 |
| | | Disagree | 21 | 14.1 | 20.6 | 24.5 |
| | | Neither agree nor disagree | 13 | 8.7 | 12.7 | 37.3 |
| | | Agree | 41 | 27.5 | 40.2 | 77.5 |
| | | Strongly agree | 23 | 15.4 | 22.5 | 100.0 |
| | | Total | 102 | 68.5 | 100.0 | |
| | Missing | Don't know / not applicable | 10 | 6.7 | | |
| | System | 37 | 24.8 | | | |
| | Total | 47 | 31.5 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
D. Pressures

q52e. Publication pressure leads some colleagues (whether intentionally or not) to cut corners

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|-----------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Strongly disagree | 12 | 1.8 | 2.2 | 2.2 |
| | | Disagree | 71 | 10.8 | 13.2 | 15.4 |
| | | Neither agree nor disagree | 100 | 15.2 | 18.6 | 34.0 |
| | | Agree | 239 | 36.3 | 44.4 | 78.4 |
| | | Strongly agree | 116 | 17.6 | 21.6 | 100.0 |
| | | Total | 538 | 81.8 | 100.0 | |
| | Missing | Don't know / not applicable | 50 | 7.6 | | |
| | System | 70 | 10.6 | | | |
| | Total | 120 | 18.2 | | | |
| | Total | 658 | 100.0 | | | |
| Mid-career researcher | Valid | Strongly disagree | 6 | 1.5 | 2.1 | 2.1 |
| | | Disagree | 45 | 11.3 | 15.5 | 17.6 |
| | | Neither agree nor disagree | 42 | 10.6 | 14.5 | 32.1 |
| | | Agree | 116 | 29.2 | 40.0 | 72.1 |
| | | Strongly agree | 81 | 20.4 | 27.9 | 100.0 |
| | | Total | 290 | 73.0 | 100.0 | |
| | Missing | Don't know / not applicable | 30 | 7.6 | | |
| | System | 77 | 19.4 | | | |
| | Total | 107 | 27.0 | | | |
| | Total | 397 | 100.0 | | | |
| Junior researcher | Valid | Strongly disagree | 5 | 1.8 | 2.6 | 2.6 |
| | | Disagree | 19 | 6.7 | 9.7 | 12.2 |
| | | Neither agree nor disagree | 29 | 10.2 | 14.8 | 27.0 |
| | | Agree | 82 | 28.9 | 41.8 | 68.9 |
| | | Strongly agree | 61 | 21.5 | 31.1 | 100.0 |
| | | Total | 196 | 69.0 | 100.0 | |
| | Missing | Don't know / not applicable | 30 | 10.6 | | |
| | System | 58 | 20.4 | | | |
| | Total | 88 | 31.0 | | | |
| | Total | 284 | 100.0 | | | |
| Research student | Valid | Strongly disagree | 2 | 1.3 | 2.4 | 2.4 |
| | | Disagree | 8 | 5.4 | 9.6 | 12.0 |
| | | Neither agree nor disagree | 22 | 14.8 | 26.5 | 38.6 |
| | | Agree | 38 | 25.5 | 45.8 | 84.3 |
| | | Strongly agree | 13 | 8.7 | 15.7 | 100.0 |
| | | Total | 83 | 55.7 | 100.0 | |
| | Missing | Don't know / not applicable | 29 | 19.5 | | |
| | System | 37 | 24.8 | | | |
| | Total | 66 | 44.3 | | | |
| | Total | 149 | 100.0 | | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
D. Pressures

q53a. Making discoveries

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Not at all competitive | 4 | .6 | .7 | .7 |
| | | Not that competitive | 35 | 5.3 | 6.3 | 7.0 |
| | | Somewhat competitive | 96 | 14.6 | 17.1 | 24.1 |
| | | Quite competitive | 200 | 30.4 | 35.7 | 59.8 |
| | | Very competitive | 225 | 34.2 | 40.2 | 100.0 |
| | | Total | 560 | 85.1 | 100.0 | |
| | Missing | Don't know / can't say | 27 | 4.1 | | |
| | | System | 71 | 10.8 | | |
| | | Total | 98 | 14.9 | | |
| | Total | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Not at all competitive | 3 | .8 | 1.0 | 1.0 |
| | | Not that competitive | 29 | 7.3 | 9.5 | 10.5 |
| | | Somewhat competitive | 82 | 20.7 | 26.9 | 37.4 |
| | | Quite competitive | 99 | 24.9 | 32.5 | 69.8 |
| | | Very competitive | 92 | 23.2 | 30.2 | 100.0 |
| | | Total | 305 | 76.8 | 100.0 | |
| | Missing | Don't know / can't say | 15 | 3.8 | | |
| | | System | 77 | 19.4 | | |
| | | Total | 92 | 23.2 | | |
| | Total | | 397 | 100.0 | | |
| Junior researcher | Valid | Not at all competitive | 5 | 1.8 | 2.4 | 2.4 |
| | | Not that competitive | 17 | 6.0 | 8.3 | 10.7 |
| | | Somewhat competitive | 56 | 19.7 | 27.2 | 37.9 |
| | | Quite competitive | 66 | 23.2 | 32.0 | 69.9 |
| | | Very competitive | 62 | 21.8 | 30.1 | 100.0 |
| | | Total | 206 | 72.5 | 100.0 | |
| | Missing | Don't know / can't say | 19 | 6.7 | | |
| | | System | 59 | 20.8 | | |
| | | Total | 78 | 27.5 | | |
| | Total | | 284 | 100.0 | | |
| Research student | Valid | Not at all competitive | 2 | 1.3 | 2.1 | 2.1 |
| | | Not that competitive | 5 | 3.4 | 5.2 | 7.2 |
| | | Somewhat competitive | 21 | 14.1 | 21.6 | 28.9 |
| | | Quite competitive | 43 | 28.9 | 44.3 | 73.2 |
| | | Very competitive | 26 | 17.4 | 26.8 | 100.0 |
| | | Total | 97 | 65.1 | 100.0 | |
| | Missing | Don't know / can't say | 15 | 10.1 | | |
| | | System | 37 | 24.8 | | |
| | | Total | 52 | 34.9 | | |
| | Total | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
D. Pressures

q53b. Applying for funding

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Not that competitive | 3 | .5 | .5 | .5 |
| | | Somewhat competitive | 5 | .8 | .9 | 1.4 |
| | | Quite competitive | 46 | 7.0 | 7.8 | 9.2 |
| | | Very competitive | 532 | 80.9 | 90.8 | 100.0 |
| | | Total | 586 | 89.1 | 100.0 | |
| | Missing | Don't know / can't say | 3 | .5 | | |
| | | System | 69 | 10.5 | | |
| | Total | 72 | 10.9 | | | |
| | Total | 658 | 100.0 | | | |
| Mid-career researcher | Valid | Not that competitive | 2 | .5 | .6 | .6 |
| | | Somewhat competitive | 1 | .3 | .3 | .9 |
| | | Quite competitive | 18 | 4.5 | 5.6 | 6.6 |
| | | Very competitive | 299 | 75.3 | 93.4 | 100.0 |
| | | Total | 320 | 80.6 | 100.0 | |
| | Missing | Don't know / can't say | 1 | .3 | | |
| | | System | 76 | 19.1 | | |
| | Total | 77 | 19.4 | | | |
| | Total | 397 | 100.0 | | | |
| Junior researcher | Valid | Not at all competitive | 1 | .4 | .4 | .4 |
| | | Somewhat competitive | 3 | 1.1 | 1.3 | 1.8 |
| | | Quite competitive | 10 | 3.5 | 4.5 | 6.3 |
| | | Very competitive | 209 | 73.6 | 93.7 | 100.0 |
| | | Total | 223 | 78.5 | 100.0 | |
| | Missing | Don't know / can't say | 2 | .7 | | |
| | | System | 59 | 20.8 | | |
| | Total | 61 | 21.5 | | | |
| | Total | 284 | 100.0 | | | |
| Research student | Valid | Not that competitive | 1 | .7 | .9 | .9 |
| | | Somewhat competitive | 2 | 1.3 | 1.8 | 2.8 |
| | | Quite competitive | 12 | 8.1 | 11.0 | 13.8 |
| | | Very competitive | 94 | 63.1 | 86.2 | 100.0 |
| | | Total | 109 | 73.2 | 100.0 | |
| | Missing | Don't know / can't say | 3 | 2.0 | | |
| | | System | 37 | 24.8 | | |
| | Total | 40 | 26.8 | | | |
| | Total | 149 | 100.0 | | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
D. Pressures

q53c. Applying for jobs and promotions

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Not that competitive | 6 | .9 | 1.0 | 1.0 |
| | | Somewhat competitive | 52 | 7.9 | 8.9 | 10.0 |
| | | Quite competitive | 170 | 25.8 | 29.2 | 39.2 |
| | | Very competitive | 354 | 53.8 | 60.8 | 100.0 |
| | | Total | 582 | 88.4 | 100.0 | |
| | Missing | Don't know / can't say | 7 | 1.1 | | |
| | | System | 69 | 10.5 | | |
| | Total | 76 | 11.6 | | | |
| | Total | 658 | 100.0 | | | |
| Mid-career researcher | Valid | Not that competitive | 3 | .8 | .9 | .9 |
| | | Somewhat competitive | 24 | 6.0 | 7.5 | 8.5 |
| | | Quite competitive | 86 | 21.7 | 27.0 | 35.4 |
| | | Very competitive | 206 | 51.9 | 64.6 | 100.0 |
| | | Total | 319 | 80.4 | 100.0 | |
| | Missing | Don't know / can't say | 2 | .5 | | |
| | | System | 76 | 19.1 | | |
| | Total | 78 | 19.6 | | | |
| | Total | 397 | 100.0 | | | |
| Junior researcher | Valid | Not that competitive | 1 | .4 | .5 | .5 |
| | | Somewhat competitive | 11 | 3.9 | 5.0 | 5.5 |
| | | Quite competitive | 56 | 19.7 | 25.6 | 31.1 |
| | | Very competitive | 151 | 53.2 | 68.9 | 100.0 |
| | | Total | 219 | 77.1 | 100.0 | |
| | Missing | Don't know / can't say | 6 | 2.1 | | |
| | | System | 59 | 20.8 | | |
| | Total | 65 | 22.9 | | | |
| | Total | 284 | 100.0 | | | |
| Research student | Valid | Somewhat competitive | 6 | 4.0 | 5.6 | 5.6 |
| | | Quite competitive | 41 | 27.5 | 38.0 | 43.5 |
| | | Very competitive | 61 | 40.9 | 56.5 | 100.0 |
| | | Total | 108 | 72.5 | 100.0 | |
| | Missing | Don't know / can't say | 4 | 2.7 | | |
| | | System | 37 | 24.8 | | |
| | | Total | 41 | 27.5 | | |
| | Total | 149 | 100.0 | | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
D. Pressures

q53d. Gaining peer recognition

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Not at all competitive | 1 | .2 | .2 | .2 |
| | | Not that competitive | 18 | 2.7 | 3.1 | 3.3 |
| | | Somewhat competitive | 100 | 15.2 | 17.2 | 20.4 |
| | | Quite competitive | 234 | 35.6 | 40.2 | 60.7 |
| | | Very competitive | 229 | 34.8 | 39.3 | 100.0 |
| | | Total | 582 | 88.4 | 100.0 | |
| | Missing | Don't know / can't say | 7 | 1.1 | | |
| | | System | 69 | 10.5 | | |
| Total | | 76 | 11.6 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Not at all competitive | 1 | .3 | .3 | .3 |
| | | Not that competitive | 16 | 4.0 | 5.0 | 5.3 |
| | | Somewhat competitive | 59 | 14.9 | 18.6 | 23.9 |
| | | Quite competitive | 130 | 32.7 | 40.9 | 64.8 |
| | | Very competitive | 112 | 28.2 | 35.2 | 100.0 |
| | | Total | 318 | 80.1 | 100.0 | |
| | Missing | Don't know / can't say | 3 | .8 | | |
| | | System | 76 | 19.1 | | |
| Total | | 79 | 19.9 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Not at all competitive | 2 | .7 | .9 | .9 |
| | | Not that competitive | 11 | 3.9 | 5.1 | 6.0 |
| | | Somewhat competitive | 44 | 15.5 | 20.3 | 26.3 |
| | | Quite competitive | 84 | 29.6 | 38.7 | 65.0 |
| | | Very competitive | 76 | 26.8 | 35.0 | 100.0 |
| | | Total | 217 | 76.4 | 100.0 | |
| | Missing | Don't know / can't say | 8 | 2.8 | | |
| | | System | 59 | 20.8 | | |
| Total | | 67 | 23.6 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Not at all competitive | 1 | .7 | .9 | .9 |
| | | Not that competitive | 2 | 1.3 | 1.9 | 2.8 |
| | | Somewhat competitive | 20 | 13.4 | 18.9 | 21.7 |
| | | Quite competitive | 54 | 36.2 | 50.9 | 72.6 |
| | | Very competitive | 29 | 19.5 | 27.4 | 100.0 |
| | | Total | 106 | 71.1 | 100.0 | |
| | Missing | Don't know / can't say | 6 | 4.0 | | |
| | | System | 37 | 24.8 | | |
| Total | | 43 | 28.9 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
D. Pressures

q53e. Gaining public recognition

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Not at all competitive | 10 | 1.5 | 1.8 | 1.8 |
| | | Not that competitive | 87 | 13.2 | 15.3 | 17.0 |
| | | Somewhat competitive | 176 | 26.7 | 30.9 | 48.0 |
| | | Quite competitive | 145 | 22.0 | 25.5 | 73.5 |
| | | Very competitive | 151 | 22.9 | 26.5 | 100.0 |
| | | Total | 569 | 86.5 | 100.0 | |
| | Missing | Don't know / can't say | 20 | 3.0 | | |
| | | System | 69 | 10.5 | | |
| | | Total | 89 | 13.5 | | |
| | Total | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Not at all competitive | 8 | 2.0 | 2.6 | 2.6 |
| | | Not that competitive | 40 | 10.1 | 13.2 | 15.8 |
| | | Somewhat competitive | 80 | 20.2 | 26.3 | 42.1 |
| | | Quite competitive | 93 | 23.4 | 30.6 | 72.7 |
| | | Very competitive | 83 | 20.9 | 27.3 | 100.0 |
| | | Total | 304 | 76.6 | 100.0 | |
| | Missing | Don't know / can't say | 17 | 4.3 | | |
| | | System | 76 | 19.1 | | |
| | | Total | 93 | 23.4 | | |
| | Total | | 397 | 100.0 | | |
| Junior researcher | Valid | Not at all competitive | 4 | 1.4 | 1.9 | 1.9 |
| | | Not that competitive | 27 | 9.5 | 12.7 | 14.6 |
| | | Somewhat competitive | 64 | 22.5 | 30.0 | 44.6 |
| | | Quite competitive | 58 | 20.4 | 27.2 | 71.8 |
| | | Very competitive | 60 | 21.1 | 28.2 | 100.0 |
| | | Total | 213 | 75.0 | 100.0 | |
| | Missing | Don't know / can't say | 12 | 4.2 | | |
| | | System | 59 | 20.8 | | |
| | | Total | 71 | 25.0 | | |
| | Total | | 284 | 100.0 | | |
| Research student | Valid | Not at all competitive | 2 | 1.3 | 2.0 | 2.0 |
| | | Not that competitive | 10 | 6.7 | 9.8 | 11.8 |
| | | Somewhat competitive | 31 | 20.8 | 30.4 | 42.2 |
| | | Quite competitive | 33 | 22.1 | 32.4 | 74.5 |
| | | Very competitive | 26 | 17.4 | 25.5 | 100.0 |
| | | Total | 102 | 68.5 | 100.0 | |
| | Missing | Don't know / can't say | 10 | 6.7 | | |
| | | System | 37 | 24.8 | | |
| | | Total | 47 | 31.5 | | |
| | Total | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
D. Pressures

q53f. Journal publication

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|----------------------------------|------------------------|------------------------|---------|---------------|--------------------|
| Senior researcher | Valid | Not at all competitive | 4 | .6 | .7 | .7 |
| | | Not that competitive | 19 | 2.9 | 3.2 | 3.9 |
| | | Somewhat competitive | 72 | 10.9 | 12.3 | 16.2 |
| | | Quite competitive | 209 | 31.8 | 35.7 | 52.0 |
| | | Very competitive | 281 | 42.7 | 48.0 | 100.0 |
| | | Total | 585 | 88.9 | 100.0 | |
| | Missing | Don't know / can't say | 3 | .5 | | |
| | | System | 70 | 10.6 | | |
| | | Total | 73 | 11.1 | | |
| | Total | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Not at all competitive | 1 | .3 | .3 | .3 |
| | | Not that competitive | 13 | 3.3 | 4.1 | 4.4 |
| | | Somewhat competitive | 74 | 18.6 | 23.1 | 27.5 |
| | | Quite competitive | 101 | 25.4 | 31.6 | 59.1 |
| | | Very competitive | 131 | 33.0 | 40.9 | 100.0 |
| | | Total | 320 | 80.6 | 100.0 | |
| | Missing | Don't know / can't say | 1 | .3 | | |
| | | System | 76 | 19.1 | | |
| | | Total | 77 | 19.4 | | |
| | Total | | 397 | 100.0 | | |
| Junior researcher | Valid | Not at all competitive | 1 | .4 | .5 | .5 |
| | | Not that competitive | 4 | 1.4 | 1.8 | 2.3 |
| | | Somewhat competitive | 34 | 12.0 | 15.4 | 17.6 |
| | | Quite competitive | 76 | 26.8 | 34.4 | 52.0 |
| | | Very competitive | 106 | 37.3 | 48.0 | 100.0 |
| | | Total | 221 | 77.8 | 100.0 | |
| | Missing | Don't know / can't say | 3 | 1.1 | | |
| | | System | 60 | 21.1 | | |
| | | Total | 63 | 22.2 | | |
| | Total | | 284 | 100.0 | | |
| Research student | Valid | Not that competitive | 6 | 4.0 | 5.5 | 5.5 |
| | | Somewhat competitive | 12 | 8.1 | 11.0 | 16.5 |
| | | Quite competitive | 46 | 30.9 | 42.2 | 58.7 |
| | | Very competitive | 45 | 30.2 | 41.3 | 100.0 |
| | | Total | 109 | 73.2 | 100.0 | |
| | | Missing | Don't know / can't say | 3 | 2.0 | |
| | System | | 37 | 24.8 | | |
| | Total | | 40 | 26.8 | | |
| | Total | | 149 | 100.0 | | |
| | Representative of an institution | Missing | System | 106 | 100.0 | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
D. Pressures

q54. What effect do you think that competition in research is having on the production of high quality research?

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | A very negative effect | 83 | 12.6 | 15.6 | 15.6 |
| | | A negative effect | 255 | 38.8 | 47.8 | 63.4 |
| | | No effect | 30 | 4.6 | 5.6 | 69.0 |
| | | A positive effect | 151 | 22.9 | 28.3 | 97.4 |
| | | A very positive effect | 14 | 2.1 | 2.6 | 100.0 |
| | | Total | 533 | 81.0 | 100.0 | |
| | Missing | Don't know / can't say | 57 | 8.7 | | |
| | | System | 68 | 10.3 | | |
| Total | | 125 | 19.0 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | A very negative effect | 75 | 18.9 | 25.1 | 25.1 |
| | | A negative effect | 145 | 36.5 | 48.5 | 73.6 |
| | | No effect | 18 | 4.5 | 6.0 | 79.6 |
| | | A positive effect | 58 | 14.6 | 19.4 | 99.0 |
| | | A very positive effect | 3 | .8 | 1.0 | 100.0 |
| | | Total | 299 | 75.3 | 100.0 | |
| | Missing | Don't know / can't say | 23 | 5.8 | | |
| | | System | 75 | 18.9 | | |
| Total | | 98 | 24.7 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | A very negative effect | 55 | 19.4 | 28.5 | 28.5 |
| | | A negative effect | 105 | 37.0 | 54.4 | 82.9 |
| | | No effect | 5 | 1.8 | 2.6 | 85.5 |
| | | A positive effect | 28 | 9.9 | 14.5 | 100.0 |
| | | A very positive effect | | | | |
| | | Total | 193 | 68.0 | 100.0 | |
| | Missing | Don't know / can't say | 31 | 10.9 | | |
| | | System | 60 | 21.1 | | |
| Total | | 91 | 32.0 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | A very negative effect | 16 | 10.7 | 21.3 | 21.3 |
| | | A negative effect | 45 | 30.2 | 60.0 | 81.3 |
| | | No effect | 2 | 1.3 | 2.7 | 84.0 |
| | | A positive effect | 11 | 7.4 | 14.7 | 98.7 |
| | | A very positive effect | 1 | .7 | 1.3 | 100.0 |
| | | Total | 75 | 50.3 | 100.0 | |
| | Missing | Don't know / can't say | 37 | 24.8 | | |
| | | System | 37 | 24.8 | | |
| Total | | 74 | 49.7 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Valid | A very negative effect | 10 | 9.4 | 14.9 | 14.9 |
| | | A negative effect | 40 | 37.7 | 59.7 | 74.6 |
| | | No effect | 4 | 3.8 | 6.0 | 80.6 |
| | | A positive effect | 12 | 11.3 | 17.9 | 98.5 |
| | | A very positive effect | 1 | .9 | 1.5 | 100.0 |
| | | Total | 67 | 63.2 | 100.0 | |
| | Missing | Don't know / can't say | 17 | 16.0 | | |
| | | System | 22 | 20.8 | | |
| Total | | 39 | 36.8 | | | |
| Total | | | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | A very negative effect | 16 | 12.7 | 19.3 | 19.3 |
| | | A negative effect | 35 | 27.8 | 42.2 | 61.4 |
| | | No effect | 2 | 1.6 | 2.4 | 63.9 |
| | | A positive effect | 30 | 23.8 | 36.1 | 100.0 |
| | | A very positive effect | | | | |
| | | Total | 83 | 65.9 | 100.0 | |
| | Missing | Don't know / can't say | 37 | 29.4 | | |
| | | System | 6 | 4.8 | | |
| Total | | 43 | 34.1 | | | |
| Total | | | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | A very negative effect | 4 | 8.3 | 16.0 | 16.0 |
| | | A negative effect | 11 | 22.9 | 44.0 | 60.0 |
| | | No effect | 1 | 2.1 | 4.0 | 64.0 |
| | | A positive effect | 9 | 18.8 | 36.0 | 100.0 |
| | | A very positive effect | | | | |
| | | Total | 25 | 52.1 | 100.0 | |
| | Missing | Don't know / can't say | 22 | 45.8 | | |
| | | System | 1 | 2.1 | | |
| Total | | 23 | 47.9 | | | |
| Total | | | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
D. Pressures

q56. Have you experienced pressure from a research colleague to prove that his / her hypothesis was correct, even though the data you generated may not support the hypothesis?

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Yes | 129 | 19.6 | 21.9 | 21.9 |
| | | No | 439 | 66.7 | 74.7 | 96.6 |
| | | Don't know / can't say | 20 | 3.0 | 3.4 | 100.0 |
| | | Total | 588 | 89.4 | 100.0 | |
| | Missing | System | 70 | 10.6 | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Yes | 85 | 21.4 | 26.4 | 26.4 |
| | | No | 224 | 56.4 | 69.6 | 96.0 |
| | | Don't know / can't say | 13 | 3.3 | 4.0 | 100.0 |
| | | Total | 322 | 81.1 | 100.0 | |
| | Missing | System | 75 | 18.9 | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Yes | 52 | 18.3 | 23.1 | 23.1 |
| | | No | 162 | 57.0 | 72.0 | 95.1 |
| | | Don't know / can't say | 11 | 3.9 | 4.9 | 100.0 |
| | | Total | 225 | 79.2 | 100.0 | |
| | Missing | System | 59 | 20.8 | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Yes | 15 | 10.1 | 13.4 | 13.4 |
| | | No | 92 | 61.7 | 82.1 | 95.5 |
| | | Don't know / can't say | 5 | 3.4 | 4.5 | 100.0 |
| | | Total | 112 | 75.2 | 100.0 | |
| | Missing | System | 37 | 24.8 | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

q57. Has a research colleague ever asked you alter / suppress your results, or to select the best results which may not be representative of all the results?

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Yes | 84 | 12.8 | 14.3 | 14.3 |
| | | No | 496 | 75.4 | 84.2 | 98.5 |
| | | Don't know / can't say | 9 | 1.4 | 1.5 | 100.0 |
| | | Total | 589 | 89.5 | 100.0 | |
| | Missing | System | 69 | 10.5 | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Yes | 61 | 15.4 | 18.9 | 18.9 |
| | | No | 258 | 65.0 | 80.1 | 99.1 |
| | | Don't know / can't say | 3 | .8 | .9 | 100.0 |
| | | Total | 322 | 81.1 | 100.0 | |
| | Missing | System | 75 | 18.9 | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Yes | 43 | 15.1 | 19.0 | 19.0 |
| | | No | 176 | 62.0 | 77.9 | 96.9 |
| | | Don't know / can't say | 7 | 2.5 | 3.1 | 100.0 |
| | | Total | 226 | 79.6 | 100.0 | |
| | Missing | System | 58 | 20.4 | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Yes | 15 | 10.1 | 13.4 | 13.4 |
| | | No | 93 | 62.4 | 83.0 | 96.4 |
| | | Don't know / can't say | 4 | 2.7 | 3.6 | 100.0 |
| | | Total | 112 | 75.2 | 100.0 | |
| | Missing | System | 37 | 24.8 | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
E. Actions

q58a. The Excellence in Research for Australia (ERA) framework

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------------|------------------------|---------|---------------|--------------------|
| Senior researcher | Valid | Very negative effect overall | 18 | 2.7 | 3.9 | 3.9 |
| | | Negative effect overall | 81 | 12.3 | 17.6 | 21.5 |
| | | No effect overall | 206 | 31.3 | 44.7 | 66.2 |
| | | Positive effect overall | 144 | 21.9 | 31.2 | 97.4 |
| | | Very positive effect overall | 12 | 1.8 | 2.6 | 100.0 |
| | | Total | 461 | 70.1 | 100.0 | |
| | Missing | Don't know / can't say | 113 | 17.2 | | |
| | System | 84 | 12.8 | | | |
| | Total | 197 | 29.9 | | | |
| | Total | 658 | 100.0 | | | |
| Mid-career researcher | Valid | Very negative effect overall | 11 | 2.8 | 5.4 | 5.4 |
| | | Negative effect overall | 23 | 5.8 | 11.3 | 16.7 |
| | | No effect overall | 104 | 26.2 | 51.2 | 68.0 |
| | | Positive effect overall | 64 | 16.1 | 31.5 | 99.5 |
| | | Very positive effect overall | 1 | .3 | .5 | 100.0 |
| | | Total | 203 | 51.1 | 100.0 | |
| | Missing | Don't know / can't say | 102 | 25.7 | | |
| | System | 92 | 23.2 | | | |
| | Total | 194 | 48.9 | | | |
| | Total | 397 | 100.0 | | | |
| Junior researcher | Valid | Very negative effect overall | 2 | .7 | 1.9 | 1.9 |
| | | Negative effect overall | 14 | 4.9 | 13.0 | 14.8 |
| | | No effect overall | 43 | 15.1 | 39.8 | 54.6 |
| | | Positive effect overall | 44 | 15.5 | 40.7 | 95.4 |
| | | Very positive effect overall | 5 | 1.8 | 4.6 | 100.0 |
| | | Total | 108 | 38.0 | 100.0 | |
| | Missing | Don't know / can't say | 110 | 38.7 | | |
| | System | 66 | 23.2 | | | |
| | Total | 176 | 62.0 | | | |
| | Total | 284 | 100.0 | | | |
| Research student | Valid | Very negative effect overall | 1 | .7 | 3.2 | 3.2 |
| | | Negative effect overall | 2 | 1.3 | 6.5 | 9.7 |
| | | No effect overall | 5 | 3.4 | 16.1 | 25.8 |
| | | Positive effect overall | 20 | 13.4 | 64.5 | 90.3 |
| | | Very positive effect overall | 3 | 2.0 | 9.7 | 100.0 |
| | | Total | 31 | 20.8 | 100.0 | |
| | Missing | Don't know / can't say | 75 | 50.3 | | |
| | System | 43 | 28.9 | | | |
| | Total | 118 | 79.2 | | | |
| | Total | 149 | 100.0 | | | |
| Representative of an institution | Valid | Very negative effect overall | 1 | .9 | 1.6 | 1.6 |
| | | Negative effect overall | 14 | 13.2 | 22.2 | 23.8 |
| | | No effect overall | 15 | 14.2 | 23.8 | 47.6 |
| | | Positive effect overall | 28 | 26.4 | 44.4 | 92.1 |
| | | Very positive effect overall | 5 | 4.7 | 7.9 | 100.0 |
| | | Total | 63 | 59.4 | 100.0 | |
| | Missing | Don't know / can't say | 19 | 17.9 | | |
| | System | 24 | 22.6 | | | |
| | Total | 43 | 40.6 | | | |
| | Total | 106 | 100.0 | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Very negative effect overall | 1 | .8 | 1.7 | 1.7 |
| | | Negative effect overall | 15 | 11.9 | 25.9 | 27.6 |
| | | No effect overall | 9 | 7.1 | 15.5 | 43.1 |
| | | Positive effect overall | 31 | 24.6 | 53.4 | 96.6 |
| | | Very positive effect overall | 2 | 1.6 | 3.4 | 100.0 |
| | | Total | 58 | 46.0 | 100.0 | |
| | Missing | Don't know / can't say | 57 | 45.2 | | |
| | System | 11 | 8.7 | | | |
| | Total | 68 | 54.0 | | | |
| | Total | 126 | 100.0 | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Negative effect overall | 1 | 2.1 | 5.6 | 5.6 |
| | | No effect overall | 3 | 6.3 | 16.7 | 22.2 |
| | | Positive effect overall | 11 | 22.9 | 61.1 | 83.3 |
| | | Very positive effect overall | 3 | 6.3 | 16.7 | 100.0 |
| | | Total | 18 | 37.5 | 100.0 | |
| | | Missing | Don't know / can't say | 26 | 54.2 | |
| | | System | 4 | 8.3 | | |
| | Total | 30 | 62.5 | | | |
| | Total | 48 | 100.0 | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
E. Actions

q58b. International and national University rankings

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent | |
|--|---------|------------------------------|------------------------|---------|---------------|--------------------|--|
| Senior researcher | Valid | Very negative effect overall | 31 | 4.7 | 5.7 | 5.7 | |
| | | Negative effect overall | 131 | 19.9 | 24.1 | 29.8 | |
| | | No effect overall | 231 | 35.1 | 42.5 | 72.4 | |
| | | Positive effect overall | 143 | 21.7 | 26.3 | 98.7 | |
| | | Very positive effect overall | 7 | 1.1 | 1.3 | 100.0 | |
| | | Total | 543 | 82.5 | 100.0 | | |
| | Missing | Don't know / can't say | 33 | 5.0 | | | |
| | | System | 82 | 12.5 | | | |
| | | Total | 115 | 17.5 | | | |
| | Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Very negative effect overall | 14 | 3.5 | 5.2 | 5.2 | |
| | | Negative effect overall | 64 | 16.1 | 23.6 | 28.8 | |
| | | No effect overall | 115 | 29.0 | 42.4 | 71.2 | |
| | | Positive effect overall | 76 | 19.1 | 28.0 | 99.3 | |
| | | Very positive effect overall | 2 | .5 | .7 | 100.0 | |
| | | Total | 271 | 68.3 | 100.0 | | |
| | Missing | Don't know / can't say | 32 | 8.1 | | | |
| | | System | 94 | 23.7 | | | |
| | | Total | 126 | 31.7 | | | |
| | Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Very negative effect overall | 10 | 3.5 | 5.6 | 5.6 | |
| | | Negative effect overall | 40 | 14.1 | 22.2 | 27.8 | |
| | | No effect overall | 65 | 22.9 | 36.1 | 63.9 | |
| | | Positive effect overall | 61 | 21.5 | 33.9 | 97.8 | |
| | | Very positive effect overall | 4 | 1.4 | 2.2 | 100.0 | |
| | | Total | 180 | 63.4 | 100.0 | | |
| | Missing | Don't know / can't say | 37 | 13.0 | | | |
| | | System | 67 | 23.6 | | | |
| | | Total | 104 | 36.6 | | | |
| | Total | | | 284 | 100.0 | | |
| Research student | Valid | Very negative effect overall | 2 | 1.3 | 2.9 | 2.9 | |
| | | Negative effect overall | 13 | 8.7 | 19.1 | 22.1 | |
| | | No effect overall | 21 | 14.1 | 30.9 | 52.9 | |
| | | Positive effect overall | 29 | 19.5 | 42.6 | 95.6 | |
| | | Very positive effect overall | 3 | 2.0 | 4.4 | 100.0 | |
| | | Total | 68 | 45.6 | 100.0 | | |
| | Missing | Don't know / can't say | 38 | 25.5 | | | |
| | | System | 43 | 28.9 | | | |
| | | Total | 81 | 54.4 | | | |
| | Total | | | 149 | 100.0 | | |
| Representative of an institution | Valid | Very negative effect overall | 1 | .9 | 1.5 | 1.5 | |
| | | Negative effect overall | 19 | 17.9 | 28.8 | 30.3 | |
| | | No effect overall | 20 | 18.9 | 30.3 | 60.6 | |
| | | Positive effect overall | 24 | 22.6 | 36.4 | 97.0 | |
| | | Very positive effect overall | 2 | 1.9 | 3.0 | 100.0 | |
| | | Total | 66 | 62.3 | 100.0 | | |
| | Missing | Don't know / can't say | 14 | 13.2 | | | |
| | | System | 26 | 24.5 | | | |
| | | Total | 40 | 37.7 | | | |
| | Total | | | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Very negative effect overall | 3 | 2.4 | 3.5 | 3.5 | |
| | | Negative effect overall | 21 | 16.7 | 24.4 | 27.9 | |
| | | No effect overall | 14 | 11.1 | 16.3 | 44.2 | |
| | | Positive effect overall | 46 | 36.5 | 53.5 | 97.7 | |
| | | Very positive effect overall | 2 | 1.6 | 2.3 | 100.0 | |
| | | Total | 86 | 68.3 | 100.0 | | |
| | Missing | Don't know / can't say | 28 | 22.2 | | | |
| | | System | 12 | 9.5 | | | |
| | | Total | 40 | 31.7 | | | |
| | Total | | | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Negative effect overall | 1 | 2.1 | 4.2 | 4.2 | |
| | | No effect overall | 6 | 12.5 | 25.0 | 29.2 | |
| | | Positive effect overall | 15 | 31.3 | 62.5 | 91.7 | |
| | | Very positive effect overall | 2 | 4.2 | 8.3 | 100.0 | |
| | | Total | 24 | 50.0 | 100.0 | | |
| | | Missing | Don't know / can't say | 21 | 43.8 | | |
| | System | | 3 | 6.3 | | | |
| | Total | | 24 | 50.0 | | | |
| | Total | | | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
E. Actions

q58c. How funding for specific projects and programmes is awarded

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent | |
|--|---------|------------------------------|------------------------|---------|---------------|--------------------|--|
| Senior researcher | Valid | Very negative effect overall | 73 | 11.1 | 13.2 | 13.2 | |
| | | Negative effect overall | 215 | 32.7 | 38.9 | 52.2 | |
| | | No effect overall | 78 | 11.9 | 14.1 | 66.3 | |
| | | Positive effect overall | 165 | 25.1 | 29.9 | 96.2 | |
| | | Very positive effect overall | 21 | 3.2 | 3.8 | 100.0 | |
| | | Total | 552 | 83.9 | 100.0 | | |
| | Missing | Don't know / can't say | 24 | 3.6 | | | |
| | | System | 82 | 12.5 | | | |
| | | Total | 106 | 16.1 | | | |
| | Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Very negative effect overall | 48 | 12.1 | 17.1 | 17.1 | |
| | | Negative effect overall | 119 | 30.0 | 42.5 | 59.6 | |
| | | No effect overall | 24 | 6.0 | 8.6 | 68.2 | |
| | | Positive effect overall | 81 | 20.4 | 28.9 | 97.1 | |
| | | Very positive effect overall | 8 | 2.0 | 2.9 | 100.0 | |
| | | Total | 280 | 70.5 | 100.0 | | |
| | Missing | Don't know / can't say | 20 | 5.0 | | | |
| | | System | 97 | 24.4 | | | |
| | | Total | 117 | 29.5 | | | |
| | Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Very negative effect overall | 33 | 11.6 | 17.1 | 17.1 | |
| | | Negative effect overall | 84 | 29.6 | 43.5 | 60.6 | |
| | | No effect overall | 20 | 7.0 | 10.4 | 71.0 | |
| | | Positive effect overall | 48 | 16.9 | 24.9 | 95.9 | |
| | | Very positive effect overall | 8 | 2.8 | 4.1 | 100.0 | |
| | | Total | 193 | 68.0 | 100.0 | | |
| | Missing | Don't know / can't say | 22 | 7.7 | | | |
| | | System | 69 | 24.3 | | | |
| | | Total | 91 | 32.0 | | | |
| | Total | | | 284 | 100.0 | | |
| Research student | Valid | Very negative effect overall | 9 | 6.0 | 12.0 | 12.0 | |
| | | Negative effect overall | 26 | 17.4 | 34.7 | 46.7 | |
| | | No effect overall | 5 | 3.4 | 6.7 | 53.3 | |
| | | Positive effect overall | 32 | 21.5 | 42.7 | 96.0 | |
| | | Very positive effect overall | 3 | 2.0 | 4.0 | 100.0 | |
| | | Total | 75 | 50.3 | 100.0 | | |
| | Missing | Don't know / can't say | 31 | 20.8 | | | |
| | | System | 43 | 28.9 | | | |
| | | Total | 74 | 49.7 | | | |
| | Total | | | 149 | 100.0 | | |
| Representative of an institution | Valid | Very negative effect overall | 4 | 3.8 | 5.6 | 5.6 | |
| | | Negative effect overall | 23 | 21.7 | 31.9 | 37.5 | |
| | | No effect overall | 10 | 9.4 | 13.9 | 51.4 | |
| | | Positive effect overall | 30 | 28.3 | 41.7 | 93.1 | |
| | | Very positive effect overall | 5 | 4.7 | 6.9 | 100.0 | |
| | | Total | 72 | 67.9 | 100.0 | | |
| | Missing | Don't know / can't say | 9 | 8.5 | | | |
| | | System | 25 | 23.6 | | | |
| | | Total | 34 | 32.1 | | | |
| | Total | | | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Very negative effect overall | 5 | 4.0 | 5.8 | 5.8 | |
| | | Negative effect overall | 27 | 21.4 | 31.4 | 37.2 | |
| | | No effect overall | 7 | 5.6 | 8.1 | 45.3 | |
| | | Positive effect overall | 41 | 32.5 | 47.7 | 93.0 | |
| | | Very positive effect overall | 6 | 4.8 | 7.0 | 100.0 | |
| | | Total | 86 | 68.3 | 100.0 | | |
| | Missing | Don't know / can't say | 27 | 21.4 | | | |
| | | System | 13 | 10.3 | | | |
| | | Total | 40 | 31.7 | | | |
| | Total | | | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Negative effect overall | 8 | 16.7 | 28.6 | 28.6 | |
| | | No effect overall | 3 | 6.3 | 10.7 | 39.3 | |
| | | Positive effect overall | 15 | 31.3 | 53.6 | 92.9 | |
| | | Very positive effect overall | 2 | 4.2 | 7.1 | 100.0 | |
| | | Total | 28 | 58.3 | 100.0 | | |
| | | Missing | Don't know / can't say | 17 | 35.4 | | |
| | System | | 3 | 6.3 | | | |
| | Total | | 20 | 41.7 | | | |
| | Total | | | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
E. Actions

q58d. How multidisciplinary & collaborative research is supported

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------------|------------------------|---------|---------------|--------------------|
| Senior researcher | Valid | Very negative effect overall | 53 | 8.1 | 9.7 | 9.7 |
| | | Negative effect overall | 138 | 21.0 | 25.3 | 35.0 |
| | | No effect overall | 107 | 16.3 | 19.6 | 54.7 |
| | | Positive effect overall | 212 | 32.2 | 38.9 | 93.6 |
| | | Very positive effect overall | 35 | 5.3 | 6.4 | 100.0 |
| | | Total | 545 | 82.8 | 100.0 | |
| | Missing | Don't know / can't say | 31 | 4.7 | | |
| | System | 82 | 12.5 | | | |
| | Total | 113 | 17.2 | | | |
| | Total | 658 | 100.0 | | | |
| Mid-career researcher | Valid | Very negative effect overall | 22 | 5.5 | 8.0 | 8.0 |
| | | Negative effect overall | 56 | 14.1 | 20.3 | 28.3 |
| | | No effect overall | 58 | 14.6 | 21.0 | 49.3 |
| | | Positive effect overall | 118 | 29.7 | 42.8 | 92.0 |
| | | Very positive effect overall | 22 | 5.5 | 8.0 | 100.0 |
| | | Total | 276 | 69.5 | 100.0 | |
| | Missing | Don't know / can't say | 26 | 6.5 | | |
| | System | 95 | 23.9 | | | |
| | Total | 121 | 30.5 | | | |
| | Total | 397 | 100.0 | | | |
| Junior researcher | Valid | Very negative effect overall | 14 | 4.9 | 7.5 | 7.5 |
| | | Negative effect overall | 41 | 14.4 | 21.9 | 29.4 |
| | | No effect overall | 23 | 8.1 | 12.3 | 41.7 |
| | | Positive effect overall | 91 | 32.0 | 48.7 | 90.4 |
| | | Very positive effect overall | 18 | 6.3 | 9.6 | 100.0 |
| | | Total | 187 | 65.8 | 100.0 | |
| | Missing | Don't know / can't say | 28 | 9.9 | | |
| | System | 69 | 24.3 | | | |
| | Total | 97 | 34.2 | | | |
| | Total | 284 | 100.0 | | | |
| Research student | Valid | Negative effect overall | 8 | 5.4 | 9.6 | 9.6 |
| | | No effect overall | 10 | 6.7 | 12.0 | 21.7 |
| | | Positive effect overall | 48 | 32.2 | 57.8 | 79.5 |
| | | Very positive effect overall | 17 | 11.4 | 20.5 | 100.0 |
| | | Total | 83 | 55.7 | 100.0 | |
| | | Missing | Don't know / can't say | 23 | 15.4 | |
| | | System | 43 | 28.9 | | |
| | Total | 66 | 44.3 | | | |
| | Total | 149 | 100.0 | | | |
| Representative of an institution | Valid | Very negative effect overall | 3 | 2.8 | 4.1 | 4.1 |
| | | Negative effect overall | 9 | 8.5 | 12.3 | 16.4 |
| | | No effect overall | 12 | 11.3 | 16.4 | 32.9 |
| | | Positive effect overall | 43 | 40.6 | 58.9 | 91.8 |
| | | Very positive effect overall | 6 | 5.7 | 8.2 | 100.0 |
| | | Total | 73 | 68.9 | 100.0 | |
| | Missing | Don't know / can't say | 8 | 7.5 | | |
| | System | 25 | 23.6 | | | |
| | Total | 33 | 31.1 | | | |
| | Total | 106 | 100.0 | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Very negative effect overall | 4 | 3.2 | 4.3 | 4.3 |
| | | Negative effect overall | 16 | 12.7 | 17.0 | 21.3 |
| | | No effect overall | 6 | 4.8 | 6.4 | 27.7 |
| | | Positive effect overall | 58 | 46.0 | 61.7 | 89.4 |
| | | Very positive effect overall | 10 | 7.9 | 10.6 | 100.0 |
| | | Total | 94 | 74.6 | 100.0 | |
| | Missing | Don't know / can't say | 20 | 15.9 | | |
| | System | 12 | 9.5 | | | |
| | Total | 32 | 25.4 | | | |
| | Total | 126 | 100.0 | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Negative effect overall | 2 | 4.2 | 6.7 | 6.7 |
| | | Positive effect overall | 23 | 47.9 | 76.7 | 83.3 |
| | | Very positive effect overall | 5 | 10.4 | 16.7 | 100.0 |
| | | Total | 30 | 62.5 | 100.0 | |
| | Missing | Don't know / can't say | 15 | 31.3 | | |
| | | System | 3 | 6.3 | | |
| | | Total | 18 | 37.5 | | |
| | Total | 48 | 100.0 | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
E. Actions

q58e. Support of open access publishing

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------------|------------------------|---------|---------------|--------------------|
| Senior researcher | Valid | Very negative effect overall | 14 | 2.1 | 2.6 | 2.6 |
| | | Negative effect overall | 53 | 8.1 | 10.0 | 12.6 |
| | | No effect overall | 262 | 39.8 | 49.3 | 62.0 |
| | | Positive effect overall | 175 | 26.6 | 33.0 | 94.9 |
| | | Very positive effect overall | 27 | 4.1 | 5.1 | 100.0 |
| | | Total | 531 | 80.7 | 100.0 | |
| | Missing | Don't know / can't say | 46 | 7.0 | | |
| | System | 81 | 12.3 | | | |
| | Total | 127 | 19.3 | | | |
| | Total | 658 | 100.0 | | | |
| Mid-career researcher | Valid | Very negative effect overall | 7 | 1.8 | 2.5 | 2.5 |
| | | Negative effect overall | 19 | 4.8 | 6.8 | 9.3 |
| | | No effect overall | 111 | 28.0 | 39.6 | 48.9 |
| | | Positive effect overall | 114 | 28.7 | 40.7 | 89.6 |
| | | Very positive effect overall | 29 | 7.3 | 10.4 | 100.0 |
| | | Total | 280 | 70.5 | 100.0 | |
| | Missing | Don't know / can't say | 22 | 5.5 | | |
| | System | 95 | 23.9 | | | |
| | Total | 117 | 29.5 | | | |
| | Total | 397 | 100.0 | | | |
| Junior researcher | Valid | Very negative effect overall | 5 | 1.8 | 2.6 | 2.6 |
| | | Negative effect overall | 12 | 4.2 | 6.3 | 8.9 |
| | | No effect overall | 56 | 19.7 | 29.2 | 38.0 |
| | | Positive effect overall | 94 | 33.1 | 49.0 | 87.0 |
| | | Very positive effect overall | 25 | 8.8 | 13.0 | 100.0 |
| | | Total | 192 | 67.6 | 100.0 | |
| | Missing | Don't know / can't say | 24 | 8.5 | | |
| | System | 68 | 23.9 | | | |
| | Total | 92 | 32.4 | | | |
| | Total | 284 | 100.0 | | | |
| Research student | Valid | Negative effect overall | 3 | 2.0 | 3.7 | 3.7 |
| | | No effect overall | 16 | 10.7 | 19.8 | 23.5 |
| | | Positive effect overall | 46 | 30.9 | 56.8 | 80.2 |
| | | Very positive effect overall | 16 | 10.7 | 19.8 | 100.0 |
| | | Total | 81 | 54.4 | 100.0 | |
| | | Missing | Don't know / can't say | 25 | 16.8 | |
| | | System | 43 | 28.9 | | |
| | Total | 68 | 45.6 | | | |
| | Total | 149 | 100.0 | | | |
| Representative of an institution | Valid | Very negative effect overall | 1 | .9 | 1.4 | 1.4 |
| | | Negative effect overall | 5 | 4.7 | 7.2 | 8.7 |
| | | No effect overall | 19 | 17.9 | 27.5 | 36.2 |
| | | Positive effect overall | 35 | 33.0 | 50.7 | 87.0 |
| | | Very positive effect overall | 9 | 8.5 | 13.0 | 100.0 |
| | | Total | 69 | 65.1 | 100.0 | |
| | Missing | Don't know / can't say | 12 | 11.3 | | |
| | System | 25 | 23.6 | | | |
| | Total | 37 | 34.9 | | | |
| | Total | 106 | 100.0 | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Very negative effect overall | 1 | .8 | 1.2 | 1.2 |
| | | Negative effect overall | 3 | 2.4 | 3.5 | 4.7 |
| | | No effect overall | 17 | 13.5 | 19.8 | 24.4 |
| | | Positive effect overall | 54 | 42.9 | 62.8 | 87.2 |
| | | Very positive effect overall | 11 | 8.7 | 12.8 | 100.0 |
| | | Total | 86 | 68.3 | 100.0 | |
| | Missing | Don't know / can't say | 28 | 22.2 | | |
| | System | 12 | 9.5 | | | |
| | Total | 40 | 31.7 | | | |
| | Total | 126 | 100.0 | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Negative effect overall | 1 | 2.1 | 3.6 | 3.6 |
| | | No effect overall | 5 | 10.4 | 17.9 | 21.4 |
| | | Positive effect overall | 13 | 27.1 | 46.4 | 67.9 |
| | | Very positive effect overall | 9 | 18.8 | 32.1 | 100.0 |
| | | Total | 28 | 58.3 | 100.0 | |
| | | Missing | Don't know / can't say | 17 | 35.4 | |
| | | System | 3 | 6.3 | | |
| | Total | 20 | 41.7 | | | |
| | Total | 48 | 100.0 | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
E. Actions

q58f. The grant peer review system

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------------|------------------------|---------|---------------|--------------------|
| Senior researcher | Valid | Very negative effect overall | 95 | 14.4 | 16.7 | 16.7 |
| | | Negative effect overall | 169 | 25.7 | 29.6 | 46.3 |
| | | No effect overall | 68 | 10.3 | 11.9 | 58.2 |
| | | Positive effect overall | 218 | 33.1 | 38.2 | 96.5 |
| | | Very positive effect overall | 20 | 3.0 | 3.5 | 100.0 |
| | | Total | 570 | 86.6 | 100.0 | |
| | Missing | Don't know / can't say | 8 | 1.2 | | |
| | System | 80 | 12.2 | | | |
| | Total | 88 | 13.4 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Very negative effect overall | 52 | 13.1 | 17.7 | 17.7 |
| | | Negative effect overall | 101 | 25.4 | 34.5 | 52.2 |
| | | No effect overall | 34 | 8.6 | 11.6 | 63.8 |
| | | Positive effect overall | 95 | 23.9 | 32.4 | 96.2 |
| | | Very positive effect overall | 11 | 2.8 | 3.8 | 100.0 |
| | | Total | 293 | 73.8 | 100.0 | |
| | Missing | Don't know / can't say | 9 | 2.3 | | |
| | System | 95 | 23.9 | | | |
| | Total | 104 | 26.2 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Very negative effect overall | 21 | 7.4 | 11.2 | 11.2 |
| | | Negative effect overall | 67 | 23.6 | 35.8 | 47.1 |
| | | No effect overall | 28 | 9.9 | 15.0 | 62.0 |
| | | Positive effect overall | 65 | 22.9 | 34.8 | 96.8 |
| | | Very positive effect overall | 6 | 2.1 | 3.2 | 100.0 |
| | | Total | 187 | 65.8 | 100.0 | |
| | Missing | Don't know / can't say | 29 | 10.2 | | |
| | System | 68 | 23.9 | | | |
| | Total | 97 | 34.2 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Very negative effect overall | 3 | 2.0 | 4.2 | 4.2 |
| | | Negative effect overall | 18 | 12.1 | 25.0 | 29.2 |
| | | No effect overall | 4 | 2.7 | 5.6 | 34.7 |
| | | Positive effect overall | 37 | 24.8 | 51.4 | 86.1 |
| | | Very positive effect overall | 10 | 6.7 | 13.9 | 100.0 |
| | | Total | 72 | 48.3 | 100.0 | |
| | Missing | Don't know / can't say | 33 | 22.1 | | |
| | System | 44 | 29.5 | | | |
| | Total | 77 | 51.7 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Valid | Very negative effect overall | 3 | 2.8 | 4.3 | 4.3 |
| | | Negative effect overall | 11 | 10.4 | 15.9 | 20.3 |
| | | No effect overall | 7 | 6.6 | 10.1 | 30.4 |
| | | Positive effect overall | 42 | 39.6 | 60.9 | 91.3 |
| | | Very positive effect overall | 6 | 5.7 | 8.7 | 100.0 |
| | | Total | 69 | 65.1 | 100.0 | |
| | Missing | Don't know / can't say | 12 | 11.3 | | |
| | System | 25 | 23.6 | | | |
| | Total | 37 | 34.9 | | | |
| Total | | | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Very negative effect overall | 2 | 1.6 | 2.3 | 2.3 |
| | | Negative effect overall | 15 | 11.9 | 17.0 | 19.3 |
| | | No effect overall | 8 | 6.3 | 9.1 | 28.4 |
| | | Positive effect overall | 55 | 43.7 | 62.5 | 90.9 |
| | | Very positive effect overall | 8 | 6.3 | 9.1 | 100.0 |
| | | Total | 88 | 69.8 | 100.0 | |
| | Missing | Don't know / can't say | 27 | 21.4 | | |
| | System | 11 | 8.7 | | | |
| | Total | 38 | 30.2 | | | |
| Total | | | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Very negative effect overall | 2 | 4.2 | 8.3 | 8.3 |
| | | Negative effect overall | 4 | 8.3 | 16.7 | 25.0 |
| | | Positive effect overall | 15 | 31.3 | 62.5 | 87.5 |
| | | Very positive effect overall | 3 | 6.3 | 12.5 | 100.0 |
| | | Total | 24 | 50.0 | 100.0 | |
| | | Missing | Don't know / can't say | 21 | 43.8 | |
| | | System | 3 | 6.3 | | |
| | Total | 24 | 50.0 | | | |
| Total | | | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
E. Actions

q58g. The journal peer review system

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------------|------------------------|---------|---------------|--------------------|
| Senior researcher | Valid | Very negative effect overall | 26 | 4.0 | 4.5 | 4.5 |
| | | Negative effect overall | 92 | 14.0 | 16.1 | 20.6 |
| | | No effect overall | 99 | 15.0 | 17.3 | 37.9 |
| | | Positive effect overall | 326 | 49.5 | 57.0 | 94.9 |
| | | Very positive effect overall | 29 | 4.4 | 5.1 | 100.0 |
| | | Total | 572 | 86.9 | 100.0 | |
| | Missing | Don't know / can't say | 6 | .9 | | |
| | System | 80 | 12.2 | | | |
| | Total | 86 | 13.1 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Very negative effect overall | 13 | 3.3 | 4.4 | 4.4 |
| | | Negative effect overall | 49 | 12.3 | 16.6 | 21.0 |
| | | No effect overall | 59 | 14.9 | 20.0 | 41.0 |
| | | Positive effect overall | 158 | 39.8 | 53.6 | 94.6 |
| | | Very positive effect overall | 16 | 4.0 | 5.4 | 100.0 |
| | | Total | 295 | 74.3 | 100.0 | |
| | Missing | Don't know / can't say | 9 | 2.3 | | |
| | System | 93 | 23.4 | | | |
| | Total | 102 | 25.7 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Very negative effect overall | 10 | 3.5 | 4.9 | 4.9 |
| | | Negative effect overall | 35 | 12.3 | 17.1 | 22.0 |
| | | No effect overall | 39 | 13.7 | 19.0 | 41.0 |
| | | Positive effect overall | 108 | 38.0 | 52.7 | 93.7 |
| | | Very positive effect overall | 13 | 4.6 | 6.3 | 100.0 |
| | | Total | 205 | 72.2 | 100.0 | |
| | Missing | Don't know / can't say | 11 | 3.9 | | |
| | System | 68 | 23.9 | | | |
| | Total | 79 | 27.8 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Very negative effect overall | 1 | .7 | 1.1 | 1.1 |
| | | Negative effect overall | 11 | 7.4 | 12.2 | 13.3 |
| | | No effect overall | 11 | 7.4 | 12.2 | 25.6 |
| | | Positive effect overall | 54 | 36.2 | 60.0 | 85.6 |
| | | Very positive effect overall | 13 | 8.7 | 14.4 | 100.0 |
| | | Total | 90 | 60.4 | 100.0 | |
| | Missing | Don't know / can't say | 14 | 9.4 | | |
| | System | 45 | 30.2 | | | |
| | Total | 59 | 39.6 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Valid | Negative effect overall | 10 | 9.4 | 15.2 | 15.2 |
| | | No effect overall | 10 | 9.4 | 15.2 | 30.3 |
| | | Positive effect overall | 38 | 35.8 | 57.6 | 87.9 |
| | | Very positive effect overall | 8 | 7.5 | 12.1 | 100.0 |
| | | Total | 66 | 62.3 | 100.0 | |
| | | Missing | Don't know / can't say | 15 | 14.2 | |
| | | System | 25 | 23.6 | | |
| | Total | 40 | 37.7 | | | |
| Total | | | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Very negative effect overall | 3 | 2.4 | 3.1 | 3.1 |
| | | Negative effect overall | 4 | 3.2 | 4.2 | 7.3 |
| | | No effect overall | 8 | 6.3 | 8.3 | 15.6 |
| | | Positive effect overall | 70 | 55.6 | 72.9 | 88.5 |
| | | Very positive effect overall | 11 | 8.7 | 11.5 | 100.0 |
| | | Total | 96 | 76.2 | 100.0 | |
| | Missing | Don't know / can't say | 19 | 15.1 | | |
| | System | 11 | 8.7 | | | |
| | Total | 30 | 23.8 | | | |
| Total | | | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Very negative effect overall | 1 | 2.1 | 3.2 | 3.2 |
| | | Negative effect overall | 1 | 2.1 | 3.2 | 6.5 |
| | | No effect overall | 5 | 10.4 | 16.1 | 22.6 |
| | | Positive effect overall | 22 | 45.8 | 71.0 | 93.5 |
| | | Very positive effect overall | 2 | 4.2 | 6.5 | 100.0 |
| | | Total | 31 | 64.6 | 100.0 | |
| | Missing | Don't know / can't say | 14 | 29.2 | | |
| | System | 3 | 6.3 | | | |
| | Total | 17 | 35.4 | | | |
| Total | | | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
E. Actions

q58h. Media coverage of research

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Very negative effect overall | 38 | 5.8 | 7.0 | 7.0 |
| | | Negative effect overall | 136 | 20.7 | 25.0 | 31.9 |
| | | No effect overall | 253 | 38.4 | 46.4 | 78.3 |
| | | Positive effect overall | 112 | 17.0 | 20.6 | 98.9 |
| | | Very positive effect overall | 6 | .9 | 1.1 | 100.0 |
| | | Total | 545 | 82.8 | 100.0 | |
| | Missing | Don't know / can't say | 30 | 4.6 | | |
| | System | 83 | 12.6 | | | |
| | Total | 113 | 17.2 | | | |
| | Total | 658 | 100.0 | | | |
| Mid-career researcher | Valid | Very negative effect overall | 14 | 3.5 | 5.0 | 5.0 |
| | | Negative effect overall | 73 | 18.4 | 26.1 | 31.1 |
| | | No effect overall | 121 | 30.5 | 43.2 | 74.3 |
| | | Positive effect overall | 66 | 16.6 | 23.6 | 97.9 |
| | | Very positive effect overall | 6 | 1.5 | 2.1 | 100.0 |
| | | Total | 280 | 70.5 | 100.0 | |
| | Missing | Don't know / can't say | 23 | 5.8 | | |
| | System | 94 | 23.7 | | | |
| | Total | 117 | 29.5 | | | |
| | Total | 397 | 100.0 | | | |
| Junior researcher | Valid | Very negative effect overall | 9 | 3.2 | 4.8 | 4.8 |
| | | Negative effect overall | 45 | 15.8 | 23.9 | 28.7 |
| | | No effect overall | 63 | 22.2 | 33.5 | 62.2 |
| | | Positive effect overall | 64 | 22.5 | 34.0 | 96.3 |
| | | Very positive effect overall | 7 | 2.5 | 3.7 | 100.0 |
| | | Total | 188 | 66.2 | 100.0 | |
| | Missing | Don't know / can't say | 27 | 9.5 | | |
| | System | 69 | 24.3 | | | |
| | Total | 96 | 33.8 | | | |
| | Total | 284 | 100.0 | | | |
| Research student | Valid | Very negative effect overall | 6 | 4.0 | 7.6 | 7.6 |
| | | Negative effect overall | 12 | 8.1 | 15.2 | 22.8 |
| | | No effect overall | 23 | 15.4 | 29.1 | 51.9 |
| | | Positive effect overall | 32 | 21.5 | 40.5 | 92.4 |
| | | Very positive effect overall | 6 | 4.0 | 7.6 | 100.0 |
| | | Total | 79 | 53.0 | 100.0 | |
| | Missing | Don't know / can't say | 27 | 18.1 | | |
| | System | 43 | 28.9 | | | |
| | Total | 70 | 47.0 | | | |
| | Total | 149 | 100.0 | | | |
| Representative of an institution | Valid | Very negative effect overall | 5 | 4.7 | 6.8 | 6.8 |
| | | Negative effect overall | 14 | 13.2 | 18.9 | 25.7 |
| | | No effect overall | 26 | 24.5 | 35.1 | 60.8 |
| | | Positive effect overall | 24 | 22.6 | 32.4 | 93.2 |
| | | Very positive effect overall | 5 | 4.7 | 6.8 | 100.0 |
| | | Total | 74 | 69.8 | 100.0 | |
| | Missing | Don't know / can't say | 7 | 6.6 | | |
| | System | 25 | 23.6 | | | |
| | Total | 32 | 30.2 | | | |
| | Total | 106 | 100.0 | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Very negative effect overall | 3 | 2.4 | 3.4 | 3.4 |
| | | Negative effect overall | 17 | 13.5 | 19.3 | 22.7 |
| | | No effect overall | 21 | 16.7 | 23.9 | 46.6 |
| | | Positive effect overall | 41 | 32.5 | 46.6 | 93.2 |
| | | Very positive effect overall | 6 | 4.8 | 6.8 | 100.0 |
| | | Total | 88 | 69.8 | 100.0 | |
| | Missing | Don't know / can't say | 26 | 20.6 | | |
| | System | 12 | 9.5 | | | |
| | Total | 38 | 30.2 | | | |
| | Total | 126 | 100.0 | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Very negative effect overall | 1 | 2.1 | 3.1 | 3.1 |
| | | Negative effect overall | 4 | 8.3 | 12.5 | 15.6 |
| | | No effect overall | 10 | 20.8 | 31.3 | 46.9 |
| | | Positive effect overall | 16 | 33.3 | 50.0 | 96.9 |
| | | Very positive effect overall | 1 | 2.1 | 3.1 | 100.0 |
| | | Total | 32 | 66.7 | 100.0 | |
| | Missing | Don't know / can't say | 13 | 27.1 | | |
| | System | 3 | 6.3 | | | |
| | Total | 16 | 33.3 | | | |
| | Total | 48 | 100.0 | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
E. Actions

q58i. How researchers are assessed for promotion during their careers

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Very negative effect overall | 36 | 5.5 | 6.5 | 6.5 |
| | | Negative effect overall | 164 | 24.9 | 29.8 | 36.3 |
| | | No effect overall | 134 | 20.4 | 24.3 | 60.6 |
| | | Positive effect overall | 206 | 31.3 | 37.4 | 98.0 |
| | | Very positive effect overall | 11 | 1.7 | 2.0 | 100.0 |
| | | Total | 551 | 83.7 | 100.0 | |
| | Missing | Don't know / can't say | 27 | 4.1 | | |
| | | System | 80 | 12.2 | | |
| | | Total | 107 | 16.3 | | |
| | Total | | | 658 | 100.0 | |
| Mid-career researcher | Valid | Very negative effect overall | 31 | 7.8 | 10.8 | 10.8 |
| | | Negative effect overall | 99 | 24.9 | 34.5 | 45.3 |
| | | No effect overall | 61 | 15.4 | 21.3 | 66.6 |
| | | Positive effect overall | 90 | 22.7 | 31.4 | 97.9 |
| | | Very positive effect overall | 6 | 1.5 | 2.1 | 100.0 |
| | | Total | 287 | 72.3 | 100.0 | |
| | Missing | Don't know / can't say | 16 | 4.0 | | |
| | | System | 94 | 23.7 | | |
| | | Total | 110 | 27.7 | | |
| | Total | | | 397 | 100.0 | |
| Junior researcher | Valid | Very negative effect overall | 23 | 8.1 | 12.4 | 12.4 |
| | | Negative effect overall | 81 | 28.5 | 43.8 | 56.2 |
| | | No effect overall | 27 | 9.5 | 14.6 | 70.8 |
| | | Positive effect overall | 49 | 17.3 | 26.5 | 97.3 |
| | | Very positive effect overall | 5 | 1.8 | 2.7 | 100.0 |
| | | Total | 185 | 65.1 | 100.0 | |
| | Missing | Don't know / can't say | 31 | 10.9 | | |
| | | System | 68 | 23.9 | | |
| | | Total | 99 | 34.9 | | |
| | Total | | | 284 | 100.0 | |
| Research student | Valid | Very negative effect overall | 5 | 3.4 | 7.8 | 7.8 |
| | | Negative effect overall | 32 | 21.5 | 50.0 | 57.8 |
| | | No effect overall | 5 | 3.4 | 7.8 | 65.6 |
| | | Positive effect overall | 18 | 12.1 | 28.1 | 93.8 |
| | | Very positive effect overall | 4 | 2.7 | 6.3 | 100.0 |
| | | Total | 64 | 43.0 | 100.0 | |
| | Missing | Don't know / can't say | 41 | 27.5 | | |
| | | System | 44 | 29.5 | | |
| | | Total | 85 | 57.0 | | |
| | Total | | | 149 | 100.0 | |
| Representative of an institution | Valid | Very negative effect overall | 8 | 7.5 | 11.6 | 11.6 |
| | | Negative effect overall | 23 | 21.7 | 33.3 | 44.9 |
| | | No effect overall | 11 | 10.4 | 15.9 | 60.9 |
| | | Positive effect overall | 22 | 20.8 | 31.9 | 92.8 |
| | | Very positive effect overall | 5 | 4.7 | 7.2 | 100.0 |
| | | Total | 69 | 65.1 | 100.0 | |
| | Missing | Don't know / can't say | 12 | 11.3 | | |
| | | System | 25 | 23.6 | | |
| | | Total | 37 | 34.9 | | |
| | Total | | | 106 | 100.0 | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Very negative effect overall | 10 | 7.9 | 12.8 | 12.8 |
| | | Negative effect overall | 28 | 22.2 | 35.9 | 48.7 |
| | | No effect overall | 10 | 7.9 | 12.8 | 61.5 |
| | | Positive effect overall | 27 | 21.4 | 34.6 | 96.2 |
| | | Very positive effect overall | 3 | 2.4 | 3.8 | 100.0 |
| | | Total | 78 | 61.9 | 100.0 | |
| | Missing | Don't know / can't say | 35 | 27.8 | | |
| | | System | 13 | 10.3 | | |
| | | Total | 48 | 38.1 | | |
| | Total | | | 126 | 100.0 | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Very negative effect overall | 2 | 4.2 | 9.1 | 9.1 |
| | | Negative effect overall | 6 | 12.5 | 27.3 | 36.4 |
| | | No effect overall | 5 | 10.4 | 22.7 | 59.1 |
| | | Positive effect overall | 7 | 14.6 | 31.8 | 90.9 |
| | | Very positive effect overall | 2 | 4.2 | 9.1 | 100.0 |
| | | Total | 22 | 45.8 | 100.0 | |
| | Missing | Don't know / can't say | 23 | 47.9 | | |
| | | System | 3 | 6.3 | | |
| | | Total | 26 | 54.2 | | |
| | Total | | | 48 | 100.0 | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
E. Actions

q58j. Provision of professional education, training and supervision

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------------|------------------------|---------|---------------|--------------------|
| Senior researcher | Valid | Very negative effect overall | 4 | .6 | .7 | .7 |
| | | Negative effect overall | 26 | 4.0 | 4.8 | 5.6 |
| | | No effect overall | 159 | 24.2 | 29.6 | 35.1 |
| | | Positive effect overall | 307 | 46.7 | 57.1 | 92.2 |
| | | Very positive effect overall | 42 | 6.4 | 7.8 | 100.0 |
| | | Total | 538 | 81.8 | 100.0 | |
| | Missing | Don't know / can't say | 35 | 5.3 | | |
| | System | 85 | 12.9 | | | |
| | Total | 120 | 18.2 | | | |
| | Total | 658 | 100.0 | | | |
| Mid-career researcher | Valid | Very negative effect overall | 2 | .5 | .7 | .7 |
| | | Negative effect overall | 15 | 3.8 | 5.2 | 5.9 |
| | | No effect overall | 72 | 18.1 | 25.0 | 30.9 |
| | | Positive effect overall | 170 | 42.8 | 59.0 | 89.9 |
| | | Very positive effect overall | 29 | 7.3 | 10.1 | 100.0 |
| | | Total | 288 | 72.5 | 100.0 | |
| | Missing | Don't know / can't say | 15 | 3.8 | | |
| | System | 94 | 23.7 | | | |
| | Total | 109 | 27.5 | | | |
| | Total | 397 | 100.0 | | | |
| Junior researcher | Valid | Very negative effect overall | 4 | 1.4 | 2.1 | 2.1 |
| | | Negative effect overall | 12 | 4.2 | 6.3 | 8.3 |
| | | No effect overall | 31 | 10.9 | 16.1 | 24.5 |
| | | Positive effect overall | 121 | 42.6 | 63.0 | 87.5 |
| | | Very positive effect overall | 24 | 8.5 | 12.5 | 100.0 |
| | | Total | 192 | 67.6 | 100.0 | |
| | Missing | Don't know / can't say | 24 | 8.5 | | |
| | System | 68 | 23.9 | | | |
| | Total | 92 | 32.4 | | | |
| | Total | 284 | 100.0 | | | |
| Research student | Valid | Very negative effect overall | 1 | .7 | 1.2 | 1.2 |
| | | Negative effect overall | 4 | 2.7 | 4.8 | 6.0 |
| | | No effect overall | 12 | 8.1 | 14.3 | 20.2 |
| | | Positive effect overall | 49 | 32.9 | 58.3 | 78.6 |
| | | Very positive effect overall | 18 | 12.1 | 21.4 | 100.0 |
| | | Total | 84 | 56.4 | 100.0 | |
| | Missing | Don't know / can't say | 21 | 14.1 | | |
| | System | 44 | 29.5 | | | |
| | Total | 65 | 43.6 | | | |
| | Total | 149 | 100.0 | | | |
| Representative of an institution | Valid | Negative effect overall | 4 | 3.8 | 5.3 | 5.3 |
| | | No effect overall | 7 | 6.6 | 9.3 | 14.7 |
| | | Positive effect overall | 56 | 52.8 | 74.7 | 89.3 |
| | | Very positive effect overall | 8 | 7.5 | 10.7 | 100.0 |
| | | Total | 75 | 70.8 | 100.0 | |
| | | Missing | Don't know / can't say | 6 | 5.7 | |
| | | System | 25 | 23.6 | | |
| | Total | 31 | 29.2 | | | |
| | Total | 106 | 100.0 | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Negative effect overall | 2 | 1.6 | 2.3 | 2.3 |
| | | No effect overall | 7 | 5.6 | 8.0 | 10.2 |
| | | Positive effect overall | 62 | 49.2 | 70.5 | 80.7 |
| | | Very positive effect overall | 17 | 13.5 | 19.3 | 100.0 |
| | | Total | 88 | 69.8 | 100.0 | |
| | | Missing | Don't know / can't say | 23 | 18.3 | |
| | | System | 15 | 11.9 | | |
| | Total | 38 | 30.2 | | | |
| | Total | 126 | 100.0 | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Negative effect overall | 1 | 2.1 | 2.9 | 2.9 |
| | | No effect overall | 2 | 4.2 | 5.9 | 8.8 |
| | | Positive effect overall | 20 | 41.7 | 58.8 | 67.6 |
| | | Very positive effect overall | 11 | 22.9 | 32.4 | 100.0 |
| | | Total | 34 | 70.8 | 100.0 | |
| | | Missing | Don't know / can't say | 11 | 22.9 | |
| | | System | 3 | 6.3 | | |
| | Total | 14 | 29.2 | | | |
| | Total | 48 | 100.0 | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
E. Actions

q58k. Commercialisation of research

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent | |
|--|---------|------------------------------|------------------------|---------|---------------|--------------------|--|
| Senior researcher | Valid | Very negative effect overall | 30 | 4.6 | 6.1 | 6.1 | |
| | | Negative effect overall | 127 | 19.3 | 25.9 | 32.0 | |
| | | No effect overall | 178 | 27.1 | 36.3 | 68.4 | |
| | | Positive effect overall | 134 | 20.4 | 27.3 | 95.7 | |
| | | Very positive effect overall | 21 | 3.2 | 4.3 | 100.0 | |
| | | Total | 490 | 74.5 | 100.0 | | |
| | Missing | Don't know / can't say | 82 | 12.5 | | | |
| | | System | 86 | 13.1 | | | |
| | | Total | 168 | 25.5 | | | |
| | Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Very negative effect overall | 18 | 4.5 | 7.2 | 7.2 | |
| | | Negative effect overall | 57 | 14.4 | 22.8 | 30.0 | |
| | | No effect overall | 85 | 21.4 | 34.0 | 64.0 | |
| | | Positive effect overall | 82 | 20.7 | 32.8 | 96.8 | |
| | | Very positive effect overall | 8 | 2.0 | 3.2 | 100.0 | |
| | | Total | 250 | 63.0 | 100.0 | | |
| | Missing | Don't know / can't say | 52 | 13.1 | | | |
| | | System | 95 | 23.9 | | | |
| | | Total | 147 | 37.0 | | | |
| | Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Very negative effect overall | 12 | 4.2 | 7.5 | 7.5 | |
| | | Negative effect overall | 38 | 13.4 | 23.8 | 31.3 | |
| | | No effect overall | 52 | 18.3 | 32.5 | 63.8 | |
| | | Positive effect overall | 52 | 18.3 | 32.5 | 96.3 | |
| | | Very positive effect overall | 6 | 2.1 | 3.8 | 100.0 | |
| | | Total | 160 | 56.3 | 100.0 | | |
| | Missing | Don't know / can't say | 56 | 19.7 | | | |
| | | System | 68 | 23.9 | | | |
| | | Total | 124 | 43.7 | | | |
| | Total | | | 284 | 100.0 | | |
| Research student | Valid | Very negative effect overall | 2 | 1.3 | 3.1 | 3.1 | |
| | | Negative effect overall | 18 | 12.1 | 28.1 | 31.3 | |
| | | No effect overall | 14 | 9.4 | 21.9 | 53.1 | |
| | | Positive effect overall | 25 | 16.8 | 39.1 | 92.2 | |
| | | Very positive effect overall | 5 | 3.4 | 7.8 | 100.0 | |
| | | Total | 64 | 43.0 | 100.0 | | |
| | Missing | Don't know / can't say | 41 | 27.5 | | | |
| | | System | 44 | 29.5 | | | |
| | | Total | 85 | 57.0 | | | |
| | Total | | | 149 | 100.0 | | |
| Representative of an institution | Valid | Very negative effect overall | 4 | 3.8 | 6.0 | 6.0 | |
| | | Negative effect overall | 10 | 9.4 | 14.9 | 20.9 | |
| | | No effect overall | 25 | 23.6 | 37.3 | 58.2 | |
| | | Positive effect overall | 24 | 22.6 | 35.8 | 94.0 | |
| | | Very positive effect overall | 4 | 3.8 | 6.0 | 100.0 | |
| | | Total | 67 | 63.2 | 100.0 | | |
| | Missing | Don't know / can't say | 13 | 12.3 | | | |
| | | System | 26 | 24.5 | | | |
| | | Total | 39 | 36.8 | | | |
| | Total | | | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Very negative effect overall | 4 | 3.2 | 4.8 | 4.8 | |
| | | Negative effect overall | 26 | 20.6 | 31.0 | 35.7 | |
| | | No effect overall | 20 | 15.9 | 23.8 | 59.5 | |
| | | Positive effect overall | 30 | 23.8 | 35.7 | 95.2 | |
| | | Very positive effect overall | 4 | 3.2 | 4.8 | 100.0 | |
| | | Total | 84 | 66.7 | 100.0 | | |
| | Missing | Don't know / can't say | 29 | 23.0 | | | |
| | | System | 13 | 10.3 | | | |
| | | Total | 42 | 33.3 | | | |
| | Total | | | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Very negative effect overall | 1 | 2.1 | 3.8 | 3.8 | |
| | | Negative effect overall | 9 | 18.8 | 34.6 | 38.5 | |
| | | No effect overall | 4 | 8.3 | 15.4 | 53.8 | |
| | | Positive effect overall | 12 | 25.0 | 46.2 | 100.0 | |
| | | Total | 26 | 54.2 | 100.0 | | |
| | | Missing | Don't know / can't say | 19 | 39.6 | | |
| | System | | 3 | 6.3 | | | |
| | Total | | 22 | 45.8 | | | |
| | Total | | | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
E. Actions

q58i. Ethical review processes

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------------|------------------------|---------|---------------|--------------------|
| Senior researcher | Valid | Very negative effect overall | 22 | 3.3 | 3.9 | 3.9 |
| | | Negative effect overall | 40 | 6.1 | 7.1 | 11.0 |
| | | No effect overall | 126 | 19.1 | 22.4 | 33.4 |
| | | Positive effect overall | 321 | 48.8 | 57.0 | 90.4 |
| | | Very positive effect overall | 54 | 8.2 | 9.6 | 100.0 |
| | | Total | 563 | 85.6 | 100.0 | |
| | Missing | Don't know / can't say | 12 | 1.8 | | |
| | System | 83 | 12.6 | | | |
| | Total | 95 | 14.4 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Very negative effect overall | 6 | 1.5 | 2.1 | 2.1 |
| | | Negative effect overall | 27 | 6.8 | 9.2 | 11.3 |
| | | No effect overall | 61 | 15.4 | 20.9 | 32.2 |
| | | Positive effect overall | 159 | 40.1 | 54.5 | 86.6 |
| | | Very positive effect overall | 39 | 9.8 | 13.4 | 100.0 |
| | | Total | 292 | 73.6 | 100.0 | |
| | Missing | Don't know / can't say | 12 | 3.0 | | |
| | System | 93 | 23.4 | | | |
| | Total | 105 | 26.4 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Very negative effect overall | 3 | 1.1 | 1.5 | 1.5 |
| | | Negative effect overall | 14 | 4.9 | 7.0 | 8.5 |
| | | No effect overall | 37 | 13.0 | 18.5 | 27.0 |
| | | Positive effect overall | 113 | 39.8 | 56.5 | 83.5 |
| | | Very positive effect overall | 33 | 11.6 | 16.5 | 100.0 |
| | | Total | 200 | 70.4 | 100.0 | |
| | Missing | Don't know / can't say | 16 | 5.6 | | |
| | System | 68 | 23.9 | | | |
| | Total | 84 | 29.6 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Negative effect overall | 7 | 4.7 | 7.8 | 7.8 |
| | | No effect overall | 7 | 4.7 | 7.8 | 15.6 |
| | | Positive effect overall | 44 | 29.5 | 48.9 | 64.4 |
| | | Very positive effect overall | 32 | 21.5 | 35.6 | 100.0 |
| | | Total | 90 | 60.4 | 100.0 | |
| | | Missing | Don't know / can't say | 16 | 10.7 | |
| | | System | 43 | 28.9 | | |
| | Total | 59 | 39.6 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Valid | Very negative effect overall | 1 | .9 | 1.3 | 1.3 |
| | | Negative effect overall | 3 | 2.8 | 3.9 | 5.3 |
| | | No effect overall | 6 | 5.7 | 7.9 | 13.2 |
| | | Positive effect overall | 52 | 49.1 | 68.4 | 81.6 |
| | | Very positive effect overall | 14 | 13.2 | 18.4 | 100.0 |
| | | Total | 76 | 71.7 | 100.0 | |
| | Missing | Don't know / can't say | 5 | 4.7 | | |
| | System | 25 | 23.6 | | | |
| | Total | 30 | 28.3 | | | |
| Total | | | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Negative effect overall | 3 | 2.4 | 2.8 | 2.8 |
| | | No effect overall | 7 | 5.6 | 6.6 | 9.4 |
| | | Positive effect overall | 52 | 41.3 | 49.1 | 58.5 |
| | | Very positive effect overall | 44 | 34.9 | 41.5 | 100.0 |
| | | Total | 106 | 84.1 | 100.0 | |
| | | Missing | Don't know / can't say | 4 | 3.2 | |
| | | System | 16 | 12.7 | | |
| | Total | 20 | 15.9 | | | |
| Total | | | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | No effect overall | 3 | 6.3 | 8.3 | 8.3 |
| | | Positive effect overall | 15 | 31.3 | 41.7 | 50.0 |
| | | Very positive effect overall | 18 | 37.5 | 50.0 | 100.0 |
| | | Total | 36 | 75.0 | 100.0 | |
| | Missing | Don't know / can't say | 8 | 16.7 | | |
| | | System | 4 | 8.3 | | |
| | | Total | 12 | 25.0 | | |
| Total | | | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
E. Actions

q58m. Research governance and contractual processes

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------------|------------------------|---------|---------------|--------------------|
| Senior researcher | Valid | Very negative effect overall | 42 | 6.4 | 7.7 | 7.7 |
| | | Negative effect overall | 97 | 14.7 | 17.8 | 25.5 |
| | | No effect overall | 183 | 27.8 | 33.6 | 59.1 |
| | | Positive effect overall | 197 | 29.9 | 36.1 | 95.2 |
| | | Very positive effect overall | 26 | 4.0 | 4.8 | 100.0 |
| | | Total | 545 | 82.8 | 100.0 | |
| | Missing | Don't know / can't say | 32 | 4.9 | | |
| | System | 81 | 12.3 | | | |
| | Total | 113 | 17.2 | | | |
| | Total | 658 | 100.0 | | | |
| Mid-career researcher | Valid | Very negative effect overall | 22 | 5.5 | 8.2 | 8.2 |
| | | Negative effect overall | 49 | 12.3 | 18.3 | 26.5 |
| | | No effect overall | 78 | 19.6 | 29.1 | 55.6 |
| | | Positive effect overall | 102 | 25.7 | 38.1 | 93.7 |
| | | Very positive effect overall | 17 | 4.3 | 6.3 | 100.0 |
| | | Total | 268 | 67.5 | 100.0 | |
| | Missing | Don't know / can't say | 34 | 8.6 | | |
| | System | 95 | 23.9 | | | |
| | Total | 129 | 32.5 | | | |
| | Total | 397 | 100.0 | | | |
| Junior researcher | Valid | Very negative effect overall | 6 | 2.1 | 3.5 | 3.5 |
| | | Negative effect overall | 31 | 10.9 | 17.9 | 21.4 |
| | | No effect overall | 39 | 13.7 | 22.5 | 43.9 |
| | | Positive effect overall | 82 | 28.9 | 47.4 | 91.3 |
| | | Very positive effect overall | 15 | 5.3 | 8.7 | 100.0 |
| | | Total | 173 | 60.9 | 100.0 | |
| | Missing | Don't know / can't say | 43 | 15.1 | | |
| | System | 68 | 23.9 | | | |
| | Total | 111 | 39.1 | | | |
| | Total | 284 | 100.0 | | | |
| Research student | Valid | Very negative effect overall | 1 | .7 | 1.5 | 1.5 |
| | | Negative effect overall | 3 | 2.0 | 4.5 | 6.0 |
| | | No effect overall | 11 | 7.4 | 16.4 | 22.4 |
| | | Positive effect overall | 38 | 25.5 | 56.7 | 79.1 |
| | | Very positive effect overall | 14 | 9.4 | 20.9 | 100.0 |
| | | Total | 67 | 45.0 | 100.0 | |
| | Missing | Don't know / can't say | 36 | 24.2 | | |
| | System | 46 | 30.9 | | | |
| | Total | 82 | 55.0 | | | |
| | Total | 149 | 100.0 | | | |
| Representative of an institution | Valid | Very negative effect overall | 2 | 1.9 | 2.6 | 2.6 |
| | | Negative effect overall | 4 | 3.8 | 5.3 | 7.9 |
| | | No effect overall | 18 | 17.0 | 23.7 | 31.6 |
| | | Positive effect overall | 48 | 45.3 | 63.2 | 94.7 |
| | | Very positive effect overall | 4 | 3.8 | 5.3 | 100.0 |
| | | Total | 76 | 71.7 | 100.0 | |
| | Missing | Don't know / can't say | 5 | 4.7 | | |
| | System | 25 | 23.6 | | | |
| | Total | 30 | 28.3 | | | |
| | Total | 106 | 100.0 | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Very negative effect overall | 2 | 1.6 | 2.0 | 2.0 |
| | | Negative effect overall | 10 | 7.9 | 9.8 | 11.8 |
| | | No effect overall | 17 | 13.5 | 16.7 | 28.4 |
| | | Positive effect overall | 53 | 42.1 | 52.0 | 80.4 |
| | | Very positive effect overall | 20 | 15.9 | 19.6 | 100.0 |
| | | Total | 102 | 81.0 | 100.0 | |
| | Missing | Don't know / can't say | 12 | 9.5 | | |
| | System | 12 | 9.5 | | | |
| | Total | 24 | 19.0 | | | |
| | Total | 126 | 100.0 | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Negative effect overall | 3 | 6.3 | 9.7 | 9.7 |
| | | No effect overall | 6 | 12.5 | 19.4 | 29.0 |
| | | Positive effect overall | 15 | 31.3 | 48.4 | 77.4 |
| | | Very positive effect overall | 7 | 14.6 | 22.6 | 100.0 |
| | | Total | 31 | 64.6 | 100.0 | |
| | | Missing | Don't know / can't say | 14 | 29.2 | |
| | | System | 3 | 6.3 | | |
| | Total | 17 | 35.4 | | | |
| | Total | 48 | 100.0 | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
E. Actions

q58n. Initiatives that promote integrity in research, such as codes of conduct

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------------|------------------------|---------|---------------|--------------------|
| Senior researcher | Valid | Very negative effect overall | 3 | .5 | .5 | .5 |
| | | Negative effect overall | 13 | 2.0 | 2.3 | 2.9 |
| | | No effect overall | 144 | 21.9 | 25.8 | 28.7 |
| | | Positive effect overall | 335 | 50.9 | 60.0 | 88.7 |
| | | Very positive effect overall | 63 | 9.6 | 11.3 | 100.0 |
| | | Total | 558 | 84.8 | 100.0 | |
| | Missing | Don't know / can't say | 15 | 2.3 | | |
| | System | 85 | 12.9 | | | |
| | Total | 100 | 15.2 | | | |
| | Total | 658 | 100.0 | | | |
| Mid-career researcher | Valid | Very negative effect overall | 2 | .5 | .7 | .7 |
| | | Negative effect overall | 5 | 1.3 | 1.7 | 2.4 |
| | | No effect overall | 66 | 16.6 | 22.6 | 25.0 |
| | | Positive effect overall | 180 | 45.3 | 61.6 | 86.6 |
| | | Very positive effect overall | 39 | 9.8 | 13.4 | 100.0 |
| | | Total | 292 | 73.6 | 100.0 | |
| | Missing | Don't know / can't say | 10 | 2.5 | | |
| | System | 95 | 23.9 | | | |
| | Total | 105 | 26.4 | | | |
| | Total | 397 | 100.0 | | | |
| Junior researcher | Valid | Very negative effect overall | 1 | .4 | .5 | .5 |
| | | Negative effect overall | 3 | 1.1 | 1.5 | 2.0 |
| | | No effect overall | 41 | 14.4 | 20.9 | 23.0 |
| | | Positive effect overall | 120 | 42.3 | 61.2 | 84.2 |
| | | Very positive effect overall | 31 | 10.9 | 15.8 | 100.0 |
| | | Total | 196 | 69.0 | 100.0 | |
| | Missing | Don't know / can't say | 19 | 6.7 | | |
| | System | 69 | 24.3 | | | |
| | Total | 88 | 31.0 | | | |
| | Total | 284 | 100.0 | | | |
| Research student | Valid | Negative effect overall | 1 | .7 | 1.2 | 1.2 |
| | | No effect overall | 11 | 7.4 | 12.9 | 14.1 |
| | | Positive effect overall | 48 | 32.2 | 56.5 | 70.6 |
| | | Very positive effect overall | 25 | 16.8 | 29.4 | 100.0 |
| | | Total | 85 | 57.0 | 100.0 | |
| | | Missing | Don't know / can't say | 21 | 14.1 | |
| | | System | 43 | 28.9 | | |
| | Total | 64 | 43.0 | | | |
| | Total | 149 | 100.0 | | | |
| Representative of an institution | Valid | Negative effect overall | 3 | 2.8 | 3.8 | 3.8 |
| | | No effect overall | 6 | 5.7 | 7.7 | 11.5 |
| | | Positive effect overall | 60 | 56.6 | 76.9 | 88.5 |
| | | Very positive effect overall | 9 | 8.5 | 11.5 | 100.0 |
| | | Total | 78 | 73.6 | 100.0 | |
| | | Missing | Don't know / can't say | 3 | 2.8 | |
| | | System | 25 | 23.6 | | |
| | Total | 28 | 26.4 | | | |
| | Total | 106 | 100.0 | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Negative effect overall | 2 | 1.6 | 1.9 | 1.9 |
| | | No effect overall | 13 | 10.3 | 12.3 | 14.2 |
| | | Positive effect overall | 60 | 47.6 | 56.6 | 70.8 |
| | | Very positive effect overall | 31 | 24.6 | 29.2 | 100.0 |
| | | Total | 106 | 84.1 | 100.0 | |
| | | Missing | Don't know / can't say | 7 | 5.6 | |
| | | System | 13 | 10.3 | | |
| | Total | 20 | 15.9 | | | |
| | Total | 126 | 100.0 | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Very negative effect overall | 1 | 2.1 | 2.6 | 2.6 |
| | | Negative effect overall | 1 | 2.1 | 2.6 | 5.3 |
| | | No effect overall | 2 | 4.2 | 5.3 | 10.5 |
| | | Positive effect overall | 20 | 41.7 | 52.6 | 63.2 |
| | | Very positive effect overall | 14 | 29.2 | 36.8 | 100.0 |
| | | Total | 38 | 79.2 | 100.0 | |
| | Missing | Don't know / can't say | 7 | 14.6 | | |
| | System | 3 | 6.3 | | | |
| | Total | 10 | 20.8 | | | |
| | Total | 48 | 100.0 | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
E. Actions

q58o. Data sharing policies

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------------|------------------------|---------|---------------|--------------------|
| Senior researcher | Valid | Very negative effect overall | 3 | .5 | .6 | .6 |
| | | Negative effect overall | 15 | 2.3 | 2.8 | 3.4 |
| | | No effect overall | 154 | 23.4 | 28.9 | 32.3 |
| | | Positive effect overall | 304 | 46.2 | 57.1 | 89.5 |
| | | Very positive effect overall | 56 | 8.5 | 10.5 | 100.0 |
| | | Total | 532 | 80.9 | 100.0 | |
| | Missing | Don't know / can't say | 42 | 6.4 | | |
| | System | 84 | 12.8 | | | |
| | Total | 126 | 19.1 | | | |
| | Total | 658 | 100.0 | | | |
| Mid-career researcher | Valid | Very negative effect overall | 1 | .3 | .4 | .4 |
| | | Negative effect overall | 13 | 3.3 | 4.6 | 4.9 |
| | | No effect overall | 67 | 16.9 | 23.5 | 28.4 |
| | | Positive effect overall | 162 | 40.8 | 56.8 | 85.3 |
| | | Very positive effect overall | 42 | 10.6 | 14.7 | 100.0 |
| | | Total | 285 | 71.8 | 100.0 | |
| | Missing | Don't know / can't say | 19 | 4.8 | | |
| | System | 93 | 23.4 | | | |
| | Total | 112 | 28.2 | | | |
| | Total | 397 | 100.0 | | | |
| Junior researcher | Valid | Very negative effect overall | 1 | .4 | .5 | .5 |
| | | Negative effect overall | 5 | 1.8 | 2.7 | 3.2 |
| | | No effect overall | 39 | 13.7 | 20.9 | 24.1 |
| | | Positive effect overall | 109 | 38.4 | 58.3 | 82.4 |
| | | Very positive effect overall | 33 | 11.6 | 17.6 | 100.0 |
| | | Total | 187 | 65.8 | 100.0 | |
| | Missing | Don't know / can't say | 28 | 9.9 | | |
| | System | 69 | 24.3 | | | |
| | Total | 97 | 34.2 | | | |
| | Total | 284 | 100.0 | | | |
| Research student | Valid | Negative effect overall | 1 | .7 | 1.3 | 1.3 |
| | | No effect overall | 7 | 4.7 | 9.0 | 10.3 |
| | | Positive effect overall | 53 | 35.6 | 67.9 | 78.2 |
| | | Very positive effect overall | 17 | 11.4 | 21.8 | 100.0 |
| | | Total | 78 | 52.3 | 100.0 | |
| | | Missing | Don't know / can't say | 28 | 18.8 | |
| | | System | 43 | 28.9 | | |
| | Total | 71 | 47.7 | | | |
| | Total | 149 | 100.0 | | | |
| Representative of an institution | Valid | Very negative effect overall | 1 | .9 | 1.3 | 1.3 |
| | | Negative effect overall | 2 | 1.9 | 2.7 | 4.0 |
| | | No effect overall | 19 | 17.9 | 25.3 | 29.3 |
| | | Positive effect overall | 46 | 43.4 | 61.3 | 90.7 |
| | | Very positive effect overall | 7 | 6.6 | 9.3 | 100.0 |
| | | Total | 75 | 70.8 | 100.0 | |
| | Missing | Don't know / can't say | 6 | 5.7 | | |
| | System | 25 | 23.6 | | | |
| | Total | 31 | 29.2 | | | |
| | Total | 106 | 100.0 | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Very negative effect overall | 1 | .8 | 1.1 | 1.1 |
| | | Negative effect overall | 5 | 4.0 | 5.3 | 6.4 |
| | | No effect overall | 13 | 10.3 | 13.8 | 20.2 |
| | | Positive effect overall | 54 | 42.9 | 57.4 | 77.7 |
| | | Very positive effect overall | 21 | 16.7 | 22.3 | 100.0 |
| | | Total | 94 | 74.6 | 100.0 | |
| | Missing | Don't know / can't say | 19 | 15.1 | | |
| | System | 13 | 10.3 | | | |
| | Total | 32 | 25.4 | | | |
| | Total | 126 | 100.0 | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Negative effect overall | 2 | 4.2 | 7.4 | 7.4 |
| | | No effect overall | 2 | 4.2 | 7.4 | 14.8 |
| | | Positive effect overall | 16 | 33.3 | 59.3 | 74.1 |
| | | Very positive effect overall | 7 | 14.6 | 25.9 | 100.0 |
| | | Total | 27 | 56.3 | 100.0 | |
| | | Missing | Don't know / can't say | 18 | 37.5 | |
| | | System | 3 | 6.3 | | |
| | Total | 21 | 43.8 | | | |
| | Total | 48 | 100.0 | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
E. Actions

q58p. Monetary rewards for research achievements

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Very negative effect overall | 71 | 10.8 | 14.2 | 14.2 |
| | | Negative effect overall | 142 | 21.6 | 28.5 | 42.7 |
| | | No effect overall | 192 | 29.2 | 38.5 | 81.2 |
| | | Positive effect overall | 86 | 13.1 | 17.2 | 98.4 |
| | | Very positive effect overall | 8 | 1.2 | 1.6 | 100.0 |
| | | Total | 499 | 75.8 | 100.0 | |
| | Missing | Don't know / can't say | 77 | 11.7 | | |
| | System | 82 | 12.5 | | | |
| | Total | 159 | 24.2 | | | |
| | Total | 658 | 100.0 | | | |
| Mid-career researcher | Valid | Very negative effect overall | 30 | 7.6 | 11.6 | 11.6 |
| | | Negative effect overall | 68 | 17.1 | 26.4 | 38.0 |
| | | No effect overall | 96 | 24.2 | 37.2 | 75.2 |
| | | Positive effect overall | 54 | 13.6 | 20.9 | 96.1 |
| | | Very positive effect overall | 10 | 2.5 | 3.9 | 100.0 |
| | | Total | 258 | 65.0 | 100.0 | |
| | Missing | Don't know / can't say | 45 | 11.3 | | |
| | System | 94 | 23.7 | | | |
| | Total | 139 | 35.0 | | | |
| | Total | 397 | 100.0 | | | |
| Junior researcher | Valid | Very negative effect overall | 17 | 6.0 | 10.0 | 10.0 |
| | | Negative effect overall | 54 | 19.0 | 31.8 | 41.8 |
| | | No effect overall | 46 | 16.2 | 27.1 | 68.8 |
| | | Positive effect overall | 47 | 16.5 | 27.6 | 96.5 |
| | | Very positive effect overall | 6 | 2.1 | 3.5 | 100.0 |
| | | Total | 170 | 59.9 | 100.0 | |
| | Missing | Don't know / can't say | 45 | 15.8 | | |
| | System | 69 | 24.3 | | | |
| | Total | 114 | 40.1 | | | |
| | Total | 284 | 100.0 | | | |
| Research student | Valid | Very negative effect overall | 7 | 4.7 | 10.0 | 10.0 |
| | | Negative effect overall | 15 | 10.1 | 21.4 | 31.4 |
| | | No effect overall | 20 | 13.4 | 28.6 | 60.0 |
| | | Positive effect overall | 20 | 13.4 | 28.6 | 88.6 |
| | | Very positive effect overall | 8 | 5.4 | 11.4 | 100.0 |
| | | Total | 70 | 47.0 | 100.0 | |
| | Missing | Don't know / can't say | 36 | 24.2 | | |
| | System | 43 | 28.9 | | | |
| | Total | 79 | 53.0 | | | |
| | Total | 149 | 100.0 | | | |
| Representative of an institution | Valid | Very negative effect overall | 9 | 8.5 | 13.4 | 13.4 |
| | | Negative effect overall | 14 | 13.2 | 20.9 | 34.3 |
| | | No effect overall | 23 | 21.7 | 34.3 | 68.7 |
| | | Positive effect overall | 17 | 16.0 | 25.4 | 94.0 |
| | | Very positive effect overall | 4 | 3.8 | 6.0 | 100.0 |
| | | Total | 67 | 63.2 | 100.0 | |
| | Missing | Don't know / can't say | 13 | 12.3 | | |
| | System | 26 | 24.5 | | | |
| | Total | 39 | 36.8 | | | |
| | Total | 106 | 100.0 | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Very negative effect overall | 6 | 4.8 | 7.8 | 7.8 |
| | | Negative effect overall | 23 | 18.3 | 29.9 | 37.7 |
| | | No effect overall | 21 | 16.7 | 27.3 | 64.9 |
| | | Positive effect overall | 25 | 19.8 | 32.5 | 97.4 |
| | | Very positive effect overall | 2 | 1.6 | 2.6 | 100.0 |
| | | Total | 77 | 61.1 | 100.0 | |
| | Missing | Don't know / can't say | 35 | 27.8 | | |
| | System | 14 | 11.1 | | | |
| | Total | 49 | 38.9 | | | |
| | Total | 126 | 100.0 | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Very negative effect overall | 1 | 2.1 | 3.4 | 3.4 |
| | | Negative effect overall | 4 | 8.3 | 13.8 | 17.2 |
| | | No effect overall | 7 | 14.6 | 24.1 | 41.4 |
| | | Positive effect overall | 16 | 33.3 | 55.2 | 96.6 |
| | | Very positive effect overall | 1 | 2.1 | 3.4 | 100.0 |
| | | Total | 29 | 60.4 | 100.0 | |
| | Missing | Don't know / can't say | 16 | 33.3 | | |
| | System | 3 | 6.3 | | | |
| | Total | 19 | 39.6 | | | |
| | Total | 48 | 100.0 | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
E. Actions

q58q. Emphasis on publishing in top-tier journals

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Very negative effect overall | 76 | 11.6 | 13.5 | 13.5 |
| | | Negative effect overall | 171 | 26.0 | 30.4 | 44.0 |
| | | No effect overall | 98 | 14.9 | 17.4 | 61.4 |
| | | Positive effect overall | 200 | 30.4 | 35.6 | 97.0 |
| | | Very positive effect overall | 17 | 2.6 | 3.0 | 100.0 |
| | | Total | 562 | 85.4 | 100.0 | |
| | Missing | Don't know / can't say | 12 | 1.8 | | |
| | System | 84 | 12.8 | | | |
| | Total | 96 | 14.6 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Very negative effect overall | 41 | 10.3 | 14.0 | 14.0 |
| | | Negative effect overall | 98 | 24.7 | 33.6 | 47.6 |
| | | No effect overall | 51 | 12.8 | 17.5 | 65.1 |
| | | Positive effect overall | 90 | 22.7 | 30.8 | 95.9 |
| | | Very positive effect overall | 12 | 3.0 | 4.1 | 100.0 |
| | | Total | 292 | 73.6 | 100.0 | |
| | Missing | Don't know / can't say | 11 | 2.8 | | |
| | System | 94 | 23.7 | | | |
| | Total | 105 | 26.4 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Very negative effect overall | 37 | 13.0 | 18.6 | 18.6 |
| | | Negative effect overall | 70 | 24.6 | 35.2 | 53.8 |
| | | No effect overall | 28 | 9.9 | 14.1 | 67.8 |
| | | Positive effect overall | 52 | 18.3 | 26.1 | 94.0 |
| | | Very positive effect overall | 12 | 4.2 | 6.0 | 100.0 |
| | | Total | 199 | 70.1 | 100.0 | |
| | Missing | Don't know / can't say | 17 | 6.0 | | |
| | System | 68 | 23.9 | | | |
| | Total | 85 | 29.9 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Very negative effect overall | 11 | 7.4 | 13.3 | 13.3 |
| | | Negative effect overall | 27 | 18.1 | 32.5 | 45.8 |
| | | No effect overall | 15 | 10.1 | 18.1 | 63.9 |
| | | Positive effect overall | 21 | 14.1 | 25.3 | 89.2 |
| | | Very positive effect overall | 9 | 6.0 | 10.8 | 100.0 |
| | | Total | 83 | 55.7 | 100.0 | |
| | Missing | Don't know / can't say | 23 | 15.4 | | |
| | System | 43 | 28.9 | | | |
| | Total | 66 | 44.3 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Valid | Very negative effect overall | 8 | 7.5 | 11.1 | 11.1 |
| | | Negative effect overall | 17 | 16.0 | 23.6 | 34.7 |
| | | No effect overall | 8 | 7.5 | 11.1 | 45.8 |
| | | Positive effect overall | 32 | 30.2 | 44.4 | 90.3 |
| | | Very positive effect overall | 7 | 6.6 | 9.7 | 100.0 |
| | | Total | 72 | 67.9 | 100.0 | |
| | Missing | Don't know / can't say | 9 | 8.5 | | |
| | System | 25 | 23.6 | | | |
| | Total | 34 | 32.1 | | | |
| Total | | | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Very negative effect overall | 8 | 6.3 | 8.7 | 8.7 |
| | | Negative effect overall | 24 | 19.0 | 26.1 | 34.8 |
| | | No effect overall | 14 | 11.1 | 15.2 | 50.0 |
| | | Positive effect overall | 37 | 29.4 | 40.2 | 90.2 |
| | | Very positive effect overall | 9 | 7.1 | 9.8 | 100.0 |
| | | Total | 92 | 73.0 | 100.0 | |
| | Missing | Don't know / can't say | 21 | 16.7 | | |
| | System | 13 | 10.3 | | | |
| | Total | 34 | 27.0 | | | |
| Total | | | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Very negative effect overall | 1 | 2.1 | 3.1 | 3.1 |
| | | Negative effect overall | 3 | 6.3 | 9.4 | 12.5 |
| | | No effect overall | 4 | 8.3 | 12.5 | 25.0 |
| | | Positive effect overall | 16 | 33.3 | 50.0 | 75.0 |
| | | Very positive effect overall | 8 | 16.7 | 25.0 | 100.0 |
| | | Total | 32 | 66.7 | 100.0 | |
| | Missing | Don't know / can't say | 13 | 27.1 | | |
| | System | 3 | 6.3 | | | |
| | Total | 16 | 33.3 | | | |
| Total | | | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
E. Actions

q59mr. Of the following, who has the largest potential to improve research quality (directly or indirectly)? (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-------|--------------------------------|-----------|------------------|
| Senior researcher | Valid | Funders | 318 | 54.9% |
| | | Publishers | 142 | 24.5% |
| | | Research group heads | 300 | 51.8% |
| | | Ethics committees | 46 | 7.9% |
| | | Department heads | 72 | 12.4% |
| | | Professional societies | 53 | 9.2% |
| | | Researchers | 386 | 66.7% |
| | | Research institutions | 298 | 51.5% |
| | | General public and politicians | 37 | 6.4% |
| | | None of the above | | |
| | | Don't know / can't say | 1 | 0.2% |
| Number of Respondents | | | 579 | 100.0% |
| Mid-career researcher | Valid | Funders | 183 | 59.6% |
| | | Publishers | 92 | 30.0% |
| | | Research group heads | 132 | 43.0% |
| | | Ethics committees | 36 | 11.7% |
| | | Department heads | 37 | 12.1% |
| | | Professional societies | 24 | 7.8% |
| | | Researchers | 188 | 61.2% |
| | | Research institutions | 161 | 52.4% |
| | | General public and politicians | 18 | 5.9% |
| | | None of the above | | |
| | | Don't know / can't say | 1 | 0.3% |
| Number of Respondents | | | 307 | 100.0% |
| Junior researcher | Valid | Funders | 126 | 57.5% |
| | | Publishers | 59 | 26.9% |
| | | Research group heads | 104 | 47.5% |
| | | Ethics committees | 32 | 14.6% |
| | | Department heads | 27 | 12.3% |
| | | Professional societies | 12 | 5.5% |
| | | Researchers | 136 | 62.1% |
| | | Research institutions | 114 | 52.1% |
| | | General public and politicians | 16 | 7.3% |
| | | None of the above | | |
| | | Don't know / can't say | 1 | 0.5% |
| Number of Respondents | | | 219 | 100.0% |
| Research student | Valid | Funders | 62 | 56.9% |
| | | Publishers | 37 | 33.9% |
| | | Research group heads | 44 | 40.4% |
| | | Ethics committees | 18 | 16.5% |
| | | Department heads | 15 | 13.8% |
| | | Professional societies | 5 | 4.6% |
| | | Researchers | 71 | 65.1% |
| | | Research institutions | 51 | 46.8% |
| | | General public and politicians | 10 | 9.2% |
| | | None of the above | | |
| | | Don't know / can't say | 1 | 0.9% |
| Number of Respondents | | | 109 | 100.0% |
| Representative of an institution | Valid | Funders | 37 | 45.7% |
| | | Publishers | 17 | 21.0% |
| | | Research group heads | 35 | 43.2% |
| | | Ethics committees | 12 | 14.8% |
| | | Department heads | 18 | 22.2% |
| | | Professional societies | 9 | 11.1% |
| | | Researchers | 43 | 53.1% |
| | | Research institutions | 57 | 70.4% |
| | | General public and politicians | 8 | 9.9% |
| | | None of the above | | |
| | | Don't know / can't say | | |
| Number of Respondents | | | 81 | 100.0% |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Funders | 40 | 34.2% |
| | | Publishers | 18 | 15.4% |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
E. Actions

q59mr. Of the following, who has the largest potential to improve research quality (directly or indirectly)? (Multiple Response)

| q1. In what capacity are you participating in this survey? | | Frequency | % of respondents | |
|--|--------------------------------|--------------------------------|------------------|-------|
| | Research group heads | 41 | 35.0% | |
| | Ethics committees | 55 | 47.0% | |
| | Department heads | 24 | 20.5% | |
| | Professional societies | 21 | 17.9% | |
| | Researchers | 58 | 49.6% | |
| | Research institutions | 73 | 62.4% | |
| | General public and politicians | 5 | 4.3% | |
| | None of the above | 1 | 0.9% | |
| | Don't know / can't say | 1 | 0.9% | |
| Number of Respondents | | 117 | 100.0% | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Funders | 18 | 39.1% |
| | | Publishers | 8 | 17.4% |
| | | Research group heads | 16 | 34.8% |
| | | Ethics committees | 19 | 41.3% |
| | | Department heads | 7 | 15.2% |
| | | Professional societies | 3 | 6.5% |
| | | Researchers | 27 | 58.7% |
| | | Research institutions | 28 | 60.9% |
| | | General public and politicians | 3 | 6.5% |
| | | None of the above | | |
| | | Don't know / can't say | 1 | 2.2% |
| Number of Respondents | | 46 | 100.0% | |

q60mr. Which of the following actions by funders do you think has the largest potential to improve research quality? (Multiple Response)

| q1. In what capacity are you participating in this survey? | | Frequency | % of respondents | | |
|---|-------|---|------------------|---|--------|
| Senior researcher | Valid | Providing guidance for training of researchers about research quality | 260 | 45.1% | |
| | | Providing guidance for researchers on how to ensure research quality is addressed in grant applications | 321 | 55.6% | |
| | | Ensuring grant application processes support submission and assessment of critical and relevant information | 345 | 59.8% | |
| | | Ensuring appropriate training for peer review panel members about research quality | 382 | 66.2% | |
| | | Encouraging open publishing practices e.g. data sharing, publishing openly (preprint servers, open access journals) | 246 | 42.6% | |
| | | Providing a publishing platform for all research outputs | 166 | 28.8% | |
| | | Providing public recognition of initiatives that ensure and promote research quality | 171 | 29.6% | |
| | | Providing appropriate / increased / improved funding | 39 | 6.8% | |
| | | Other | 61 | 10.6% | |
| | | None of the above | 8 | 1.4% | |
| | | Don't know / can't say | 4 | 0.7% | |
| | | Number of Respondents | | 577 | 100.0% |
| | | Mid-career researcher | Valid | Providing guidance for training of researchers about research quality | 136 |
| Providing guidance for researchers on how to ensure research quality is addressed in grant applications | 169 | | | 55.4% | |
| Ensuring grant application processes support submission and assessment of critical and relevant information | 169 | | | 55.4% | |
| Ensuring appropriate training for peer review panel members about research quality | 206 | | | 67.5% | |
| Encouraging open publishing practices e.g. data sharing, publishing openly (preprint servers, open access journals) | 139 | | | 45.6% | |
| Providing a publishing platform for all research outputs | 105 | | | 34.4% | |
| Providing public recognition of initiatives that ensure and promote research quality | 95 | | | 31.1% | |
| Providing appropriate / increased / improved funding | 28 | | | 9.2% | |
| Other | 17 | | | 5.6% | |
| None of the above | 4 | | | 1.3% | |
| Don't know / can't say | 3 | | | 1.0% | |
| Number of Respondents | | | | 305 | 100.0% |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
E. Actions

q60mr. Which of the following actions by funders do you think has the largest potential to improve research quality? (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents | | |
|---|-------|---|-----------|---|-----|--------|
| Junior researcher | Valid | Providing guidance for training of researchers about research quality | 92 | 42.0% | | |
| | | Providing guidance for researchers on how to ensure research quality is addressed in grant applications | 130 | 59.4% | | |
| | | Ensuring grant application processes support submission and assessment of critical and relevant information | 128 | 58.4% | | |
| | | Ensuring appropriate training for peer review panel members about research quality | 138 | 63.0% | | |
| | | Encouraging open publishing practices e.g. data sharing, publishing openly (preprint servers, open access journals) | 115 | 52.5% | | |
| | | Providing a publishing platform for all research outputs | 88 | 40.2% | | |
| | | Providing public recognition of initiatives that ensure and promote research quality | 74 | 33.8% | | |
| | | Providing appropriate / increased / improved funding | 18 | 8.2% | | |
| | | Other | 11 | 5.0% | | |
| | | None of the above | 4 | 1.8% | | |
| | | Don't know / can't say | 5 | 2.3% | | |
| | | Number of Respondents | | | 219 | 100.0% |
| | | Research student | Valid | Providing guidance for training of researchers about research quality | 56 | 51.4% |
| Providing guidance for researchers on how to ensure research quality is addressed in grant applications | 67 | | | 61.5% | | |
| Ensuring grant application processes support submission and assessment of critical and relevant information | 74 | | | 67.9% | | |
| Ensuring appropriate training for peer review panel members about research quality | 73 | | | 67.0% | | |
| Encouraging open publishing practices e.g. data sharing, publishing openly (preprint servers, open access journals) | 72 | | | 66.1% | | |
| Providing a publishing platform for all research outputs | 57 | | | 52.3% | | |
| Providing public recognition of initiatives that ensure and promote research quality | 44 | | | 40.4% | | |
| Providing appropriate / increased / improved funding | 7 | | | 6.4% | | |
| Other | 7 | | | 6.4% | | |
| None of the above | | | | | | |
| Don't know / can't say | 2 | | | 1.8% | | |
| Number of Respondents | | | 109 | 100.0% | | |
| Representative of an institution | Valid | Providing guidance for training of researchers about research quality | 42 | 52.5% | | |
| | | Providing guidance for researchers on how to ensure research quality is addressed in grant applications | 57 | 71.3% | | |
| | | Ensuring grant application processes support submission and assessment of critical and relevant information | 50 | 62.5% | | |
| | | Ensuring appropriate training for peer review panel members about research quality | 58 | 72.5% | | |
| | | Encouraging open publishing practices e.g. data sharing, publishing openly (preprint servers, open access journals) | 49 | 61.3% | | |
| | | Providing a publishing platform for all research outputs | 23 | 28.8% | | |
| | | Providing public recognition of initiatives that ensure and promote research quality | 42 | 52.5% | | |
| | | Providing appropriate / increased / improved funding | 1 | 1.3% | | |
| | | Other | 7 | 8.8% | | |
| | | None of the above | | | | |
| | | Don't know / can't say | 1 | 1.3% | | |
| Number of Respondents | | | 80 | 100.0% | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Providing guidance for training of researchers about research quality | 69 | 59.0% | | |
| | | Providing guidance for researchers on how to ensure research quality is addressed in grant applications | 70 | 59.8% | | |
| | | Ensuring grant application processes support submission and assessment of critical and relevant information | 70 | 59.8% | | |
| | | Ensuring appropriate training for peer review panel members about research quality | 72 | 61.5% | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
E. Actions

q60mr. Which of the following actions by funders do you think has the largest potential to improve research quality? (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents | |
|--|-------|---|-----------|------------------|--------|
| Current member of an Animal Ethics Committee (AEC) | Valid | Encouraging open publishing practices e.g. data sharing, publishing openly (preprint servers, open access journals) | 55 | 47.0% | |
| | | Providing a publishing platform for all research outputs | 36 | 30.8% | |
| | | Providing public recognition of initiatives that ensure and promote research quality | 51 | 43.6% | |
| | | Providing appropriate / increased / improved funding | | | |
| | | Other | 5 | 4.3% | |
| | | None of the above | 1 | 0.9% | |
| | | Don't know / can't say | 10 | 8.5% | |
| | | Number of Respondents | | 117 | 100.0% |
| | | Providing guidance for training of researchers about research quality | 26 | 56.5% | |
| | | Providing guidance for researchers on how to ensure research quality is addressed in grant applications | 25 | 54.3% | |
| | | Ensuring grant application processes support submission and assessment of critical and relevant information | 29 | 63.0% | |
| | | Ensuring appropriate training for peer review panel members about research quality | 30 | 65.2% | |
| | | Encouraging open publishing practices e.g. data sharing, publishing openly (preprint servers, open access journals) | 26 | 56.5% | |
| | | Providing a publishing platform for all research outputs | 21 | 45.7% | |
| Providing public recognition of initiatives that ensure and promote research quality | 19 | 41.3% | | | |
| Providing appropriate / increased / improved funding | | | | | |
| Other | 4 | 8.7% | | | |
| None of the above | | | | | |
| Don't know / can't say | 3 | 6.5% | | | |
| Number of Respondents | | 46 | 100.0% | | |

q61mr. Which of the following actions by academic / research institutions do you think has the largest potential to improve research quality? (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents | | |
|---|-------|---|-----------|---|--------|-------|
| Senior researcher | Valid | Providing appropriate education and training for researchers about research quality | 383 | 66.7% | | |
| | | Requiring compliance with best practice for research design in ethics and grant applications and publications | 326 | 56.8% | | |
| | | Developing mentoring programs that address research quality as well as career development | 400 | 69.7% | | |
| | | Rewarding researchers who perform high quality research | 290 | 50.5% | | |
| | | Conducting audits to ensure maintenance of record keeping and responsible research practice | 206 | 35.9% | | |
| | | Encouraging open publishing practices e.g. data sharing, publishing openly (preprint servers, open access journals) | 237 | 41.3% | | |
| | | Promoting an environment where high quality research and reproducible research is considered the required norm | 488 | 85.0% | | |
| | | Providing increased funding / support | 6 | 1.0% | | |
| | | Other | 41 | 7.1% | | |
| | | None of the above | | | | |
| | | Don't know / can't say | 6 | 1.0% | | |
| | | Number of Respondents | | 574 | 100.0% | |
| | | Mid-career researcher | Valid | Providing appropriate education and training for researchers about research quality | 200 | 66.0% |
| | | | | Requiring compliance with best practice for research design in ethics and grant applications and publications | 170 | 56.1% |
| Developing mentoring programs that address research quality as well as career development | 206 | | | 68.0% | | |
| Rewarding researchers who perform high quality research | 167 | | | 55.1% | | |
| Conducting audits to ensure maintenance of record keeping and responsible research practice | 105 | | | 34.7% | | |
| Encouraging open publishing practices e.g. data sharing, publishing openly (preprint servers, open access journals) | 149 | | | 49.2% | | |
| | | | | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
E. Actions

q61mr. Which of the following actions by academic / research institutions do you think has the largest potential to improve research quality?
(Multiple Response)

| q1. In what capacity are you participating in this survey? | | Frequency | % of respondents | | |
|---|------------------------------|---|------------------------------|---|---------------|
| Junior researcher | | Promoting an environment where high quality research and reproducible research is considered the required norm | 250 | 82.5% | |
| | | Providing increased funding / support | 4 | 1.3% | |
| | | Other | 19 | 6.3% | |
| | | None of the above | | | |
| | | Don't know / can't say | 2 | 0.7% | |
| | | Number of Respondents | 303 | 100.0% | |
| | Valid | Providing appropriate education and training for researchers about research quality | 142 | 64.8% | |
| | | Requiring compliance with best practice for research design in ethics and grant applications and publications | 119 | 54.3% | |
| | | Developing mentoring programs that address research quality as well as career development | 168 | 76.7% | |
| | | Rewarding researchers who perform high quality research | 104 | 47.5% | |
| | | Conducting audits to ensure maintenance of record keeping and responsible research practice | 91 | 41.6% | |
| | | Encouraging open publishing practices e.g. data sharing, publishing openly (preprint servers, open access journals) | 112 | 51.1% | |
| | | Promoting an environment where high quality research and reproducible research is considered the required norm | 173 | 79.0% | |
| | | Providing increased funding / support | 3 | 1.4% | |
| | | Other | 10 | 4.6% | |
| None of the above | | 3 | 1.4% | | |
| | Number of Respondents | 219 | 100.0% | | |
| Research student | Valid | Providing appropriate education and training for researchers about research quality | 83 | 76.1% | |
| | | Requiring compliance with best practice for research design in ethics and grant applications and publications | 67 | 61.5% | |
| | | Developing mentoring programs that address research quality as well as career development | 81 | 74.3% | |
| | | Rewarding researchers who perform high quality research | 57 | 52.3% | |
| | | Conducting audits to ensure maintenance of record keeping and responsible research practice | 51 | 46.8% | |
| | | Encouraging open publishing practices e.g. data sharing, publishing openly (preprint servers, open access journals) | 69 | 63.3% | |
| | | Promoting an environment where high quality research and reproducible research is considered the required norm | 96 | 88.1% | |
| | | Providing increased funding / support | 2 | 1.8% | |
| | | Other | 4 | 3.7% | |
| | | None of the above | | | |
| | | Don't know / can't say | 1 | 0.9% | |
| | | | Number of Respondents | 109 | 100.0% |
| | | Representative of an institution | Valid | Providing appropriate education and training for researchers about research quality | 69 |
| Requiring compliance with best practice for research design in ethics and grant applications and publications | 53 | | | 66.3% | |
| Developing mentoring programs that address research quality as well as career development | 63 | | | 78.8% | |
| Rewarding researchers who perform high quality research | 46 | | | 57.5% | |
| Conducting audits to ensure maintenance of record keeping and responsible research practice | 43 | | | 53.8% | |
| Encouraging open publishing practices e.g. data sharing, publishing openly (preprint servers, open access journals) | 43 | | | 53.8% | |
| Promoting an environment where high quality research and reproducible research is considered the required norm | 72 | | | 90.0% | |
| Providing increased funding / support | 1 | | | 1.3% | |
| Other | 3 | | | 3.8% | |
| None of the above | | | | | |
| Don't know / can't say | | | | | |
| | Number of Respondents | | | 80 | 100.0% |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
E. Actions

q61mr. Which of the following actions by academic / research institutions do you think has the largest potential to improve research quality?
(Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents | | |
|---|-------|---|-----------|---|--------|--------|
| Current member of a Human Research Ethics Committee (HREC) | Valid | Providing appropriate education and training for researchers about research quality | 99 | 84.6% | | |
| | | Requiring compliance with best practice for research design in ethics and grant applications and publications | 83 | 70.9% | | |
| | | Developing mentoring programs that address research quality as well as career development | 88 | 75.2% | | |
| | | Rewarding researchers who perform high quality research | 51 | 43.6% | | |
| | | Conducting audits to ensure maintenance of record keeping and responsible research practice | 64 | 54.7% | | |
| | | Encouraging open publishing practices e.g. data sharing, publishing openly (preprint servers, open access journals) | 53 | 45.3% | | |
| | | Promoting an environment where high quality research and reproducible research is considered the required norm | 102 | 87.2% | | |
| | | Providing increased funding / support | 1 | 0.9% | | |
| | | Other | 3 | 2.6% | | |
| | | None of the above | | | | |
| | | Don't know / can't say | 5 | 4.3% | | |
| | | Number of Respondents | | | 117 | 100.0% |
| | | Current member of an Animal Ethics Committee (AEC) | Valid | Providing appropriate education and training for researchers about research quality | 36 | 78.3% |
| Requiring compliance with best practice for research design in ethics and grant applications and publications | 41 | | | 89.1% | | |
| Developing mentoring programs that address research quality as well as career development | 32 | | | 69.6% | | |
| Rewarding researchers who perform high quality research | 23 | | | 50.0% | | |
| Conducting audits to ensure maintenance of record keeping and responsible research practice | 28 | | | 60.9% | | |
| Encouraging open publishing practices e.g. data sharing, publishing openly (preprint servers, open access journals) | 23 | | | 50.0% | | |
| Promoting an environment where high quality research and reproducible research is considered the required norm | 38 | | | 82.6% | | |
| Providing increased funding / support | 1 | | | 2.2% | | |
| Other | 2 | | | 4.3% | | |
| None of the above | | | | | | |
| Don't know / can't say | 2 | | | 4.3% | | |
| Number of Respondents | | | | 46 | 100.0% | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
E. Actions

q62mr. Which of the following actions by researchers do you think has the largest potential to improve research quality? (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-------|---|-----------|------------------|
| Senior researcher | Valid | Participation in appropriate education and training about research quality | 323 | 56.3% |
| | | Specifying critical research design elements (e.g. power analysis, bias avoidance, randomisation, blinding) | 423 | 73.7% |
| | | Clearly distinguishing between discovery and hypothesis testing experiments | 233 | 40.6% |
| | | Obtaining statistical advice and developing a statistical plan before commencing a study | 388 | 67.6% |
| | | Pre-registration of research protocols | 194 | 33.8% |
| | | Appropriate disclosures of interests including funding sources | 294 | 51.2% |
| | | Replication by outside research groups | 217 | 37.8% |
| | | Use of reporting checklists | 242 | 42.2% |
| | | Reporting exclusions | 226 | 39.4% |
| | | Open publishing practices e.g. data sharing, publishing openly (preprint servers, open access journals) | 219 | 38.2% |
| | | Other | 40 | 7.0% |
| | | None of the above | 7 | 1.2% |
| | | Don't know / can't say | 6 | 1.0% |
| | | Number of Respondents | | |
| Mid-career researcher | Valid | Participation in appropriate education and training about research quality | 171 | 56.1% |
| | | Specifying critical research design elements (e.g. power analysis, bias avoidance, randomisation, blinding) | 216 | 70.8% |
| | | Clearly distinguishing between discovery and hypothesis testing experiments | 107 | 35.1% |
| | | Obtaining statistical advice and developing a statistical plan before commencing a study | 206 | 67.5% |
| | | Pre-registration of research protocols | 113 | 37.0% |
| | | Appropriate disclosures of interests including funding sources | 148 | 48.5% |
| | | Replication by outside research groups | 117 | 38.4% |
| | | Use of reporting checklists | 154 | 50.5% |
| | | Reporting exclusions | 133 | 43.6% |
| | | Open publishing practices e.g. data sharing, publishing openly (preprint servers, open access journals) | 135 | 44.3% |
| | | Other | 11 | 3.6% |
| | | None of the above | 2 | 0.7% |
| | | Don't know / can't say | 5 | 1.6% |
| | | Number of Respondents | | |
| Junior researcher | Valid | Participation in appropriate education and training about research quality | 127 | 58.3% |
| | | Specifying critical research design elements (e.g. power analysis, bias avoidance, randomisation, blinding) | 141 | 64.7% |
| | | Clearly distinguishing between discovery and hypothesis testing experiments | 84 | 38.5% |
| | | Obtaining statistical advice and developing a statistical plan before commencing a study | 158 | 72.5% |
| | | Pre-registration of research protocols | 95 | 43.6% |
| | | Appropriate disclosures of interests including funding sources | 112 | 51.4% |
| | | Replication by outside research groups | 81 | 37.2% |
| | | Use of reporting checklists | 122 | 56.0% |
| | | Reporting exclusions | 88 | 40.4% |
| | | Open publishing practices e.g. data sharing, publishing openly (preprint servers, open access journals) | 119 | 54.6% |
| | | Other | 11 | 5.0% |
| | | None of the above | 4 | 1.8% |
| | | Don't know / can't say | | |
| | | Number of Respondents | | |
| Research student | Valid | Participation in appropriate education and training about research quality | 73 | 67.0% |
| | | Specifying critical research design elements (e.g. power analysis, bias avoidance, randomisation, blinding) | 82 | 75.2% |
| | | Clearly distinguishing between discovery and hypothesis testing experiments | 35 | 32.1% |
| | | Obtaining statistical advice and developing a statistical plan before commencing a study | 79 | 72.5% |
| | | Pre-registration of research protocols | 50 | 45.9% |
| | | Appropriate disclosures of interests including funding sources | 58 | 53.2% |
| | | Don't know / can't say | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
E. Actions

q62mr. Which of the following actions by researchers do you think has the largest potential to improve research quality? (Multiple Response)

| q1. In what capacity are you participating in this survey? | | Frequency | % of respondents |
|--|---|---|--|
| Representative of an institution | | Replication by outside research groups | 36 33.0% |
| | | Use of reporting checklists | 55 50.5% |
| | | Reporting exclusions | 45 41.3% |
| | | Open publishing practices e.g. data sharing, publishing openly (preprint servers, open access journals) | 66 60.6% |
| | | Other | 1 0.9% |
| | | None of the above | |
| | | Don't know / can't say | 2 1.8% |
| | | Number of Respondents | 109 100.0% |
| | Valid | Participation in appropriate education and training about research quality | 61 76.3% |
| | | Specifying critical research design elements (e.g. power analysis, bias avoidance, randomisation, blinding) | 60 75.0% |
| | | Clearly distinguishing between discovery and hypothesis testing experiments | 26 32.5% |
| | | Obtaining statistical advice and developing a statistical plan before commencing a study | 60 75.0% |
| | | Pre-registration of research protocols | 32 40.0% |
| | | Appropriate disclosures of interests including funding sources | 42 52.5% |
| | | Replication by outside research groups | 33 41.3% |
| | Use of reporting checklists | 24 30.0% | |
| | Reporting exclusions | 34 42.5% | |
| | Open publishing practices e.g. data sharing, publishing openly (preprint servers, open access journals) | 43 53.8% | |
| | Other | 2 2.5% | |
| | None of the above | | |
| | Don't know / can't say | 1 1.3% | |
| | Number of Respondents | 80 100.0% | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Participation in appropriate education and training about research quality | 85 72.6% |
| | | Specifying critical research design elements (e.g. power analysis, bias avoidance, randomisation, blinding) | 80 68.4% |
| | | Clearly distinguishing between discovery and hypothesis testing experiments | 52 44.4% |
| | | Obtaining statistical advice and developing a statistical plan before commencing a study | 74 63.2% |
| | | Pre-registration of research protocols | 41 35.0% |
| | | Appropriate disclosures of interests including funding sources | 69 59.0% |
| | | Replication by outside research groups | 40 34.2% |
| | | Use of reporting checklists | 40 34.2% |
| | | Reporting exclusions | 37 31.6% |
| | | Open publishing practices e.g. data sharing, publishing openly (preprint servers, open access journals) | 59 50.4% |
| | | Other | 4 3.4% |
| | | None of the above | 1 0.9% |
| | | Don't know / can't say | 4 3.4% |
| | | Number of Respondents | 117 100.0% |
| | Current member of an Animal Ethics Committee (AEC) | Valid | Participation in appropriate education and training about research quality |
| | | Specifying critical research design elements (e.g. power analysis, bias avoidance, randomisation, blinding) | 33 71.7% |
| | | Clearly distinguishing between discovery and hypothesis testing experiments | 21 45.7% |
| | | Obtaining statistical advice and developing a statistical plan before commencing a study | 37 80.4% |
| | | Pre-registration of research protocols | 10 21.7% |
| | | Appropriate disclosures of interests including funding sources | 24 52.2% |
| | | Replication by outside research groups | 16 34.8% |
| | | Use of reporting checklists | 15 32.6% |
| | | Reporting exclusions | 12 26.1% |
| | | Open publishing practices e.g. data sharing, publishing openly (preprint servers, open access journals) | 24 52.2% |
| | | Other | 1 2.2% |
| | | None of the above | |
| | | Don't know / can't say | 4 8.7% |
| | | Number of Respondents | 46 100.0% |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
E. Actions

q63. Do you think that ensuring research quality adds to your workload?

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|------------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | No, not at all | 117 | 17.8 | 20.6 | 20.6 |
| | | Yes, a little | 158 | 24.0 | 27.8 | 48.3 |
| | | Yes, a moderate amount | 181 | 27.5 | 31.8 | 80.1 |
| | | Yes, a large amount | 113 | 17.2 | 19.9 | 100.0 |
| | | Total | 569 | 86.5 | 100.0 | |
| | Missing | Don't know / can't say | 4 | .6 | | |
| | | System | 85 | 12.9 | | |
| Total | Total | 89 | 13.5 | | | |
| Mid-career researcher | Valid | No, not at all | 63 | 15.9 | 21.0 | 21.0 |
| | | Yes, a little | 93 | 23.4 | 31.0 | 52.0 |
| | | Yes, a moderate amount | 87 | 21.9 | 29.0 | 81.0 |
| | | Yes, a large amount | 57 | 14.4 | 19.0 | 100.0 |
| | | Total | 300 | 75.6 | 100.0 | |
| | Missing | Don't know / can't say | 5 | 1.3 | | |
| | | System | 92 | 23.2 | | |
| Total | Total | 97 | 24.4 | | | |
| Junior researcher | Valid | No, not at all | 36 | 12.7 | 17.1 | 17.1 |
| | | Yes, a little | 69 | 24.3 | 32.7 | 49.8 |
| | | Yes, a moderate amount | 62 | 21.8 | 29.4 | 79.1 |
| | | Yes, a large amount | 44 | 15.5 | 20.9 | 100.0 |
| | | Total | 211 | 74.3 | 100.0 | |
| | Missing | Don't know / can't say | 8 | 2.8 | | |
| | | System | 65 | 22.9 | | |
| Total | Total | 73 | 25.7 | | | |
| Research student | Valid | No, not at all | 24 | 16.1 | 23.3 | 23.3 |
| | | Yes, a little | 35 | 23.5 | 34.0 | 57.3 |
| | | Yes, a moderate amount | 31 | 20.8 | 30.1 | 87.4 |
| | | Yes, a large amount | 13 | 8.7 | 12.6 | 100.0 |
| | | Total | 103 | 69.1 | 100.0 | |
| | Missing | Don't know / can't say | 7 | 4.7 | | |
| | | System | 39 | 26.2 | | |
| Total | Total | 46 | 30.9 | | | |
| Representative of an institution | Valid | No, not at all | 6 | 5.7 | 8.1 | 8.1 |
| | | Yes, a little | 23 | 21.7 | 31.1 | 39.2 |
| | | Yes, a moderate amount | 25 | 23.6 | 33.8 | 73.0 |
| | | Yes, a large amount | 20 | 18.9 | 27.0 | 100.0 |
| | | Total | 74 | 69.8 | 100.0 | |
| | Missing | Don't know / can't say | 6 | 5.7 | | |
| | | System | 26 | 24.5 | | |
| Total | Total | 32 | 30.2 | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | No, not at all | 18 | 14.3 | 17.5 | 17.5 |
| | | Yes, a little | 27 | 21.4 | 26.2 | 43.7 |
| | | Yes, a moderate amount | 32 | 25.4 | 31.1 | 74.8 |
| | | Yes, a large amount | 26 | 20.6 | 25.2 | 100.0 |
| | | Total | 103 | 81.7 | 100.0 | |
| | Missing | Don't know / can't say | 12 | 9.5 | | |
| | | System | 11 | 8.7 | | |
| Total | Total | 23 | 18.3 | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | No, not at all | 5 | 10.4 | 13.2 | 13.2 |
| | | Yes, a little | 18 | 37.5 | 47.4 | 60.5 |
| | | Yes, a moderate amount | 9 | 18.8 | 23.7 | 84.2 |
| | | Yes, a large amount | 6 | 12.5 | 15.8 | 100.0 |
| | | Total | 38 | 79.2 | 100.0 | |
| | Missing | Don't know / can't say | 7 | 14.6 | | |
| | | System | 3 | 6.3 | | |
| Total | Total | 10 | 20.8 | | | |
| Total | Total | 48 | 100.0 | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
 F. Current and past behaviours

q64amr. Proposed research questions which are easy to answer rather than needed (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-----------------------|-----------------------------|-----------|------------------|
| Senior researcher | Valid | No | 256 | 47.6% |
| | | Yes, I've done it myself | 75 | 13.9% |
| | | Yes, I've seen others do it | 231 | 42.9% |
| | Number of Respondents | | 538 | 100.0% |
| Mid-career researcher | Valid | No | 118 | 41.7% |
| | | Yes, I've done it myself | 57 | 20.1% |
| | | Yes, I've seen others do it | 131 | 46.3% |
| | Number of Respondents | | 283 | 100.0% |
| Junior researcher | Valid | No | 102 | 49.8% |
| | | Yes, I've done it myself | 33 | 16.1% |
| | | Yes, I've seen others do it | 89 | 43.4% |
| | Number of Respondents | | 205 | 100.0% |
| Research student | Valid | No | 63 | 64.3% |
| | | Yes, I've done it myself | 7 | 7.1% |
| | | Yes, I've seen others do it | 30 | 30.6% |
| | Number of Respondents | | 98 | 100.0% |
| Representative of an institution | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
F. Current and past behaviours

q64bmr. Chosen an inadequate research design because it minimised costs (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-----------------------|-----------------------------|-----------|------------------|
| Senior researcher | Valid | No | 269 | 50.3% |
| | | Yes, I've done it myself | 93 | 17.4% |
| | | Yes, I've seen others do it | 210 | 39.3% |
| | Number of Respondents | | 535 | 100.0% |
| Mid-career researcher | Valid | No | 136 | 47.2% |
| | | Yes, I've done it myself | 55 | 19.1% |
| | | Yes, I've seen others do it | 127 | 44.1% |
| | Number of Respondents | | 288 | 100.0% |
| Junior researcher | Valid | No | 103 | 52.0% |
| | | Yes, I've done it myself | 33 | 16.7% |
| | | Yes, I've seen others do it | 77 | 38.9% |
| | Number of Respondents | | 198 | 100.0% |
| Research student | Valid | No | 62 | 64.6% |
| | | Yes, I've done it myself | 3 | 3.1% |
| | | Yes, I've seen others do it | 31 | 32.3% |
| | Number of Respondents | | 96 | 100.0% |
| Representative of an institution | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |

q64cmr. Used unsuitable measurement methods because they were readily available (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-----------------------|-----------------------------|-----------|------------------|
| Senior researcher | Valid | No | 312 | 58.9% |
| | | Yes, I've done it myself | 38 | 7.2% |
| | | Yes, I've seen others do it | 194 | 36.6% |
| | Number of Respondents | | 530 | 100.0% |
| Mid-career researcher | Valid | No | 165 | 59.1% |
| | | Yes, I've done it myself | 24 | 8.6% |
| | | Yes, I've seen others do it | 101 | 36.2% |
| | Number of Respondents | | 279 | 100.0% |
| Junior researcher | Valid | No | 121 | 62.1% |
| | | Yes, I've done it myself | 12 | 6.2% |
| | | Yes, I've seen others do it | 66 | 33.8% |
| | Number of Respondents | | 195 | 100.0% |
| Research student | Valid | No | 66 | 67.3% |
| | | Yes, I've done it myself | 3 | 3.1% |
| | | Yes, I've seen others do it | 29 | 29.6% |
| | Number of Respondents | | 98 | 100.0% |
| Representative of an institution | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
 F. Current and past behaviours

q64dmr. Withheld information from a grant application that could have 'weakened' the application (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-----------------------|-----------------------------|-----------|------------------|
| Senior researcher | Valid | No | 331 | 65.0% |
| | | Yes, I've done it myself | 84 | 16.5% |
| | | Yes, I've seen others do it | 127 | 25.0% |
| | Number of Respondents | | 509 | 100.0% |
| Mid-career researcher | Valid | No | 174 | 65.4% |
| | | Yes, I've done it myself | 35 | 13.2% |
| | | Yes, I've seen others do it | 77 | 28.9% |
| | Number of Respondents | | 266 | 100.0% |
| Junior researcher | Valid | No | 127 | 66.8% |
| | | Yes, I've done it myself | 14 | 7.4% |
| | | Yes, I've seen others do it | 52 | 27.4% |
| | Number of Respondents | | 190 | 100.0% |
| Research student | Valid | No | 67 | 85.9% |
| | | Yes, I've done it myself | 1 | 1.3% |
| | | Yes, I've seen others do it | 10 | 12.8% |
| | Number of Respondents | | 78 | 100.0% |
| Representative of an institution | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
 F. Current and past behaviours

q64emr. Stopped data collection earlier than planned, without the application of pre-planned monitoring and stopping rules, because the results were already statistically significant (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-----------------------|-----------------------------|-----------|------------------|
| Senior researcher | Valid | No | 442 | 88.0% |
| | | Yes, I've done it myself | 17 | 3.4% |
| | | Yes, I've seen others do it | 47 | 9.4% |
| | Number of Respondents | | 502 | 100.0% |
| Mid-career researcher | Valid | No | 221 | 85.7% |
| | | Yes, I've done it myself | 8 | 3.1% |
| | | Yes, I've seen others do it | 31 | 12.0% |
| | Number of Respondents | | 258 | 100.0% |
| Junior researcher | Valid | No | 168 | 87.5% |
| | | Yes, I've done it myself | 3 | 1.6% |
| | | Yes, I've seen others do it | 23 | 12.0% |
| | Number of Respondents | | 192 | 100.0% |
| Research student | Valid | No | 77 | 89.5% |
| | | Yes, I've done it myself | 1 | 1.2% |
| | | Yes, I've seen others do it | 8 | 9.3% |
| | Number of Respondents | | 86 | 100.0% |
| Representative of an institution | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
 F. Current and past behaviours

q65amr. Excluded outlying data before performing data analysis without disclosure (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-----------------------|-----------------------------|-----------|------------------|
| Senior researcher | Valid | No | 427 | 78.3% |
| | | Yes, I've done it myself | 18 | 3.3% |
| | | Yes, I've seen others do it | 108 | 19.8% |
| | Number of Respondents | | 545 | 100.0% |
| Mid-career researcher | Valid | No | 214 | 76.2% |
| | | Yes, I've done it myself | 8 | 2.8% |
| | | Yes, I've seen others do it | 64 | 22.8% |
| | Number of Respondents | | 281 | 100.0% |
| Junior researcher | Valid | No | 154 | 77.0% |
| | | Yes, I've done it myself | 11 | 5.5% |
| | | Yes, I've seen others do it | 44 | 22.0% |
| | Number of Respondents | | 200 | 100.0% |
| Research student | Valid | No | 82 | 83.7% |
| | | Yes, I've done it myself | 4 | 4.1% |
| | | Yes, I've seen others do it | 14 | 14.3% |
| | Number of Respondents | | 98 | 100.0% |
| Representative of an institution | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
F. Current and past behaviours

q65bmr. Selected the statistical method that provided the desired result (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-----------------------|-----------------------------|-----------|------------------|
| Senior researcher | Valid | No | 354 | 65.1% |
| | | Yes, I've done it myself | 46 | 8.5% |
| | | Yes, I've seen others do it | 167 | 30.7% |
| | Number of Respondents | | 544 | 100.0% |
| Mid-career researcher | Valid | No | 183 | 63.5% |
| | | Yes, I've done it myself | 23 | 8.0% |
| | | Yes, I've seen others do it | 93 | 32.3% |
| | Number of Respondents | | 288 | 100.0% |
| Junior researcher | Valid | No | 125 | 63.1% |
| | | Yes, I've done it myself | 18 | 9.1% |
| | | Yes, I've seen others do it | 62 | 31.3% |
| | Number of Respondents | | 198 | 100.0% |
| Research student | Valid | No | 71 | 74.0% |
| | | Yes, I've done it myself | 8 | 8.3% |
| | | Yes, I've seen others do it | 20 | 20.8% |
| | Number of Respondents | | 96 | 100.0% |
| Representative of an institution | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |

q65cmr. Performed data analyses not described in the study protocol without disclosure (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-----------------------|-----------------------------|-----------|------------------|
| Senior researcher | Valid | No | 384 | 78.9% |
| | | Yes, I've done it myself | 40 | 8.2% |
| | | Yes, I've seen others do it | 79 | 16.2% |
| | Number of Respondents | | 487 | 100.0% |
| Mid-career researcher | Valid | No | 199 | 74.5% |
| | | Yes, I've done it myself | 25 | 9.4% |
| | | Yes, I've seen others do it | 53 | 19.9% |
| | Number of Respondents | | 267 | 100.0% |
| Junior researcher | Valid | No | 138 | 74.2% |
| | | Yes, I've done it myself | 16 | 8.6% |
| | | Yes, I've seen others do it | 38 | 20.4% |
| | Number of Respondents | | 186 | 100.0% |
| Research student | Valid | No | 82 | 87.2% |
| | | Yes, I've done it myself | 5 | 5.3% |
| | | Yes, I've seen others do it | 8 | 8.5% |
| | Number of Respondents | | 94 | 100.0% |
| Representative of an institution | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
F. Current and past behaviours

q65dmr. Reported an incorrect downwardly rounded p-value (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-----------------------|-----------------------------|-----------|------------------|
| Senior researcher | Valid | No | 510 | 94.3% |
| | | Yes, I've done it myself | 3 | 0.6% |
| | | Yes, I've seen others do it | 30 | 5.5% |
| | Number of Respondents | | 541 | 100.0% |
| Mid-career researcher | Valid | No | 273 | 95.5% |
| | | Yes, I've done it myself | 2 | 0.7% |
| | | Yes, I've seen others do it | 11 | 3.8% |
| | Number of Respondents | | 286 | 100.0% |
| Junior researcher | Valid | No | 184 | 92.5% |
| | | Yes, I've done it myself | 1 | 0.5% |
| | | Yes, I've seen others do it | 15 | 7.5% |
| | Number of Respondents | | 199 | 100.0% |
| Research student | Valid | No | 92 | 96.8% |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | 3 | 3.2% |
| | Number of Respondents | | 95 | 100.0% |
| Representative of an institution | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |

q65emr. Incrementally added more data until the results became statistically significant (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-----------------------|-----------------------------|-----------|------------------|
| Senior researcher | Valid | No | 430 | 79.2% |
| | | Yes, I've done it myself | 43 | 7.9% |
| | | Yes, I've seen others do it | 84 | 15.5% |
| | Number of Respondents | | 543 | 100.0% |
| Mid-career researcher | Valid | No | 223 | 78.2% |
| | | Yes, I've done it myself | 21 | 7.4% |
| | | Yes, I've seen others do it | 54 | 18.9% |
| | Number of Respondents | | 285 | 100.0% |
| Junior researcher | Valid | No | 158 | 79.8% |
| | | Yes, I've done it myself | 9 | 4.5% |
| | | Yes, I've seen others do it | 35 | 17.7% |
| | Number of Respondents | | 198 | 100.0% |
| Research student | Valid | No | 85 | 87.6% |
| | | Yes, I've done it myself | 3 | 3.1% |
| | | Yes, I've seen others do it | 10 | 10.3% |
| | Number of Respondents | | 97 | 100.0% |
| Representative of an institution | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
F. Current and past behaviours

q65fmr. Concealed results that contradict earlier findings or hypotheses (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-----------------------|-----------------------------|-----------|------------------|
| Senior researcher | Valid | No | 485 | 87.4% |
| | | Yes, I've done it myself | 6 | 1.1% |
| | | Yes, I've seen others do it | 67 | 12.1% |
| | Number of Respondents | | 555 | 100.0% |
| Mid-career researcher | Valid | No | 240 | 83.9% |
| | | Yes, I've done it myself | 2 | 0.7% |
| | | Yes, I've seen others do it | 46 | 16.1% |
| | Number of Respondents | | 286 | 100.0% |
| Junior researcher | Valid | No | 164 | 80.8% |
| | | Yes, I've done it myself | 2 | 1.0% |
| | | Yes, I've seen others do it | 39 | 19.2% |
| | Number of Respondents | | 203 | 100.0% |
| Research student | Valid | No | 83 | 84.7% |
| | | Yes, I've done it myself | 3 | 3.1% |
| | | Yes, I've seen others do it | 13 | 13.3% |
| | Number of Respondents | | 98 | 100.0% |
| Representative of an institution | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |

q65gmr. Fabricated / falsified data to complete a project or paper (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-----------------------|-----------------------------|-----------|------------------|
| Senior researcher | Valid | No | 516 | 93.1% |
| | | Yes, I've done it myself | 1 | 0.2% |
| | | Yes, I've seen others do it | 38 | 6.9% |
| | Number of Respondents | | 554 | 100.0% |
| Mid-career researcher | Valid | No | 265 | 93.6% |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | 18 | 6.4% |
| | Number of Respondents | | 283 | 100.0% |
| Junior researcher | Valid | No | 195 | 95.1% |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | 10 | 4.9% |
| | Number of Respondents | | 205 | 100.0% |
| Research student | Valid | No | 90 | 91.8% |
| | | Yes, I've done it myself | 1 | 1.0% |
| | | Yes, I've seen others do it | 7 | 7.1% |
| | Number of Respondents | | 98 | 100.0% |
| Representative of an institution | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
F. Current and past behaviours

q66amr. Not attempted to publish a valid 'negative' or 'neutral' study (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-----------------------|-----------------------------|-----------|------------------|
| Senior researcher | Valid | No | 305 | 57.5% |
| | | Yes, I've done it myself | 140 | 26.4% |
| | | Yes, I've seen others do it | 130 | 24.5% |
| | Number of Respondents | | 530 | 100.0% |
| Mid-career researcher | Valid | No | 151 | 53.7% |
| | | Yes, I've done it myself | 78 | 27.8% |
| | | Yes, I've seen others do it | 79 | 28.1% |
| | Number of Respondents | | 281 | 100.0% |
| Junior researcher | Valid | No | 112 | 55.4% |
| | | Yes, I've done it myself | 46 | 22.8% |
| | | Yes, I've seen others do it | 65 | 32.2% |
| | Number of Respondents | | 202 | 100.0% |
| Research student | Valid | No | 58 | 64.4% |
| | | Yes, I've done it myself | 11 | 12.2% |
| | | Yes, I've seen others do it | 25 | 27.8% |
| | Number of Respondents | | 90 | 100.0% |
| Representative of an institution | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |

q66bmr. Reported an unexpected finding as having been hypothesised from the start (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-----------------------|-----------------------------|-----------|------------------|
| Senior researcher | Valid | No | 401 | 75.4% |
| | | Yes, I've done it myself | 52 | 9.8% |
| | | Yes, I've seen others do it | 90 | 16.9% |
| | Number of Respondents | | 532 | 100.0% |
| Mid-career researcher | Valid | No | 204 | 73.1% |
| | | Yes, I've done it myself | 28 | 10.0% |
| | | Yes, I've seen others do it | 60 | 21.5% |
| | Number of Respondents | | 279 | 100.0% |
| Junior researcher | Valid | No | 135 | 68.5% |
| | | Yes, I've done it myself | 21 | 10.7% |
| | | Yes, I've seen others do it | 50 | 25.4% |
| | Number of Respondents | | 197 | 100.0% |
| Research student | Valid | No | 69 | 75.8% |
| | | Yes, I've done it myself | 10 | 11.0% |
| | | Yes, I've seen others do it | 15 | 16.5% |
| | Number of Respondents | | 91 | 100.0% |
| Representative of an institution | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
F. Current and past behaviours

q66cmr. Not reported all study protocol stipulated results (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-----------------------|-----------------------------|-----------|------------------|
| Senior researcher | Valid | No | 415 | 84.2% |
| | | Yes, I've done it myself | 20 | 4.1% |
| | | Yes, I've seen others do it | 64 | 13.0% |
| | Number of Respondents | | 493 | 100.0% |
| Mid-career researcher | Valid | No | 217 | 81.3% |
| | | Yes, I've done it myself | 8 | 3.0% |
| | | Yes, I've seen others do it | 47 | 17.6% |
| | Number of Respondents | | 267 | 100.0% |
| Junior researcher | Valid | No | 154 | 78.6% |
| | | Yes, I've done it myself | 10 | 5.1% |
| | | Yes, I've seen others do it | 38 | 19.4% |
| | Number of Respondents | | 196 | 100.0% |
| Research student | Valid | No | 74 | 83.1% |
| | | Yes, I've done it myself | 1 | 1.1% |
| | | Yes, I've seen others do it | 14 | 15.7% |
| | Number of Respondents | | 89 | 100.0% |
| Representative of an institution | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |

q66dmr. Selection of the best data for publication, rather than representative data (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-----------------------|-----------------------------|-----------|------------------|
| Senior researcher | Valid | No | 371 | 68.1% |
| | | Yes, I've done it myself | 45 | 8.3% |
| | | Yes, I've seen others do it | 146 | 26.8% |
| | Number of Respondents | | 545 | 100.0% |
| Mid-career researcher | Valid | No | 199 | 68.6% |
| | | Yes, I've done it myself | 17 | 5.9% |
| | | Yes, I've seen others do it | 86 | 29.7% |
| | Number of Respondents | | 290 | 100.0% |
| Junior researcher | Valid | No | 133 | 64.9% |
| | | Yes, I've done it myself | 15 | 7.3% |
| | | Yes, I've seen others do it | 64 | 31.2% |
| | Number of Respondents | | 205 | 100.0% |
| Research student | Valid | No | 72 | 78.3% |
| | | Yes, I've done it myself | 5 | 5.4% |
| | | Yes, I've seen others do it | 17 | 18.5% |
| | Number of Respondents | | 92 | 100.0% |
| Representative of an institution | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
 F. Current and past behaviours

q66emr. Use of other researchers' ideas or phrases without permission or referencing (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-----------------------|-----------------------------|-----------|------------------|
| Senior researcher | Valid | No | 432 | 79.0% |
| | | Yes, I've done it myself | 3 | 0.5% |
| | | Yes, I've seen others do it | 113 | 20.7% |
| | Number of Respondents | | 547 | 100.0% |
| Mid-career researcher | Valid | No | 219 | 75.0% |
| | | Yes, I've done it myself | 2 | 0.7% |
| | | Yes, I've seen others do it | 72 | 24.7% |
| | Number of Respondents | | 292 | 100.0% |
| Junior researcher | Valid | No | 170 | 82.9% |
| | | Yes, I've done it myself | 1 | 0.5% |
| | | Yes, I've seen others do it | 35 | 17.1% |
| | Number of Respondents | | 205 | 100.0% |
| Research student | Valid | No | 85 | 86.7% |
| | | Yes, I've done it myself | 2 | 2.0% |
| | | Yes, I've seen others do it | 11 | 11.2% |
| | Number of Respondents | | 98 | 100.0% |
| Representative of an institution | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
F. Current and past behaviours

q66fmr. Not reported replication problems (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-----------------------|-----------------------------|-----------|------------------|
| Senior researcher | Valid | No | 436 | 88.3% |
| | | Yes, I've done it myself | 16 | 3.2% |
| | | Yes, I've seen others do it | 48 | 9.7% |
| | Number of Respondents | | 494 | 100.0% |
| Mid-career researcher | Valid | No | 237 | 84.9% |
| | | Yes, I've done it myself | 11 | 3.9% |
| | | Yes, I've seen others do it | 34 | 12.2% |
| | Number of Respondents | | 279 | 100.0% |
| Junior researcher | Valid | No | 161 | 86.6% |
| | | Yes, I've done it myself | 3 | 1.6% |
| | | Yes, I've seen others do it | 25 | 13.4% |
| | Number of Respondents | | 186 | 100.0% |
| Research student | Valid | No | 74 | 86.0% |
| | | Yes, I've done it myself | 6 | 7.0% |
| | | Yes, I've seen others do it | 7 | 8.1% |
| | Number of Respondents | | 86 | 100.0% |
| Representative of an institution | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |

q66gmr. Selective citation (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-----------------------|-----------------------------|-----------|------------------|
| Senior researcher | Valid | No | 272 | 52.0% |
| | | Yes, I've done it myself | 82 | 15.7% |
| | | Yes, I've seen others do it | 200 | 38.2% |
| | Number of Respondents | | 523 | 100.0% |
| Mid-career researcher | Valid | No | 166 | 58.5% |
| | | Yes, I've done it myself | 42 | 14.8% |
| | | Yes, I've seen others do it | 92 | 32.4% |
| | Number of Respondents | | 284 | 100.0% |
| Junior researcher | Valid | No | 126 | 64.9% |
| | | Yes, I've done it myself | 18 | 9.3% |
| | | Yes, I've seen others do it | 60 | 30.9% |
| | Number of Respondents | | 194 | 100.0% |
| Research student | Valid | No | 64 | 73.6% |
| | | Yes, I've done it myself | 8 | 9.2% |
| | | Yes, I've seen others do it | 17 | 19.5% |
| | Number of Respondents | | 87 | 100.0% |
| Representative of an institution | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
F. Current and past behaviours

q67amr. Insufficiently reported study flaws and limitations (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-----------------------|-----------------------------|-----------|------------------|
| Senior researcher | Valid | No | 332 | 61.8% |
| | | Yes, I've done it myself | 27 | 5.0% |
| | | Yes, I've seen others do it | 192 | 35.8% |
| | Number of Respondents | | 537 | 100.0% |
| Mid-career researcher | Valid | No | 185 | 65.1% |
| | | Yes, I've done it myself | 16 | 5.6% |
| | | Yes, I've seen others do it | 90 | 31.7% |
| | Number of Respondents | | 284 | 100.0% |
| Junior researcher | Valid | No | 123 | 61.5% |
| | | Yes, I've done it myself | 13 | 6.5% |
| | | Yes, I've seen others do it | 71 | 35.5% |
| | Number of Respondents | | 200 | 100.0% |
| Research student | Valid | No | 72 | 74.2% |
| | | Yes, I've done it myself | 6 | 6.2% |
| | | Yes, I've seen others do it | 21 | 21.6% |
| | Number of Respondents | | 97 | 100.0% |
| Representative of an institution | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |

q67bmr. Submitted or resubmitted a paper or grant application without consent from all authors (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-----------------------|-----------------------------|-----------|------------------|
| Senior researcher | Valid | No | 404 | 73.3% |
| | | Yes, I've done it myself | 16 | 2.9% |
| | | Yes, I've seen others do it | 133 | 24.1% |
| | Number of Respondents | | 551 | 100.0% |
| Mid-career researcher | Valid | No | 207 | 70.6% |
| | | Yes, I've done it myself | 14 | 4.8% |
| | | Yes, I've seen others do it | 77 | 26.3% |
| | Number of Respondents | | 293 | 100.0% |
| Junior researcher | Valid | No | 158 | 77.8% |
| | | Yes, I've done it myself | 5 | 2.5% |
| | | Yes, I've seen others do it | 41 | 20.2% |
| | Number of Respondents | | 203 | 100.0% |
| Research student | Valid | No | 79 | 87.8% |
| | | Yes, I've done it myself | 2 | 2.2% |
| | | Yes, I've seen others do it | 10 | 11.1% |
| | Number of Respondents | | 90 | 100.0% |
| Representative of an institution | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
F. Current and past behaviours

q67cmr. Duplication of a publication without disclosure (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-----------------------|-----------------------------|-----------|------------------|
| Senior researcher | Valid | No | 502 | 90.6% |
| | | Yes, I've done it myself | 1 | 0.2% |
| | | Yes, I've seen others do it | 51 | 9.2% |
| | Number of Respondents | | 554 | 100.0% |
| Mid-career researcher | Valid | No | 275 | 92.9% |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | 21 | 7.1% |
| | Number of Respondents | | 296 | 100.0% |
| Junior researcher | Valid | No | 191 | 96.5% |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | 7 | 3.5% |
| | Number of Respondents | | 198 | 100.0% |
| Research student | Valid | No | 87 | 96.7% |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | 3 | 3.3% |
| | Number of Respondents | | 90 | 100.0% |
| Representative of an institution | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |

q67dmr. Inappropriately added or omitted an author or contributor (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-----------------------|-----------------------------|-----------|------------------|
| Senior researcher | Valid | No | 369 | 66.7% |
| | | Yes, I've done it myself | 26 | 4.7% |
| | | Yes, I've seen others do it | 166 | 30.0% |
| | Number of Respondents | | 553 | 100.0% |
| Mid-career researcher | Valid | No | 181 | 61.4% |
| | | Yes, I've done it myself | 12 | 4.1% |
| | | Yes, I've seen others do it | 109 | 36.9% |
| | Number of Respondents | | 295 | 100.0% |
| Junior researcher | Valid | No | 129 | 63.5% |
| | | Yes, I've done it myself | 17 | 8.4% |
| | | Yes, I've seen others do it | 65 | 32.0% |
| | Number of Respondents | | 203 | 100.0% |
| Research student | Valid | No | 67 | 72.0% |
| | | Yes, I've done it myself | 7 | 7.5% |
| | | Yes, I've seen others do it | 23 | 24.7% |
| | Number of Respondents | | 93 | 100.0% |
| Representative of an institution | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
 F. Current and past behaviours

q68amr. Modification of the results or conclusions of a study due to pressure of a sponsor / funder (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-----------------------|-----------------------------|-----------|------------------|
| Senior researcher | Valid | No | 503 | 91.5% |
| | | Yes, I've done it myself | 4 | 0.7% |
| | | Yes, I've seen others do it | 46 | 8.4% |
| | Number of Respondents | | 550 | 100.0% |
| Mid-career researcher | Valid | No | 275 | 93.2% |
| | | Yes, I've done it myself | 2 | 0.7% |
| | | Yes, I've seen others do it | 19 | 6.4% |
| | Number of Respondents | | 295 | 100.0% |
| Junior researcher | Valid | No | 185 | 91.6% |
| | | Yes, I've done it myself | 2 | 1.0% |
| | | Yes, I've seen others do it | 15 | 7.4% |
| | Number of Respondents | | 202 | 100.0% |
| Research student | Valid | No | 87 | 92.6% |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | 7 | 7.4% |
| | Number of Respondents | | 94 | 100.0% |
| Representative of an institution | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
F. Current and past behaviours

q68bmr. Failure to disclose a sponsor / funder of a study (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-----------------------|-----------------------------|-----------|------------------|
| Senior researcher | Valid | No | 517 | 93.8% |
| | | Yes, I've done it myself | 1 | 0.2% |
| | | Yes, I've seen others do it | 33 | 6.0% |
| | Number of Respondents | | 551 | 100.0% |
| Mid-career researcher | Valid | No | 278 | 94.6% |
| | | Yes, I've done it myself | 2 | 0.7% |
| | | Yes, I've seen others do it | 15 | 5.1% |
| | Number of Respondents | | 294 | 100.0% |
| Junior researcher | Valid | No | 190 | 94.1% |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | 12 | 5.9% |
| | Number of Respondents | | 202 | 100.0% |
| Research student | Valid | No | 92 | 98.9% |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | 1 | 1.1% |
| | Number of Respondents | | 93 | 100.0% |
| Representative of an institution | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |

q68cmr. Failure to disclose a relevant financial or intellectual conflict of interest (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-----------------------|-----------------------------|-----------|------------------|
| Senior researcher | Valid | No | 491 | 88.9% |
| | | Yes, I've done it myself | 2 | 0.4% |
| | | Yes, I've seen others do it | 61 | 11.1% |
| | Number of Respondents | | 552 | 100.0% |
| Mid-career researcher | Valid | No | 259 | 87.8% |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | 36 | 12.2% |
| | Number of Respondents | | 295 | 100.0% |
| Junior researcher | Valid | No | 187 | 90.8% |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | 19 | 9.2% |
| | Number of Respondents | | 206 | 100.0% |
| Research student | Valid | No | 93 | 100.0% |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | 93 | 100.0% |
| Representative of an institution | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
 F. Current and past behaviours

q68dmr. Refused to share data (that you have the rights to share) with bona fide colleagues (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-----------------------|-----------------------------|-----------|------------------|
| Senior researcher | Valid | No | 461 | 83.2% |
| | | Yes, I've done it myself | 7 | 1.3% |
| | | Yes, I've seen others do it | 89 | 16.1% |
| | Number of Respondents | | 554 | 100.0% |
| Mid-career researcher | Valid | No | 245 | 83.1% |
| | | Yes, I've done it myself | 2 | 0.7% |
| | | Yes, I've seen others do it | 49 | 16.6% |
| | Number of Respondents | | 295 | 100.0% |
| Junior researcher | Valid | No | 180 | 87.4% |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | 26 | 12.6% |
| | Number of Respondents | | 206 | 100.0% |
| Research student | Valid | No | 87 | 90.6% |
| | | Yes, I've done it myself | 1 | 1.0% |
| | | Yes, I've seen others do it | 8 | 8.3% |
| | Number of Respondents | | 96 | 100.0% |
| Representative of an institution | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
 F. Current and past behaviours

q68emr. Refused to respond to an allegation of a breach of research integrity (Multiple Response)

| q1. In what capacity are you participating in this survey? | | | Frequency | % of respondents |
|--|-----------------------|-----------------------------|-----------|------------------|
| Senior researcher | Valid | No | 485 | 92.9% |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | 37 | 7.1% |
| | Number of Respondents | | 522 | 100.0% |
| Mid-career researcher | Valid | No | 272 | 94.1% |
| | | Yes, I've done it myself | 1 | 0.3% |
| | | Yes, I've seen others do it | 16 | 5.5% |
| | Number of Respondents | | 289 | 100.0% |
| Junior researcher | Valid | No | 190 | 95.5% |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | 9 | 4.5% |
| | Number of Respondents | | 199 | 100.0% |
| Research student | Valid | No | 91 | 97.8% |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | 2 | 2.2% |
| | Number of Respondents | | 93 | 100.0% |
| Representative of an institution | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | No | | |
| | | Yes, I've done it myself | | |
| | | Yes, I've seen others do it | | |
| | Number of Respondents | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
G. About you

q69. Are you:

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|--|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | Female | 235 | 35.7 | 41.8 | 41.8 |
| | | Male | 327 | 49.7 | 58.2 | 100.0 |
| | | Total | 562 | 85.4 | 100.0 | |
| | Missing | Prefer not to say | 8 | 1.2 | | |
| | | System | 88 | 13.4 | | |
| Total | Total | 96 | 14.6 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | Female | 174 | 43.8 | 58.2 | 58.2 |
| | | Male | 125 | 31.5 | 41.8 | 100.0 |
| | | Total | 299 | 75.3 | 100.0 | |
| | Missing | Prefer not to say | 3 | .8 | | |
| | | System | 95 | 23.9 | | |
| Total | Total | 98 | 24.7 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Female | 155 | 54.6 | 73.1 | 73.1 |
| | | Male | 57 | 20.1 | 26.9 | 100.0 |
| | | Total | 212 | 74.6 | 100.0 | |
| | Missing | Prefer not to say | 4 | 1.4 | | |
| | | System | 68 | 23.9 | | |
| Total | Total | 72 | 25.4 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Female | 70 | 47.0 | 64.8 | 64.8 |
| | | Male | 36 | 24.2 | 33.3 | 98.1 |
| | | X (Indeterminate / Intersex / Unspecified) | 2 | 1.3 | 1.9 | 100.0 |
| | | Total | 108 | 72.5 | 100.0 | |
| | Missing | Prefer not to say | 1 | .7 | | |
| System | | 40 | 26.8 | | | |
| Total | Total | 41 | 27.5 | | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Valid | Female | 47 | 44.3 | 58.8 | 58.8 |
| | | Male | 33 | 31.1 | 41.3 | 100.0 |
| | | Total | 80 | 75.5 | 100.0 | |
| | Missing | Prefer not to say | 1 | .9 | | |
| | | System | 25 | 23.6 | | |
| Total | Total | 26 | 24.5 | | | |
| Total | | | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Female | 57 | 45.2 | 50.4 | 50.4 |
| | | Male | 56 | 44.4 | 49.6 | 100.0 |
| | | Total | 113 | 89.7 | 100.0 | |
| | Missing | Prefer not to say | 4 | 3.2 | | |
| | | System | 9 | 7.1 | | |
| Total | Total | 13 | 10.3 | | | |
| Total | | | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Female | 23 | 47.9 | 51.1 | 51.1 |
| | | Male | 22 | 45.8 | 48.9 | 100.0 |
| | | Total | 45 | 93.8 | 100.0 | |
| | Missing | Prefer not to say | 1 | 2.1 | | |
| | | System | 2 | 4.2 | | |
| Total | Total | 3 | 6.3 | | | |
| Total | | | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
G. About you

q70. How old are you?

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|-------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | 25 - 34 years | 1 | .2 | .2 | .2 |
| | | 35 - 44 years | 65 | 9.9 | 11.5 | 11.7 |
| | | 45 - 54 years | 196 | 29.8 | 34.7 | 46.4 |
| | | 55 - 64 years | 230 | 35.0 | 40.7 | 87.1 |
| | | 65 - 74 years | 66 | 10.0 | 11.7 | 98.8 |
| | | 75 years or older | 7 | 1.1 | 1.2 | 100.0 |
| | Total | 565 | 85.9 | 100.0 | | |
| | Missing | Prefer not to say | 6 | .9 | | |
| | System | 87 | 13.2 | | | |
| | Total | 93 | 14.1 | | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | 25 - 34 years | 23 | 5.8 | 7.7 | 7.7 |
| | | 35 - 44 years | 164 | 41.3 | 54.7 | 62.3 |
| | | 45 - 54 years | 94 | 23.7 | 31.3 | 93.7 |
| | | 55 - 64 years | 18 | 4.5 | 6.0 | 99.7 |
| | | 65 - 74 years | 1 | .3 | .3 | 100.0 |
| | | Total | 300 | 75.6 | 100.0 | |
| | Missing | Prefer not to say | 2 | .5 | | |
| | | System | 95 | 23.9 | | |
| | Total | 97 | 24.4 | | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | 18 - 24 years | 4 | 1.4 | 1.9 | 1.9 |
| | | 25 - 34 years | 99 | 34.9 | 46.0 | 47.9 |
| | | 35 - 44 years | 81 | 28.5 | 37.7 | 85.6 |
| | | 45 - 54 years | 20 | 7.0 | 9.3 | 94.9 |
| | | 55 - 64 years | 10 | 3.5 | 4.7 | 99.5 |
| | | 65 - 74 years | 1 | .4 | .5 | 100.0 |
| | Total | 215 | 75.7 | 100.0 | | |
| | Missing | Prefer not to say | 1 | .4 | | |
| | System | 68 | 23.9 | | | |
| | Total | 69 | 24.3 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | 18 - 24 years | 11 | 7.4 | 10.0 | 10.0 |
| | | 25 - 34 years | 59 | 39.6 | 53.6 | 63.6 |
| | | 35 - 44 years | 22 | 14.8 | 20.0 | 83.6 |
| | | 45 - 54 years | 16 | 10.7 | 14.5 | 98.2 |
| | | 55 - 64 years | 2 | 1.3 | 1.8 | 100.0 |
| | | Total | 110 | 73.8 | 100.0 | |
| | Missing | System | 39 | 26.2 | | |
| | Total | | | 149 | 100.0 | |
| Representative of an institution | Valid | 18 - 24 years | 1 | .9 | 1.3 | 1.3 |
| | | 25 - 34 years | 8 | 7.5 | 10.0 | 11.3 |
| | | 35 - 44 years | 18 | 17.0 | 22.5 | 33.8 |
| | | 45 - 54 years | 25 | 23.6 | 31.3 | 65.0 |
| | | 55 - 64 years | 22 | 20.8 | 27.5 | 92.5 |
| | | 65 - 74 years | 6 | 5.7 | 7.5 | 100.0 |
| | Total | 80 | 75.5 | 100.0 | | |
| | Missing | Prefer not to say | 1 | .9 | | |
| | System | 25 | 23.6 | | | |
| | Total | 26 | 24.5 | | | |
| Total | | | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | 25 - 34 years | 4 | 3.2 | 3.6 | 3.6 |
| | | 35 - 44 years | 15 | 11.9 | 13.4 | 17.0 |
| | | 45 - 54 years | 16 | 12.7 | 14.3 | 31.3 |
| | | 55 - 64 years | 37 | 29.4 | 33.0 | 64.3 |
| | | 65 - 74 years | 31 | 24.6 | 27.7 | 92.0 |
| | | 75 years or older | 9 | 7.1 | 8.0 | 100.0 |
| | Total | 112 | 88.9 | 100.0 | | |
| | Missing | Prefer not to say | 6 | 4.8 | | |
| | System | 8 | 6.3 | | | |
| | Total | 14 | 11.1 | | | |
| Total | | | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | 25 - 34 years | 1 | 2.1 | 2.2 | 2.2 |
| | | 35 - 44 years | 8 | 16.7 | 17.8 | 20.0 |
| | | 45 - 54 years | 9 | 18.8 | 20.0 | 40.0 |
| | | 55 - 64 years | 11 | 22.9 | 24.4 | 64.4 |
| | | 65 - 74 years | 11 | 22.9 | 24.4 | 88.9 |
| | | 75 years or older | 5 | 10.4 | 11.1 | 100.0 |
| | Total | 45 | 93.8 | 100.0 | | |
| Missing | System | | | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
G. About you

q70. How old are you?

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|-------------------|--|-----------|---------|---------------|--------------------|
| Missing | Prefer not to say | | 1 | 2.1 | | |
| | System | | 2 | 4.2 | | |
| | Total | | 3 | 6.3 | | |
| Total | | | 48 | 100.0 | | |

q71. How many years have you been working in research / your role / as a member or Chair of the ethics committee?

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|--------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | 3 to 10 years | 3 | .5 | .5 | .5 |
| | | More than 10 years | 564 | 85.7 | 99.5 | 100.0 |
| | | Total | 567 | 86.2 | 100.0 | |
| | Missing | Prefer not to say | 2 | .3 | | |
| | | System | 89 | 13.5 | | |
| Total | | | 658 | 100.0 | | |
| Mid-career researcher | Valid | 3 to 10 years | 90 | 22.7 | 29.9 | 29.9 |
| | | More than 10 years | 211 | 53.1 | 70.1 | 100.0 |
| | | Total | 301 | 75.8 | 100.0 | |
| | Missing | Prefer not to say | 1 | .3 | | |
| | | System | 95 | 23.9 | | |
| Total | | | 397 | 100.0 | | |
| Junior researcher | Valid | Less than 3 years | 26 | 9.2 | 12.2 | 12.2 |
| | | 3 to 10 years | 141 | 49.6 | 66.2 | 78.4 |
| | | More than 10 years | 46 | 16.2 | 21.6 | 100.0 |
| | | Total | 213 | 75.0 | 100.0 | |
| | Missing | Prefer not to say | 3 | 1.1 | | |
| System | | 68 | 23.9 | | | |
| Total | | | 284 | 100.0 | | |
| Research student | Valid | Less than 3 years | 50 | 33.6 | 45.5 | 45.5 |
| | | 3 to 10 years | 51 | 34.2 | 46.4 | 91.8 |
| | | More than 10 years | 9 | 6.0 | 8.2 | 100.0 |
| | | Total | 110 | 73.8 | 100.0 | |
| | Missing | System | 39 | 26.2 | | |
| Total | | | 149 | 100.0 | | |
| Representative of an institution | Valid | Less than 3 years | 25 | 23.6 | 31.6 | 31.6 |
| | | 3 to 10 years | 28 | 26.4 | 35.4 | 67.1 |
| | | More than 10 years | 26 | 24.5 | 32.9 | 100.0 |
| | | Total | 79 | 74.5 | 100.0 | |
| | Missing | Prefer not to say | 1 | .9 | | |
| System | | 26 | 24.5 | | | |
| Total | | | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | Less than 3 years | 46 | 36.5 | 39.7 | 39.7 |
| | | 3 to 10 years | 46 | 36.5 | 39.7 | 79.3 |
| | | More than 10 years | 24 | 19.0 | 20.7 | 100.0 |
| | | Total | 116 | 92.1 | 100.0 | |
| | Missing | Prefer not to say | 1 | .8 | | |
| System | | 9 | 7.1 | | | |
| Total | | | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | Less than 3 years | 13 | 27.1 | 28.9 | 28.9 |
| | | 3 to 10 years | 16 | 33.3 | 35.6 | 64.4 |
| | | More than 10 years | 16 | 33.3 | 35.6 | 100.0 |
| | | Total | 45 | 93.8 | 100.0 | |
| | Missing | Prefer not to say | 1 | 2.1 | | |
| System | | 2 | 4.2 | | | |
| Total | | | 48 | 100.0 | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
G. About you

q72. What type of institution are you primarily associated with?

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|--------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | University | 365 | 55.5 | 63.9 | 63.9 |
| | | Hospital | 42 | 6.4 | 7.4 | 71.3 |
| | | Research institute | 156 | 23.7 | 27.3 | 98.6 |
| | | Company | 2 | .3 | .4 | 98.9 |
| | | Other | 6 | .9 | 1.1 | 100.0 |
| | | Total | 571 | 86.8 | 100.0 | |
| | Missing | System | 87 | 13.2 | | |
| | Total | 658 | 100.0 | | | |
| Mid-career researcher | Valid | University | 197 | 49.6 | 65.2 | 65.2 |
| | | Hospital | 20 | 5.0 | 6.6 | 71.9 |
| | | Research institute | 83 | 20.9 | 27.5 | 99.3 |
| | | Company | 1 | .3 | .3 | 99.7 |
| | | Other | 1 | .3 | .3 | 100.0 |
| | | Total | 302 | 76.1 | 100.0 | |
| | Missing | System | 95 | 23.9 | | |
| | Total | 397 | 100.0 | | | |
| Junior researcher | Valid | University | 146 | 51.4 | 67.6 | 67.6 |
| | | Hospital | 7 | 2.5 | 3.2 | 70.8 |
| | | Research institute | 61 | 21.5 | 28.2 | 99.1 |
| | | Other | 2 | .7 | .9 | 100.0 |
| | | Total | 216 | 76.1 | 100.0 | |
| | | Missing | System | 68 | 23.9 | |
| | | Total | 284 | 100.0 | | |
| Research student | Valid | University | 78 | 52.3 | 70.9 | 70.9 |
| | | Hospital | 10 | 6.7 | 9.1 | 80.0 |
| | | Research institute | 18 | 12.1 | 16.4 | 96.4 |
| | | Company | 1 | .7 | .9 | 97.3 |
| | | Other | 3 | 2.0 | 2.7 | 100.0 |
| | | Total | 110 | 73.8 | 100.0 | |
| | Missing | System | 39 | 26.2 | | |
| | Total | 149 | 100.0 | | | |
| Representative of an institution | Valid | University | 49 | 46.2 | 60.5 | 60.5 |
| | | Hospital | 9 | 8.5 | 11.1 | 71.6 |
| | | Research institute | 22 | 20.8 | 27.2 | 98.8 |
| | | Other | 1 | .9 | 1.2 | 100.0 |
| | | Total | 81 | 76.4 | 100.0 | |
| | | Missing | System | 25 | 23.6 | |
| | | Total | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Valid | University | 46 | 36.5 | 39.0 | 39.0 |
| | | Hospital | 50 | 39.7 | 42.4 | 81.4 |
| | | Research institute | 7 | 5.6 | 5.9 | 87.3 |
| | | Company | 2 | 1.6 | 1.7 | 89.0 |
| | | Other | 13 | 10.3 | 11.0 | 100.0 |
| | | Total | 118 | 93.7 | 100.0 | |
| | Missing | System | 8 | 6.3 | | |
| | Total | 126 | 100.0 | | | |
| Current member of an Animal Ethics Committee (AEC) | Valid | University | 25 | 52.1 | 54.3 | 54.3 |
| | | Hospital | 4 | 8.3 | 8.7 | 63.0 |
| | | Research institute | 8 | 16.7 | 17.4 | 80.4 |
| | | Company | 3 | 6.3 | 6.5 | 87.0 |
| | | Other | 6 | 12.5 | 13.0 | 100.0 |
| | | Total | 46 | 95.8 | 100.0 | |
| | Missing | System | 2 | 4.2 | | |
| | Total | 48 | 100.0 | | | |

2019 Survey of research culture in NHMRC-funded institutions - Results by participant group
G. About you

q73. How many members are in your research group?

| q1. In what capacity are you participating in this survey? | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|---------|----------------------|-----------|---------|---------------|--------------------|
| Senior researcher | Valid | 1 to 5 members | 108 | 16.4 | 18.9 | 18.9 |
| | | 6 to 10 members | 213 | 32.4 | 37.4 | 56.3 |
| | | 11 to 25 members | 190 | 28.9 | 33.3 | 89.6 |
| | | 26 to 50 members | 40 | 6.1 | 7.0 | 96.7 |
| | | More than 50 members | 19 | 2.9 | 3.3 | 100.0 |
| | | Total | 570 | 86.6 | 100.0 | |
| | Missing | System | 88 | 13.4 | | |
| | Total | 658 | 100.0 | | | |
| Mid-career researcher | Valid | 1 to 5 members | 87 | 21.9 | 28.9 | 28.9 |
| | | 6 to 10 members | 92 | 23.2 | 30.6 | 59.5 |
| | | 11 to 25 members | 91 | 22.9 | 30.2 | 89.7 |
| | | 26 to 50 members | 20 | 5.0 | 6.6 | 96.3 |
| | | More than 50 members | 11 | 2.8 | 3.7 | 100.0 |
| | | Total | 301 | 75.8 | 100.0 | |
| | Missing | System | 96 | 24.2 | | |
| | Total | 397 | 100.0 | | | |
| Junior researcher | Valid | 1 to 5 members | 53 | 18.7 | 24.5 | 24.5 |
| | | 6 to 10 members | 61 | 21.5 | 28.2 | 52.8 |
| | | 11 to 25 members | 61 | 21.5 | 28.2 | 81.0 |
| | | 26 to 50 members | 30 | 10.6 | 13.9 | 94.9 |
| | | More than 50 members | 11 | 3.9 | 5.1 | 100.0 |
| | | Total | 216 | 76.1 | 100.0 | |
| | Missing | System | 68 | 23.9 | | |
| | Total | 284 | 100.0 | | | |
| Research student | Valid | 1 to 5 members | 31 | 20.8 | 28.7 | 28.7 |
| | | 6 to 10 members | 37 | 24.8 | 34.3 | 63.0 |
| | | 11 to 25 members | 29 | 19.5 | 26.9 | 89.8 |
| | | 26 to 50 members | 4 | 2.7 | 3.7 | 93.5 |
| | | More than 50 members | 7 | 4.7 | 6.5 | 100.0 |
| | | Total | 108 | 72.5 | 100.0 | |
| | Missing | System | 41 | 27.5 | | |
| | Total | 149 | 100.0 | | | |
| Representative of an institution | Missing | System | 106 | 100.0 | | |
| Current member of a Human Research Ethics Committee (HREC) | Missing | System | 126 | 100.0 | | |
| Current member of an Animal Ethics Committee (AEC) | Missing | System | 48 | 100.0 | | |



Australian Government

National Health and Medical Research Council

2019 Survey of research culture in Australian NHMRC-funded institutions

Appendix D: Verbatim comments

Your role

q3.13\$. How would you describe your research? / How would you describe the research conducted at your institution? / How would you describe the proposals considered by your ethics committee? (Other)

No. of Comments

68

| # | Comment |
|----|---|
| 1 | Education |
| 2 | Indigenous research |
| 3 | computational biology |
| 4 | Educational research |
| 5 | General Practice |
| 6 | Economic evaluation |
| 7 | basic biomedical research |
| 8 | methods development for structural biology |
| 9 | Indigenous health |
| 10 | basic, fundamental |
| 11 | Spatial analysis |
| 12 | Fundamental (basic) science |
| 13 | Applied research |
| 14 | Biostatistics research |
| 15 | Computational Research |
| 16 | Biomedical engineering |
| 17 | Field research |
| 18 | functional genomics |
| 19 | Mixed methods |
| 20 | Biostatistics |
| 21 | health economics |
| 22 | ethics |
| 23 | Health economics |
| 24 | Aboriginal and Torres Strait Islander health |
| 25 | registry and databases |
| 26 | Sciences and Humanities and Arts qualitative and quantitative |
| 27 | Software engineering support for biomedical research |
| 28 | Statistics |
| 29 | Observational research (not intervention) |
| 30 | Genetic, Data linkage |
| 31 | Biostatistics |
| 32 | Bioinformatics |
| 33 | health economics |
| 34 | Basic science |
| 35 | investigational human research - not clinical trials |
| 36 | Nutrition |
| 37 | Social Science |
| 38 | Basic to translational including clinical trials |

| # | Comment |
|----|---|
| 39 | Low risk |
| 40 | Global |
| 41 | Studies involving aboriginal |
| 42 | Wildlife ecology, wildlife breeding and reintroduction |
| 43 | Social Sciences research |
| 44 | Psychology |
| 45 | Student research for undergraduate and graduate degrees |
| 46 | Teaching using animals as well |
| 47 | Police researchethics |
| 48 | Wildlife research |
| 49 | Social sciences research |
| 50 | Art as research |
| 51 | Commercial veterinary vaccine batch release |
| 52 | Wide range of research using animals |
| 53 | Education |
| 54 | development commercialization |
| 55 | Cohort study |
| 56 | academic research |
| 57 | Theoretical (social theory) |
| 58 | social epidemiology, social determinants |
| 59 | Health systems |
| 60 | my research focuses on general practice |
| 61 | Indigenous education and Indigenous women's standpoint |
| 62 | economic |
| 63 | Mental Health |
| 64 | Teaching |
| 65 | Applied research - methods depend on the research questions |
| 66 | Consumer & Carer led research |
| 67 | Teaching/training |
| 68 | Artificial Intelligence |

q4.12\$. Which of the following most closely matches your current primary role / job title? (Other)

No. of Comments

22

| # | Comment |
|---|--|
| 1 | Research Development Lead |
| 2 | Honorary Fellow |
| 3 | Manage grants, ethics and research integrity |
| 4 | Associate Director, Research Services |
| 5 | Manager, Research Integrity and Ethics |
| 6 | Research Governance and Integrity |
| 7 | Chief Financial Officer |
| 8 | Research Manager |
| 9 | Research Administration Manager |

| # | Comment |
|----|---|
| 10 | Reseacher |
| 11 | Lecturer |
| 12 | Research ethics manager |
| 13 | Program Manager |
| 14 | Board member, Chair of Board Research Committee, Research Governance Consultant |
| 15 | Veterinarian |
| 16 | Manager of a HREC |
| 17 | Deputy Director |
| 18 | Animal Ethics and Research Compliance Manager |
| 19 | Animal Welfare Officer |
| 20 | Animal Ethics officer/Animal Ethics Secretary |
| 21 | Research Ethics Manager |
| 22 | Outcomes IMprovement Researcher |

q5.7\$. What is your current role on the Human Research Ethics Committee (HREC)? (Other)

No. of Comments

6

| # | Comment |
|---|--|
| 1 | Secretary |
| 2 | Manager |
| 3 | deputy chair |
| 4 | Former Chair, current Deputy Chair |
| 5 | Business Intelligence Manager, Full Voting |
| 6 | Medical experience |

q6.7\$. What is your current role on the Animal Ethics Committee (AEC)? (Other)

No. of Comments

4

| # | Comment |
|---|---|
| 1 | Voting member EO |
| 2 | Executive Officer |
| 3 | non-voting Exec Officer |
| 4 | Chair and Category D, voting status as Cat D. |

Knowledge and attitudes

q10.13\$. Which of the following do you believe are most important for 'high quality research'? (Other)

No. of Comments

38

| # | Comment |
|----|---|
| 1 | Question dogma |
| 2 | Relevant to policy-makers and practitioners |
| 3 | Research that is led by the Aboriginal (or other relevant) community(s) |
| 4 | culturally competent |
| 5 | Relevant |
| 6 | The options of honesty respectful ethical legal accurate and justified to me are so central and covered by the term rigorous (as in if any of these are lacking the research is not rigorous), that it could be my entire response - so they are here collectively. |
| 7 | Multidisciplinary |
| 8 | reviewed by expert peers |
| 9 | curiosity driven |
| 10 | involving consumers from the beginning of the research ideas |
| 11 | Reproducible |
| 12 | A desire to conduct high quality research |
| 13 | persistent |
| 14 | insightful |
| 15 | Aboriginal community led |
| 16 | Multidisciplinary |
| 17 | Reproducible |
| 18 | this selection of adjectives is unanswerable: they would all need definition to answer properly |
| 19 | reproducible |
| 20 | Creative |
| 21 | Reproducible |
| 22 | Meaningful |
| 23 | consumer-led |
| 24 | Impactful relevant |
| 25 | Exploratory |
| 26 | trustworthy |
| 27 | Reproducible |
| 28 | Benefits the species |
| 29 | Consumer engagement |
| 30 | Replicable |
| 31 | that it be a concept more embracing of alternative perspectives to the prevailing post positivist stance |
| 32 | Excellent understanding of methodology and statistics! |
| 33 | Answer important questions for consumers or to improve clinical practice standards |
| 34 | Widening the scope to involve Lived Experience and Consumers & Carers |
| 35 | Communicated well |
| 36 | communicated/translated |
| 37 | Retaining high quality researchers |

| # | Comment |
|----|--------------------|
| 38 | Value -application |

Q11\$. Is there anything you think that you, or your institution, could do in order to improve the quality of research?

No. of Comments

1259

| # | Comment |
|---|---|
| 1 | Yes. For studies aiming to benefit human health that use rodent models researchers should: 1. Justify using mice/rats as opposed to humans. I would like to see the researchers explore whether they could get relevant information from existing human data. 2. Be more transparent about the biome. From what I've read, the gut biome has a significant effect on results and this data should be captured and published so that the results can be tested/replicated in laboratories with different biomes. 3. Be more attentive to sex differences. Female mice are not 'more complicated' than male mice. It is important for researchers to test whether male or female hormones or other biochemical factors make a difference to the results. 4. I think institution should invest some research time and money into developing innovative alternatives to using animal models. |
| 2 | Yes: provide training on research quality, reproducibility etc well beyond what it does at present. |
| 3 | Yes, we need a more open research culture and to make sure that the products of our research are open too! |
| 4 | yes, we could have more obvious training and career for non-medical researchers, I'm a nurse and do patient-education and support focussed research and often panels and reviewers don't understand where this work fits, this means that the career path is much less clear |
| 5 | Yes, more funding |
| 6 | Yes, better train researchers. The quality of our Ph.D. training in Australia is sub-par relative to other western countries, most notably the USA. America has a much more rigorous and intense training regime. Therefore, the general quality of Ph.D. students in Australia at completion is lags far behind their international competitors. The result are post-docs who are not ready to assume independence. The poorly thought out funding structure of Australian grants, and the immense pressure for researchers to get a fellowship as quickly as possible in their career, is also destructive. This drives Aussie trained Ph.D. students who are now Aussie post-docs to start applying for funding far too early in their career. Instead of focusing on learning their craft to the best of their ability, our we are rushing Aussie students through their Ph.D. programs at a pace far too quickly, and then are forcing them to apply for funding and assume a mantle of independent far too soon in their career. They are not well trained and this had long term ramifications throughout Aussie science. There are real and substantial worries for the overall health of the Australian Biomedical research community. |
| 7 | Yes, adhere to the what they commit to on successful applications. |
| 8 | Yes -there must be an increasing focus on translation. We have a plethora of exciting pre-clinical data available in the Neonatal neurology space, and if that is not translated into clinical practice through the conduct of rigorous RCT's, establishing benefit /harm, guideline development etc, then it has been wasted. Asking the same question in the pre-clinical space is a waste of money. Furthermore, repeated cohort studies demonstrating again and again that prematurity results in poorer outcomes is also old news and adds nothing. It's time to do something about it. |
| 9 | Would be pleasant to have more funding opportunities to reduce the stress |

| # | Comment |
|----|---|
| 10 | Working more strongly across disciplines that might seem unrelated to health (eg philosophy, the arts, sociology). Better reflection on the limitations of the assumptions underpinning RCTs and systematic reviews. Understanding the assumptions underpinning much of health research (positivism). For example, there is a question on the next page about a 'crisis' of reproducibility' - here, the issue is often not poorly conducted trials but an inherent flaw in trying to control and standardise - context always matters and should be taken into account rather than (attempted to be) wiped away. Working better with complexity, uncertainty, indeterminacy. |
| 11 | Working more closely with end users Working more collaboratively and mindfully recognise and acknowledge all contributions |
| 12 | Work together more. |
| 13 | Work on how to present complex research in a way that is appealing to funders - at the moment a traditional RCT or database analysis will attract higher scores from NHMRC or ARC than a more complex multi-stage or mixed methods design research that has greater benefit to society |
| 14 | Work in a general hospital - a clinical trials unit that services multiple departments would be useful - trying to embed research in day to day clinical activity |
| 15 | Work closely with policy makers to enable relevant research and its translation. Base research outputs on quality/utility of output not paper-based metrics. |
| 16 | What a ridiculous question! Obviously: stop rewarding people for low quality research since (obviously) no one actually wants this other than as an opportunity for self-advancement. |
| 17 | We would like to do more to ensure the integrity of our research beyond emphasising it to our staff. Culture is very important here as is leadership and having staff who are outstanding. Can I also add that 'legal' is a given. |
| 18 | We still have a long way to go in doing research well with and for Aboriginal Australians. Our research institute is making great progress and I am really enjoying the opportunities to progress my skills, learning and knowledge in leading a research team predominantly working in Aboriginal health. |
| 19 | We spend most of our time writing grant applications and not enough time actually conducting the studies. We need a thorough process of peer-review within the department so that we do rigorous analyses and write high-quality papers. |
| 20 | We require more funding |
| 21 | we produce great research, outside of providing more funding and offering longer contracts to ensure staff retention I am not sure what else could be done |
| 22 | We need to change the focus on Ethics Applications. My experience is that many researchers regard the ethics application as an unwelcome piece of administration rather than research ethics being an integral part of design and conduct of the research. |
| 23 | we need more funding! |
| 24 | We have transparent and accountable management so I think the answer is no |
| 25 | We have recently established a research quality committee at the institute. The development of training and sops will help |
| 26 | We could worry less about what gets outcomes and more about what matters - but this would probably lead to decreased funding. |
| 27 | we could do more to ensure that the research has an impact - better dissemination and implementation |
| 28 | We can train students to focus on rigour of scientific method, critical appraisal of results, and scientific integrity. To test hypotheses rather than validate them. |
| 29 | We can collaborate and work together in a team to make the research more fruitful. |
| 30 | We are under huge uncertain pressure, its hard to take big risks and spend time thinking creatively when we are all fighting over such little money. So if we have more peer reviewed money, and had to apply less without risking job security, that would be nice. I think the MRFF funds should be given out in a strictly peer review format, and then anything clinical should just be from them, leaving NHMRC for preclinical. |

| # | Comment |
|----|---|
| 31 | We are constantly striving to assist researchers - especially those doing investigator initiated research - to improve the quality of their research in multiple ways. This is an important adjunct to stimulating the research culture of the institution. |
| 32 | We always strive for quality in everything we do. |
| 33 | We always aim to work towards achieving the objectives named above. The institution my group is located at provides a detailed framework to ensure high research quality. |
| 34 | We aim to publish our work in the best journal. This is usually one that has a higher impact factor and is more rigorously reviewed. |
| 35 | We aim to conduct the highest quality research we can, I believe with more resources we would be able to conduct more rigorous research. Specifically, more resources to conduct clinical trials. |
| 36 | Vet research proposals to ensure that they have value to improving the population's health and/or well-being and are being rigorously and honestly performed. |
| 37 | Very difficult to know without major system changes. The amount of low quality research seems to be growing rapidly. This is often research for the sake of research with little chance of benefit for anybody except for the enhancement of somebody's CV. The system seems to be putting lines of CV ahead of all else in determining employment and promotion and hence people are pursuing this goal. |
| 38 | Value research output that have real world benefits (for example patents, spin off companies, technologies that people actually use) over number of publications. At the moment researchers are encouraged to publish as many papers as they can regardless of quality. It drives people to research for papers rather than useful outcomes |
| 39 | value research |
| 40 | [University] is inordinately bureaucratic with ca. 40% admin overhead for all researchers, leaving less productive time to get the job done |
| 41 | Upskill researchers, support mentoring systems, support mental health and wellbeing of researchers and clinicians, improve research culture - team oriented approaches, be transparent and open re funding opportunities (reality vs blue sky) |
| 42 | Upskill and facilitate more people who are working in the 'real world' to participate in high quality meaningful rigorous research |
| 43 | Unsure |
| 44 | Unsure |
| 45 | Unlikely. Certainly not without more funding |
| 46 | Unknown |
| 47 | Unbiased funding |
| 48 | Treat junior researchers better. I have had huge problems with employment security despite having an NHMRC Early Career fellowship - being forced by my institute to pause my fellowship (and thus be unemployed) multiple times because they were not willing to cover the shortfall between my salary and my fellowship funds, despite their agreement with the NHMRC. |
| 49 | Treat all researchers with respect, not just the high flyers |
| 50 | Transparency of research and research collaboration |
| 51 | Training in statistics Provide baseline security in research funding and researcher salary. This could reduce the burden of grant writing, which wastes a lot of time. |
| 52 | Training in ethics for human-based studies Mentoring of early-career researchers (Formal) training in statistical analysis and data presentation |
| 53 | Training - train researchers to do rigorous research with the time to do it ethically and with integrity. |
| 54 | Train researchers to translate in to lay terms |

| # | Comment |
|----|--|
| 55 | Train researcher to include statisticians as collaborators on a team and involve them from concept to completion. The current trend is to treat statisticians as an add-on consultants who analyse data. This is not the appropriate role for a senior biostatistician on a clinical research team. The biostatistician needs to lead design and analysis and to provide advice on the effects of protocol changes throughout the project. Data analysis needs to be funded separately. Increased access to senior biostatisticians and funds for data analysis would be useful. |
| 56 | Train clinicians in research methodology |
| 57 | Too early in my research career to comment. |
| 58 | Together with the major funding bodies (NHMRC, ARC, etc) contribute to a research culture, university and funding body policies and practices that value qualities over quantity in expected research outputs (publications!). |
| 59 | To strive to do research which reduces inequities, research which adds value and research that can be used to improve care. It is crucial to invest in capacity building. |
| 60 | To recognise the value of applied research as a moral duty to society, and give it much more kudos and award recognition that it currently receives. Quality is in the eye of the beholder - the end-user -, not found in league tables, bibliometrics or worse, internal discipline based ranking of journals. The institution needs to support outward looking research (applied, co-created with end-users) in the same way they value discovery research *where the end-users are other academics). |
| 61 | To provide mandatory training or workshops beyond techniques/skills for students (in particular) and staff to increase the understanding of what constitutes to good quality research. I think many are not aware things they do that might contribute to outcome that are not reproducible, which to me is an important factor to good quality of research. |
| 62 | To improve the quality of the student cohort. There is an emphasis on the number of students that our institution should attract. |
| 63 | To improve the quality of research my institution should 1) improve diversity and inclusion among staff and students (gender, culture, background, SES, ways of thinking, age etc); 2) have a zero tolerance policy for inappropriate behaviour that is still rife in academia, especially among 'superstars', and causes talented people to leave: scientific misconduct, bullying and sexual harassment; and 3) improve precarious employment (>90% of junior staff in my institution is on rolling 12 month contracts). |
| 64 | To have metrics at the university for academic staff (research) that takes consumer's perspective into account, e.g. scoring by consumers. |
| 65 | To have a better system for recording experimental protocols and records |
| 66 | Time to do research instead of being bogged down in administrative, bureaucratic paper work that does not add anything to advancing research. |
| 67 | Time and funds for repeat validation studies |
| 68 | Tie basic research more into clinical needs |
| 69 | This is not unique to my institution. We need ore time to people to think, read, do research. We are currently investing too much time in fund seeking and peer reviewing |
| 70 | There seems to be a trend for researchers to 'up sell' their results as effective when they may not be. Maybe more communication around the importance of negative results in an overall picture could be helpful. |
| 71 | There needs to be much more capacity for auditing and monitoring of research, particularly clinical trials. Investigator driven trials, particularly those funded through competitive grants, are rarely appropriately audited and monitored despite claims that studies are adhering to GCP guidelines. |
| 72 | There needs to be a better focus on consumer engagement to undertake research priority setting, to ensure it is driven by need rather than just researcher interest or grant targets. |
| 73 | There is no research funding institutionally for mid career academics, and the rates of grant success for this level were dismal. NHMRC research fellow grants need to be more plentiful , with less cash attached, to grow the pool of talented researchers. |
| 74 | there is little to no support provided for research, completed in our own time. focus is on teaching |

| # | Comment |
|----|--|
| 75 | There is an element of cagey-ness to some departments that means we don't share knowledge or resources as much as we could - the more sharing we do, the more we might leverage limited resources. Not sure where the cagey-ness comes from - maybe competitiveness due to limited funding? |
| 76 | There are perverse incentives in some aspects of research. The perceived impact of many clinical journals is often higher, even though the quality of the science is often not. Lab heads in institutes are usually on short-term contracts and the pressure and lack of job security can lead to 'survivalist' and careerist approaches which are not in the interest of quality research. The undermining of the NHMRC Fellowship schemes has exacerbated this problem. |
| 77 | There are many things we could do but it all comes down to funds. For example, having cutting edge facilities and research infrastructure combined with the intellectual and technical skills in researchers to fully utilise that cutting edge facilities and research infrastructure would have an enormous impact on my institution. We just dont have the funds (either from block grant funds or other sources) |
| 78 | There are many things that I could do and many things that my institute could do to improve the quality of my research and their research. |
| 79 | There are impediments to research conduct in the clinical arena with lack of electronic data capture. |
| 80 | There are always things that can be done to improve the quality of research - being up to date with work of others, collaboration with high-quality scientists, dissemination of research findings |
| 81 | The university provides its research community with too much information. |
| 82 | The universities and affiliated research institutions should provide more secure funding support or long-term or permanent employment contracts to researchers. |
| 83 | The team and group that I work with (in a large research institute) work in the context of populations vulnerable to poor outcomes and health services. We consider our research to be of high quality and respectful of the communities and stakeholders we are engaging in research. Individual and group funding would sustain and grow this quality research. |
| 84 | The Research Governance framework needs to be further developed to reflect the increasing scope and scale of the organisations reseach |
| 85 | The quality of research would be greatly improved with more stable funding for researchers across their career. For too long quantity has trumped quality, and this can only be remediated by funding models that provide some stability for researchers. Reducing the number of applications submitted/ awarded is not the answer. |
| 86 | The quality of research activity focus, the researchers, their research students (PhD's etcetera) and their research facility staff in Australia is extraordinary. The quality of the conditions under which these high quality Australians work is not extraordinary. IF these researchers had laboratory and equipment 'first world equivalence' I think the outcomes of research also would be extraordinary. The capacity to invest in underwriting the development of research equipment (R&D) and underwriting research approved by an independent authority - guided by Federal Government priorities - is critical to advancing the huge potential of Australian researchers in animal and human research. |
| 87 | The process relating to ethics is very lengthy, which has affected the progression of clinical studies substantially. |
| 88 | The pressure to publish frequently to maintain competitiveness for fellowships/alternative funding is not always conducive with larger/more thorough studies. Institutions that provide bridging funding for researchers that are between funding would allow more time to cultivate larger publications of higher quality. |
| 89 | The outcomes should be accessible to the general public. |
| 90 | The only limitation to research at present is funding. We have ideas, but without jobs we cannot carry them out. The current need to abolish the scientist in favour of clinician led research is causing a major loss of knowledge and ability. Clinicians have long CVs of publications yet rarely have the done any of the work, the concept, experimental design, analysis and publication are done largely by the scientists who are now losing their positions. |

| # | Comment |
|-----|--|
| 91 | The only currency that research currently has are a) grants and b) publications, because of this researchers spend most of their cognitive energies on these tasks, rather than on research. Research quality would be improved if there were more research assistants available to the specific skills required paper and grant writing at an institutional level. There are also too many complicated administrative procedures within universities. |
| 92 | The major difficulty in improving research quality is the increasingly difficult funding environment. The effort required to gain smaller amounts of funding means limited funds to do increasingly complicated experiments, reduced supervision, planning and innovative thinking. Institutions employing more integrity officers is not the answer. Institutions being reliant on a few high flyers to spruce funding success leads to a less than ideal policing of integrity. |
| 93 | The main limitation on the quality of my research is time. In order to be a successful researcher and attract the necessary funding, I often find myself drawn away from actual research (in order to meet administrative and clinical demands). Better streams of secure / tenured funding would really help. |
| 94 | The lack of funding and means leads to a race for publications and a competitive environment within teams that, I believe, could efficiently collaborate otherwise. A wealthier and financially safer environment would be beneficial. |
| 95 | The institutions (including the NHMRC) should focus on complete and high profile publications, rather than focusing on their number (often low quality). |
| 96 | The institution is limited by research funding models which do not sufficiently emphasis the importance of community impact. This is changing but there is still very much a focus on traditional research outputs which have limited impact on the community. |
| 97 | The institution could: <ul style="list-style-type: none"> o focus on quality (and thus long-term reputation) rather than short-term dollars earned from grants o support academics to work on existing datasets to meet the goals of the data collection rather than forcing new applications to create more data that will not be properly analysed o respect that the best research is not necessarily the research with the most citations in the short term o respect that people other than the lead CI contribute to the quality of team research and treat them as research-active o support the storage of records and data for future use o support students, research degree candidates and staff to work together, learn from each other and have opportunity for discussion (not possible if no rooms are provided, only cubicles) |
| 98 | The institution could provide the appropriate environment including resources, systems, support, research direction/vision that will enable high quality research. |
| 99 | The institution could provide more resources to fund the technical infrastructure on which high quality research depends. Often the equipment is there but it is poorly maintained and inadequately supported. |
| 100 | The institution could provide more funding and better support |
| 101 | The institution could better promote women in science across a range of disciplines and also for other minority groups. The current situation appears to be favoritism for infrastructure and funding support to males and Caucasians (males and females). There are also issues with intimidation and bullying from senior researchers, which deters collaborative and translational teamwork. |
| 102 | The institution could better formal research training for students (and staff) on issues such as data replication, misuse of statistics, common errors that lead to unreliable data. |
| 103 | The institution can provide further guidance and resourcing of Research Integrity initiatives, train HDRs and ECRs in generic data handling and management skills, change the credit system or awards and promotions for researchers so that we move further away from research metrics and move towards a reward and incentive system which is geared for Research quality, and reward innovation in delivering quality research (moving further away from quantity). |
| 104 | The incredibly competitive funding environment severely restricts the types of research that are conducted in this field. It would be great to see my institution acknowledging these challenges and supporting diversity, different career pathways, and looking for innovative funding models in collaboration with health services. |
| 105 | The head of research group should dedicate his/her time and effectors in educating RHD and researchers, to make them realize the importance of research integrity. |

| # | Comment |
|-----|---|
| 106 | The focus on metrics has led to a weird definition of 'research excellence' where the output counts for more than the content of the research or how it was done. |
| 107 | The focus on impact of research is a good one, but it leads to striving to have impact that is measurable rather than high quality research. I think we need to achieve both lofty aims and that as an individual always aspire to both. |
| 108 | The environment created by the NHMRC and funding is a bigger detriment to quality of research than institutional level effects |
| 109 | the current approach of the Committee to rigorously question the statistical method proposed in terms of the essential expectation of the outcome using minimal but adequate numbers of animals leads to improved quality of research. |
| 110 | The Committee is constantly reviewing and refining it's standard operating procedures, policies and forms to keep up with the latest methods, research breakthroughs and the Committee is an extremely experienced in wildlife research proposals. |
| 111 | The biggest problem is resources, and related to this is the large proportion of time spent in grant applications and otherwise seeking resources. |
| 112 | The administrative burden of research dominates time and resources, and more focus on making systems and processes more efficient for researchers should be a high priority. |
| 113 | Terrible at financial management, lots of wastage, poor executive leadership with lots of staff quitting, difficult at career progression with over emphasis on female empowerment (by a few key female voices who only encourage females without looking at merit) |
| 114 | teach people how to do research would a good first step |
| 115 | TBC |
| 116 | Targeted funding |
| 117 | Take time to think about what you publish |
| 118 | Take social and economic impact more seriously |
| 119 | Take affirmative action to ensure gender equity in research funding/opportunities and career progression, especially at Levels D and E |
| 120 | Take a more cross-discipline approach and conduct regular 'strategic prioritisation' forums to ensure all research is appropriate and justified. |
| 121 | systematic support to make sure that the research is conducted at the highest quality. |
| 122 | Support the researcher more effectively, rather than increasing administrative tasks that burden the research |
| 123 | Support the non-elite researchers. There is a body of academics who conduct low-level research, often non-grant aided, that does not get the recognition it deserves and usually falls outside the normal institutional research support systems, including training and development. |
| 124 | Support the growth of early career Indigenous researchers |
| 125 | Support staff by providing salaried positions |
| 126 | Support researchers to have the time/space to undertake high quality research (reduce the focus on numbers of papers, grants, students, committees, etc) |
| 127 | Support researchers - we don't just need to do better research, but do research better - with more care for those who undertake this work. |
| 128 | Support researchers |
| 129 | Support research that address global health priorities even if that research is based overseas. Eg. Countries in pacific rim with challenging health issues |
| 130 | Support research clinicians in the clinical setting. Allow time out from clinical workloads to undertake high quality research. Focus on quality not quantity of the research. Support translational and implementation research |
| 131 | Support regional and rural researchers |
| 132 | Support our early and mid career researchers with salaries and security |

| # | Comment |
|-----|---|
| 133 | Support mid-career research by funding pilot work |
| 134 | Support higher risk more innovative research |
| 135 | Support graduate researchers to have a PhD program beyond 3 years to encourage risky and original research. Small grant programs to support up and coming ideas. |
| 136 | Support for research design |
| 137 | Support for research administration |
| 138 | support early to mid-career researchers through collaborative research teams with experienced researchers. Improve ethics and approval processes to be rigorous but less onerous. |
| 139 | Support clinicians doing research, be open and honest in addressing research integrity issues |
| 140 | Support and promote original fundamental discovery science which may not have immediate translation angle or potential. |
| 141 | Support and encourage researchers (students and staff) to be focused on quality and productive of the research for the benefit of the society rather than focuses/encourages individual leadership just to clime up the ladder with all means. We need people devote themselves to produce quality work. |
| 142 | Support a culture of curiosity, scientific rigour, collegiality and collaboration. |
| 143 | Supervisor reviews prior to submission |
| 144 | Subsidise research from non-government sources in order to lessen the imperative to publish large volumes of middling papers. |
| 145 | Stronger support and mentorship for ECR as well as providing more balanced workloads (ie. not extremely high teaching loads) |
| 146 | Stronger relationship between university and hospital as to how to write up research proposals as well as how to explain process to potential participants. |
| 147 | Stronger peer review mechanisms of research concepts and programs at the local level as part of the establishment of the research project |
| 148 | stronger mentoring that is part of organisational culture reduced admin tasks that need to be completed by researchers |
| 149 | Streamline the off-research activities including grant writing, presenting, supervising, finance admin etc |
| 150 | Streamline processes to make it easier to research (allowing more time for actual research) |
| 151 | Streamline approval procedures, the time wasted on unnecessary tasks impedes the quality of research. For example I am undertaking a simple project that involves getting input from staff and patients at multiple sites. This is the sort of thing we are encouraged to do these days but the bureaucracy associated with the approvals for this is crippling. |
| 152 | Strategic focus, supported by Training, recruitment and retention of high quality staff. Access to a more stable high fidelity grants program than currently offered by the NHMRC. For example assessment of ideas grants in the last round was very poor with many grant review panelists being spokespersons for grant way outside their expertise. This damages the NHMRC's reputation and is harmful to the Australian biomedical research community. |
| 153 | Stop worrying about h index and citations and focus on quality |
| 154 | Stop supporting research from senior staff that cannot be replicated, has insufficient sample sizes, or overstates likely benefits. |
| 155 | stop pushing people to publish |
| 156 | Stop judging researchers on individual metrics so as to truly value collaboration which is needed to answer the most important questions |
| 157 | Stop implicit biases from jeopardising academic careers. Fund research appropriately. Support work-life balance. |
| 158 | Stop funding/justifying research that cannot be reproduced and that exerts no influence of anything let alone health. |

| # | Comment |
|-----|--|
| 159 | stop focusing on collaborations. We spend half of the time and the majority of the money trying to get a consensus. Nothing ever actually gets done. We could do so much more work for the money if there was one clear leader and the ability to manage under performing team members rather than this collaborative approach |
| 160 | stop delaying research by improving ethics procedures, which have killed several lines of research and have caused PhD students to leave due to extended (>12 month) delays in processing |
| 161 | Stop completing unnecessary research simply because there are funds available to do so. Stop completing research in certain ways to get publications, or to obtain a grant, rather than for the benefit of actual research/health services/patient outcomes etc. |
| 162 | Stop being influenced by money. Ensure researchers are honest. Stop using animals when studies should be done with humans. Employ a bio-statistician. |
| 163 | Stop assessing research on the number of publications but rather the quality within discipline |
| 164 | Stability of funding. Currently much of my group only know of the next years funding. |
| 165 | Stability of funding so that research work can be completed |
| 166 | Spend more time in the research and less time trying so hard to obtain more funding/support to keep the work going. |
| 167 | Spend more time before publishing |
| 168 | Spend more effort in the translation/dissemination phases |
| 169 | Spend less time on grant applications and more time on research |
| 170 | Spend less on low quality research that is justified by being described as translational research, more on fundamental science questions |
| 171 | Spend less \$ on administration. Discourage internal competition. Police powerful people who exploit their power for their own ends |
| 172 | Speed up processes like ethics and administration of funds |
| 173 | Specifically for clinical trials we need to stop talking about potential participants as 'good' trial participants or not. Everyone who meets the criteria for inclusion should be considered but this does not happen in practicality and I think it heavily impacts clinical trial data |
| 174 | Source data verification, independent verification of results |
| 175 | Somehow work out how to be more successful at gaining funding. |
| 176 | Some aspects can be limited by funding- for example using gold standard methodology or tightly controlling for potentially confounding variables can significantly increase the cost and participant burden. With ample research funding highly rigorous scientific methodology can be employed, and participants can be reimbursed for their time. However, funding is hard to attain and often work needs to be supplemented with in-kind support from institutions. |
| 177 | So much time is wasted writing grants. Productivity could be profoundly impacted by streamlining grant application processes, not starting from scratch each year. |
| 178 | Slow down. The incentives for rushing to published are far too strong, no papers= no grants=no job. |
| 179 | slow down the outputs and pressure to gain further funding |
| 180 | Simplify bureaucratic structures in order to facilitate collaboration among peers. |
| 181 | Simpler, collaborative, independent scientific review of projects |
| 182 | Shift the reward focus away from 'number of high-impact publications' towards a greater emphasis on rigorous openly available research |
| 183 | Share research undertakings more widely and across disciplines |
| 184 | Share information more freely, appears to be competitive at times between institutions |
| 185 | Share findings with others through a variety of dissemination methods. |
| 186 | Setup a publication vetting system by hiring research integrity officer. An example is described here (https://www.nature.com/articles/d41586-019-03529-w). |
| 187 | Seek funding from outside of Australia |

| # | Comment |
|-----|---|
| 188 | Secure our funding and stop making us spend all our time and effort trying to piece together a salary. |
| 189 | Secure more time and research funding. |
| 190 | Secure fundings for research projects. |
| 191 | Secure a salary for researchers. At present the incentive to publish quickly and often to secure grants/fellowships is not aligned with the goal of high quality, rigorous and innovative research. |
| 192 | Scrutinize research conduct. |
| 193 | Saving raw data on a raw data server that can't be further manipulated |
| 194 | Rigorous review before submission (of grants and papers). |
| 195 | Rigorous overview of research quality. |
| 196 | reward quality not quantity in promotion and all other internal incentive schemes |
| 197 | Reward good research practices |
| 198 | Reward and recognize genuine contributions rather than rely on productivity metrics. |
| 199 | Return |
| 200 | Retain high-quality researchers by decreasing discrimination, especially the subtle yet constant and consistent discrimination against women in the workplace. |
| 201 | respect research respect researchers honor deeds of agreement invest in career development of researchers to the same degree as teachers create a mission & have long term objectives cut administrative overheads and obstructive finance staff - its my grant let me get on with it! |
| 202 | Resource it properly! A national strategy for research funding research which is transparent |
| 203 | Resist the urge to conflate 'success' with 'quantity of outputs' -- a very prevalent attitude in Australia that does us no favours. Give researchers time to think. |
| 204 | Research should be performed across teams to ensure multidisciplinary input and oversight of methods. |
| 205 | Research quality would be improved with greater access to funding with application processes that are more equitable and take less time. The time taken to apply for funding that isn't awarded takes significant focus, time and energy away from the actual research - affecting its quality. |
| 206 | Research funding is the major barrier to research. Quality results form being able to pursue a research project independent of timelines or financial constraints |
| 207 | Research being conducted in Australia always tend to have a small sample size compare to research that are conducted in other countries(e.g. US, Europe). This limits the potential to publish in top ranking journals. I think being able to work with international partners who have more capacity to conduct big population studies and drawing their resources and expertise is important. |
| 208 | Require robust, reproducible research methods to be implemented. Currently these are not encouraged by senior researcher, mostly out of limited time, resources or knowledge of available systems and tools |
| 209 | Reproducibility should be included in the list above Ensure regular training in research integrity. |
| 210 | Report on findings funded. |
| 211 | Replication is key to high quality research. I believe replicating previous findings if not already done by an independent lab is crucial to ensure you have the correct assumptions/knowledge to progress and conduct high quality research. |
| 212 | Replace the chair of the ethics committee - he's old school and some fresh thinking could help |
| 213 | Remove unnecessary barriers to doing research - eg extremely lengthy contractual negotiations / MTA negotiations etc. More funding of course, but in the absence of more \$\$, remove these barriers which are increasingly eating up valuable research dollars. provide tenured appotimnets for researchers - scientists aer leaving due to lack of security. |
| 214 | Remove the administrative burden (e.g. multiple agreements for each grant) so as to allow researchers time to concentrate on doing good research and attend to the many issues and 'day-to-day surprises' associated with clinical research |

| # | Comment |
|-----|--|
| 215 | Remove structures that provide incentives to compromise research quality and integrity, such as when researchers are rewarded primarily for the number of publications they produce and they are employed on short-term contracts. However this cannot be solved at the institutional level alone. |
| 216 | Remove some of the pressure to publish quickly and in quantity |
| 217 | Remove pressures to for 'quantity' of publications per year, and resource research groups to ensure that highly skilled and trained staff can be kept in groups longer than 1-2 years. |
| 218 | Remove pressure to produce so that there is time to be more thorough. |
| 219 | Remove numerical quotas for numbers of publications produced per year, move to better quality science and reduced expectation of producing outputs. Instead, demonstrating impact of research. |
| 220 | Remove barriers to data access |
| 221 | Remove administrative barriers that slow down research progress. Hire support staff that actually want to support and improve research efficiency. |
| 222 | Reinforce to potential research students the ethical requirements and processes needed prior to obtaining research approval. |
| 223 | Reducing the red tape and administrative burden on researchers. Encouraging innovation and effort, rather than worrying about percentage success and blocking young researchers from submitting because they might not get funded. We also need more secure employment for all researchers - the situation means most people are deeply stressed about their future, which doesn't lead to the best research, just the safest. |
| 224 | Reduced emphasis on journal stature in hiring, promotion, and funding allocation |
| 225 | Reduce workload. Increase support for administrative tasks. Improve entry standards for UG and PG students. |
| 226 | Reduce time spent satisfying meaningless administrative requirements, which would allow more time spent in the pursuit of intellectual endeavour and in ensuring research is conducted to the highest technical and ethical standard. Governance requirements have become counterproductive. |
| 227 | Reduce the use of buzzwords such as innovation and focus on replication and thorough research. This needs to be implemented at all phases. For instance, telling prospective masters students that 'it is good for their career if the research project they undertake is published' is true but ignores the fact that most students struggle to reproduce a study within the normal time frame. |
| 228 | Reduce the teaching and other responsibilities for early to mid career level researchers so they can build their research programs. I know many talented early career researchers who have fallen out of competitive funding trajectories due to multiple other commitments. |
| 229 | Reduce the pressure to have to publish 'anything' as this reduces quality and innovation, accuracy and promotes cutting corners. This leads to findings that are rushed and not reproducible. We have a solid industry of publishing stuff that doesnt mean anything and doesnt get read. |
| 230 | Reduce the number of petty bureaucratic tasks that are heaped on to academics in this day and age. |
| 231 | Reduce the number of groups and more focus on excellence |
| 232 | reduce the level of job insecurity. People who are continuously worried they are going to be out of job in 1-2 years are not thinking long term nor are they willing to undertake high risk projects which could be paradigm shifting. |
| 233 | Reduce the importance of impact factor of journals |
| 234 | Reduce the emphasis on quantitative metrics and KPIs linked to promotion. This encourages publication of poor research and unethical practices. |
| 235 | Reduce the bureaucracy that takes time and brain space away from research |
| 236 | Reduce the amount of time spent reporting and completing paperwork |
| 237 | Reduce the amount of red tape and paperwork involved - often duplicating. |
| 238 | Reduce the amount of admin that researchers are having to do. |
| 239 | Reduce the amount and burden of bureaucratic and administrative processes enabling researchers to focus on what they are most skilled at and interested in doing. |

| # | Comment |
|-----|--|
| 240 | Reduce the administrative burden to allow more time for research activities |
| 241 | Reduce the administrative burden and hurdles to do animal research |
| 242 | Reduce teaching loads for staff who are not research only. |
| 243 | Reduce stress on researchers and the research community by rewarding all contributors rather than those that may appear to be leading the work. This is important given quality research is increasingly dependent on multi-disciplinary teams. |
| 244 | reduce spending time on grant application and spending more time on researches |
| 245 | Reduce reliance on publication metrics that drive bad behaviour - gift authorship, hundreds of 'authors' who have minimal intellectual input etc |
| 246 | Reduce pressure to produce so much and allow more time for quality |
| 247 | Reduce pressure for publication to give an appropriate timeframe to improve the quality of research. |
| 248 | Reduce insane level of paper work, compliance paper work, oversights and endless new bureaucratic burdens etc. In planning an experiments the limiting factor is not whether its worthwhile or good research, but what is the time penalty in terms of paper work. |
| 249 | Reduce focus on 'research translation' |
| 250 | Reduce ethics committee unnecessary roadblocks, and require full reporting of all research (that adheres to reporting guidelines) |
| 251 | reduce emphasis on quantity, low risk and high volume and increase emphasis and reward for quality, especially interdisciplinary and novel research (which are hard to do) |
| 252 | Reduce emphasis on quantity over quality, stop using metrics (which are poor proxies and are easily gamed). Put less emphasis on external funding success, which rewards only certain kinds of research and researchers, and support everyone to do research. Support researchers who insist on rigorous, high-quality research, and who refuse to participate in sloppy or unethical research practices. Hold even the highly-funded 'stars' to the highest standards of conduct instead of overlooking poor practices because they bring in lots of money. |
| 253 | Reduce costs of ethics submission for investigator projects. Proforma for qa projects that do not require review, or could be automatically reviewed based on pre-determined questions to reduce workload for hrec. |
| 254 | Reduce bureaucracy Simplify processes Support the people doing the research rather than the administrators |
| 255 | Reduce animal costs |
| 256 | Reduce administrative roadblocks |
| 257 | Reduce administrative burden, reduce committee activity and bureaucracy, free up time to focus. Create research platforms (flow unit, genomics unit, statistical unit) that can be accessed for research expertise. |
| 258 | Reduce administrative burden to free up researchers to perform the tasks they are paid for. |
| 259 | Reduce administrative burden to allow me to focus on my research. I.e. admin support |
| 260 | Reduce academic workloads to leave more time for reading/discussing/researching |
| 261 | Reduce a focus on research metrics and producing large numbers of novel papers that should be highly cited, provide more secure employment, focus on team science rather than promotion for individual merit |
| 262 | Reduce 'publish or perish' incentives Train PhD/Postdocs in good research methods Monitor the quality of institutions research Support meta-research |
| 263 | Redesign the NEAF so that it is not so difficult to complete, repetative and difficult for the HREC to read |
| 264 | Recruitment of the highest capacity students into research more often including via the provision of higher PhD scholarships |
| 265 | Recruit better external students and staff, encourage more students to go into medical research rather than Medicine, the training at my institution is excellent |
| 266 | recognitsng value of negative results |

| # | Comment |
|-----|--|
| 267 | Recognition of research impact and not number of citations or h-index of researchers |
| 268 | Recognise the value and cost of doing research 'well'. Assess quality rather than quantity, but also take a more multi-faceted view of 'quality' (ie, beyond just journal IF and citation count), also including data and code availability (this is the big time cost), open access, etc. |
| 269 | Recognise that high quality research takes time and thus its important for both institutions and researchers not to be enticed into short term metrics by pumping out lower quality projects in order to appear productive. So its about a balance between quality and quantity. |
| 270 | Recognise and support research excellence particularly that of early-mid career researchers |
| 271 | Recognise and reward the highest quality research |
| 272 | Recently, alignment with strategic goals of the university has been the forefront of research and encouraging collaboration across disciplines. This makes sure that every aspect of research is subject to the same quality. |
| 273 | Realise the impact of management decision-making and its churn effects. Constant change is time consuming and expensive. Constant change that is then walked back and not allowed to mature is a huge drain on research time and focus - as it is more urgently deadline driven than most research activities and takes priority. |
| 274 | re-instate School managers- I am a clinician and researcher- I am not a manager -so budgeting, staff leave, ordering, claiming re-imburements for accomodation and travel etc- now eats into my research time- a very foolish retrograde step. |
| 275 | Rank the productivity of senior researchers, who rationalise their research in terms of practical outcomes, on ACTUAL practical outcomes [licensed products; patents granted (not just applied for); innovations adopted]. At present these things are almost totally ignored and the focus at the NHMRC and at my institution are on the metrics of publications and grants received. As judged by how productivity is evaluated, at my institution and within the NHMRC granting system (eg for project or program grants), nobody seems to actually care about improving health. |
| 276 | Question researchers more thoroughly about the cost-benefit (animal welfare:research benefits); ensure research project has reasonable chance of success; ensure research is relevant and of value - not just allowing researcher to follow their interests (OK blue sky research in general maybe justified but if it involves animal use then there must be constraints). |
| 277 | Quality takes time and effort. It never comes for free in science or any other discipline. Without resources and incentives to promote and allow quality research nothing will happen |
| 278 | quality over quantity |
| 279 | Quality of research will only improve if it is valued and rewarded. In practical terms the process of promotion needs to embed quality as a key measure. This means that referees (who are the only people who can really comment on this) need to be asked to address parameters of quality such as reproducibility of findings in the hands of others, contribution to setting directions for the research field. Note that measuring metrics like impact factors, citations, number of papers does not capture this. |
| 280 | Quality of research is intimately linked to the ability to take risk and to pursue long-term important questions. As a mid-career researcher on short term contracts, it is too risky to pursue quality, long-term and difficult research questions. The short-term funding cycles and emphasis on output metrics for funding applications prevents MCRs from pursuing the highest quality research. If my institution provided more stable employment arrangements, such as positions that combine a certain percentage of teaching with a research-intensive role, I could improve the quality of my research. |
| 281 | Quality management and validation of protocols Larger sample sizes Bigger research questions More studies in humans |
| 282 | Put more money into it. Respect researchers more. Remove paperwork hurdles. |
| 283 | Put more emphasis on discovery and fundamental research. There has been too much emphasis on translational research in Australia. Without new discovery and knowledge, there will be none to translate from. |
| 284 | Put less pressure on publishing in a short period of time. Good quality research can't be done in a rush |

| # | Comment |
|-----|--|
| 285 | Put less emphasis on immediate/direct impact. |
| 286 | Push for capacity building of Aboriginal researchers in collaboration with NHMRC, universities and research institutes; establish and implement gold-standard governance models in Aboriginal health research |
| 287 | Publishing negative results, boycotting predatory journals. |
| 288 | Publishing negative results, boycotting predatory journals |
| 289 | Publish data with projects. Faster turnaround to publication time to increase impact and translation - whilst maintaining research quality. |
| 290 | Providing more support/training for staff and students to better appreciate the context in which their research is being conducted and reported. Ideally this would mean that we explicitly consider aspects of research quality that may not always be at the front of our mind, and this would allow us all to better evaluate and improve how we conduct our research and report our findings. |
| 291 | Providing more research funding support to junior researchers. |
| 292 | Providing more research courses |
| 293 | providing more opportunities to the younger generation of researchers for age diversity in the field the mentality of head researchers need to be less reliant on publication records alone to assess researcher's skills |
| 294 | Providing more certainty for research staff - more continuity of funding. |
| 295 | Providing greater support for research in relation to funding and job security so there is enough time for the translation of the work |
| 296 | Provide untied funding to implement new research methods and to support implementation of quality control measures. |
| 297 | Provide training in understanding methodologies and formulating research questions and rigorous proposals |
| 298 | Provide training for research supervisors and always include capacity building as part of the proposal especially in working with partners from the LMIC |
| 299 | Provide time for researchers. Provide infrastructure. Establish a culture that values and facilitates research; currently we are swamped with obstructions. Be honest about quality and stop trumping up poor quality as good. |
| 300 | Provide tenured positions for stability to enable researchers to undertake research |
| 301 | Provide support to health professionals willing to undertake research when often they have no idea how and where to start but have a great research question. Clinicians are often not trained or have no concept of time when it is about research. |
| 302 | Provide support to clinical researchers on research techniques and ease research pathway |
| 303 | Provide support for submission of ethics and grants. |
| 304 | Provide support by way of staff to assist in grant writing |
| 305 | Provide support and concrete career paths and appropriate mentoring. The current climate is as follows: 1. Build new buildings 2. Buy new equipment 3. Push through graduate students as fast as possible 4. Overload researchers with unreasonable teaching commitments to pay their wage and then critique this group for not publishing. 5. Force researchers to publish small iterative pieces of work and not consolidate anything that would have greater impact. 6. Provide limited or really any incentive to cross collaborate with diverse fields to ask fundamental questions (ie. Encourage the formation of silos). |
| 306 | Provide sufficient funding that allows time to conduct rigorous research and then to publish those results. The time provided with a grant does not allow for the time it takes to build community engagement, to recruit then to write up the findings, you generally have to do this after a grant has finished, in which time you have to start a new project to keep getting paid |
| 307 | Provide stable (competitive) funding and encourage high quality research. |

| # | Comment |
|-----|--|
| 308 | Provide some baseload salary support for research coordinators to improve job security, rather than relying entirely on grant funding application outcomes, which rarely fully fund time and workload requirements for trials. |
| 309 | Provide secure positions to high quality research staff |
| 310 | Provide researchers with mentorship, as well as the time and resources needed to fully conceptualise and plan research |
| 311 | Provide researchers with better job security such that they can take their time pursuing important avenues of enquiry, rather than letting the implicit 'KPI's set by their employers or funding bodies dictate the direction of the research. ie Many researchers will choose to cut a project short so it can be published in order to apply for a grant/fellowship, promotion or simply keep their job. |
| 312 | Provide research only academics with some continuity and job security |
| 313 | Provide post-doctoral fellowships. Currently there is a lack of fellowships available that are exclusively for researchers within the first 2-3 years post-PhD. |
| 314 | Provide opportunities for community stakeholders with research training to assistance with design, conduct and translation of research about their community. |
| 315 | Provide ongoing support for early-mid career researchers, establish policies to encourage creativity, innovation and independence of emcrs |
| 316 | Provide more untied funding to pursue new ideas, establish new methods, help establish new collaborations. Ensure access to fundamental core research facilities and expertise needed to conduct high-quality research |
| 317 | Provide more training to research students, e. g. statistics analysis, how to critically think of a great idea and establish our own research area, provide chances for students to build collaboration such as overseas exchange chances. |
| 318 | Provide more training on research skills and support like administrative assistance, grant and publication preparation assistance |
| 319 | Provide more training for researchers |
| 320 | Provide more time for deep research thought and interrogation of the literature. University academics are passionate about their research, yet have competing demands. |
| 321 | Provide more time and funding. Promote junior researchers |
| 322 | Provide more sustained research support (funding) to ensure continuity of vision for research labs performing highly. Provide funding that supports cross-disciplinary research to offset the changes in the federal grant system that are inhibiting collaboration. Provide funding to early/mid-career scientists who are at a marked disadvantage in the current NHMRC funding schemes |
| 323 | Provide more support for researchers (particularly those early in their career) in developing and conducting research, linking researchers with mentors where necessary, provide services to assist with developing appropriate statistical analysis plans and navigating the ethical and institutional review. |
| 324 | Provide more support for professional development of early career researchers |
| 325 | Provide more support for junior researchers to start research programs with funding |
| 326 | Provide more support for Early Career researchers, particularly through developing fellowships. |
| 327 | Provide more support for consumables for PhD students and scholarships |
| 328 | Provide more resources to support investigator initiated research to ensure protocols etc are reviewed thoroughly prior to commencement of research. More support in navigating the ethics and governance processes. |
| 329 | Provide more resources and support to mid and early career researchers to ensure research of a high quality is fostered and produced. Resources such as mentors, dollars/staff to support research development and grant submissions. |
| 330 | Provide more resources |
| 331 | Provide more research training including on ethics |
| 332 | Provide more research time to senior researchers |

| # | Comment |
|-----|--|
| 333 | Provide more research time |
| 334 | Provide more research support services to allow academic staff to focus on the research and ensuring it's high quality rather than rushed because they have too many non-research related demands on their time |
| 335 | Provide more research funding. |
| 336 | Provide more professional development. I currently work in a vocational training provider that includes vocational and higher education. There is a growing applied research agenda in this sector which should be fostered and supported. Research funding should be made available to this sector and be supported more by the commonwealth and other more established higher education providers |
| 337 | Provide more opportunities for interdisciplinary projects, or at least this as an asset of a collaborative project when there are researchers from a variety of disciplines, and particularly encourage Aboriginal and Torres Strait Islander Health Workers/Health Practitioners to build their capacity and to join research teams as Associate Investigators or Chief Investigators. They will ask very different questions to other disciplines and search for answers using different methods and analyse data with a different perspective. |
| 338 | Provide more open and accessible opportunities for junior researchers to gain funding and bootstrapping research opportunities. |
| 339 | Provide more input to, and be more assertive with, industry partners to influence their decisions. Compete less and innovate/solve problems more. Collaborate more broadly so that multiple institutions are not working on the same problems in the same way competitively. |
| 340 | Provide more infrastructure |
| 341 | Provide more funds to publish open access, provide wider access to journals, reduce administrative responsibilities. |
| 342 | Provide more funds for researchers |
| 343 | Provide more funds ;) |
| 344 | Provide more funding for public good research. Promote integrity, inclusiveness and ethical behaviour that included giving recognition to those that have contributed to research. Actively discourage narcissist behaviours. |
| 345 | Provide more funding for engagement with aboriginal and other consumer communities from the earliest stages |
| 346 | Provide more funding for early career researchers. It can be very difficult to undertake the type of research that one wants to do due to politics at a 'higher level' that dictate what you can and cannot do and who you can collaborate with, even though as an early career researcher you may have novel, discovery ideas. |
| 347 | Provide More financial and human resources and input |
| 348 | provide more career growth opportunities such as giving leadership roles. Early and mid career Researchers generally get leadership roles outside their institutes. But the leadership responsibilities are taken up by senior people who do not need it as much. |
| 349 | Provide more administrative support to academics so that research time can be spent doing research rather than administrative tasks. |
| 350 | provide more administrative support so that more research could be done more effectively |
| 351 | Provide more administrative support |
| 352 | Provide longer timelines to assessment for grants, positions etc. The short 3 year cycles promote rapid publishing, quick and dirty studies and inflation of meaning. Publish or perish. Without these pressures we would do better science and ensure integrity before publishing. For example, internal replication of findings, which is not easily funded or published and seems a waste of time against the performance measures we are held to. But would be an incredible step forward for science and would reduce the spread of pointless studies based on erroneous reports. |
| 353 | provide longer term contracts. I am on a six month contract again! |
| 354 | Provide job stability and security |

| # | Comment |
|-----|---|
| 355 | Provide job security for researchers. Provide adequate staff for administrative work so that researchers can actually do research, rather than losing huge volumes of time to administrative duties and burning out due to overwork. |
| 356 | provide job security for research academics to require research academics to participate in undergraduate programmes which will free up talented teachers to do more research. ie redefine a Teaching and Research academic as having a fluid teaching and research workload with research active staff having 80% of their time on research |
| 357 | Provide intensive, compulsory research skills training for all research staff |
| 358 | Provide incentives, training and support for open science practices; more low level seed funding for pilot and small studies. |
| 359 | Provide higher level of financial support for the long term development of ideas and to retain skills and expertise |
| 360 | Provide greater support for longer-term and blue sky projects. |
| 361 | Provide greater financial support to obtain additional personnel to undertake the work. |
| 362 | Provide greater access to people with research training e.g. epidemiologists |
| 363 | Provide good infrastructure and support for research |
| 364 | Provide funding. |
| 365 | Provide funding security for long term researcher engagement of early and mid career discovery scientists to focus on solving the mechanisms of complex disease problems. Funding support should contain some contingency and flexibility to extend project areas explore translational concepts that could build enough data to support a new developmental project for consideration for independent funding. Presently, discovery scientists exploring potential new therapies can extinguish their research career prospects if translational concepts don't work out first time, as mostly happens. There is no chance to learn from a failure and reboot better informed on another approach. |
| 366 | Provide funding for positions so we have more time to do our research. I feel like I constantly have to publish even the smallest finding in an attempt to stay competitive with my peers. If this demand to constantly publish at all costs was not there I know I would be producing better quality research and papers. |
| 367 | Provide funding and support for PhD programs beyond 3 years. Support for 4 years will allow risky and original projects to be supported. Support and promote basic research - although industry support should be encouraged not all projects should have a direct application but rather some projects that are basic, original and able to touch many industries and assist society in the long run. Building in criteria and justification of research with long term goals |
| 368 | provide funding |
| 369 | provide financial support to enable greater focus on innovation |
| 370 | Provide easy access to high quality statistical support when establishing a new program of research. Core facilities |
| 371 | Provide constructive feedback through the HREC |
| 372 | Provide comprehensive training to early career researchers. |
| 373 | Provide broader, more rigorous training to graduate students. |
| 374 | Provide better support for clinicians to undertake PhDs - time off to do statistics courses, time off to collect data, 2-3 months of supported time to complete writing PhD |
| 375 | Provide better resources. Reduce the bureaucratic and regulatory barriers that hinder interactions between research undertaken in institutes and clinical research. Currently there are too many artificial barriers between independent and university research institutes and hospitals that run by Departments of health. THIS inhibits innovation and prevents research translation. |
| 376 | Provide better research infrastructure support such as facilities and equipment. |
| 377 | Provide better job security; we spend a lot of time applying for funding when we could be doing the work. |
| 378 | Provide better infrastructure around data management processes |

| # | Comment |
|-----|---|
| 379 | Provide better incentives for scientists to do genuinely innovative research that has actual potential for translation or commercialisation. |
| 380 | Provide better administration and technical laboratory support. This allows the academics to focus on the research aspect, rather than unrelated paperwork (eg. entering chemical locations into chemwatch inventory, receipting orders) |
| 381 | provide better (and more) resources |
| 382 | Provide avenues for QC checks with publications prior to peer-review |
| 383 | Provide administrative support to researchers |
| 384 | Provide additional support to ethics committees to gain a better understanding of research areas and populations. My research in dementia care is delayed and methodology altered due to the HREC not understanding the population I am working with. |
| 385 | Provide additional resources for researchers for aspects such as figure generation for academic papers, and internal peer review prior to submission to journals. |
| 386 | Provide additional opportunities for training and ongoing support in biostatistics |
| 387 | Provide actual research support rather than just talk about how research is supported. It has been years since anything has been provided by my hospital to front-line researchers here, other than what is required under laws and regulations (ethics, IBC, etc). This appears to have been by disinterest in and/or active reduction of the role and importance of quality research in the health sector. The hypocrisy and pretense is breathtaking, still. Without actual institutional salary, materials and infrastructure support, the values and visions needed for high quality research are not readily upheld or refreshed - all the researchers know that there is |
| 388 | Provide access to the instruments across the university and funding to develop ideas and travel to attend conferences/establish collaborations. Furthermore, providing at least a 5 year contract to allow ECR fellows to develop independent agenda without worrying about their career every day of the year - this constant stress is detrimental towards conducting high-quality research |
| 389 | Provide a supportive and a collaborative environment |
| 390 | Provide a research support package for PhD students |
| 391 | Provide a more rigorous mentoring program for ECRs and MCRs writing and submitting grants. Provide small funding opportunities to bridge research project that may have missed out on Category 1 funding. |
| 392 | Provide a culture in which research integrity is valued rather than spoken about as a token. Enforce research integrity policy. |
| 393 | Provide a better system for monitoring and addressing research integrity |
| 394 | Protected time |
| 395 | Proper statistics training for staff and students |
| 396 | Promotion of inter and trans disciplinary research through re-allocation of resourcing and structural facilitators (eg decision making) |
| 397 | Promote translational research and help others understand the different requirements and drivers for translational vs discovery research. |
| 398 | Promote the values above, perhaps make these a focus (rather than outputs) |
| 399 | Promote deep, novel, slow science over quick and shallow science. Push for fewer publications that show high-quality science rather than many iterative studies. |
| 400 | Promote appropriate quality frameworks and accreditation for research areas. Without that oversight research standards can fall. |
| 401 | provide more equitable support for early-mid career researchers in order to support the next generation of academics |

| # | Comment |
|-----|---|
| 402 | Probably the greatest problem, after financial resources to support high level basic research, is in defining innovative and informative research questions. This requires extensive and frank discussion between peers and between senior and junior researchers. While there are always fora for such discussions, my experience is that junior researchers and many of my peers including myself feel inhibited in such discussions. Providing non-threatening environments for discussion has been a goal of mine for several years, but more can be done. It is also useful to have experimental design services to aid in identifying methods for quantitative analysis of research, ideally without cost to the relevant project (as this is nearly always unexpected and hence cannot be a budget item in a grant). Contingency funding for unexpected expenses would allow much more flexibility and hence improve the quality of individual projects as new controls, increased sample size and new techniques to improve accuracy cannot be fitted into budgets set up to a year in advance of the beginning of a project. A key for my type of research is to ensure that I remain and my students and staff become quantitatively literate as a feel for numbers enhances experimental design, analysis and reproducibility. |
| 403 | Probably having more staff (technicians, research assistants etc) employed by departments or the university who have a lot of skills that they can then pass on to honours and PhD students. |
| 404 | Prioritise impact over publications, which requires a shift from Australian science and research funding broadly. |
| 405 | Pressure in quality is usually due to lack of funding and resources. Time is not as critical, scientists often pace their work over their career. |
| 406 | Post-HREC approval monitoring by HREC, institutions and/or funding bodies, focusing on the above qualities |
| 407 | Poor research training and supervision of some staff. Greater respect of the research process - it is clear reading some applications that applicants do not have respect of the process and consequently their research is poorly thought through and poorly designed. |
| 408 | Place less value on publications and more on the scientific process. |
| 409 | Pilot grant funding mechanisms to investigate new ideas |
| 410 | Personally: - Resist the pressure to publish - only publish when the work is new, rigorous and transparent. - Double check all analyses. - Discuss findings on a regular basis with critical colleagues. - Have an open mind to unexpected results. Don't dismiss them. Instead, change your own beliefs. For institutions - Demand from researchers to be transparent by sharing data and analysis details. - Evaluate research on quality rather than quantity (e.g. no targets for number of papers per year) |
| 411 | Perhaps involving more people who actually do the research than those whose names become part of the published/presented papers |
| 412 | Performing high quality research is often secondary in the current environment to doing what is necessary to obtain funding. The most frequent victim of this is rigor, as review standards are low (as reviewers are overworked) and it is easy to present flimsy data in a persuasive way. Another casualty is fundamental (basic) research, as increasingly emphasis is put on 'impact' of research as an important metric in funding assessment. |
| 413 | Performance manage academics around behaviour. This would directly benefit early career academics and whether they can progress in academic careers, as well as professional staff that work to support academics. |
| 414 | Peer review |
| 415 | Pay clinical researchers the same rate of pay as clinicians |
| 416 | Overhaul the ethics approval process to cut down waste of time and resources |
| 417 | Outline expectations of quality for staff and research trainees. Measure performance with consideration of appropriate quality measures. Internal peer review. |
| 418 | Our systems for research governance and ethics and the culture for research quality is already excellent. |
| 419 | Our research quality is high, with the only element allowing it to be higher being more funding for larger and more statistically robust analyses |
| 420 | Our institution could better provide mentoring for all our research staff. |

| # | Comment |
|-----|---|
| 421 | Our institution already has a recently formed Research Quality group working to ensure highest standards. |
| 422 | Our animal ethics committee seeks to ensure that at all times the welfare of the animals used is the first priority. Researches must ensure that experiments meet the highest standard. |
| 423 | Organising student seminar sessions to provide them with the opportunity to receive feedbacks about their research throughout their studies and not only on the milestone meetings! |
| 424 | openess |
| 425 | Open transparency about approval process |
| 426 | Open to international collaboration |
| 427 | Open science practices |
| 428 | open access to all research data not just the final paper; also encourage replication and publication of spread of data. |
| 429 | Only Aboriginal people should be CIA on any grant that is focused on Aboriginal health. |
| 430 | Ongoing training in research techniques and applications and opportunities to learn from researchers doing high quality research within or outside of the institution |
| 431 | Ongoing mentoring and development of researchers at all career stages |
| 432 | On a personal level I would like a better understanding of bioinformatics to help me to interpret my data more accurately. My institution could identify key areas for research development that would benefit society and the local community and open up funding opportunities for such research. |
| 433 | Obtain more resources. Quality requires the best infrastructure and a sufficient number of highly-trained personnel. We need more of both. |
| 434 | Obtain more funding to enable to people to be hired which would research to be conducted in this manner. |
| 435 | Obolish simplistic performance metrics, such as the h-index |
| 436 | o recognise research as core business in institutions of knowledge workers o look for less obvious environments to get greater advances in the research output ie research by people who are not full time researchers o job security is appalling o I appreciate the learning how to do research sessions at my institute ie how to write the impact section of a MRFF grant |
| 437 | Nurturing collaborations for innovative, high impact but risky research questions |
| 438 | Nothing that I can think of over and above the organisational structures and processes in place. |
| 439 | Nothing springs to mind |
| 440 | Nothing specific but the institution constantly strives to improve research quality |
| 441 | nothing specific |
| 442 | Nothing in particular |
| 443 | Nothing I can think of |
| 444 | nothing comes to mind |
| 445 | Not to my knowledge. |
| 446 | Not the I am aware of |
| 447 | Not that I can think of |
| 448 | Not sure if this questions means improve my research or research in general. Also not sure what quality means in this setting |
| 449 | Not really, as we have a very diligent HREC |
| 450 | Not really, everyone is trying their best with the limited funding sources available. |
| 451 | Not really - it seems that this is the responsibility of the researchers |
| 452 | Not particularly. |
| 453 | Not bog it down in stringent bureaucratic requirements but allow researchers to rigorously evaluate their research |

| # | Comment |
|-----|--|
| 454 | Not beyond what we are already doing to promote quality research. |
| 455 | Not at the moment |
| 456 | nope |
| 457 | none |
| 458 | No. The system (including funding) is set up to reward quantity over quality. People are more likely to get funding if they publish a large quantity of low quality papers. The university is slightly better at recognising quality over quantity. |
| 459 | No. Our main issue is funding and a hypercompetitive culture. |
| 460 | No. |
| 461 | No, we are well supported in our research. |
| 462 | No, not because there should not be changes, but rather because neither I as an individual nor the institution I serve have roles that would enable change at a national level. |
| 463 | No, it seems to be quite thorough |
| 464 | No, in the given funding situation and lack of time, me and my institution are doing our best quality research. It's the funding situation that encourages dishonest fancy research, and/or hurried publication of findings that haven't yet proved to be reliable. 'Innovation' is often translated as 'latest technology' and concept-driven innovations that can genuinely help people are ignored. Funding is allocated to people even with retracted findings, NHMRC encourages dishonest research and lack of integrity. |
| 465 | No, I think my institution expects us all to aspire to do research that is meaningful (i.e adds to fundamental knowledge) and is of the highest quality. |
| 466 | No- all researchers are trained and strongly supported to produce high quality research |
| 467 | No suggests as I think our ethics committee staff and members go to great lengths in their role, and in their review processes, to ensure we support high quality and ethical research. |
| 468 | No not at the institutional level. But at the national level the whole research funding model is beginning to favour often second rate clinical research. The opacity of MRFF funding decision making and the focus on clinical research to the detriment of basic research is short-sighted and will gradually deplete the innovative young basic researchers that will drive research in the future. |
| 469 | No I feel very supported. Maybe more help from senior people with grants. |
| 470 | No comments |
| 471 | no but there should be a national office of research integrity to independently investigate research misconduct |
| 472 | NO |
| 473 | No |
| 474 | No |
| 475 | No |
| 476 | No |
| 477 | No |
| 478 | No |
| 479 | No |
| 480 | No |
| 481 | No |
| 482 | No |
| 483 | No |
| 484 | No |
| 485 | No |
| 486 | No |
| 487 | No |

| # | Comment |
|-----|--|
| 488 | no |
| 489 | no |
| 490 | no |
| 491 | no |
| 492 | no |
| 493 | no |
| 494 | no |
| 495 | no |
| 496 | no |
| 497 | nil |
| 498 | nil |
| 499 | NHMRC funding is insufficient to support the current research only professional in Australia, which is leading to an exodus overseas and change of career, there is a serious talent depletion underway if you do not invest more for the future. |
| 500 | New to universtiy so limited understanding of their current research quality to comment |
| 501 | Needs to benefit the community |
| 502 | Need to embrace and support innovative methods faster |
| 503 | Need more financial support for promising young researchers and their projects. Need to retain older researchers to provide criticism. |
| 504 | NA |
| 505 | NA |
| 506 | NA |
| 507 | N/A |
| 508 | N/A |
| 509 | N/a |
| 510 | n/a |
| 511 | n/a |
| 512 | n/a |
| 513 | n/a |
| 514 | My work is supported and I have relevant resources to help with different aspects including ethics, contracts, grant management, etc |
| 515 | My work is predominantly done in collaboration with First Nations people, organisations and communities. Improving the quality of research could be achieved by ensuring that privilege (particularly white privilege) does not accumulate at the highest rungs of the organisational structure. A sustained commitment to developing and supporting the First Nations research workforce from community-based researchers through to post-doctoral fellows is needed. More broadly, the definition of 'junior researcher' which runs through medical research (including in this survey) reflects an outdated notion of junior-senior. Measuring seniority by when a PhD was obtained devalues the broad mix of skills that are needed for high quality research. |
| 516 | My view of high quality research is work that is important or challenging, that is done carefully and ethically. My institution (and NHMRC) continues to prioritise numbers of publications (i.e. quantity) over quality. The drive for quantity often undermines quality. |
| 517 | My research unit could focus more on translational research and on using participatory approaches but it is a question of resources and funding. You have to do the work that gets funded, not the work that needs doing and how it should be done! |
| 518 | My research quality would be improved if my institution provided sufficient administrative support and provided legal and contract/agreement support in a timely manner. Further statistical training could improve the quality of my research, but time doesnt allow this. |

| # | Comment |
|-----|---|
| 519 | my institutions processes are already very robust |
| 520 | My institution provides good support |
| 521 | My institution needs to employ experienced staff that can effectively train new staff and students. Even just 1 or 2 permanent positions for senior scientists would greatly improve the quality and quantity of research that can be conducted. |
| 522 | My institution could value medical research and its impact. I could do a better job in communicating the benefits of it. Using more appropriate models and not overselling data. |
| 523 | My institution could retain researchers based on merit |
| 524 | My institution could provide incentives for publishing fewer manuscripts that are of higher quality. My institution could facilitate additional means for dissemination of my research, public availability of the original research data, public availability of full research methods and public availability of paywalled manuscripts. Means to publish negative findings. |
| 525 | My institution could improve the balance between teaching and research...the focus is strongly on teaching and this can only be detrimental to the quality of research in general. Furthermore, less emphasis on the burning need to secure external funding...everybody is under the pump to bring more money in, resulting in writing and submitting many funding proposals, this takes time/quality away from ongoing research projects, as well as, submitting only the high quality proposals with innovative ideas. |
| 526 | My institution could improve research quality through better resourcing of research related infrastructure (e.g. maintenance of equipment required for multiple groups to conduct their research activities). More importantly, there should be greater emphasis on research quality demonstrated over a prolonged period when it comes to academic promotion. My institution also needs to be more equitable with allocation of teaching responsibilities so that the teaching load is better shared, especially for academics paid from teaching funds. |
| 527 | My institution and I both need to constantly push against a culture that defines success by journal impact factor and funding success, even though we know this does not necessarily support the imaginative and honest work. |
| 528 | My experience is with large clinical trials. In my opinion there is a considerable amount of research 'waste' related to eligible patients not being approached / enrolled because of inadequate infrastructure (particularly on-site research nurses etc); greater attention to the machinery required to efficiently run clinical trials would speed completion and quality. |
| 529 | Move focus to the impact of research on health outcomes (or at least a pathway to health outcomes) rather than judging research quality by impact within the academy. |
| 530 | Move away from the publish or perish mentality. Focus on high quality publications only, provide safety nets for researchers coming to the end of their fellowships, the pressure to publish ridiculous numbers of papers and apply for as many grants as possible is a major impediment to producing high quality research. These are issues that need to be fixed across the system, not by individuals. |
| 531 | Move away from the metrics obsession |
| 532 | Move away from commercialisability and (back) towards discovery for the good of society |
| 533 | Move actively participate in the discussion/debates on research funding policy. Given Australia's relatively low funding levels (compared to other advanced economies), this country can't really effectively fund all research activities. Better targeting is necessary. |
| 534 | motivate young clinicians as to the value of research |
| 535 | Mostly we just need more money! |
| 536 | Mostly limitations revolve around funding limitations |
| 537 | Most of the research funding we received is highly competitive and sometimes underbudgeted. So institution should have a policy so that researchers can ask for some additional funding with proper justification |
| 538 | Most biomedical researchers (including those who review NHMRC grants) have a relatively poor understanding of statistics. I believe this is a major cause of irreproducibility. |
| 539 | More transparent communication of negative results |

| # | Comment |
|-----|--|
| 540 | More transparency at all levels regarding funding and support |
| 541 | More training of biostatisticians - it is very hard to recruit a suitable biostatistician and the capacity we have is constantly swamped |
| 542 | More training in statistics |
| 543 | More training in research, statistics, clinical trials |
| 544 | More training for staff Greater post publication accountability |
| 545 | More timely research administrative support to reduce time between funding and commencement of researcher (ie ethics, contract and recruitment of staff) |
| 546 | More time. Less focus on a narrow band of research metrics to avoid distortions in behaviour. Support merit, not 'identities'. |
| 547 | more time to devote to research |
| 548 | More time for research allocation |
| 549 | More time for a considered strategic approach |
| 550 | More time dedicated for the design, conduct and interpretation of experiments, less time for meetings and red tape. |
| 551 | More time and resources allocated to research |
| 552 | More thought to statistical method in design and consideration of meta data |
| 553 | More tenured research positions so that researchers could focus on conducting high quality research and not 'chasing' their salary. |
| 554 | More support within the clinical setting for research |
| 555 | More support to innovative and novel research. High risk high impact research. |
| 556 | More support of junior researchers |
| 557 | More support for research would be nice |
| 558 | More support for mid career researchers Better management of research integrity issues |
| 559 | More support for making data available and for open access journal articles. More structured training in methods for PhD students (similar to what it delivered in the US) |
| 560 | More stringent selection of early career researchers, but longer and deeper support for those. |
| 561 | More streamlined processes for ethics and governance approvals. Professional support for research activities |
| 562 | More staff |
| 563 | More stable funding |
| 564 | More small grants for very junior academics |
| 565 | more seed funding for new ideas |
| 566 | more seed funding provided, reduce on-costs for external (philanthropy/small grants) |
| 567 | More secure jobs |
| 568 | More secure funding. Senior scientists are spending too much time grant writing and not enough time doing good quality research. |
| 569 | More rigorous scientific justification for research using animals. |
| 570 | more rigorous record keeping practices. Standardised training of all research staff on how proper record keeping, and strategies on performing accurate and reproducible research. |
| 571 | more rigorous process for justifying the research |
| 572 | more rigorous investigation of research misconduct - I have witnessed a number of situations in which there is clearly research misconduct that are not investigated by the institution. |
| 573 | More rigorous attention to justification . I frequently feel continuing research is done for the benefit of the researcher and their career, as if they have lost sight of their purpose . |
| 574 | More resources in to statistics and peer review process |
| 575 | More research-related short courses. |

| # | Comment |
|-----|---|
| 576 | More research support, including funding opportunities, for diverse research teams to produce innovative transdisciplinary research. Better community engagement Better support for early career research - less emphasis on research credentials of senior primary investigators |
| 577 | More research support, eg statistical support, admin support for ethics, safety, service contracts to ensure equipment is running effectively |
| 578 | More research funding/fellowships for early-mid career researchers. The new NHMRC systems is a death sentence for non-clinician EMCRs. Less emphasis on translation/economic outcomes, and more support for basic research. |
| 579 | More professional development of research staff |
| 580 | More pilot testing |
| 581 | More permanently funded positions to retain staff. We lose momentum as people move on due to funding fluctuations. |
| 582 | More original investigator led research |
| 583 | More open science practices |
| 584 | More open Collaboration outside the department and open access to data |
| 585 | More multi-disciplinary research skills from researchers. A lot of senior researchers specialise in a specific area, but lack skills such as project management, financial/business skills and technical skills such as statistics or IT skills. You need all these things to be a impacting researcher |
| 586 | More money! |
| 587 | more money, less administrative responsibilities |
| 588 | More money into research allows researchers to do more robust science. Support of open science (such as putting manuscripts up on a preprint server) also pushes the community to improve the quality of science that eventually gets published. |
| 589 | More money |
| 590 | More mentoring of early career researchers by those adept at experimental design, lab methods or analysis techniques. |
| 591 | More mentoring and less pressure to perform service roles |
| 592 | More job security motivates the researchers to spend time on generating innovative ideas which is the basis of the high-quality research |
| 593 | More International collaboration, shared skills and knowledge in resource settings and neglected diseases. |
| 594 | More internal review of proposals |
| 595 | More internal peer review of both research proposals, while being developed, and publications prior to submission to journals. |
| 596 | More interchange between researchers in different disciplines |
| 597 | More grants, better facility and better collaborative research |
| 598 | More funds for better designed experiments Less administrative duties to enable better focus on research outcomes Less time writing grants and more time doing and evaluating new experiments |
| 599 | More funds (staff) are required. |
| 600 | More funding. Funding for senior researchers on non-continuing contracts. Funding gives you time to plan and do the highest quality research, often over several years. |
| 601 | More funding. Everything we do is done on the cheap and with a short term focus. |
| 602 | More funding. |
| 603 | More funding! |
| 604 | More funding! |
| 605 | More funding; less constraints on what type of research we can do (and ability to publish in outlets where you won't get cited; practitioners can benefit from research, but they rarely cite you). |
| 606 | More funding, to provide support for the research |

| # | Comment |
|-----|---|
| 607 | More funding, more secure long term funding |
| 608 | More funding, especially for senior post-doctoral fellows that are too old for ECR schemes but not yet a group leader to be competitive for Senior schemes. |
| 609 | more funding to hire more people and provide more training for current staff |
| 610 | more funding security for high quality research |
| 611 | More funding security and funding for project managers |
| 612 | More funding opportunities |
| 613 | more funding opportunities |
| 614 | More funding oportunities |
| 615 | More funding is required |
| 616 | More funding for translators and interpreters to ensure that people from culturally and linguistically diverse backgrounds are able to participate in more research Recognition that young people under the age of 18 years are legally able to consent to participate in research without parental or guardian consent |
| 617 | More funding for pilot projects or risky experiments - yes, this means to (probably) sacrifice some animals, but it allows for a better justification of larger animal numbers in bigger projects. |
| 618 | More funding for fundamental discovery research |
| 619 | More funding for basic research |
| 620 | More funding and support for researchers to avoid forcing them to fall in the traps of fast scholarship, producing results that have not been rigorously confirmed. |
| 621 | More funding and job security would allow researchers more time to consider their results and the direction they are heading, instead of caving on the pressure to publish things that may not be entirely complete or accurate. |
| 622 | more funding and infra structure to support clinician reasearchers |
| 623 | More funding |
| 624 | More funding |
| 625 | More funding |
| 626 | More funding |
| 627 | More funding |
| 628 | More funding |
| 629 | more frequent collaboration/feedback |
| 630 | More frequent 'grilling' to justify the research and improve its quality. Science leaders should be carefully selected and their performances should be eavaluated |
| 631 | More focus on research purpose to improve health, less on securing funding and jobs |
| 632 | More financial aid in grants to support research projects and more support with grant writing |
| 633 | More experience research staff and greater discussion about the value and importance of research |
| 634 | more emphasis and clarity about researchers having an actual or perceived conflict of interest, especially financial |
| 635 | More economic and social support for current researchers, both for their research and development of their careers. |
| 636 | more diversity in teams, better culture, less bullying and harassment -esp of women... the culture drives the outputs... |
| 637 | More direct support for infrastructure and for career development of ECR and MCR |
| 638 | More cross discipline interaction rather than working in silos. We can learn a lot from other groups and health researchers who are addressing research questions in other diseases other specialties but often the questions and problems and analysis methods significantly overlap and we do not need to reinvent the wheel. |
| 639 | More core funding and in kind support to researchers with good ideas |

| # | Comment |
|-----|--|
| 640 | More collaboration- though difficult in current funding climate as no one wants to work together because everyone in competition for tiny amount of nhmrc funding |
| 641 | More collaboration opportunities will be better. |
| 642 | More collaboration between groups, sharing expertise. Peer review and publication of all research protocols. Open data, transparent analysis. |
| 643 | More collaboration and communication of null results to avoid repetition of research proposals. |
| 644 | More classes, seminars, workshops can help to improve the quality of research |
| 645 | More clarity required in research plans from the beginning, including very clear research question, to guide required data collection methods. |
| 646 | more capacity and network building for ECR and MCR |
| 647 | More basic trainings for commonly used computer software, more inter-disciplinary collaboration. |
| 648 | More avenues for collaboration across teams/themes; an approach to building relationships between researchers using similar methods (eg qualitative) across the organisation |
| 649 | More attention to detail |
| 650 | More assiduous consultation with community members , consumers and stakeholders in the planning stages of our research projects |
| 651 | More administrative support and less red tape |
| 652 | More administrative and practical support |
| 653 | More administration support - would allow more time for thinking things through, ensure compliance with all reporting etc. |
| 654 | more admin support |
| 655 | More accountability |
| 656 | More (or any) meaningful engagement with populations affected by the health conditions and systems/structures of health services that we research, e.g. co-designed or community-led research. |
| 657 | monitor the research conducted in the university stop worshipping money as the only measure of quality |
| 658 | Money muddies the waters, especially with contract research where ethical, research and funding interests come into conflict. |
| 659 | Money and funding is the limiting step and if there is a way to ensure that people can do ethical and beneficial research without having to spend most of their time writing grants (then not getting them), then I'm all for it. |
| 660 | Money |
| 661 | [University] provides the most unstable and stressful work environment for the majority (70%) of its researchers. Researchers are largely dependent on securing research funding to keep their job, and usually do not know whether they will have a job or not the following year. Many excellent scientists I know have left academia due to lack of job security at the university. |
| 662 | Minimise the ever-increasing administrative activities and paperwork for researchers: for clinical researchers with feet in multiple institutions, this problem is compounded by having to deal with the non-research demands of each institution. It is a major reason why busy clinicians do not follow research careers |
| 663 | Minimise duplication of research Ensure research is focused on addressing the right questions Commitment to undertaking high-quality, rigorous, well-documented activities Committed to open access for data and publication |
| 664 | Mentorship and high-quality performance assessment with the potential for long-term occupation stability. |
| 665 | Mentoring of junior researchers in this area would be advantageous., even though this has been a priority for our institution. |
| 666 | Mentoring ECR-Mid Career researchers re innovative and rigorous research with true translational outcomes |

| # | Comment |
|-----|---|
| 667 | Mentoring and assistance of ECRs; improved/wider feedback and consultation on grant applications; enhanced collaboration between centres, groups and Faculties. |
| 668 | Measure research impact by additional metrics, not just journal impact factor |
| 669 | Me - dedicate more time to research, potentially less time to administrative duties. Institution - Provide more stability to senior researchers to be able to strive further. |
| 670 | Maybe gain greater focus on these 5 principles? |
| 671 | Many researchers do not seem to grasp or be able to demonstrate that they are aware of the significance of many parts of The Code when applying to The Committee. This often, potentially, reflects on the quality of research. In general any new in depth initiatives to educate researchers regarding all aspects of animal welfare and what is required of them in applying to use animals in research would I feel be beneficial. (And even when the research is in principal acceptable an enourmous amount of time is spent by committee members getting researchers to get their applications into approvable form) |
| 672 | Many of the points above are valid - I would have selected more than 5. My institution (like almost all institutions) could be tougher on poor quality research |
| 673 | Many of processes such as rigorous peer review of research are already established. |
| 674 | Mandatory training for anyone conducting research (senior to junior) in best practice experimental planning, statistics, and methodologies. A PhD or clinical degree/qualification should not automatically qualify someone to be the head of a research group. There needs to be documented evidence that proper training in the skills required to run a research group have been met. Mandatory training in research ethics. Severe penalties for knowingly breaching ethical guidelines. External review of potential ethical breaches. No institution should be left to police themselves on such important matters. |
| 675 | Mandatory independent review of 'preliminary data' used in grant applications, to deter fabrication, omitting inconvenient outlier points, plagiarism of junior researchers' work without acknowledgement, etc. |
| 676 | Mandate quality research . Give people the time to do research, and the skills to do high-quality research. |
| 677 | Mandate early and mid career researchers to take part in training on supervision and publication ethics, and good data management and oversight. Also, either provide methodological/design/statistical training or provide access to experts to support this part of the research. |
| 678 | making research integrity training and conflict of interest management training compulsory for all staff |
| 679 | Make the process of Ethics / Governance simpler but not to the detriment of conducting good robust research. |
| 680 | make sure that we take opportunities offered |
| 681 | Make sure that the students entering the system are competent - too many graduating without basic skills. It devalues the PhD. |
| 682 | Make statistical help more accessible. |
| 683 | Make open-science practices mandatory (e.g. if can't show that your NHMRC/ARC-funded project data and protocols are freely available online, you won't get funded next round or get promoted). Encourage the pre-registration of studies. |
| 684 | Make it mandatory to write and lock in a protocol, rationale, analysis plan, authorship list etc, before any data collection of a proposed study begins, and actually adhere to that. Thorough research of literature relevant to the proposed study before writing a protocol so we can incorporate/learn from previous methods and methodological errors from other scientists so our studies can build on previous knowledge and add to the field rather than just repeating work and making the same mistakes as have already been highlighted in the field. |
| 685 | Make Ethics approval process easier, simpler and quicker. |
| 686 | Make administration/reporting more efficient with regard to ethics in research. |
| 687 | Maintain patients and public at heart of clinical research |
| 688 | Maintain equipment - fine to obtain initial equipment on grants but should provide for upgrade and maintaining state-of-the-art Provide salary to the lab for staff who ensure compliance and additional management tasks. |

| # | Comment |
|-----|---|
| 689 | Maintain clear transmission of knowledge so that no information is lost and experiments don't need to be repeated. Publishing accurately and promptly so that gather information can be used by the research community. Maintaining open and transparent transmission of research to the public. |
| 690 | Maintain a culture that values quality research. Ensure equipment is updated in a timely fashion. Address stresses placed on researchers around funding and job security. |
| 691 | Lots of things! Not take on too many research projects; make sure there are sufficient funds to do what needs to be done to the standard necessary; not do research where there is enough information already; large scale surveys are not needed for every issue - convince governments that qualitative research can be just (if not more) useful; allow ethics committees to provide advice on the research, not just on ethical issues. |
| 692 | lots of things could be done e.g. lesson the importance of publishing large number of papers per year |
| 693 | Lots of education and processes in place. The question is how to get researchers to see ethics as involved from conception to completion, and just an initial compliance step before commencement. |
| 694 | Longer contracts / stability |
| 695 | Long-term funding is essential to allow research to take the time required to properly address their research question |
| 696 | long term sustainable funding |
| 697 | Long term support for researchers. Encourage forward thinking and high risk-high return projects as much as safer research. |
| 698 | long term employment for researcher will improve the quality of research because of research experience is important. |
| 699 | Lobby government to increase funding for Scientific Research in Australia. Current funding levels are the lowest in 10 years and this will have a lasting and damaging impact on Australia's standing in scientific research quality on the global stage. |
| 700 | Limit the sizes of the the largest research groups so that smaller, more innovative labs get a bigger, fairer share of resources. |
| 701 | Less rush-rush and more time to think about the implications of the research and publish existing data, rather than constantly competing to prove I am good enough to stay in the game by getting new grants. |
| 702 | Less pressure to publish constantly |
| 703 | Less pressure on immediate outputs and more time/opportunity for reflection and development of original and innovative ideas. More general research officer support for academic staff. I think my research environment is much stronger and more supportive than most though. |
| 704 | Less paperwork and meetings. |
| 705 | Less of a focus on presentations and publications at the early stages of research. It inhibits the process of discovery and introduces incentives to falsify results or impact. |
| 706 | Less focus on quantity for purposes of performance evaluation, promotion and tenure etc. |
| 707 | Less focus on fast outputs. |
| 708 | less emphasis on quantity over quality of publications. Our institution also takes [a percentage] overhead from all non-category A external grant income, this is often a huge chunk of the budget, and inevitably reduces either the scale or quality of the research conducted. Often during the grant writing process, we're also not allowed to account for this overhead, which makes running our projects according to the proposal more difficult. |
| 709 | Less emphasis on quantity of outputs, and more respect/outlets for negative findings. |
| 710 | Less emphasis on quantity of outputs rather than quality. |
| 711 | Less emphasis on quantity and more emphasis on quality |
| 712 | less emphasis on number of papers for CV |
| 713 | less competition among researchers, less push to publish |
| 714 | Less bureaucracy |
| 715 | less administrative pressure, more research funding |

| # | Comment |
|-----|---|
| 716 | Less administrative hurdles, more administrative support, medical writers, support and stability for careers |
| 717 | Learning to step back and being able to look at the big picture and not get hung up on the minutiae. |
| 718 | leadership and strong mentoring, education re 'gold standard' of research conduct and ethics |
| 719 | Keep building research capability and research infrastructure to support researchers. |
| 720 | Keep being rigorous in maintaining the standards for the HREC and SAC |
| 721 | Job security. Job security would allow high risk, inovative projects/grants to be proposed, rather than submitting 'safe' NHMRC applications. |
| 722 | Job security for early and mid career researchers |
| 723 | Its already pretty good, and very supportive |
| 724 | It would be good to get funding to replicate randomly selected research projects already funded by NHMRC. Replicate and translate grants. |
| 725 | It is done for us, bad quality research is not funded in our current system and as a result there is hardly any. Our Institution has performance metrics including research quality and impact. |
| 726 | Invite world research leaders to share their experience at the institution and inspire the next generation |
| 727 | Invest more in the already-established investigators and teams |
| 728 | Invest more in routine data collection that can contribute to the clinical and translational research efforts |
| 729 | Invest in training and mentoring of training in research techniques; acknowledging the value and importance of teaching and supporting PhD students and post-doc. Understanding that good quality research requires experience and knowledge and that processes need to be put in place to support researchers to develop their skills (rather than assuming you'll just 'pick it up' or that you anyone can do qualitative research / statistics. |
| 730 | Invest in innovation. Invest in technologies that can boost multiple research groups i.e. bioinformatics Institute needs to support early to mid career researchers much better than they currently do and develop a structured process to do this. It also needs to identify the best innovative talent in each school, there are plenty of programs for early career researchers but they make no effort to identify the early-mid career researchers doing the most innovative work. |
| 731 | Introduce practices such as SOPs to ensure reproducibility of data and GLP like i.e. having processes in place for calibration of equipment. Training staff in this area. Employing a research manager to assist working group heads to be compliant in these areas. |
| 732 | Introduce a quality system that applies to research facilities and to the research projects undertaken by researchers in those facilities. |
| 733 | Internally invest more |
| 734 | Internal review or audit of the research process. |
| 735 | Internal peer review by different groups of the institute before manuscript submission |
| 736 | Interdisciplinary research is needed to address society's most pressing complex challenges - enablers are needed to overcome the often siloed nature of research institutions, reinforced by structures and processes, that hinders conduct of such research |
| 737 | Interact with my peers and bright students to spread awareness about the research, research philosophy and contribution of our research to the society. |
| 738 | Integrate research into daily clinical practice. |
| 739 | Institutions should hold people accountable if there research is not rigorous or original |
| 740 | Institutions should collaborate even more |

| # | Comment |
|-----|--|
| 741 | Institutions can provide a technical and technological implementations of various policy and regulatory frameworks around the Responsible Code of Conduct for Research. For example, responsible research would have ensured that all research input, data and outcome including lab book entries, images, computer code, reagents, organism specifications, biological materials are made available as appropriate. However, institutes don't provide such a solution and only part information available through publications. Institutes can perhaps alter their approach of research data belonging to researchers and start taking ownership of research as their asset. Then they can provide a systematic management of their assets such as biospecimen, raw data, processed data, computer code etc so that research can be transparent, efficient and progresses forward from a hobby to translational benefits. |
| 742 | Institutional ethics committee is no worse than most but nonetheless acts as a major barrier to research being conducted. Part of this is the extremely poorly constructed national ethics process but there are ways that the local implementation of this could help to ameliorate the damage done by the national process. So: improvements in the way that the human research ethics committee operates. |
| 743 | Institutional data repositories; platforms for research environments (being able to re-run systems as when required) |
| 744 | Institution: Provide more small grants for new ideas. |
| 745 | Institution: Provide more job security and longer term/continuing contracts to retain experienced researchers and ensure continuity. |
| 746 | Institution: Provide adequate funding to enable researchers the resources to undertake high quality research. Resources may include staff or funding to undertake the research. Me: Reducing my workload so that I can ensure that my research is of the highest quality and also allow me time to think about my research. |
| 747 | Institution could offer more support, meet open access fees, consult more with academics, support research communication. |
| 748 | Institutes and reviewers at all levels of decision making (career, grant, fellowship) should reduce the focus on the NUMBER of papers, and instead focus on quality of research. Too many papers being submitted/published causes pursuit of the minimal publishable unit, with lower impact, and proportionately more effort in the publication process at all levels (writing, reviewing, revising, etc). There should also be more tolerance (and encouragement) of risk and support of innovation. Currently, much research treads well worn safe paths to guarantee sufficient numbers of papers required for career progression and survival, which do little to advance research quality and capability. |
| 749 | Institute needs to make the procedure simpler and act fast when research misconduct is reported. Instiutue higher level should address the misconduct instead of trying to cover up. Institute should encourage whisle blowers, not discourage or bully them. |
| 750 | Institute is chronically underfunded with failing infrastructure and long-delayed 'upgrade' projects |
| 751 | innovation and translational |
| 752 | Infrastructure and equipment are key to high quality research. Centralisation of key specialist equipment to make it accessible to more researchers, would greatly benefit many projects. |
| 753 | Increasing training in research planning and starting with the end in mind. Increased use of pre-specified analysis plans |
| 754 | increasing incentives for partnering senior with junior researchers on grants to mentor high quality research. |
| 755 | Increased support for early career researchers. |
| 756 | Increased sample size for clinical research; improved recruitment processes to enable this. Career progression focused on quality rather than quantity of research. Ongoing support and training for students, especially statistics. |
| 757 | Increased job security |
| 758 | Increased funding for oversight |
| 759 | Increased education for researchers. |
| 760 | Increased capacity for community engagement |

| # | Comment |
|-----|---|
| 761 | Increase training and mentorship. |
| 762 | increase the scholarship |
| 763 | Increase the rigor of the research conducted - don't do research first and think about the possible research question in the data later. |
| 764 | Increase the regulations in place to increase positive workplace behaviours. To this day, shockingly, I have heard misogynistic/discriminatory things said or behaviours in the work place which is absolutely unacceptable. These behaviors by certain individuals create a toxic work environment which impedes the quality of research and productivity. |
| 765 | Increase the number of permanent positions for researchers. Invest more heavily in biostatistics as a research discipline. |
| 766 | Increase the level of funding |
| 767 | Increase support and expectations for best practice |
| 768 | Increase resources. The most destructive force is continual competition for resources that are far too limited. NHMRC failed to fund how many Nobel laureates? We look over our shoulders for our competition just to try and keep our jobs. What sort of working environment is that?! |
| 769 | Increase Research Funding and support |
| 770 | Increase money in the system. There is so little money for infrastructure that it sets up an environment of unhealthy competition. This is a direct consequence of the change in government policy. I am at [Institute] and we have lost 15% of the staff because of the government shift away from basic science research. |
| 771 | INCREASE FUNDING. Increase the number of research only positions in universities. |
| 772 | Increase funding, provide greater infrastructure support |
| 773 | Increase funding to keep infrastructure, resources and supporting services up to date to enhance efficiency of research Engage/attract undergraduate students to research programs that are motivated |
| 774 | Increase funding for ethical/welfare oversight |
| 775 | Increase funding |
| 776 | Increase emphasis on rigour and accuracy of research instead of emphasis on journal and impact factor. |
| 777 | Increase data transparency. Not making big claims from non-significant trends. |
| 778 | Increase collaborations across disciplines |
| 779 | Increase awareness and have training for researchers on factors that affect reproducibility of research. Have guidelines for expectations e.g authentication of reagents and calibration of equipment, SOPs, appropriate experimental design, accurate recording of data and methods, appropriate use of biostatistics. Provide support to lab heads to implement strategies to improve research quality e.g. cover costs of cell line authentication, pipette calibration etc. |
| 780 | Incorporation of all in decision-making not just senior staff without consultation. |
| 781 | Include a basic science arm to all clinical trials. Understanding the how and the why (basic science) can lead to exponential gains in knowledge and therefore health comes. |
| 782 | Incentivize open science practices by valuating rigor and transparency over quantity. |
| 783 | Incentivise highly original research that is innovative and not just minor variations on what has been done before. Encourage more risk taking instead of research with 'guaranteed outcomes'. |
| 784 | In regards to my research? Or more generally? The main issue is with time. Grants require you to have a certain amount accomplished and we need publications to get more grants. This puts pressure on so we have no choice but to cut corners. |

| # | Comment |
|-----|--|
| 785 | In my opinion, the entire research system needs an overhaul. At least in basic (laboratory-based) biomedical research (my field) we are producing quantity, not quality. Quantities of diverse, small pieces of research. The majority of research being conducted will not lead to anything tangible, than can impact society for the better. The quality is often questionable. At the very least, within a particular institute research should be focused to (at most) a few key, useful goals. All researchers (and therefore material resources) could work towards these goals. It seems a more likely way to achieve useful things. Even better, such direction should come from higher in the research system, e.g. the NHMRC/government. It often surprises me that we as researchers can continue to do what we do: use substantial amounts of money with little accountability and few tangible outcomes. We waste resources and human talent. |
| 786 | In general, it appears that there could be much room for improvement in terms of implementation of reporting guidelines e.g. ARRIVE guidelines. In addition the use of experimental design guidelines e.g. PREPARE and NC3Rs experimental design assistant could be beneficial. The reporting of adverse events openly and accurately could potentially prevent other researchers from experiences the same adverse events. When papers do not report on adverse events, it creates a potential false sense of security that the procedures/ treatments are harmless. This has flow on implications for science as animal numbers may be affected or unexpected variation is added to the experiments. |
| 787 | IN general Australia has lost its way in research but this is a very complex problem. Universities mainly do research for prestige not for money - they are however to a large extent driven by the need to make money. There is just not enough money at universities to do justice to a rich research environment. There needs to be a whole of research discussion involving government, institutions, researchers and funding agencies like NHMRC to determine where the bottle necks are. But it is my view that research should not be solely driven by the need to make money and solve clinical problems now as in truth most of the relevant problems are for the moment unsolvable |
| 788 | improving the research communication. how to communicate our research to general public with lay languages |
| 789 | Improving stability of employment for researchers and career trajectories. This is difficult to do under the current systems that reward stellar track records above all else and in a climate of fiscal uncertainty in the University sector. |
| 790 | Improving quality of research documentation (without increasing burden on researchers) |
| 791 | Improving job security |
| 792 | Improvement in respectful engagement with Aboriginal and Torres Strait Isalnder communities, researchers, etc. Many institutes do this well, but there are many who are failing as well. |
| 793 | Improved, standardised training - especially during an RHD program - on undertaking rigorous and accurate research. For example undertaking/providing greater statistical training, providing higher degree of statistical support, institutional support or mentorship in research design, more in-depth guidance and training in trends in research design. |
| 794 | improved statistical support, including statistical training of current researcher |
| 795 | Improved HDR student training and supervision, especially the teaching of research methods and statistics, more support for academic research and provision of time for research over teaching, less support or retraining for researchers who fail to gain publications despite carrying out research that does meet appropriate standards. Ensure that when research seems to include poor science, ethical review committees, especially scientific members of these, feel they can say so |
| 796 | Improved data integrity |
| 797 | Improved availability in open access forums |
| 798 | Improved and sustained funding |
| 799 | Improve working conditions for student |
| 800 | Improve transparency |
| 801 | Improve the working environment. Too much bullying and taking advantage of students occurs. There needs to be more accountability. |

| # | Comment |
|-----|--|
| 802 | Improve the rigor of the work. Make sure appropriate statistical methods are used. Make sure the results are reproducible; ideally validated by a 3rd party. Quality research can take significantly longer to produce than the usual timelines used by funding agencies, so if the Institution can bridge gaps in funding that would be enormously helpful to planning long term transformative research. Stay at the edge technological innovation |
| 803 | Improve the rigor of the PhD process, including considering a requirement for completion of mandatory coursework in theory building, methods and statistics, data management and ethics. |
| 804 | Improve the research culture outside of the research community. Clinicians without research knowledge and expertise are very hard to engage in research projects. |
| 805 | Improve the quality of training and support for supervisors. |
| 806 | Improve the processes of genuine peer review given an often small pool of relevant researchers |
| 807 | Improve the other researchers/supervisors knowledge and understanding of research. I see very senior people who have very poor understanding of epidemiology getting to very senior positions. Their ignorance is passed onto next generations and their research does more harm than good. |
| 808 | Improve technological services and software - we are a young university in regards to research, but an extremely old university in relation to the modern world. |
| 809 | Improve support services related to finance & contracts |
| 810 | Improve statistical assistance. |
| 811 | Improve researcher development and education. Improve Gender opportunities. Provide better resourcing for researchers |
| 812 | Improve research replication after successful peer review and publication |
| 813 | Improve research infrastructure support - grant writing, research assistance, ethics applications, concept development |
| 814 | Improve research budgets, currently stretched too tight. |
| 815 | Improve regulatory and legal contracts to enable quicker data collections |
| 816 | Improve quality of documentation including research plans, recording and analysis of results. |
| 817 | Improve oversight of studies and researchers, greater accountability |
| 818 | improve our clinical trial governance procedures |
| 819 | Improve opportunities for collaboration with other researchers (all stages) from within my discipline and across other disciplines |
| 820 | Improve open-science/data incentives, submit research protocols/pre-prints |
| 821 | Improve on research design from the early planning stages to ensure statistical design and experimental design are robust. Strong support for compliance initiatives to improve reproducibility in research. Better training of support staff to understand experimental design, research pressures etc. |
| 822 | Improve non-Indigenous researcher understanding of Indigenous research governance and methodologies. |
| 823 | Improve job security |
| 824 | Improve gender equity and diversity to reduce the negative impact on the careers of minorities |
| 825 | Improve funding so that appropriate resources are available. |
| 826 | Improve funding |
| 827 | Improve employment security |
| 828 | Improve culture overall and change incentives around what 'success' is, as the incentives drive both good and not so good behaviours - particularly for early career researcher trying to build a track record |
| 829 | Improve core facilities to attract more students and staff |
| 830 | improve communication with supervisors to ensure that they are aware of their responsibilities |
| 831 | Improve collaboration and engagement with Aboriginal and Torres Strait Islander organisations, researchers, elders, and community members. |

| # | Comment |
|-----|--|
| 832 | Improve and promote transparency and openness. Stop fighting against other research organizations. Promote collaboration. |
| 833 | Improve access to bioinformatics and statistics specialised services Assistance with data analysis |
| 834 | Improve communication between departments |
| 835 | Implement better cross-talk across departments in an online system and mandate compliance via this system across all areas to ensure research integrity is adhered to. |
| 836 | implement advanced training in research practice |
| 837 | Implement accepted performance metrics by discipline which encourage and reward research that has impact, is justified, is beneficial to society and conducted ethically. |
| 838 | implement a conflict of interest policy around who it does research with |
| 839 | If [University] would accredit its ethics committee for granting approvals within the National Mutual Acceptance scheme, it would take the extra pressure off the hospital HRECs that are currently processing these type of approvals. I was merely waiting for the ethics approval for 4 months, with governance still pending to be processed. |
| 840 | If there was some way of improving job security in research positions that would be very helpful. Its really hard to grow a team on insecure research grants. |
| 841 | If people had more secure employment they may be able to conduct better research. |
| 842 | If I could spend more time on research and less on repeated regulatory and ethical approvals then I would improve the quality of my research. I am totally supportive of ethical oversight, but research involving, for example, administrative data (held by state or Commonwealth agencies) requires multiple repeated ethical and regulatory approvals so that much of my precious research time is spent on these tasks. |
| 843 | If continuing to use internal review process before permitting grant applications to proceed - better start using actual experts for each discipline - too many high quality projects not getting internal approval whereas poor quality projects get approved and then get NFCC |
| 844 | I would like research policies focusing on research quality rather than number of publications. There is a general trend to push as to believe the more you publish the better you are. That view is well generalised in Australia and you see it when applying to early career grants where we have been told not to apply if we do not have at least 20 publications with at least 10 as first authors, that for an early career research grant. |
| 845 | I wish I could spend more time on a project, to develop it to its full potential, rather than feeling immense pressure to publish at the first opportunity so that I can build my CV. |
| 846 | I understand that our Executive Officer already provides the important service of assisting research applicants to understand the ethical requirements of their applications |
| 847 | I understand financial constraints on universities and hospitals, but administrators seem unnecessarily focused on short term economic outcomes/budgets/KPIs and uninterested in psychosocial and productivity effects of bureaucracy/managerialism on staff/students/researchers and the potential economic benefits of research into prevention of adverse health/hospital outcomes - including qualitative research that seeks to understand the needs and learn from the experience of important stakeholders, including frontline hospital staff and patients |
| 848 | I think we need to reduce red tape in the hospital, which will hugely reduce the time spent on unnecessary governance. These very time consuming steps really take away the time and attention of researchers to enhance quality of research. Our institution DOES NOT have enough resources for ethics. Ethics is very very slow in responding to correspondences. |
| 849 | I think we are doing all we can given the resources we have. Perhaps the institution could protect its staff more from the adverse influence of self-seeking very senior personalities who disrespect younger up-and-coming colleagues with differing ideas. |
| 850 | I think this institute produces good research |

| # | Comment |
|-----|--|
| 851 | I think the tremendous pressure to publish and to attract post-graduate students negatively impacts research quality. I think researchers should only be able to supervise one or two students at a time, so they can dedicate more time toward reviewing their students work, and also have more time to dedicate toward their own research. |
| 852 | I think the quality of statistics within research papers is generally fairly poor, and more support should be offered, particularly to clinical researchers |
| 853 | I think the quality is high |
| 854 | I think the HREC does a good job of filtering out poor quality research and asking for improvements |
| 855 | I think that there is so much pressure (in general-not specific to my institution) to succeed that I am concerned about people data dredging until they find something significant to report, or using a different scientific test which shows a more significant answer. They also publish small studies of 7 patients just so they can have another 'output' I would like to see more of a focus on quality than quantity with regard to 'output'. This is what my group does, but I feel we aren't supported in this approach. |
| 856 | I think my research institute performs at a high level in terms of quality of research with the right ethical mindset. |
| 857 | I think my institution is one of the very best in assuring high quality of research. It's policies are world-class and there is very strong culture of high quality and rigour. Having said that this process is never perfect and never finished. So I continuous try to improve myself and contribute to my institution's approaches for assuring quality of research |
| 858 | I think my institute provide ample research development and training opportunities, and internal and external feedback processes. |
| 859 | I think my instittion is active and receptive to ideas and facilitating activities to improve the quality of our research outputs. |
| 860 | I think in general, the whole academic system focusses so strongly on quantity of outputs that quality tends to suffer a bit at the expense of quantity. This is probably a broader issue than one that my institution can resolve (i.e. it's reflected in grant successes etc). |
| 861 | I think if the PostDocs in my institution had a more reasonable (lesser) workload then the quality of the research would improve. Many people are stretched too thin and their supervisors expect far too much. |
| 862 | I think I have been well supported by my supervisors and institution on performing quality research (i.e. PhD students are required to do research integrity training). Possibly more support and encouragement of innovation would be useful. |
| 863 | I think greater job security would take a lot of pressure off researchers which I think leads to poor quality research out of desperation |
| 864 | I think Ethics committees generally impede research. Institutions could improve research quality by de-emphasising KPIs that focus on quality not quantity. |
| 865 | I think changing the reward system for researchers would improve the quality of research our institution delivers. At the moment impact factors of journals, the number of publications and novelty of findings all increase a researchers status and gains funding. Null results are not published. Some institutions provide a pot of funding for unpublished papers, that could increase the publication of high-quality research that yielded null results. I think the medical programs MD project is a nice idea, so all students leave with some research experience, but the short turn-around-time for projects, the huge number of placements needed for students and the idea of these students as 'cheap labour' means that many of the projects completed are of poor quality, particularly the analysis is not done rigorously. It instils a sense of box-ticking, corner-cutting and irrelevance of high-quality research in many students. |
| 866 | I think Australian researchers should be paid less than what they currently earn, to free a considerable amount of money for research purposes (e.g. to conduct more experiments, or to employ specialists to deal with the large amount of data we are drowning in). |
| 867 | I struggle with all these questions. (Last one I really found very hard to answer....) I do think the quality of our research is very high and it is based on some kind of visions. I think the quality of research overall can be improved by supporting longer term visions rather than short term goals/projects. This is difficult for ECRs. |

| # | Comment |
|-----|--|
| 868 | I see three factors currently affecting the quality of research; 1. have observed a general decrease in the quality of research being proposed and funded - research which is confirming what we already know, researchers who are risk averse and not wanting to complete RCTs for various (psychological and health) interventions, instead just focusing on descriptive research about the problems people face- we generally know the problems the extent of them and the mechanisms involved, but institute is too risk averse/does not have the appropriate infrastructure to support researchers to conduct intervention research which would make a real contribution the field. 2. on the flip side, I see researchers who want to run discovery/basic research but also pressured to included 'translational' elements in their grant applications. This if often ill-thought out and dangerous, given grant funding periods of approx. 3 years. It is not appropriate and even dangerous to 'rush research to market' so to speak. Ends up with poorly designed and underdeveloped interventions. 3. my institute's quality of research would also be improved by having an Aboriginal or Torres Strait Islander member on the ethics committee, as well as more Aboriginal or Torres Strait Islander researchers. Currently Aboriginal research is not being led by Aboriginal researchers which is leading to paternalistic research. |
| 869 | I see the issues here as ensuring staff have sufficient time for research (ideally at least 40:40:20) whereas we have a number of part-time staff whose load is principally teaching. So it's a question of increasing grant income, engagement and HDR completions to improve the resourcing for that. Other than that, we are working on programs to coach better grant applications, collaboration, project design and delivery to next-user for impact. This is the focus of my role. |
| 870 | I have tried my best with best standard. However for my institution, which is a medical institute, it should value more on science, rather than business, the management team should also value good science, rather than their own salary. |
| 871 | I have seen very little emphasise on the training of rigorous scientific method at my university, NHMRC, or other universities. Rather, teaching what is assumed to be best practice has taken the place of this, with the result, in my mind, being poor scientific practice. Conceptual understanding of what science is is required, and I think that NHMRC emphasising this would be one of the only ways of making people take this seriously. |
| 872 | I hate these open questions. They are so chronophagic. And the question sure is open. Improved funding to permit more activity as long it is of quality. My university, and the NHMRC, could be less parochial and use peer reviewers at all stages from outside the institution, preferably from outside Australia. Staying within country has conflicts of interest because we are volumetrically very small. |
| 873 | I find quantitative skills of researchers to be universally poor in Australia particularly in health services research. There should be mandatory training in PhDs equivalent to one year statistics training. |
| 874 | I don't think we could improve the research carried out at my institution. Funds are always a constraining factor in what research can be undertaken. |
| 875 | I don't believe quality of research is our issue, only the opportunity to undertake high quality research due to the lack of funding opportunity. |
| 876 | I could write fewer grants, less paperwork, and just do science. |
| 877 | I could use additional funding so as to be able to afford higher quality studies. My organisation could reduce the enormous amount of administration I am required to do in order to protect the time I have to dedicate to research, hence enabling more time for thought and reflection, leading to better studies. |
| 878 | I could make myself more aware of the current policies and procedures |
| 879 | I conduct myself with the highest integrity in conducting our research studies. I do this to the best of my abilities, while adhering to guidelines and governance processes. |
| 880 | I come to research from two decades in health development projects in LMICs - one thing we need more of is to identify the minimum set of implementation research tools, and types of IR evidence, that form a sufficient basis for guidance to government and non-government health managers in implementation of new strategies |

| # | Comment |
|-----|--|
| 881 | I believe the institution should subsidize better the research, specially regarding to employee salaries and benefits, to allow the research teams to increase. Every week, the junior postdocs have to performe many extra hours at work to match the deadlines of my projects. As result, there is an decrease in efficiency and quality. |
| 882 | I believe processes are already in place to make this happen. |
| 883 | I believe it depends on the researcher. Our work is quite independent so the onus of honesty is up to the researcher. |
| 884 | Higher pay for research, incentivise high quality output, encourage collaboration with institutes producing high quality work |
| 885 | High quality training - but this is constrained by funding, and available career pathways, and the high expectations and multiple pressures on senior researchers. Having training largely default to this group is not sustainable. |
| 886 | High quality research is a mixture of basic (discovery) and clinical research. My research institution tends to prioritise fast-paced clinical research in the detriment of discovery (slower and more costly). Maintaining a balance between the two is paramount to improve the quality of Australian research. |
| 887 | Help more with funding especially to secure researchers work and salaries. The quality of the research will not improve as long as researchers are fighting to secure jobs and salaries, with more than 60% of their time wasted in applying for fund just for the salaries, and not for the research itself. If you need high quality research, then researchers should be only thinking about their research, not how they are going to survive the next year. The current way of funding won't allow the improvement of the research quality. Everyone is trying to find the winning idea even if it useless, or won't be of real benefit as long as it looks interesting and related to a hot topic. |
| 888 | Help attract quality PhD students and provide funding to do this |
| 889 | Heavy teaching load and related administrative duties provide limited time for research (with some periods of the year almost completely occupied by teaching). Relieving academics from some work related to course administration that does not require academic expertise (e.g. following up on numerous special considerations, rescheduling lab sessions etc.) may free time for research without compromising teaching quality. |
| 890 | HDR competitive funding should be should be increased. |
| 891 | having more time to carefully review all original data generated from students and staff in a daily base |
| 892 | Have systems to plan impact research from the begging of the program, include innovative strategies and multidisciplinary team work. |
| 893 | have sufficient resources to be able to do research properly with enough time to study enough samples or people to make rigorous conclusions and be able to independently verify the results. |
| 894 | Have more time and ensure more time for research. Teach research search and appraisal skills to coursework students in a way that is evidence-informed and high quality. Have leaders in research, eg, NHMRC, define research in broader terms than 'experiments' (see Q13). |
| 895 | Have more professional overseeing of type of research, and preferably restrict it being based nationally, not overseas. |
| 896 | Have more money to do it better |
| 897 | Have more funds to support infustructure |
| 898 | Have honest conversations about when something is not working. It is a tough question because you cannot progress without publications but you cannot get publications without positive data, negative data is very rarely seen as as important within the scientific community. A change of attitude toward this would help. |
| 899 | Have confidence in collaborations |
| 900 | Have appropriate funding rather than trying to get research done with no investment |
| 901 | Have annual compulsory research integrity workshops. |
| 902 | Have a more supportive environment for the student researchers and early career researchers to help them avoid the pitfalls associated with human research. |

| # | Comment |
|-----|---|
| 903 | guarantee continuity of funding. Quality of research does not mean impactful or ground breaking research to me. it means it has been done in a certain way. innovative and original research which is good research can be done in a poor quality way. |
| 904 | Greater understanding that quality research takes time, rather than focus on outputs, outputs! |
| 905 | greater support for research fellows to achieve career stability |
| 906 | Greater rewards for high quality research and training. There has historically been a focus on counting publications and grant income and not necessarily the quality of the research. For example high quality research is not necessarily expensive to do. I think in the last few years my institution has moved more towards that but I am not sure that it is reflected in for example peer review of grants. |
| 907 | Greater investment overall to permit more broad training and facilitation. |
| 908 | Greater internal peer review. |
| 909 | greater funding support |
| 910 | greater funding amounts |
| 911 | Greater funding |
| 912 | Greater education and communication around research integrity principles |
| 913 | Greater collaboration between institutes to reduce research 'waste' or have multiple small studies that are similar but not aligned. This is hard given the focus of Institutes (from my experience) to look 'inward' due to university funding KPIs |
| 914 | Greater appreciation of the importance of collaborating with statisticians. |
| 915 | Greater administrative support - a lot of time is taken up dealing with administrative work which could be more efficiently dealt with. |
| 916 | Greater accountability in terms of staff productivity and how funds are allocated/spent. |
| 917 | Greater access to peer review and mentoring for researchers |
| 918 | Greater access to new equipment and technologies. Provide a level of job security to researchers so that they can focus on their research and not where their funding is coming from |
| 919 | Greater ability to collaborate between institutions when IP is involved. In this situation there can be long negotiations which impede research. Additionally there should be Australia wide agreement that clinician scientists be granted seamless access to research institutions from their primary employer from the point of view of indemnity for work conducted. |
| 920 | Governance is not the same as ethics and too much attention is given to governance. All too often, ethics governance becomes punitive - it becomes about policing researchers, looking for infractions, and prosecuting the researcher when any non-compliance, small or large, is found. For example, a missed annual report by a collaborator in a different institution can be come a catastrophe if they hold the primary ethics for a study. Most Researchers behave ethically and research organisations should support them with governance designed to help them stay in ethics compliance and to bring them back to ethics compliance when they slip. In many research organisations, the culture no longer supports researchers. The model should be more social worker and less police and judges. |
| 921 | Giving time and money to complete studies at the end of funding cycles so that statistical power is reached and unequivocal conclusions can be drawn. Currently, many (clinical) studies run out of money when they almost have reached sufficient numbers to have proper statistical power, leaving their results open for criticisms with regard to statistical power. |
| 922 | Giving researchers more time to be sure about their data and less pressure to publish quickly. Providing more support for high quality statistical analysis. |
| 923 | Give researchers security, so that they can focus on long term, ambitious research |
| 924 | Give researchers more and quality thinking time. |
| 925 | Give PhD students course work as in the US |
| 926 | Give accurate feedback to researchers in regards to ethics matter. To do that it will be helpful to stress on the importance of using lay terms when presenting research proposals to the Committee. |
| 927 | Give a stable salary to researchers. |

| # | Comment |
|-----|--|
| 928 | Get researchers to be mindful of all requirements. |
| 929 | Get out of the way |
| 930 | Gender and racial equality |
| 931 | Gain more financial support for research assistance to the leading clinicians |
| 932 | Further training in research. In my undergraduate degree, structure subjects are taught and I don't think that they fully cover the complexity of research and ethical research, or the research process. Senior researchers can be very time poor and so although carrying the overall responsibility for the research, the work is often in the hands of juniors which can feel stressful and as though the required knowledge is not always clearly passed down. |
| 933 | Further roll out of rigorous training for researchers on research integrity. |
| 934 | further involvement of community members |
| 935 | Further investment in capacity building of PhD students and EMCRs Further resourcing of research grants - need real salaries covered |
| 936 | Further education and support |
| 937 | further educate researchers |
| 938 | funds are always an issue. to do good research, you need funds. |
| 939 | Funding to support the consistent employment of our research team, which fluctuates between grants and thus, our quality is at risk due to understaffing at both the start and end of projects. |
| 940 | Funding is definitely the major barrier as an early career researcher. It is quite disheartening to struggle at an early stage and see so many researchers leaving academia due to this. More support for young researchers is desperately needed. |
| 941 | Funding is always an issue; better career paths for postdocs; supporting MCRs |
| 942 | Funding is a key barrier to quality of research |
| 943 | Funding insecurity I believe leads to smaller focus, pedestrian or safe research. To really make strides we need to bold and be able to plan ahead and undertake complex and sometime lengthy approaches to get significant answers. This is difficult in the current funding environment. New directions building from more established areas are also stifled when money is so tight. I do not know what I or my institution can really do in the current economic climate. Support ECRs is a good start, but really only grooms research is safe and established areas. |
| 944 | funding beyond the 10% that submit applications |
| 945 | Funding and research time, access to mentors and senior researchers to guide junior researchers. |
| 946 | Funding and grant transparency - I waste weeks and weeks preparing grants that have less than 1% success rates, that are advertised as having 'up to 40% success' |
| 947 | Funding |
| 948 | Funding |
| 949 | Fund the research to the full extent that is needed to do the highest quality research. |
| 950 | Fund more positions for skilled data analysts. |
| 951 | From my side I will do my best to establish a perfect research . Although this research needs a lot of facilities not available in the University. This research is innovative and needs for support and fund. |
| 952 | Foster a culture of accountability, development, support and employment security for early and mid career researchers. This would require all senior researchers to pay attention to their important role in establishing and supporting such a culture. |
| 953 | Form stronger support for hypotheses before conducting analysis |

| # | Comment |
|-----|--|
| 954 | For rigorous research it is inherent that both the experimental approach and the analysis of the outcomes are rigorous. My University and I can be more proactive about resourcing and developing collaborations that promote these factors (multi disciplinary teams with statistical support at the outset - not when the outcomes go pear-shaped). We can all learn more about how to be respectful across cultures, and the universities could consider supporting the development of cross cultural awareness in their young or early career researchers. There is so much to understand about the system within which research resides, that often learning about broader and potentially more delicate topics such as cultural sensitivities is not thought to be very important, but as researchers often grow into senior researchers with a political or policy voice, it matters how these situations are treated from the get go. I get the same feeling about the grant system and transparency. I feel in our university, that there are people who will get the funding from various university sources and others who will not. The process is less than transparent. [Identifying comment]. This situation worries me on several levels - 1. If the application doesn't address the award criteria, it should be rejected outright for consistency - otherwise why wouldn't we all try out luck and take up valuable assessors time filling in the blanks when asked and 2. That a panel assesses the submissions and determines that no-one fits the criteria and then the influential one of the panel takes matters into his own hands and tells the rest what has happened. Seems less than transparent. I feel the process of assessment could be improved. I have also applied for grants through our peak international body to be told that the grant was actually aimed at an early career researcher who had an independent position within the university at the level of Ass Pro - I don't think that that happens very often in Australia and with my feedback they rewrote the criteria hoping it might be clearer in the next round, but essentially making the grant unattainable to Australians. |
| 955 | For quantitative research, have a statistician on the team and involve them from the beginning of the project. |
| 956 | follow the standards of research, support to the research during the process, |
| 957 | Focusing on quality rather than quantity of research outputs (publications, grant proposals). |
| 958 | Focus on translation and development more than discovery |
| 959 | Focus on the quality of the science rather than the impact factor of the journal where the science ultimately gets published |
| 960 | Focus on the importance of the research question than funding potential |
| 961 | Focus on quality rather than quantity. Ensure research integrity and reproducibility. Encourage emphasis on research that is likely to result in translation/ human health benefits. |
| 962 | Focus on quality rather than quantity of publications |
| 963 | Focus on quality of the work, rather than where it is published |
| 964 | focus on quality not quantity |
| 965 | Focus on quality and impact of research over quantity of papers produce |
| 966 | Focus on Impact and novelty. |
| 967 | Focus on collaborative research |
| 968 | Focus on benefit rather than track record |
| 969 | Focus much more on consumer engagement throughout all levels and stages of research, such that research being conducted is targeted toward the needs of the community. |
| 970 | Focus more on translational research |
| 971 | Focus more on research and less pressure on teaching |
| 972 | Focus more on feasibility than investing in exciting but unrealistic initiatives. |
| 973 | Focus more on appointment of academics to areas of research strength and ensure these map to teaching strength. Currently the focus is on appointing to areas of teaching strength and appointing researchers based on track record. This does not build critical mass and effective teams. Result = too many lone wolves or unsupported post-docs. This leads to unsupervised research practice and poor quality research. |
| 974 | Focus less on the perceived impact of the research papers publishe and focus more on their quality. |
| 975 | focus less on quantity than quality, stop counting our outputs and grant income as if this means something useful |

| # | Comment |
|------|---|
| 976 | Focus less on metrics and more on quality of research. |
| 977 | Focus less on metrics (number of publications, amount of funding awarded, impact factor) to allow researchers to dedicate more time and energy to a piece of research |
| 978 | Focus developing juniors researchers directly. Reprimand those who are found to be dishonest in their research. Assign a greater focus and funding to fundamental discovery science |
| 979 | Find a way to reduce time spent doing administration and grant applications. |
| 980 | find a way to make negative and positive results equally valued |
| 981 | Financially support researchers |
| 982 | Fewer regulations (paperwork, reporting ...) Willingness to take a few risks |
| 983 | Fewer administrative demands and fewer distractions. |
| 984 | Faster progression through development of implementation material for the studies |
| 985 | facilitate and encourage greater collaboration |
| 986 | Facilitate access to human samples. Reduce the complex and incredibly bureaucratic processes around ethical approval consent and project monitoring. The current process stifle research while diverting large amounts of money to officials who manage the process. This forces researches to employ dedicated staff to manage all the red tape. None of this helps protect participants. |
| 987 | Ever decreasing funding continues to increase the pressure on survival and people are doing more and more in their roles which prevent them from focussing on quality research outcomes. Lobby for increased funding to improve workloads. |
| 988 | Ethics, governance and paperwork is totally out of control! It is now commonplace to spend 12 months or more to be allowed to undertake projects that are NOT AT ALL ethically challenging. This is a crippling and demoralising waste of time and money. |
| 989 | Ethics courses Scientific integrity courses to understand why important. Just short ones but interesting. |
| 990 | Ethics and Safety are essential for good research practice but often the time taken to hire staff and get the required approvals make it impossible to compete on certain research topics. At the moment many interactions with HR, WHS and Ethics committees can be adversarial rather than supportive (researchers are often the most adversarial). However all this does is dampen enthusiasm and slow research progress. Also it used to be implicit in NHMRC agreements with Institutions that the Institution would provide the infrastructure necessary for the research. This is now not the case and many projects suffer from the lack of equipment and support that cannot be requested in grant applications but is also not provided by the Institution because of budgetary constraints. There is a need for more money in the research system. |
| 991 | Ethical review for multi-site research is extremely time consuming and the cost and time associated with accessing data is prohibitive. These constitute the most serious imediment to my research |
| 992 | Ethical applications, risk assessment, biosafety rules, workplace health and safety, etc etc take an enormous time and effort out of our limited research time. Australia has become overprotective and overregulated and we are losing the race in research, science and innovation to Asia, US and Europe. |
| 993 | Establishing institutes |
| 994 | Establish multidisciplinary teams |
| 995 | Establish learning pathways and provide protected time for clinician researchers to undertake quality research. Embed research KPI's in each division. |
| 996 | Equity where everyone is given equal opportunities. It took years for me to be visible compared to senior and some mid career men. |
| 997 | Equity and diversity in science; transparency around internal funding decisions; less red tape |
| 998 | Ensuring that all researchers have the benefit of continued education and skills-building; good mentorship; sound systems |
| 999 | Ensuring strict adherence of research procedures |
| 1000 | Ensuring research questions are appropriate and answerable |
| 1001 | Ensuring replicability by making methods and data available |

| # | Comment |
|------|---|
| 1002 | Ensure training of next generation of researchers on the important subject of research integrity and ethics and lead by example. |
| 1003 | Ensure there is sufficient time and motivation to do studies in vitro, animal models before moving to clinical trials. many clinical trials seem to fail based off flawed premise due to lack of basic knowledge - doing those experiments would be quicker and cheaper than the clinical trials being run |
| 1004 | Ensure the research is accurate and justified and can stand up to robust scrutiny. |
| 1005 | Ensure that the intervention is scalable and has translation before undertaking another efficacy trial |
| 1006 | Ensure that all projects presented to the ethics committee have received internal approval from research governance officer from submitting organisation |
| 1007 | Ensure that all Indigenous research projects include Indigenous CI's. |
| 1008 | Ensure research is original rather than 'me too' research |
| 1009 | Ensure research has importance. |
| 1010 | Ensure reagent quality control including mouse strains Awareness of strain genomic variations on microbiome and immune responses Well-documented protocols and SOP Electronic notebooks to improve transparency and ease of good documentation Planning and documentation of reproducibility in experiments Blinded reading of data to reduce bias Replication of conclusion with alternative approach Improve understanding of statistics (sample size vs effect size vs variance) |
| 1011 | Ensure ongoing funding for salaries of key staff who have important experience and crucial knowledge. These are essential for maintaining integrity of research and training the next generation. |
| 1012 | ensure latest technologies are always available and improve training in the ethics of research |
| 1013 | Ensure it is accessible to the public & provides 'real world' impact / change. |
| 1014 | Ensure investigators are actively involved in design and implementation of the research. |
| 1015 | ensure high quality research training |
| 1016 | Ensure frameworks and training in cultural responsiveness in research and consumer engagement and how to communicate research back to community |
| 1017 | Ensure continuous up to date research methodologies and current trends/new knowledge of all researchers especially senior researchers. |
| 1018 | ensure analysis of previous research has been appropriately reviewed before approving 'new' research |
| 1019 | Ensure all statistical analysis scripts are checked by an independent researcher prior to publication of results. |
| 1020 | ensure all participants undertake the survey in exactly the same manner. |
| 1021 | Ensure a reduced emphasis on quantity over quality. |
| 1022 | Enhanced internal collaboration to achieve multifaceted approaches. |
| 1023 | Enhance internal support mechanisms |
| 1024 | Enhance collaboration |
| 1025 | Enhance access and integration of people with certain expertise (e.g. health economists and statisticians) |
| 1026 | Engage with the public by encouraging public participation in research prioritisation for large, public good clinical trial questions. |
| 1027 | Engage closer and involve more consumers in the co-design of research as well as the analysis. |
| 1028 | enforce the NHMRC/ARC rules about significant intellectual contribution being a requirement of authorship |
| 1029 | Encouraging staff to be more ambitious about their research goals; build international collaborations with world-leading researchers; join successful research groups and align with existing or emerging research strengths. |
| 1030 | Encourage/educate younger researchers more |
| 1031 | Encourage transparency and reproducibility |
| 1032 | encourage transparency and open science |
| 1033 | Encourage rigorous and novel research over endless publications with minimal impact. |

| # | Comment |
|------|---|
| 1034 | Encourage researchers to take more time in writing their protocols/research design, seek advice from mentors and embrace peer review. Secondly, most HRECs work at a very high standard, and institutions really need to support and back up the HREC. It is becoming increasingly common to hear from my peers how much pressure they are under to 'tick and flick', just approve the project so it can be conducted, papers written and curious for the institution. There seems less regard for the quality of the research and more concern about kudos and future funding. |
| 1035 | Encourage publication/sharing of 'negative' data |
| 1036 | Encourage innovative research and risk-taking to develop new ideas; safeguards and processes to ensure the rigour and transparency of research. |
| 1037 | Encourage greater use of literature database searches |
| 1038 | Encourage constructive criticism Encourage innovation Encourage researchers to take a 'big picture' viewpoint |
| 1039 | Encourage collegiality |
| 1040 | Encourage collaboration rather than competing as funding so so so difficult to get people are less inclined to work together |
| 1041 | encourage and fund research collaborations with groups and researchers working outside our own institution enhance support for research management and operations |
| 1042 | Encourage a longer term view of research projects, enabling large teams to work together to answer BIG questions. The system is now set up to pit junior researchers against each other in a highly competitive environment which DOES NOT encourage team work. This occurs at the NHMRC, University and research unit level and is a counter productive research culture in Australia. I have experienced a very different culture when working with International teams |
| 1043 | Enable RAOs to be equipped with grant-writing skills in order to identify and promote high quality research |
| 1044 | Enable innovative 'risky' research. |
| 1045 | Employ more research and evaluation staff |
| 1046 | Employ more Admin staff to relieve researchers from this task so they can focus on the research work. |
| 1047 | Employ better researchers; devote more resources to supporting researchers; have more time to do research |
| 1048 | embed research in clinical service a 'core business' |
| 1049 | Education of researchers to processes and quality requirements |
| 1050 | Education about quality (early), peer review mechanism |
| 1051 | Education - how to do qualitative research; how to design trials/studies; framing the research question; shift researchers' focus from number of publications to the quality of a publication; mentoring/buddy programs. Difficult to provide this when the primary business is health care (hospital). |
| 1052 | Education Incentives Mentorship Resources |
| 1053 | Educate researchers and lay members of HREC |
| 1054 | Educate researchers about developing a proposal, submitting to ethics |
| 1055 | educate researchers about data storage, data analysis, reproducibility and validity |
| 1056 | Educate in analytical rigor, statistics. Mentoring around research planning and rigor. Critical review of manuscripts and grants |
| 1057 | Don't conflate quality with citations |
| 1058 | Don't know / can't say |
| 1059 | Do not continue to fund efficacy studies in small number of settings. Lots of efficacious programs exist focus on how to implement these at scale |
| 1060 | Do more to translate research. |
| 1061 | Dissuade people from publishing in very low impact journals that do not 'require' rigorous research for publication |

| # | Comment |
|------|--|
| 1062 | Disincentives for poor quality research |
| 1063 | Discourage the focus on high volume of output and instead encourage researchers to take the time to achieve highest possible quality in their output. [Identifying comment], tell me that they must have high volume to succeed in NHMRC applications--I should like to think this is not true but suspect that it is given how often the NHMRC awards funding to researchers with a high volume of output of relatively low quality (in an ERA sense at least). |
| 1064 | Difficult to answer. Quality comes from careful planning and scientific rigour throughout the research process. The main institutional barriers to research quality are the main competing time and resource consuming steps, such as research governance, which takes a disproportionate (and truly staggering) amount of time and resources that undermine research quality. |
| 1065 | Devote resources towards actual research activity instead of using precious resources for duplicative site specific assessments |
| 1066 | Devote more time, however, financial constraints limit that capacity. |
| 1067 | Develop and integrate more efficient trial designs. Embed research into routine health service. Reduce barriers to research - advocate for alignment on clinical and research consenting processes, promote (fund, require) research as a quality improvement measure that is required of health services |
| 1068 | Depending on the level of the research eg undergraduate, masters or doctoral consideration and if quantitative, then more regard could sometimes be given to appropriate sample size for meaningful outcomes. |
| 1069 | Department of Emergency Research |
| 1070 | Dedicate more money to research, including funding early, mid and senior researches. Too much money is being taken away from research and we are losing quality researchers everywhere. |
| 1071 | decreasing the red tape burden |
| 1072 | Decrease the bureaucracy and delays with ethics committees and legal processes |
| 1073 | Decrease the administrative burden on researchers. |
| 1074 | Decrease paperwork and unnecessary compliance procedures - too many layers to work through - need an administrative person to navigate this aspect. |
| 1075 | decrease focus on quantity of publications as an indicator of excellence. |
| 1076 | Deal with lateral violence between Indigenous staff, increase our governance and stop using us to legitimise partial understandings and deficit assumptions about us |
| 1077 | Data security and integrity could be improved with additional resources i.e. data checking and server protection is limited by funding. |
| 1078 | Current incentives for science in my university favour numbers of publications, in high impact factor journals, and grant funding. These do not necessarily ensure that published research is accurate or of high quality. We need better incentives for research rigor, so that it counts towards academic performance. |
| 1079 | Create incentives for quality - most metrics still have an element of quantity linked to them. |
| 1080 | Create a supportive research culture; provide tangible supports that encourage health professionals to consider research as part of their career plans |
| 1081 | Create a channel to what topics serve the social needs and work with the communities to bring the desk research into practice. There would be more skills researchers and stakeholders should develop to ensure the smooth transferability and sustainability. |
| 1082 | create a better environment that facilitates recruitment. combine clinical and research settings together |
| 1083 | Could always work a little harder of course. I think my institution could have much better support systems, from grant applications through to grant management and HR support. |
| 1084 | Core facilities and greater investment in equipment and research resources |
| 1085 | Cordoning time for research. I enjoy teaching but universities are moving to teaching throughout the year and so having consolidated time to think about/ plan / progress research becomes more and more difficult. In addition, more and more basic admin duties are being devolved to academic, soaking up more and more minor. |

| # | Comment |
|------|--|
| 1086 | cooperate more with industry to address problems that are actually relevant |
| 1087 | Control more that people are producing reproducible data. |
| 1088 | Contribute towards sustainable funding for long term research plans. Pushing back against short term research funding cycles which create inferior research outcomes. Supporting early and mid-career researchers by creating longer-term, full-time positions. Creating new paradigms in relation to research outcomes that do not rely on indicators of academic success such as number of publications and grant funding in. This is not representative of the quality of research, merely the quantity. |
| 1089 | Continuity of funding to prevent loss of personnel/corporate knowledge. Reduced administrative loads (finance, HR). |
| 1090 | Continuity of employment/retain corporate knowledge Better funding for statistic support |
| 1091 | Continuing contracts would allow for better science, allowing long-term planning and bigger impact |
| 1092 | Continue training our people in ethical and rigorous design and implementation of research. |
| 1093 | Continue training in research methodologies. Adhere to reporting guidelines. |
| 1094 | Continue towards refinement and less use of live subjects and replace with new advanced technology |
| 1095 | Continue to provide professional development opportunities about the responsibilities of all Ethics Committee members. |
| 1096 | Continue to invest in in-vitro methods to replace animals |
| 1097 | Continue to improve our Elder- and community-led research governance processes to ensure that all research matches the culture, values and needs of the community. |
| 1098 | Continue to focus on excellence in research and outcomes (not outputs) while ensuring academic freedoms |
| 1099 | Consult the Community more and Co-design and Co-deliver Research with Consumers & Carers (C&Cs) |
| 1100 | Consistent vigilant ethical review Ethics education |
| 1101 | Consider a way of providing feedback to the submitting institution of the nature of the projects being submitted. Eg A report to the hospital's RGO in relation to what systematic issues the HREC is seeing over the course of a year in relation to submissions from the hospital |
| 1102 | conduct high quality original research to advance our knowledge on particular health issues and find research evidence to support policy decision making |
| 1103 | Conduct comprehensive ethics reviews. |
| 1104 | Compulsory preregistration of studies and greater focus on open science. Most importantly, job security. |
| 1105 | Competency training in the use of proper animals as models needs a lot of work. The researchers use animals in models for which they have little technique training other from older researchers in their group who often pass on old, and not current best practice methodologies, when it comes to animal use. Poor use of true aseptic technique is common and good understanding of anaesthetic principles or pharmacology as it relates to analgesia is limited. Veterinary input to technical training is needed at a much higher level especially for projects that do not have a medical or veterinary clinician attached to the research team. It strikes me that many folks doing wildlife research also are poorly trained with respect to anaesthetic and analgesic techniques. I have also found a profound lack of respect amongst some, not all, researchers for the animals they use with one senior scientist called mice 'reagents'. This group works in immunology and sees their mice as providers only of T cell factories with variants. Their use of autoimmune neuritis models is ongoing despite it having a huge welfare impost on the animals. Similarly, some of the models for brain injury and stroke are performed by folks desensitised to the welfare of their animals. Despite the forced swim test being unacceptable for the pharmaceutical industry at this time, they continue to insist that this test is necessary for assessment of post stroke depression and to their publication. It would be helpful if the NHMRC would have a policy on some of these invasive tests and models that are marginal in their public acceptability. |
| 1106 | communicate the types and outcomes of research to the public |
| 1107 | Collaboration would be enhanced if contracts and agreements could be processed in a more timely and efficient manner. Improving processes for the major barrier to timely research progress- research governance |

| # | Comment |
|------|---|
| 1108 | Cluster hiring, revision of institutional policies and infrastructure to better support research, prioritization of workload for faculty members who have an upward trajectory in research. |
| 1109 | Closer industry collaboration so that our research addresses real world problems |
| 1110 | clinical trials governance framework is needed |
| 1111 | Change the research/academic culture so that poor quality science is not published, and such publications are not rewarded. Change the research/academic culture to remove the 'publish or perish' mantra. |
| 1112 | Change the mindset from prioritising publications to doing meaningful research. Not publishing just for publishing sake. |
| 1113 | Change the financial/career incentives for doing research. There are too many researchers prioritising quantity over quality and they receive more recognition for this (from the University and from funding bodies (including NHMRC)). The students working under these researchers (who often take on a lot of students) learn poor research habits and inevitably repeat the same behaviour after their PhD. Very little original research is produced as a result. Work/life balance for many researchers also suffers as they feel they need to keep up. Many good researchers I know who were interested in doing original research have left Australia or academia because of this. Unless they are in a team and play the system (attach their names to papers they have never read) they get left behind. The university turns a blind eye as they rely on the funds/grants from these researchers that play the system and it must be difficult for funding bodies to know what they are up to. I could write a book on this ... |
| 1114 | Change the dependency of research funding to publications |
| 1115 | Change publication policy. All research should be published open access to maximise benefits to society and knowledge gain. At the same time digital publishing could boost transparency in research and methods --- publish data, analysis code, detailed methods, etc. as supplementary online files. Current publication system assuming 'paper' articles is outdated and holds quality of research back as we often are interpreting short paragraphs on procedures or methods for a study rather than a comprehensive, transparent report. |
| 1116 | Centralised services, rather than each lab doing their own small scale operation which creates repetition in research institutions. |
| 1117 | Carry out research ethically and identify ways to improve rigour and transparency. |
| 1118 | Careful attention by grant suppliers and oversight groups - mostly already done |
| 1119 | Capacity building on project management, delivery and collaboration |
| 1120 | Bureaucratic processes at almost every level are impeding my research |
| 1121 | Build capacity and skills through more regular updates and PD |
| 1122 | Build an encourage environment for research and researchers, recruiting top scientists and promoting young researchers, providing enough reserach grant. |
| 1123 | Broader methods of supporting ECR training. |
| 1124 | Broaden the research training and knowledge of people doing the work. I have observed many scientists/researchers doing experiments without having in depth knowledge of the biology and/or technical limitations of the work leading to inaccurate extrapolations and errors in drawing conclusions from their results. |
| 1125 | Broaden the research culture, involve more clinicians, nurses, other hospital staff, patients |
| 1126 | Blind all experiments |
| 1127 | Bigger projects funded for more participants, rather than small projects with limited recruitment possibilities due to funding - this also reduces over-burdening participants More long-term contracts/ fellowships to establish programs of research rather than ad hoc projects |
| 1128 | Bigger emphasis on translation |
| 1129 | Bigger collaborative research with direct input from communities we serve \$\$\$ to capacity building |
| 1130 | Better working atmosphere and higher education standards. |

| # | Comment |
|------|---|
| 1131 | Better training programs for early (ECR) and mid-career researchers in research quality Better recognition of mentorship in supporting ECRs in improving the quality of their research More internal funding for pilot/feasibility work to better develop research skills of ECRs |
| 1132 | Better training in research methods to research students (including PhD students), more and more accessible statistical support for research students and staff |
| 1133 | Better training for researchers |
| 1134 | Better target to genuine health priorities. Implementation research - NHMRC should fund a lot more of this. There is so much research waste because implementation research and health services research so overlooked by government funding bodies. |
| 1135 | BETTER SYSTEMS TO MONITOR RESEARCH PRACTICE COMPLIANCE |
| 1136 | Better systems for data/sample storage and identification (electronic lab notebooks, sample databases and streamlined workflows) Additional free access for statistical support Wider support for open access publications |
| 1137 | Better supporting/lessening the administrative responsibilities placed on researchers to enable more time for training of staff and students and to increase capacity to communicate and collaborate with internal and external experts. |
| 1138 | Better support so less funding applications are needed which waste time |
| 1139 | Better support research esp grant application, statistical help |
| 1140 | Better support for researchers to focus time on research and less administration. |
| 1141 | Better support basic and fundamental research that does not have immediate or obvious potential for translation |
| 1142 | Better support and career paths. |
| 1143 | Better support & mentorship for early-mid career researchers to apply for grants. |
| 1144 | Better sharing resources around ethics, data documentation, common procedures across studies within my research institute |
| 1145 | Better resourcing in particular access to infrastructure and infrastructure support and more funds for projects. |
| 1146 | Better research administrative support. Right now a lot of time is dedicated to what feels like unnecessarily complex bureaucracy, and not the actual bench work. It is also difficult to conduct good quality research when facilities are expensive to access and use. |
| 1147 | Better recognition of impact beyond traditional research metrics. |
| 1148 | Better planning of research and outputs; more transparency and checking of analysis |
| 1149 | better peer review of projects prior to commencement |
| 1150 | Better openness between commercial and research teams |
| 1151 | Better leadership, management structure, advocacy to funding agencies, retention of senior staff, etc. |
| 1152 | Better job/grant security - pressure to complete projects in short time frames and to do multiple small projects which will lead to more publications often leads to lower quality research. |
| 1153 | Better job security for researchers would allow researchers to concentrate and conduct good quality do research versus spend so much time applying for grants for salary support - no permanent research positions in my institution so far as I know. |
| 1154 | Better job security for researchers to enable creative thinking and less pressure |
| 1155 | Better investment in biostatistics training and support |
| 1156 | Better internal peer review |
| 1157 | better infrastructure support - professional staff to support administration of grants and grant applications. easier financial administration - it is hard to see grant balances and projected spending. I also waste a lot of time formatting documents and reports |
| 1158 | Better infrastructure for research. |

| # | Comment |
|------|---|
| 1159 | Better help researchers to understand the benefit to research outcomes of addressing ethical considerations. |
| 1160 | Better funding support to retain excellent junior researchers. |
| 1161 | Better funding for research. The current funding environment is challenging, and surely impacts on the quality of research produced at the national level. |
| 1162 | Better fund early career researchers and small research groups. |
| 1163 | Better frameworks for Investigator Initiated Clinical Trials |
| 1164 | Better focus on Indigenous research and researchers - opportunities, support and commitment |
| 1165 | Better ethics training. Better translational training. Advocate for a national research integrity body |
| 1166 | Better ECR and MCR training / support and funding opportunities Reduce advantage of / need for "sitting on the coat tails" of senior researchers and provide grant opportunities for junior researchers at their own level Do better to reduce / balance teaching loads |
| 1167 | Better dissemination of results - both throughout the research process and once completed |
| 1168 | Better data collection, tracking and storage methods. |
| 1169 | better cross campus and cross speciality discussion to include statistics, innovative study design, health economists and consumers |
| 1170 | Better credit for publishing negative results and negative or positive attempts to reproduce (validate) existing research |
| 1171 | Better coordination of overall research effort and necessary infrastructure |
| 1172 | Better coordination between in-house research support services and prospective researchers in design and planning phase. |
| 1173 | Better consultation with 1) potential research participants and 2) researchers better communication between research office/committees and researchers application system that is not as confusing and paperwork-heavy |
| 1174 | Better connect clinicians, scientists and methodologists |
| 1175 | Better conditions |
| 1176 | Better collaborative environment, validation of results by different individuals |
| 1177 | Better collaborations with clinicians to inform their research questions |
| 1178 | better collaboration between groups |
| 1179 | Better biostatistics support. |
| 1180 | Better and more open collaboration within the institution. Shared resources. A common goal. Recognition of researchers who facilitate others success. |
| 1181 | Better access to training in methodology |
| 1182 | Being more critical of data produced in the lab. Asking for primary data and being critical of analysis and transformation steps of all data. Spend more time on experimental design and think deeply about scientific decisions made. |
| 1183 | Being able to focus more on the research and less on where the support for the research is going to come from. |
| 1184 | Be tougher on individuals that do not meet the standards required |
| 1185 | Be more transparent Promote openness Ensure that the research is transparent and can be reproduced/replicated/reused |
| 1186 | be more supportive of open science and open access publication outlets |
| 1187 | Be more supportive and respectful of clinician researchers |
| 1188 | Be more supportive |
| 1189 | Be more novel, increase impact, be more dedicated. |
| 1190 | Be less intent on publishing points and trying to have all academic staff publish, and more focused on high quality work from excellent researchers. |

| # | Comment |
|------|--|
| 1191 | be adequately funded to allow sufficient time to complete research tasks to the highest standard. Slim funding margins can mean taking on more projects, and resulting time limitations mean either excessive work hours to maintain the highest quality research, or some compromises on quality in order to complete tasks in the time available for each specific project. |
| 1192 | Be able to spend time on research rather than administrative tasks. |
| 1193 | Base funding on merit, potential to benefit society, support of clinical academics particularly doctor researchers (scientists think they are doing stuff to improve health outcomes but do not know what the question is and also have no idea how to implement it). We have a shortage of clinical researchers, yet we do not support them. They are paid miserably and often have to do both more clinical more and more research work than others for same FTE |
| 1194 | availability to more funding. |
| 1195 | Availability of secure, long-term funding that allows sufficient repeats of experiments and also allows trying new approaches which might fail. |
| 1196 | Attract more research funding Promote, protect and fund clinician research |
| 1197 | Attract more federal govt funding. |
| 1198 | attract and train bright researchers |
| 1199 | At an institutional level, within health research, involving those who experience the condition (e.g people with diabetes/asthma/depression/CHD) studied is not done as much as it could/should be. |
| 1200 | At an institutional level, there needs to be more training on research integrity, the storage of data, and its ethical uses. |
| 1201 | At an institutional level there should be more concern about the quality of research than about the quantity. |
| 1202 | Assist in better access to research funding |
| 1203 | As a community and within research organisations, we need to take the focus away from 'quantity' (as defined by number of publications, per year) to 'quality' of research (defined by the impact that the work has on scientific advancement and societal benefit). Quality can be a metric that takes a bit longer to determine (compared to quantity, which promotes publication simply for the sake of publication), but it has to be emphasised and valued, because in the long term, it is quality science that stands up to the rigours of time and yields benefit. |
| 1204 | appropriately funded research less emphasis on quantity of output improved training in research design and implementation |
| 1205 | Appropriate timeframes to conduct research. |
| 1206 | Applying for open data sharing through ethics committees more often |
| 1207 | Applied health services research at my institution is not valued |
| 1208 | Apart from increased funding and workload to research?? Not really; though having undertaken some recent research on vicarious trauma experienced by researchers, I believe that more needs to be done to prepare our HDR students for engaging in confronting and distressing research. |
| 1209 | Always striving to be more rigorous. Resist the pressure of metrics which tend to compromise research quality |
| 1210 | Always prepare raw data files/folders to support each manuscript (as required by some Nature journals); insist that data is deposited in accessible places and provide resources to assist with this |
| 1211 | Already producing high quality world-class research |
| 1212 | Allow time for research for teaching and research staff |
| 1213 | Allow sufficient time for teaching/research staff to spend time doing research. |
| 1214 | Allow more time for research to be conducted. |
| 1215 | Allow for projects with longer funding intervals, and more flexibility in budget. |
| 1216 | Allow basic discovery research to occur without pressure for immediate translation |
| 1217 | Allocate more funding to research rather than buildings |

| # | Comment |
|------|---|
| 1218 | All research bodies including my institution should stop counting the number of publications. It is detrimental to research quality, yet, there is a tradition and tendency to count numbers. |
| 1219 | Advocate for an Australian Office for Research Integrity |
| 1220 | Advanced statistics training would allow me to a) think of, b) plan, and c) execute higher-quality research. |
| 1221 | adequately resourced, providing enough time to actually engage fully in the research. |
| 1222 | Address gender inequality |
| 1223 | Additional funding. |
| 1224 | Additional access to technologies that are focused on data management and dashboard-based representation of de-identified data |
| 1225 | Actively recruit clinicians with an interest in research, and use this as a key performance indicator for career progression |
| 1226 | Actively promote multidisciplinary collaborations Organise research planning sessions by topic of interest instead of by field of research (journal club format for example) Encourage the involvement of early researcher in national grant applications |
| 1227 | Acknowledge the time it takes to develop research ideas and track records. |
| 1228 | Accountability for people who publish unreproducible data Accountability for people actually working on funded projects and publishing results (positive or negative) |
| 1229 | Accountability for all, including senior people. |
| 1230 | Accessible training opportunities to ensure the researcher is up to date in skills required for good quality research. |
| 1231 | Access to resources/support for novice researchers to assist with their ethics applications so that they aren't held up for months completing revisions and answering questions on their ethics application. |
| 1232 | Access to more funding would always help as would braver ethics committees that were ready to embrace new and exciting research without running for cover and the ability to work across the world to find quicker answers. I am also a little tired of only safe research being funded and randomised controlled trials being funded. It is not the only methodology. Research on children and babies is often neglected. |
| 1233 | Access to more data resources, greater linkages with other groups nationally and internationally |
| 1234 | Absolutely, protect the respectful, ethical, innovative researchers within their organisation. Rather than supporting the liars, cheats, bullies who steal, blackmail and weasel their way into career promoting (unethical) positions. My institute supports those that bring in the most money. And the NHMRC do not background check or follow up on the research they fund. [Identifying comment]. The evil sociopaths that the NHMRC blindly finds.... the system is broken. Again. I reiterated, I'm funded. I'm not a bitter individual whose biased, I'm a concerned tax payer who can see the system is failing the people!!! |
| 1235 | A research culture that promotes high-quality research (as opposed to quantity) that has demonstrable impact (as opposed to h-index or the number of citations) that is beneficial to the society that is inclusive of all persons (irrespective of their backgrounds) with a universal right to health. |
| 1236 | A proper, rigorous review process of clinical trials which is free from bias and friendship favours. Strict minimum qualifications to be member of the SASC Strict requirements to be member of Ethics A clear review structure of the SASC / Ethics process with accountability and governance Staff, which actually know the process, guidelines and regulations |
| 1237 | A little more formal training in research methods for higher degree and honours research students. |
| 1238 | a HREA question concerning whether the research is justified in terms of benefit to community/participant vs time and effort involved |
| 1239 | A greater promotion of quality over quantity. More access to staff training for initiatives to improve research quality, e.g. statistics, research writing, version control, data sharing, etc |
| 1240 | A broader recognition of what constitutes quality by the institution. There is still too little space for translational and implementation research. |
| 1241 | 1)Involve people with more experience, enthusiasm; 2) increase fundings for research; 3) collaborate with other; well supervision |

| # | Comment |
|------|---|
| 1242 | 1) Yes, the entire community in Australia needs to shift away from the pressure to publish more and more all the time, towards publishing key outputs that are high quality and really contribute something useful or novel. People are promoted and win grants simply because they have LOTS of papers rather than the real contribution to knowledge that has been gained through their work. 2) Statistical and experimental design courses should be compulsory features of PhD degrees. There are many people wasting their time on very badly designed projects because they simply don't have this type of background. |
| 1243 | 1) Provide more statistical support from those who are fully qualified statisticians, biostatisticians and epidemiologists and this is their expertise. 2) Provide more support on a day to day basis for students doing a clinical research project. |
| 1244 | 1) better, more stable (i.e. long-term funded) career pathways so that people could have more thinking and planning time, rather than too much grant-writing; 2) a reduced emphasis on metrics relating to quantity and to grants awarded, and a greater emphasis on the quality of the ideas and of the outputs and outcomes |
| 1245 | 1. Reduce amount of paperwork - particularly governance, which has become like an additional and unregulated HREC. 2. Have an adequate appreciation of pragmatic randomised clinical trial of established therapies and the need to approach consent differently from novel interventions |
| 1246 | 1. Provide secretarial support so I do not have to spend all my time and energy with non-academic tasks 2. Ensure research is considered as important as saving money and clinical care |
| 1247 | 1. improve collaboration 2. research support for protocol development with health economic and statistical input from the start 3. Clinical trial unit involvement for major RCTs 4. less paperwork 5. limit submission to NHMRC |
| 1248 | 1. Fully evaluated research feasibility 2. Improve collaboration 3. Perform the most important research that will benefit society in my area |
| 1249 | (1) Build an environment and culture of research integrity/responsible research and (2) conduct meta-research in order to understand what interventions would improve quality. Published evidence suggests that low quality research (or breaches of research integrity) is frequent. Please see work by Daniele Fanelli (2009) https://doi.org/10.1371/journal.pone.0005738 This systematic review and meta-analysis of surveys of predominantly U.S.-based biomedical researchers suggests that 'questionable research practices' appear to frequently occur with ~33% of scientists admitting to these practices and ~72% of scientists reporting that they had observed their colleagues conducting research in that way. This lack of quality may also relate to the lack of reproducibility in research. We need an evidence base. There are lots of good ideas, but we don't really know what works - e.g. A Cochrane systematic review by Marusic et al shows that there is little to no evidence that training in research integrity reduces research misconduct. see Marusic, A., et al., Interventions to prevent misconduct and promote integrity in research and publication. Cochrane Database Syst Rev, 2016. 4: p. MR000038. |
| 1250 | . |
| 1251 | - Training on how to conduct accurate and reproducible research: e.g. training in research design, research methodology - Mentoring of junior researchers by experienced, high quality researchers - Providing access to, encouragement, and training in the use of platforms to enable transparency, e.g. Open Science Framework - Career progression and promotion criteria that do not reward high output (but low quality) publications. E.g. assessing researchers based on their top 3 publications, rather than the total number of publications - Enable and support the publication of negative/null/non-exciting results |
| 1252 | Reduce emphasis on number of publications as an assessment of quality or researchers. - Provide Career stability to researchers. - Provide access to research block grant funds to support research productivity, such as using it to establish core facilities and subsidise access to cutting edge equipment |
| 1253 | educate staff and students about high quality research methods, and not reward publication of low quality research - educate staff and students about what not to do - i.e. what constitutes poor quality research and also poor quality translation/communication - not brush transgressions in research quality under the carpet. |

| # | Comment |
|------|---|
| 1254 | Break silos between teams and departments - encourage research that is making small but important steps towards a goal: set more modest expectations for attribution of internal grants but make a peer-review of the outcomes of grants and make sure that they are fulfilling the initial proposals - offer further Training and education to researchers, including degrees available in other faculties |
| 1255 | - |
| 1256 | - |
| 1257 | - |
| 1258 | - |
| 1259 | - |

q16.5\$. Have you heard of the term 'crisis of reproducibility' in relation to issues in research? (Other)

No. of Comments

64

| # | Comment |
|----|---|
| 1 | not necessarily using those exact words |
| 2 | Students |
| 3 | Have followed the issue wrt Psychology quite closely |
| 4 | This is an issue quantitation research |
| 5 | Pharma |
| 6 | invited speaker to institution who specialising this |
| 7 | Glen Begley |
| 8 | Dave Vaux, Glenn Begley among others |
| 9 | seminar presentation |
| 10 | A seminar at my institution presented by a visiting expert. |
| 11 | I have written on the topic |
| 12 | my own experience |
| 13 | my research |
| 14 | Reading a book about surgical research |
| 15 | Book title rigid mortis |
| 16 | university workshop/forum |
| 17 | Web sites such as The Conversation and Fact Checking sites |
| 18 | from general academic media (not necessarily research journals) |
| 19 | its obvious that most published papers have a fatal flaw. |
| 20 | 3ie impact evaluation |
| 21 | departmental and institutional talks and seminars |
| 22 | Industry |
| 23 | I have major projects in this area funded by the likes of DARPA (US Defense) |
| 24 | Institution |
| 25 | not being able to reproduce data published by others in our lab |
| 26 | One of my areas of research |
| 27 | Its overblown. Biological materials are heterogenous, there is inherent variability in research. People cannot expect there to be complete reproducible. It will be solved in the long run. |
| 28 | NIH Extramural Nexus sometime ago |
| 29 | reproducibility initiative |
| 30 | Asked to address reproducibility in a recent grant application - UK |

| # | Comment |
|----|---|
| 31 | While CEO of various research institutes |
| 32 | Presentation by Glenn Begley |
| 33 | Open Science initiative |
| 34 | NASEM Workshop on reproducibility and replicability |
| 35 | General understanding of field |
| 36 | My own reading and thoughts of how reproducible many animal models are for the human disease states. Researchers often do not include enough detail of methodology to make their results truly reproducible in another setting and their understanding of randomisation and bias is poorly understood and /or documented. |
| 37 | Fora specifically on this issue. |
| 38 | Work in Pharma research |
| 39 | Very recently only |
| 40 | Previously employed at National Measurement Institute which is responsible for maintaining physical, chemical and biological standards of measurement. |
| 41 | Undergraduate studies in Philosophy of Science |
| 42 | Best Practice Methodology document |
| 43 | provided a lecture which covered this |
| 44 | My institutional Research Excellence Committee |
| 45 | My real life in lab! |
| 46 | I'm not sure I've heard this exact term but I know exactly the phenomenon being referred to. I think I've heard 'reproducibility crisis' or 'replication crisis,' not 'crisis of reproducibility'. |
| 47 | We regularly discuss the issue in a journal club in our School |
| 48 | In my classes as a research student |
| 49 | Industry replication professional mentioned only half of projects were reproducible in their career experience. |
| 50 | From a previous survey |
| 51 | seminars |
| 52 | recent seminar i attended at my institute |
| 53 | collaborators at IGDORE Indonesia |
| 54 | From the Conversation |
| 55 | The novel Rigor Mortis by Richard F. Harris |
| 56 | Research Integrity Course which was a requirement for my PhD |
| 57 | Friends from non science backgrounds |
| 58 | General reading |
| 59 | Institutional seminars specifically highlighting this (eg Glen Bagley) |
| 60 | my institution |
| 61 | from university lectures |
| 62 | As a student at university while attending lectures |
| 63 | coursework |
| 64 | Paul Glaziou goes on and on and on about it |

Environment

q21.11\$. Which of the following procedures have you / your research group established to ensure reproducibility in your work? (Other)

No. of Comments

138

| # | Comment |
|----|--|
| 1 | all of above where relevant |
| 2 | Careful training of research staff to ensure that outcomes are measured in a standardised way |
| 3 | Use appropriate statistics |
| 4 | The previous section are really largely directed to lab work. |
| 5 | Use epidemiological features, beyond mere replication alone, to increase the likelihood findings are causal and decrease likelihood they are non causal-see Ponsonby AL Dwyer T Nature 2014 |
| 6 | Blinding and randomisation depends upon the protocol. When applicable they are used. Not all work is blinded because of funding limitations |
| 7 | Public deposition of raw data |
| 8 | Ensuring international guidelines used from outset (e.g. CONSORT) |
| 9 | All trials conducted to GCP standards and monitored |
| 10 | simulation studies, efforts to try and falsify results, provision of computer code and workflows |
| 11 | Validation of methods |
| 12 | preregistration of experiments |
| 13 | latest epidemiological methods to adjust for bias |
| 14 | Double data entry |
| 15 | In human genetic epidemiology, cross-laboratory collaborations are essential to power and replication |
| 16 | Replication by interstate or international collaborators |
| 17 | Consult on statistical approaches with an expert statistician. |
| 18 | Provision of full code and computational workflows to enable reproduction of computational methodology |
| 19 | NOTE you are somewhat biased to experimental designs, what about epi, pub health/ pop health?!!! |
| 20 | Adopt relevant software practices to make experiments repeatable and reproducible |
| 21 | Process evaluation |
| 22 | clear explanation of the qualitative methods used |
| 23 | NOTE: We work with pragmatic designs as well as RCTs. |
| 24 | Use of statistical software and script file to ensure reproducibility of the data analysis |
| 25 | Involvement of independent evaluation committees for complex clinical trial decisions |
| 26 | None of these options really apply to public health research. Also for the previous section it would have helped if you had defined what you mean by prproduceability? Do you mean using the same original data or do you mean different studies aiming to answer the same research question? I could not respond as it really depends on the type of research, and your definitions |
| 27 | we automate almost all our outcome assessment procedures |
| 28 | Human research will always have variability due to 'non-experimental' factors |
| 29 | provided protocols for independent replications by other research teams |
| 30 | registration of study protocols, CONSORT and Tidier and Spirit guidelines |
| 31 | STOP USING DIFFICULT ENGLISH WORDS ! you still have not defined this word. Reproducibility is NOT a word. stop trying to sound smart. Use simple easy English. Some academic has had too much time on their hands to come up with this shit word. People here in London do not use this word and they are 10 years ahead of Australia. |
| 32 | at least 3 independent blinded replications is required for us to consider something publishable. |

| # | Comment |
|----|--|
| 33 | Not relevant for qualitative research |
| 34 | some of the above are not relevant |
| 35 | rigorous experimental design |
| 36 | Use multiple different technical assays for the same research question |
| 37 | Qualitative and quantitative research not experimental so some things do not work |
| 38 | Independent replication using external collaborators |
| 39 | We consider replicability when relevant to the methodologies used. Also in stability of technology developed |
| 40 | Use of optimal experimental design methods to formally evaluate what information can be reliably estimated from past data, and to inform robust design of future studies |
| 41 | We have a QAQC person and lab book trainer / checker. Heaps of seminars on how to design research |
| 42 | In social research results can rarely be reproduced as people/society keep changing, but comparison with relevant research is still important |
| 43 | not applicable to my field of research |
| 44 | minimise bias and confounding in observational study designs. |
| 45 | Transparent reporting of experimental losses/intention to treat. Note in house replication is not possible with our large animal experiments due to cost considerations. |
| 46 | Some questions not applicable to the population health, implementation science and health services research we undertake; committed to transparency (question 20) but no specific funds for open access |
| 47 | Publishing study protocols / using trial registration sites / Prospero |
| 48 | advanced stats; missing data approaches clear |
| 49 | using validated scales, ensuring interrater reliability |
| 50 | you know that not all science is experimental, right? |
| 51 | Contextualising p-values appropriately: following the ASA advice on the use and interpretation of p-values. |
| 52 | Require reproducible code reviews and public version control |
| 53 | Check all statistics with our institutional Statistical Consulting Unit. |
| 54 | Use of standardised scales and instruments that are commonly used in similar research |
| 55 | Sorry but this question is very poorly worded for those who do qualitative or implementation research or just about anything that isn't a trial/experiment. It reflects a narrow idea of research and poor item development. |
| 56 | Review study design and data analysis with peers |
| 57 | I review all of my staff and students raw data and analyses before publication or presentation |
| 58 | Most of these questions are irrelevant as I do not do experimental research |
| 59 | Comprehensive audit trails, data management plans and data management systems |
| 60 | Most of these sound like lab techniques - not the RCTs/cohort studies/qual studies we do with human participants. Yes, we do random allocation for RCTs, but this doesn't make sense for qual studies, audits, etc. |
| 61 | qual research has different methodology for ensuring rigour to that of quant research |
| 62 | high face validity as conducted with colleagues in field who advise monitor the study and use results |
| 63 | Health services research is not always reproducible from country to country or setting to setting because of health system differences, so I am not sure these questions accurately reflect our discipline |
| 64 | The above only relate to trials, and RCTs. The question is design-specific |
| 65 | Most of these items do not get at the ability to reproduce epidemiological evidence. |
| 66 | Senior researcher checks statistical code of data analyses |
| 67 | use of cutting-edge methods for causal inference |
| 68 | Pre-publication of statistical analysis plan |
| 69 | Standard Operating Procedures for research conduct and independent auditing of results |
| 70 | sensitivity analysis |

| # | Comment |
|-----|---|
| 71 | have established a quality system that covers the research facility and all studies conducted in the facility |
| 72 | Try addressing confounding, effect modification, multiple hypothesis issues, and many other biases using analytical approaches (in observational research). Clearly report and examine missing data. |
| 73 | Use of reporting guidelines |
| 74 | external peer review prior to submission for publication |
| 75 | my group has standards, and is NOT my department or school |
| 76 | piloting prior to phase 2 prior to phase 3 trials |
| 77 | Concealed allocation |
| 78 | We discuss our results and methods in a large group and with other groups we work with |
| 79 | Follow good clinical trials procedures |
| 80 | Randomized replication (AI), negative and positive control. |
| 81 | make materials/procedures/programs available |
| 82 | Making analysis code available in external repositories |
| 83 | My research uses qualitative methodology - so that same issues of reproducibility aren't applicable to experimental / quant studies |
| 84 | Used of validated assessment tools (self-report measures), validation of assessment tools, manualisation of interventions |
| 85 | This is for experimental research. Non-replication comes from different settings and measures in epidemiological studies (and this is also true of clinical trials) and so is to be expected. It is also a sign that an effect is not robust if it isn't consistently observed. It is not necessarily a sign of bad research. |
| 86 | simulation studies prior to data collection; pilot studies; establish and follow analysis plans |
| 87 | I'm in software engineering and these don't really apply. |
| 88 | Detailed documentation |
| 89 | Follow CONSORT guidelines |
| 90 | simulation studies |
| 91 | Please note not all of these methods are relevant to every kind of research so this question will provide biased results |
| 92 | Fully documented and open data science workflows during publication |
| 93 | Only reporting robust signals |
| 94 | Repeat experiments with independent researchers |
| 95 | using independent approaches to solidify major findings and conclusions; e.g. using different mutant strains of mice or cell lines and using different experimental techniques (e.g. use biochemical methods and imaging to demonstrate the same outcomes) |
| 96 | If you are a decent scientist, all the boxes on this list that apply to your research should all be standard operating procedure. |
| 97 | sound experimental design, orthogonal validation where necessary and possible |
| 98 | We under take clinical trials only so research methodology is crucial |
| 99 | Report according to prespecified protocol |
| 100 | Most of our studies have been conducted in double-blind, randomised fashion, facilitated by our hospital pharmacy. |
| 101 | Use multiple mathematical and computational models/approaches to test robustness of results, and correct statistical approaches to test statistical significance of results |
| 102 | Sensitivity analyses, detailed investigation of bias and confounding |
| 103 | sensitivity analyses to test robustness of findings e.g. to missing data. measurement differences etc |
| 104 | Robustness testing of results to determine influence of individual samples |
| 105 | international collaboration is essential to achieve adequate sample size and power |
| 106 | A priori data analysis plan |

| # | Comment |
|-----|--|
| 107 | pre-register observational study plans on OSF |
| 108 | we do not do experimental research, only cohort studies, so alot of these do not apply. please consider including questions about rigour for non experimental research |
| 109 | In RCTs that are incredibly expensive, I am not sure that a second trial is feasible to reproduce the results particularly in my domain in remote Aboriginal health in Australia as the cost of redoing the same trial is extremely high and I don't think needed when translating evidence into practice. It is however necessary for new drug licensure and the FDA have developed a robust approach to this - but funding to achieve this is very difficult outside of the USA. |
| 110 | cross validation of results in independent labs/institutions |
| 111 | ensuring that cell lines are authenticated, Mycoplasma-free and relevant cell types for the research question. Establishment of standard operating procedures and methods for the lab |
| 112 | Validation of +/- controls, development of internal controls, post hoc sensitivity analysis, transfer of methods to other labs for re-validation. |
| 113 | biological and technical replicates |
| 114 | Using mixed methods (both qualitative and quantitative), involving the end user in the design, development and implementation processes of the research (ie genuine co-design) |
| 115 | Independent checks of data entry, potential bias, qualitative themes etc. |
| 116 | post hoc statistical power not, i took estimate number of participants - as a power calc |
| 117 | Our collaborating biologists tend to have the responsibility for project biodata |
| 118 | Discussion of context and how this might affect results |
| 119 | These options apply primarily to quantitative research and do not take into consideration what procedures would be applicable to qualitative research. |
| 120 | we work exclusively with observational data so only some of these are relevant. this survey seems to be mainly about experimental research? hence not feeling qualified to answer many questions. |
| 121 | validation of analytical methods |
| 122 | these questions relate to quantitative research- not my field |
| 123 | synthesising in-house intermediates and final compounds |
| 124 | Many of the questions posed in this survey address 'experimental' or 'clinical' research and not health services or health systems or translational research. This shows an ongoing bias to funding basic or clinical research at the expense of translational, services and systems research |
| 125 | This is complex. Often cohorts are different in terms of characteristics of participants or differences in context and therefore the results may vary without this being the result of non valid research. Usually when assessing levels of evidence, I would look at whether findings have been consistent/inconsistent. |
| 126 | Robust protocols and experimental procededures. |
| 127 | peer review methodology |
| 128 | Where possible, having other labs involved in validation of technique with different set of reagents |
| 129 | These quetsions are very much science/quant based. In qual rerserch, other means are used to uphold the integrity of the research, findings and conclusions. |
| 130 | Pilot trial before main trial |
| 131 | Detailed protocols for analysis and methods. Journal history of when methods change over time and why (eg change in antibody, replacement of equipment etc) |
| 132 | Our group primarily conducts mathematical modelling studies, so many of the procedures listed here aren't directly relevant. But we typically make all data, code, and analyses available with every publication, and conduct sensitivity and uncertainty analyses to identify whether any results may be affected by invalid data, inappropriate assumptions, etc. |
| 133 | Inclusion of figures of merit for novel analytical techniques |
| 134 | as primarily animal model research, inclusion/exclusion aspects rarely in the design |
| 135 | try to deal with confounding as much as possible |

| # | Comment |
|-----|--|
| 136 | Informing others of the desired result and pushing to replicate the desired result |
| 137 | standard measures for qualitative research, such as second coding |
| 138 | Verification of the computational algorithms used |

q25\$ Please list the barriers that you / your research group have encountered when trying to implement procedures to improve reproducibility of research.

No. of Comments

250

| # | Comment |
|----|---|
| 1 | Sometimes the journals ask for changes, despite the fact that we are aiming to follow a pre-specified protocol. Sometimes the research sponsors want the analyses to be changed or new analyses to be conducted, and this most often happens when the results are perceived as unfavourable. |
| 2 | Research Funding |
| 3 | researchers guarding their 'own' data and claiming a right to publish - even if this results in poor quality output and long delays |
| 4 | Journals are reluctant to publish low yields in their one journals; reporting of negative outcomes often precludes publication. |
| 5 | Getting collaborators to perform additional experiments for robust statistical analyses when this involves significant expenditure in terms of time/research costs |
| 6 | the difficulty of publishing 'negative results'. senior colleagues'/collaborators' ignorance of good scientific method, hypothesis testing, significance testing, type-1 and type 2 error etc. |
| 7 | Appropriate data storage facilities. Haphazard institutional options for storing data. |
| 8 | Collaborators often look at 'speed' rather than reproducibility/quality. |
| 9 | Lack of sufficient funding to enable research to be done with appropriate reproducibility safeguards. |
| 10 | It takes time to do things well and 'by the book' |
| 11 | Financial and Skill set constraints |
| 12 | Insufficient funding and requirement to publish in high impact factor journals in order to keep your job and avoid unemployment |
| 13 | Institutional and ethical policies |
| 14 | main barrier is always time with fixed time fellowships and limited funds. It is tempting to generate further novel results at a cost of less validation of obtained results. This can back-fire where the original results and so premise are flawed due to inadequate QA and reproducibility checking. |
| 15 | lack of funding means studies are smaller than required |
| 16 | It's difficult to blind researchers in animal experiments for PhD projects - need enough staff to cover different animal houses and lockout periods, and need people to assist students when historically students worked without RA help. Also, the cost and time required to validate in house. |
| 17 | Data not available Data available but could not be harmonised to be similar to my study. |
| 18 | difficulties accessing computer code and data from other papers |
| 19 | Financial constrains. |
| 20 | One barrier is that the lack of job security, including lab heads, and lack of adequate funding, make it difficult to spend all of the extra time and resources to optimise all aspects of reproducibility. The current system, including the undermining of the NHRMC Fellowship schemes and all of the uncertainty associated with the new grant schemes and peer review processes, are providing further encouragement of survivalist and careerist approaches which are not in the best interests of reproducibility. |

| # | Comment |
|----|---|
| 21 | Funding. Ethical constraints on release of data. Limitations in original protocol in thinking through these issues. |
| 22 | Establishing processes to ensure adherence to procedures. |
| 23 | Pressure to selectively report positive findings. Reluctance of journals to publish negative findings. lack of understanding of procedures by collaborators. |
| 24 | Limitations in funding lead to lack of time, resources and sometimes adequate sample sizes. Pressure to publish and difficulty in publishing negative results leads to selective publishing. |
| 25 | We have had to cope with shifting frameworks for (i) ethics for data analysis projects, (ii) changes in data storage dictated by our IT department, (iii) massive changes in the types of data we analyse, leading to unforeseen problems. |
| 26 | Availability of space and resources to support activity |
| 27 | funding required to do large adequately powered studies |
| 28 | incompetent SASC members who block control groups, placebo treatments or other important aspects to improve trial design ,even in multi centre studies which have passed numerous ethics committees around the globe |
| 29 | additional cost |
| 30 | Increasing replicates is necessarily expensive, and this is often not directly funded. |
| 31 | Research of higher quality (which is by nature more reproducible) is more expensive, and securing funds for high quality project is becoming increasingly more difficult. |
| 32 | Pressure to publish paper and get funds sometimes prevents the procedures of reproducing all data. |
| 33 | We initially had issues requesting sufficient animal numbers to achieve statistical power based on power calculations for experiments. This has been resolved. |
| 34 | Resources |
| 35 | Difficulties in obtaining funding, more time required to complete studies, findings do not support dogma |
| 36 | cost, time, regulatory delays. |
| 37 | It can be very hard to obtain the estimated sample size for power due to the community-based nature of the research |
| 38 | Time limitations |
| 39 | Access to high quality stats. Excess belief of others in small studies. |
| 40 | While I fully appreciate the importance of being able to conduct the experimental procedures in a way closely consistent with the original study, the previous authors were excessively insistent on us getting the procedures exactly correct to a threshold which met their level of acceptance. By insisting on this for the replication to be 'valid' in their eyes, they actually delayed and stifled our efforts. In actual fact, the intervention was one which was argued to have a high potential for translation to 'Real world' settings, such that generalisability should have been the priority over internal validity, but the previous authors were obviously highly anxious that we would not replicate their initial findings and so proceeded to complicate things for us in terms of access to materials, necessary training etc etc. |
| 41 | Issues of variability in animal responses in disease models due to changing conditions in the animal house (construction noise and changes in the micro-organisms in the mouse house). Another difficulty is in the reliability of commercial polyclonal antibodies as they can vary from batch to batch. |
| 42 | Replication using independent cohorts can be difficult as it reduces the power fo the first experiment. |
| 43 | When using linked data there are so many rules governing its use that access can be precluded. |
| 44 | Insitutional-wide acceptance of high standards re quality control and experimental procedures and testing for contamination etc |
| 45 | When we once independently tested a procedure, we needed to get personnel from another lab to volunteer time to do an experiment in a different lab. Also rigorously testing for reproducibility can be time consuming and expensive, which can be costly when we are being ranked in grant applications on productivity. |
| 46 | Word limits of journals prior to online supplements being permitted |

| # | Comment |
|----|--|
| 47 | The largest barriers are funding and time pressures. |
| 48 | Lack of funding for this type of activity. |
| 49 | lack of funding to pay for additional experiments |
| 50 | Limited funding options for open access publication Ethical restrictions on data sharing |
| 51 | Time and money. Administrative barriers and Ethics approvals (which can require changes in protocols or delays in being able to start) |
| 52 | Cost; time; know-how (e.g. statistical analyses) |
| 53 | Time and cost associated with conducting replication studies. |
| 54 | 1) It is time consuming. If you are being judged on the amount of publications - and we all are in the current system - it is very time consuming to repeat things several times to see if they are robust. 2) The availability of standard reagents and tools for molecular biology. Some reagents are available from repositories, others are not and many are bespoke and custom made. This is a double edged sword as we want to use the most cutting edge tools but they may not be 'standard' for the field. 3) Variability when dealing with live animals that are not inbred clones. There is a lot of biological variability inherent in many live animal models. 4) Agreed definitions in the field on what these procedures might actually be. |
| 55 | Cost of reagents and use of equipment are high and cannot do many experiments due to lack of funds |
| 56 | Ethical processes restricting use of data |
| 57 | No one is interested in new ideas. The head of my centre is very old (well past retirement age) and refuses to consider new ways of working. |
| 58 | - Reproducible research requires much larger n values than the NHMRC currently routinely funds. The reference point is always instead merely 'what's normal in the field', which is often statistically inadequate. - NHMRC does not provide funding to make sure data is shareable, which can be a major project beyond the initial discovery phase (e.g. requiring dedicated software engineers). - NHMRC grants do not pay the full cost of positions awarded on grants. This contributes to corners being cut. - NHMRC grants do not allow funds to be allocated for open-access publishing. Sure one can use the funds for that purpose, but they were originally allocated for something else which means that a corner needs to be cut to pay for it. - NHMRC makes people review grants way outside their area |
| 59 | Time constraints and time lag to publication submission and higher criticism from reviewers as well as reduced number of publications. |
| 60 | Cost of time and training of staff members on data monitoring and GCP. |
| 61 | Difficulty publishing important validation work because it is not seen as "original" |
| 62 | Institutional AEC will only allow experiments to be reproduced by formal application to the Committee, delaying time taken to complete some studies. |
| 63 | Pressure to publish. Money Resources. |
| 64 | We use large datasets that have often been collected by other data custodians. We have some licensing restrictions as to how the data can be reused, so sometimes are unable to make them available for others to reproduce. |
| 65 | Access to International and National datasets; ability to include questions in other data collection instruments to improve replicability |
| 66 | time, effort and budget. |
| 67 | Cost and specific restrictions from ethics committee to "just" reproduce results |

| # | Comment |
|----|--|
| 68 | - Financial barriers & time constraints (i.e., need for timely publication) to implementing a replication sample or an adequately powered sample - Pre-registration of study and analysis design will increase risk of negative findings with no opportunity for further data exploration and no opportunities for the work (i.e., financial outlay and researcher time) to be recognised |
| 69 | the main issue is in sharing of raw data between group members and ensuring clear and consistent documentation of these data. As many of the researchers in my lab are relatively inexperienced and are learning to be consistent in tissue preparation and data analysis much of the material produced needs large numbers of replicates and significant discussion of protocols to ensure that data interpretation is consistent across projects. This is a matter of consistent training, but can be difficult to achieve with course deadlines, distributed lab groups and divergent research topics. Reproducibility depends on lab culture and when working with junior researchers the culture can be difficult to instill due to conflicting priorities. |
| 70 | Collaborators were too busy to run the replication analysis |
| 71 | ethics |
| 72 | Funding restrictions that limit extent of reproducibility achievable/viable. Exhausted samples making return to analyses impossible. Staff movements and difficulty reproducing exactly what was done. |
| 73 | Protocol papers don't count as research output with our institution. |
| 74 | Animal behavioural research can cost a lot - there is pressure to publish and not enough funding. Human research is relatively cheap, but imaging is very expensive and has the same problem. We try to get around it by replicating small cohorts across different staff at different seasons of the year. This does require more resources and times, but our findings are replicated across the world in rodents and humans. |
| 75 | Much more difficult to publish negative results, or to publish ALL results from a study regardless of statistical significance / how exciting they are. |
| 76 | Cost (open access publication), animal ethics limitations for group size |
| 77 | pressure to complete the research quickly |
| 78 | Costs more money when there is less funding. Disastrous combination! |
| 79 | Animal colony management |
| 80 | In my work as a consultant biostatistician, the researchers I work with may often overly rely on the 'bright-line' interpretation of statistical significance, with p |
| 81 | When I was not the head of the group there was pressure to just do the experiments. Mostly as people are time poor. |
| 82 | Data was not shared |
| 83 | Other researchers are resistant to more rigorous research methods particularly in relation to statistical analysis. |
| 84 | Insufficient institutional attention to these issues (compared with the focus on 'being successful') |
| 85 | Many scientific journals do not want to/charge considerable amounts to publish protocols. Regarding reproducibility of findings part of the problem is many leading journals will not publish studies that reproduce the original findings, hence a failure to reproduce. |
| 86 | Some researchers don't take this seriously enough. They will if it is mandated by the NHMRC and journals |
| 87 | reluctance to share data or analysis code |
| 88 | Word limit in publications requiring removal of important methods/details |
| 89 | more funding needed to do more repeats |
| 90 | New versions of tools, code of tools not available |
| 91 | lack of funding |
| 92 | Not all coauthors as keen on accurate discussion of risks of bias and consideration of their impact |
| 93 | The barrier we strike is that doing really good and reliable work takes time. And we are expected to publish ridiculous numbers of papers just to keep our jobs. How can all this work be well and thoroughly done, when there is such pressure? We don't succumb to the pressure as we have principles to uphold. Consequently some of us may be out of work soon. |

| # | Comment |
|-----|--|
| 94 | Generally experiments requiring animal models are never funded sufficiently to allow for properly powered experiments to be undertaken |
| 95 | Funds for appropriate independent auditing and monitoring |
| 96 | The methods, physical facilities may not be applied for our conditions |
| 97 | sample or reagent availability funding for optimisation/validation assays space/word limit allocations for reporting methods etc in publications access to statisticians |
| 98 | - lack of institutional resources, time, funding |
| 99 | Inadequate resources available (grants don't even find the costs for one analyst!) to allow all analysis code to be independently validated. |
| 100 | highly rigorous qual research often takes longer than the funding period allows. working as part of team with medical researchers, the qual budget is always the first to be cut, and the least well resourced. i could never get funding to reproduce a qual finding. has to be novel. not sure it applies to qual research as much as to medical |
| 101 | Limited resources mostly, and limited time. It's all well and good to say that large sample sizes are necessary to increase statistical power and thus reproducibility, but then it does increase the amount of time and resources necessary to run an experiment. |
| 102 | inadequate funding |
| 103 | Cost to repeat experiments/studies or to run more replicates Time to repeat or run more replicates Journals that do not publish negative/null/non-exciting results |
| 104 | My colleagues are not interested in quality research, so have no purpose for reproducibility. |
| 105 | lack of systematic support e.g., IT infrastructure |
| 106 | Lack of resources for monitoring |
| 107 | Lack of funding and time to implement procedures/develop SAPs |
| 108 | Time, we run large scale RCTs that are expensive and time consuming (>7 year follow-up studies) to replicate |
| 109 | Time required. |
| 110 | We would like to start performing in house replication of studies, particularly junior researchers (e.g. PhD students). The cost in time and for access to study materials (e.g. data) is prohibitive. |
| 111 | long ethics delays |
| 112 | Resistance for internal review processes |
| 113 | The biggest barrier is resourcing - trying to figure out how to allocate limited funds in the most appropriate way to get publishable data. |
| 114 | There is inadequate funding to reproduce research, whether your own or someone elses. There is no benefit to the researcher in having someone reproduce their research, yet there is significant risk in sharing protocols and data sets. |
| 115 | lack of resources, space, administrative obstruction |
| 116 | Ridiculous costs of journal open access fees are a barrier to reproducing work |
| 117 | Cultural issues related to how willing students are to disagree with what they think the Professor's hypothesis is and/or discomfort with being perceived as less competent. |
| 118 | a delay in research productivity |
| 119 | When undertaking health service research with clinical partners there is a reluctance to engage in trials incorporating random allocation of participants to groups. If the intervention is considered to have any merit the organisations are quick to implement change and resistant to undertake an RCT prior to implementation of the change. |

| # | Comment |
|-----|---|
| 120 | This is context dependent, but for example with human studies, often we don't have access to enough human blood or tissue samples for statistical analysis. Thus we don't pose scientific questions which would require rigorous statistical analysis in these types of projects, despite it being relevant to our research. |
| 121 | Funding- we do not have capacity to fund publication of our protocol within our Cat 1 funding. This should be covered as I personally pay this currently (ie not from work funds). |
| 122 | Funding to pay for blinded assessment |
| 123 | older research members do not see the need to change what they have always done. |
| 124 | Our (misguided) animal welfare committee claim extensive reproduction of experimental results is a wasteful use of animals. Doing things properly takes time which discriminates against you as groups that 'cheat' get their work out more quickly resulting in better journals and better grant success |
| 125 | increased cost, slows research (eg randomisation delays recruitment) a priori publication of protocol & analytic plan forces adherence to the plan limiting 'positive' findings but increasing quality one expects |
| 126 | Lack of manpower for in-house replication before publication; restrictions on publication of datasets due to data sovereignty issues |
| 127 | Funding. Clinical trials are inherently difficult to fund and conduct so attracting sufficient resources to reproduce outcomes is inherently difficult. Measurement reproducibility is a related consideration and is often poor for clinical end-points. Dogma requires end-point selection of accepted standard measurements. Outcome driven end-point refinements different large-scale studies also very difficult to fund. The drivers for novel research are much stronger than the drivers for duplicating research. |
| 128 | Most have been overcome, but lack of free software eg for block randomization; reporting standards; grant timelines that inhibit full checking (and delays such as ethics, obtaining data; ..) |
| 129 | We have spent sufficient time optimising working protocols to ensure that we are reporting on the cell type we are specifically studying. The lack of information/methods and failure of other laboratories to provide their corresponding information or admission that they don't perform these controls has placed more pressure on us to conduct the experiments with specificity. |
| 130 | more workload |
| 131 | Funding of adequate staff |
| 132 | Our ethics does not allow for sharing of patient data. We cannot share the genetic data with groups outside of Australia, so how can they reproduce our results? |
| 133 | Lack of resources for adequate samples in population surveys. Word limits for journal articles (though increasingly solved by provision for linked availability of 'Supplementary materials'). |
| 134 | Insufficient research funding to truly manage data appropriately. |
| 135 | ability to afford to publish protocols as open access |
| 136 | Animal Ethics Committees may not have sympathy for using more animals via their interpretation of the 3 Rs Funding is inadequate |
| 137 | Institutional blindness, limited resources, mixed messages, too hard basket, community of practice that is not coherent and often antithetical |
| 138 | Using different protocols/methods to obtain an outcome |
| 139 | Additional time and effort required makes it difficult to convince others to adopt additional new practices |
| 140 | Health services opposing randomisation for operational reasons. |
| 141 | Lack of expertise/advice and lack of resources for making data open |
| 142 | Reproducibility = more time... but the pressure to publish is so great that 'we don't have time to replicate now, we'll just publish a follow-up paper if the findings hold in the next cohort'. |
| 143 | Colleagues pressuring to publish before necessary experimental replication has been conducted |
| 144 | Training and staff numbers to ensure proper blinding of animal studies etc. Limited/reduced funding often precludes the ability to have two or more people work on the same experiment/project. |

| # | Comment |
|-----|--|
| 145 | lack of sufficient research funding to implement the highest quality methods |
| 146 | In-house reproduction and reagent validation significantly increase the cost and time for research. Transparent availability of research methods & scripts has not been straightforward. |
| 147 | Delay in publication due to need to validate to ensure reproducibility |
| 148 | Costs for documentation resources Costs for open access publishing and data repository |
| 149 | Funding |
| 150 | Pressure to publish. Being thorough and honest doesn't help you get your next grant. |
| 151 | Lack of understanding of colleagues and collaborators on the importance of these measures. Requirement to demonstrate research outcomes over research quality. |
| 152 | It takes time and money, not a lot of that around these days. |
| 153 | Journals insist on inappropriate statistical methods, such as arbitrary 0.05 cutoff for p values |
| 154 | Managers who do not support implementation of findings when priorities change. |
| 155 | increased sample sizes require more facilities time and money, and feasibility becomes more of an issue. |
| 156 | Costs for performing accurate, statistical, blinded, well controlled studies are at least double/triple what had been done previously. Most other groups/labs do 'proper' blinding and control inclusions (for animal studies in my area), so this makes us less competitive for publication output and use of grant funds. |
| 157 | Not always taken up and followed by all staff |
| 158 | It is difficult to convince clinicians of the importance of some of these measures. This is a serious problem in assessments of functional outcomes. It is often difficult to convince clinical researchers (including lead chief investigators) and trial managers of the importance and relevance of these measures or to get statisticians involved in the planning process to ensure that appropriate records are kept to ensure reproducibility. In fact, issues sometimes come to light only when the data and safety monitoring board asks for a statistician's report. A related issue is that many clinical researchers and ethics committees do not understand the reasons why certain measures are put in place. As a result, they tend to paint everything with a one-size-fits-all brush without considering the appropriateness of a specific measure in a specific situation. Training these stakeholders on these issues would be very useful. |
| 159 | The nature of the diseases we study mean that there are large variations between geographically diverse cohorts. Our studies (of mostly rare diseases) typically enroll all possible participants to maximise study power; there are insufficient potential subjects to have a separate subgroup for reproducibility assessment. |
| 160 | Resistance to statistical controls (eg for capitalisation on chance) Resistance to appropriate control groups |
| 161 | 1. Ethics and governance in Australia is absolutely daft it is excessive and needs harmonising nationally 2. Audit is worse! 3. Junior Doctors do not engage in research 4. Universities do not understand clinical trials |
| 162 | Peer reviewers insist that you report in contravention to the pre specified plan. Ethics/governance impose barriers to openness and sharing of data for privacy concerns Cost and effort with no personal benefit or expectation Pressure from collaborators to sex up study reports |
| 163 | The involvement of the support from the hospital has added considerable efforts to obtain Research Governance Approvals, which was implemented in 2014 in Adelaide. |
| 164 | it is a field of research where patients heavily self fund treatment thus making RCT difficult. No animal species (in Australia) which have human type system for study thus limited to cell models and ex vivo analysis in the main to build data. |
| 165 | Replication of results requires additional funding to be available, which in the current funding climate are sometimes difficult to obtain. |

| # | Comment |
|-----|--|
| 166 | Not enough detail in the published methods due to limited word counts on published methods. This results in the need to optimise the procedure for our lab. Costs associated with replication- depends on how much funding you have to use exact reagents Communication from the original group on the method for tips and extra information |
| 167 | Funding limitations |
| 168 | LACK OF FUNDING FOR INTERNATIONAL COLLABORATIVE TRIALS NHMRC allocates too little to large scale clinical trials. MRFF international trial initiative assumes that Australia will contribute to trials led from overseas, not that Australian groups will lead international trials. |
| 169 | validation of research tools or reagents such as antibodies and cell lines was often difficult to implemented because of timing and/or technical barriers. |
| 170 | Resources - time and money. |
| 171 | Others outside the group sometimes find the procedures burdensome |
| 172 | Funding and time required to repeat experiments makes implementation more difficult at times |
| 173 | Working in real world healthcare settings, there is a tension between activities required for ensuring reproducibility of research and activities feasible for health professionals to conduct in addition to routine care. |
| 174 | These take extra funds and time. Both are scarce commodities and reduce overall production which makes it difficult to be competitive with my peers in terms of articles/year. |
| 175 | Senior white male vested interests have shut it down, used institutional bullying tactics to prevent us implementing procedures, University has not supported either which continues to shock us, despite us advising them in person ,that the behavior is inappropriate |
| 176 | inability to control reagents in different experiments |
| 177 | Lack of venues where replication studies can be published |
| 178 | For some animal GMO models (or even in human studies), sometimes not enough animals (or participants/donors) to repeat the study. |
| 179 | Funding. It is expensive to do. |
| 180 | A culture that does not fully appreciate the critical importance of reagent validation, cell line authentication, proper and regular calibration of pipettes and other equipment, SOPs that include accurate recording of reagents and cat numbers. Barriers for implementation include the time, cost resources needed to implement these measures. An institute policy on what is expected would be needed to impress upon all staff and students that implementing these measures is not negotiable. May require the Institute to appoint research quality manager to oversee and assist with compliance. |
| 181 | Pressure to publish and difficulty in publishing replication results. |
| 182 | Animal studies have been difficult to reproduce due to number constraints/ethics requirements. |
| 183 | Participant engagement and retention The 'human' factor in research and research participants (no two people are the same) |
| 184 | Not high on the list of priority within the organisation Focus on ensuring that revenue is generated means that the objective is to publish quickly and be 'seen and known' Inadequate standard operating procedures that resulted in various findings not being able to compared Total misunderstanding of what the FAIR principles stand for |
| 185 | Resistance due to increased costs. |
| 186 | Additional time taken which is not included within the university research funding schemes. |
| 187 | Convincing collaborators |
| 188 | Reluctance of researchers to work with a statistician to improve reproducibility of research. Push back on larger sample sizes than wanted, and inclusion of biological and technical replicates. Reluctance to follow reporting guidelines such as CONSORT and STROBE. |
| 189 | recruitment |
| 190 | Our research is primarily observational |

| # | Comment |
|-----|---|
| 191 | Resistance and lac of support from superiors in its implementation. |
| 192 | Time |
| 193 | Lack of resources and focus on proper coding of analyses |
| 194 | Difficulty to standardise procedures and write SOPs. |
| 195 | It costs more, so challenges for funding. Takes longer so longer lag time to get data out. PhD students in other groups don't understand why my students have to do more work/effort/use specific processes. |
| 196 | Cost to carry out such experiments |
| 197 | Lack of resources and funding |
| 198 | Journal word limit restricting detailed description of methods Difficulties recruiting and retaining participants Lack of valid scales or too many that it makes it hard to compare across studies |
| 199 | Time consuming, pressure to publish volume rather than quality |
| 200 | No unified institutional approach |
| 201 | costs - open access, blind outcomes, replication |
| 202 | Limiting the description of analysis methods in publications due to word limits; not sharing data or coding once published possibly due to a feeling of 'ownership' of the data once produced, particularly of population or linked data. |
| 203 | Statistical modelling for power and clinical effect size (and meaningful differences) are not well understood. Power analysis is often matches d to the sample size able to be funded. Some diagnostic classifications are not well suited to research methodologies and innovative hypotheses. - i.e. Chronic Low Back Pain. and 'Spinal Instability' for example. |
| 204 | Postgraduate research students with time pressure from a limited candidature term, visa expiration, or terminating scholarship funding will cut corners or even falsify replicate experiments to meet the very tight time lines. Academic discovery can be quick, but replication and validation can take a very long time. |
| 205 | Funding can limit the size of experiment (replicates and N) |
| 206 | Expense and slower publication output |
| 207 | We don't have one standard procedure for accounting for dropouts/missing data. Our team hired a data specialist who is supposed to be streamlining these sorts of procedures for us, but to my knowledge he has not really taken charge of this like he was expected to. |
| 208 | Pressure to publish makes it hard to focus on the quality of the science |
| 209 | Whenever there is ethics approval required the process is delayed by months. This means that we are left using substandard/old/not reflective of human population and while we can reproduce our results we cannot say that it is translatable to humans because we can't test it. The time and money wasted going through ethics process for small amounts of blood mean that the work is done as above or not at all. |
| 210 | Cost, time and complaints from colleagues when for instance wanting to make honours theses openly available (with the student's consent). |
| 211 | It can be difficult to get everyone in the research group to follow the same protocols, especially when it is not enforced from top down. |
| 212 | miscommunication & bad training of new members to understand the importance of good archiving & data-keeping |
| 213 | It is very difficult to reproduce results from large health systems implementation studies while taking the context into which health services innovations are implemented. |
| 214 | Lack of resources (protected time and support staff) for validation work. Early/Mid-career researchers may be overextended (e.g. 5 projects with no assistant) due to the supervisor demanding to have more projects to apply for more grant chances, in preference to having more validation. |
| 215 | Funding limits what is practicable. |

| # | Comment |
|-----|--|
| 216 | it takes much more time and funding. There's no NHMRC/ARC funds to directly do this work. If you want us to publish in open access, you should directly pay for it. Similarly for repositories and staff time on storing code etc. Also, most of your questions above are limited to certain types of research. They fail to cover epidemiology/prevention/public health research. The other huge issue is that NHMRC/ARC don't fund replication; all your blurb is about originality. Science relies on replication, but you don't fund it! |
| 217 | Localised participant groups, community contacts needed, no recognition of workload regarding community responsibilities, lack of adequately trained supervisors for research with Indigenous peoples and communities. |
| 218 | The procedures that I ticked in Q22 are implemented sometimes but not always. There are not always sufficient funds to do all of these to the extent that we would like. |
| 219 | Participant recruitment Controlling for biases Establishing appropriate control measures |
| 220 | One barrier would be the financial costs of open access publishing |
| 221 | Adherence between research groups |
| 222 | Lack of funds & support. |
| 223 | Money, pressure to publish and pressure to lead research. The whole research world is corrupt. Researchers are not really interested in true science. They are interested in 'selling' themselves and their research. |
| 224 | Access to our linked data in a remote server requires multiple HREC approvals this hinders the ability to get additional researchers actively involved in a timely manner |
| 225 | Insufficient and cutting of research budgets (in particular PSP levels) by funding bodies which often means that sufficient numbers of participants cannot be obtained within budget. |
| 226 | The extra staff time and reagents required to do things properly may not be available. |
| 227 | It takes time to learn and implement reproducible research practices, which goes against the grain when there is pressure to publish rapidly. I have chosen to make these sacrifices because I want to produce rigorous research. I am not sure that such sacrifices, in the long run, are enough to sustain an academic career that demands numbers of publications and grant income. |
| 228 | Time pressures from supervisors to publish. |
| 229 | Cost - really not funded for people research (may be different for lab research), so do this through student projects Publication - only certain journals publish validity and reproducibility papers in clinical research (more interested in the clinical trial but this is a downstream outcome) |
| 230 | Funding |
| 231 | Many barriers including lack of knowledge, lack of skills, lack of resources, lack of time, desire to publish, ... |
| 232 | Resistance from more senior researchers who would like things done 'their way' |
| 233 | being told this is not common in the field |
| 234 | As negative or neutral results are less likely to get published, there is resistance to invest time in writing them up. |
| 235 | Lack of structural support for sharing data (e.g. servers). Sharing data becomes something else added to our to-do list when I feel that the institutions themselves should be aiding researchers in ensuring that data are shared. |
| 236 | Time -- Learning gold standard open science practices, i.e., programming statistical analyses using code, such as in R, to improve transparency and reproducibility, is a huge learning curve. This time in combination with grant writing, teaching, publishing, especially as an early career researcher, is very difficult. This training should instead be introduced in standard graduate education and open science practices should be required by funding agencies so that senior researchers are incentivized to prioritize this training for their students before they're managing multiple independent projects. |

| # | Comment |
|-----|--|
| 237 | Lack of support from journals to be able to publish in open/reproducible ways (arbitrary word counts/limits, inconsistent policies about data saring). Lack of support from ethics committees/universities to commit to support open and reproducible methods, upskill researchers. Lack of support from funders to provide funding to support change within grant applications - explicit sections within proposals to demonstrate how the researcher will reproduce findings, rather than focusing on novelty. |
| 238 | Increasing the levels of quality tends to be incremental as realisation of new needs appear, but existing project/grant funding may not be sufficient to implement |
| 239 | limitations of study design, unvalidated past experiments |
| 240 | This can add extreme resource and time requirements, such as rewriting data processing pipelines to log all stages, huge time investment in setting up databases like redcap. |
| 241 | Reproducibility of reagents, insufficient information on how to perform a technique. |
| 242 | Cost of mice and consumables is prohibitive to large scale studies. Hard to perform experiments blinded due to space constraints for breeding practices Availability of positive and negative controls is not always possible - particularly for reagent validation |
| 243 | - the pressure to 'wrap-up' experiments in order to publish and present new data every year |
| 244 | Academics at my institution are time poor due to teaching commitments which represents a limitation to sound and open research practices. |
| 245 | These sort of efforts are seen as slowing down publication |
| 246 | Insufficient detail from previous research. |
| 247 | Small sample sizes recruited as those not meeting the inclusion criteria are excluded |
| 248 | Cost, time pressure, ethical restraints, lack of interest from senior staff |
| 249 | Finding detailed data cleaning procedures from others in the field |
| 250 | Cost of open publication and rejection of negative results papers |

q28\$ Why didn't you try to publish findings that disagreed with those in a published paper?

No. of Comments

180

| # | Comment |
|----|--|
| 1 | they were from my own groups and I wanted the authors to report the necessary retractions/changes |
| 2 | Lack of time and resources, with little incentive when pressure is to produce high-impact work to secure next round of funding |
| 3 | It was difficult to determine the extent to which the experimental systems were actually identical. Differences in in vitro culture systems may have altered the responsiveness of cells. |
| 4 | Was not relevant to the publication at the time |
| 5 | It would be difficult to publish |
| 6 | The work will likely be published but in any case it is a small discrepancy (a supposed control which does not behave as reported) and is unlikely to attract any attention (perhaps in part because the work has little useful outcome anyway). |
| 7 | Because I felt like a failure. I blamed myself. I was junior. |
| 8 | Likelihood of it getting published in an international journal is very low - more likely to think we are wrong than a large (well known) American group |
| 9 | Distracting, not relevant |
| 10 | we tried to reproduce a single result, not the entire paper. we rely on a good personal rapport with other research groups in our field. Practically speaking, this is more important than calling out their occasional dubious results. |

| # | Comment |
|----|--|
| 11 | Paper was later found to be a fraud (STAP stem cells) |
| 12 | We do not explicitly say that we disagree with the findings. However we imbed within our methods/results how we have 'adapted', 'modified' previous research approaches and interpreted data taking into account new methods etc. |
| 13 | Insufficient resources |
| 14 | We did not disagree with the findings but what happens often is that there is a bug in the software leading to it not working, or an update where the software doesn't do what it previously could do. |
| 15 | not completed yet |
| 16 | It was the beginning of a project that had a lot of potential directions. This particular 'dead end' was not deemed important enough to pull resources in to fully develop the discrepancy and we simply moved on with another line of investigation. |
| 17 | in progress |
| 18 | It is hard to get published for just disagreeing others. |
| 19 | Not ready to publish yet. But will be published when further validated. |
| 20 | Still working on the solution |
| 21 | failure to establish assays meant couldn't actually conduct study appropriately. |
| 22 | Low chance of acceptance |
| 23 | I have published contrary findings before and sometimes I haven't published these findings. It depends on potential impact of the contrary findings and how much time is required to thoroughly investigate the differences. |
| 24 | It was not a major component of my work |
| 25 | Too much resistance |
| 26 | unlikely to be published |
| 27 | there are few journals that allow for this type of articles; it is perceived that replication is not a nhmrc priority which want new and novel ideas all the time |
| 28 | Not important enough in this instance to through limited resources at. |
| 29 | Not yet. I'll need a lot of data to show that the problem is not with my data. |
| 30 | There is no point - it does not help your career or your science. If you have the funding and a secure job then it is easier to publish papers querying published data. Without those it is hard to justify doing the work to challenge a published but false result. |
| 31 | We tried to replicate and animal model. Effectively had no results as we couldn't make it work - who will publish that outcome? We are also pressured by our Uni VC to publish in top journals as part of current performance review processes, and a negative outcome study is unlikely to be accepted by those journals |
| 32 | Did not want to build a project around a negative result |
| 33 | That work is not yet completed. |
| 34 | Could not achieve the degree of sensitivity that I required in that particular assay so developed another one instead. |
| 35 | NOT APPLICABLE - I don't have findings that disagree with other papers |
| 36 | It was too difficult at the time to find a suitable publication format to do this (over 10 years ago) and the results were all negative. It is difficult in this case to prove that we did the method correctly when the results are negative. We tried talking to the laboratory that published the work but this did not help us reproduce that experimental work. |
| 37 | We are still completing the study for publication. |
| 38 | Wrote letter to editor (not published). |
| 39 | We are in the process of preparing a publication. |
| 40 | Our sample was not entirely appropriate for the research question, so our own results were also questionable. |

| # | Comment |
|----|--|
| 41 | someone else did it! thank goodness, I only wasted a small amount of time/money, the people that published wasted a significant amount |
| 42 | Likely to be rejected by the journal |
| 43 | I work on human cohorts, and variability between cohorts is always an issue. There are more variables than genetically-identical strains of mice, therefore result reproducibility between teams is sometime hard to achieve due to a wider distribution of parameters. |
| 44 | Still in prep. |
| 45 | Lack of time. Need to focus on funded activity. |
| 46 | One of our collaborators did not want to publish. But it should also be noted that there are multiple papers looking at the same question, with a variety of results. |
| 47 | I've only just done the analyses. We will publish eventually - need to do some more checking first. |
| 48 | In one case I contacted the editor of the journal to explain why my data disagreed with that reported. In another case, it was not worth the effort because, not only did we find the result was not reproduced, but the exact opposite was true. In this case, give my past experience, it was not worth the effort. In both instances, the publications were reported in journals with IF>10. |
| 49 | Not worth the effort for a low impact publication. |
| 50 | Not a priority, no desire for conflict |
| 51 | Some experimental set ups can be difficult, and just because we cant reproduce the findings doesnt mean that no one can. Experiment can also be highly contextual, and while in our context the result may have been opposite, that doesn't mean this is always the case. its much much easier to have an experiment not work than to find the correct conditions to make it work. We use independent techniques to replicate critical components of a story, but when trying to fit our research in with published work, we do preliminary tests of multiple possible reports, and see if we get promising preliminary results for various possibilities, we then leave the negative mechanism and focus on the positive mechanism without having generated enough data to disprove the negative mechanism. |
| 52 | Sometimes, it was very hard to argue as we may use different reagents and equipment. |
| 53 | Big group, felt their reputation would be taken more credibly then our groups disagreeing results |
| 54 | You don't get Nature papers that way |
| 55 | not publishable |
| 56 | The research is not complete yet but we will publish this. |
| 57 | We failed to validate a [model] that had been published by a [major group]. Rather than trying to 'disprove' it was more efficient to simply work with an alternative mouse model that was working. |
| 58 | I was investigating an alleged case of research fraud |
| 59 | Issues relate to problems with replication of methodology on different samples hence not possible to confirm. |
| 60 | N/A |
| 61 | Insufficient data to publish |
| 62 | The study was not rigorous enough |
| 63 | It will take too much to do these experiments fully and it will be difficult to get them published. |
| 64 | Emailed the researcher |
| 65 | Not yet, trying to gather more and more data as to refute already published work is very, very hard!!! |
| 66 | Too much effort to find a journal that would accept such a paper i.e. not enough reward. |
| 67 | I could not get the initial part of the experiment to work so there was nothing to publish as I couldn't get the experiment started. |
| 68 | I am still trying to work out why the results differ as I think that will be informative. |
| 69 | not absolutely convinced my data was correct and I would be going up against a major international group |
| 70 | Current .in preparation for publication. |

| # | Comment |
|-----|---|
| 71 | don't have a complete story - only one part of it |
| 72 | Politics in the field, lack of confidence in my reproduction methods. Someone else did challenge the finding and the paper was retracted, so I wish I'd spoken up. |
| 73 | Why would you??? |
| 74 | didn't get around to it |
| 75 | insufficient data |
| 76 | I assumed that it didn't work because I had done it incorrectly. In other cases I tried to contact the original author to ask extra questions regarding methodology details and they never responded. |
| 77 | (1) Too hard to publish reproducibility studies. (2) No intention of publishing as this was to ensure we were using data in a way consistent with others. |
| 78 | Still doing the work and adapting the methods |
| 79 | The findings were obtained as part of a project undertaken during my Master's degree (minor thesis) and I did not have the confidence (or support of my supervisor) at that time to publish the findings |
| 80 | No point - it would never be published in a reasonable IF journal |
| 81 | Technically I was able to reproduce the results, but by identifying the researcher was not clear in describing the methods - or interpretation of the data. |
| 82 | The time commitment required was not worth the effort. Time has shown that some of the findings were not reproducible, and the approach has not been further taken. |
| 83 | We decided we could not match the conditions in the original study, and therefore the failure to replicate the earlier findings was due to a range of factors beyond our control. Trying to publish such a 'finding' with an honest discussion of why we couldn't replicate the original finding was likely to have been desk rejected by the relevant group of journals in our field - because of the lack of comparable conditions. |
| 84 | could not replicate |
| 85 | Still working on the study |
| 86 | it wasn't possible |
| 87 | It is almost impossible to publish 'negative results' and when they are published, the quality of journal is often deemed low by colleagues and institutions and therefore not helpful for HDR students and ECRs in the group to focus their time on. |
| 88 | We will publish this finding as part of a broader study into that particularly gene of interest. As the finding we are disputing was published in a very high profile journal, I feel it would be better to report our contradictory results as part a largely mechanistic study. |
| 89 | The original finding was well established, and although I was not able to replicate I assumed the fault lay somewhere with me, I just could not identify it |
| 90 | We were not confident with our findings |
| 91 | It was a small part of the research work and we explored alternative explanations |
| 92 | I did not think it was a sufficient finding to publish |
| 93 | Insufficient time to prioritise this. |
| 94 | We contacted the author of the paper for assistance and they submitted an amendment to the journal |
| 95 | Didn't have time and others quickly reported their failure to reproduce. |
| 96 | There was not enough evidence that the results in the published paper were falsified/incorrectly reported/poorly reported |
| 97 | I do not think it would have been accepted. |
| 98 | This is still in progress in my laboratory. |
| 99 | N/A |
| 100 | I doubted the results of the original publication and decided to pursue a different approach. I thought at the time that my findings were unlikely to be accepted for publication. |
| 101 | For some I published a letter; for others the differences were too small to warrant publication. |

| # | Comment |
|-----|--|
| 102 | The barrier that the first paper must have been correct is enormous (e.g. [Identifying comment]) |
| 103 | we tried another method |
| 104 | We abandoned that part of the results for publication |
| 105 | Attempted replication was only a small portion of the published paper and unreproducible data was insufficient to produce a publication in its own right without inclusion of additional data. |
| 106 | This would have been a waste of precious, hard-earned funding, and we would rather focus on new findings. Very hard to get this published if these results were not published in major journals (ie. Nature, Science ...) |
| 107 | Ultimately it did not change the world! |
| 108 | I knew I would have trouble getting them published, I waited until I did another study |
| 109 | Reputation consequences. Publishing work that aims to discredit big players in my field would be a risky move early in my career. |
| 110 | There are many reasons why a finding may not replicate in my field of research. For example it may be because the cohorts of patients and controls are from different ethnic groups, or the patients are defined using different diagnostic tests or clinical parameters. Therefore not all patient and control cohorts are identical and this can contribute to how the results are interpreted. Also not all cohorts have suitable statistical power, therefore it is not unusual for findings not to be replicated. Non-replication does not necessarily mean that the original or subsequent data is wrong, it can mean that it is just different and should be interpreted as such. |
| 111 | The effort is too great to publish contrary results. You need a higher standard of evidence to debunk previous data than you need to publish the original finding. This takes substantial allocation of resources that we simply don't have. It also may not be necessary - people within the field talk to each other. They know what research cannot be replicated. The people who publish such unreproducible findings lose standing in the field and find it harder in the future to get the work passed peer review. |
| 112 | The results still supported the conclusions from the original study. Differences in our estimates are likely due to stochasticity or optimisation algorithms in different software versions. |
| 113 | Published paper was from a reputable laboratory |
| 114 | not publishable |
| 115 | Wouldn't get published, realistically |
| 116 | It is a very large amount of work to thoroughly refute published work. Journals don't want to publish it and one makes career-long enemies in one's field....why would you? |
| 117 | It really depends on the finding. Differences in biological findings - yes. Differences in outcomes using the same 'novel' published methodology developed by another group - this is difficult as you are essentially going up against a much larger (and usually powerful) research group in your research field. |
| 118 | My concern was that the methods were not fully described in the original paper - so it was not clear that I was in fact replicating the work. |
| 119 | We only tried the repeat experiment once and we are carrying out our research in a Biotech company so have moved to another approach. |
| 120 | Not worth the fight. I would want to do many experiments to determine exactly why the work was not reproducible. Only then would I feel confident enough to go public with an accusation. This is not the main goal of my research so I chose not to invest time doing it. It's a distraction. |
| 121 | I tried to reproduce a model that was published, but there is insufficient information on what are input variables, methods and assumptions of the model construction. |
| 122 | The time and effort required to publish such a result required more resources than I had available (and there would be little credit for doing so) |
| 123 | No reward for effort |
| 124 | That was HPLC assay. It is quite common the same method is not reproducible due to different instrument, column used. |
| 125 | Method did not work, may have been a species difference. |

| # | Comment |
|-----|--|
| 126 | Despite trouble shooting, was unsure if the failure was technical or a true result and project was abandoned due to no ongoing funding. |
| 127 | Because to disprove a [paper] and get it published would have required a huge amount of effort and involved significant expenses (animal work). It was also during a critical time in my career where i needed to produce publications in order to progress to my next career phase and pursuing that line of inquiry was far too risky. |
| 128 | We simply moved on from the research because it was a dead end. |
| 129 | Still working on it |
| 130 | Minor details |
| 131 | work in progress |
| 132 | No major disagreement |
| 133 | Because three other papers came out at the same time as I discovered the results were faked. I also spoke to the lab head and he warned me to stop working on this project as there were problems with their study |
| 134 | The reviewers of the journal suggested that the topic was not directly relevant to the main emphasis of the manuscript that we wrote. |
| 135 | I was very junior and new to this field so I assumed that my failure to reproduce the results was my own fault, not a fault in the original report. I've also spent a lot of time trying to to run experiments based on papers that have insufficient methodological details. I often contact authors for protocols but have never received a satisfactory response. |
| 136 | wouldnt be published |
| 137 | Insufficient data so far |
| 138 | Comparative with added knowledge. |
| 139 | Paper was the accepted. We were collaborating with the authors. |
| 140 | We were not sure that we had, nor could import the same validated materials as the original authors. We chose to modify our approach and come at the problem from a different aspect rather than prove the other leading group wrong. |
| 141 | In preparation |
| 142 | It didn't fit with existing dogma. |
| 143 | the inability to reproduce published finding is commonplace in my industry. |
| 144 | There was and still is a persistent concern that without positive findings the findings would not be accepted at a journal. |
| 145 | Negative results don't get published. |
| 146 | Was not appropriate to do so. |
| 147 | I assumed that there must have been something else that the researchers did that they did not accurately represent (or perhaps accidentally?) left out of the paper? In several instances I followed up by writing to researchers directly. Sometimes they replied with helpful advice sometimes they did not reply at all. |
| 148 | N/a |
| 149 | Work in progress |
| 150 | I've been a student and it didn't seem appropriate to publish results that disagreed with the original work when the authors voluntarily provided the data for an assignment in a course |
| 151 | It is actively discouraged for junior researchers (and probably all researchers) to undertake any work that has previously been investigated. This acts to prevent any attempt at reproducing research that has been published. The very first criteria of any research from a junior researcher is it is novel. |
| 152 | Couldn't get the experiment to work at all |
| 153 | Too hard, too many barriers |
| 154 | Methods reported did not work in our lab. So nothing to report. |
| 155 | Not written yet |

| # | Comment |
|-----|---|
| 156 | Too hard |
| 157 | It was a minor experiment |
| 158 | Because we couldn't justify the resources required to completely 'debunk' the original study and as such it would unlikely be published. |
| 159 | Having a negative result that doesn't work is much harder to publish than a positive result |
| 160 | I didnt know if I had done it the right way as the methods provided in the original paper were not clear/detailed enough. |
| 161 | Moved on to a new experiment with higher likelihood of publication. |
| 162 | Had methodological problems |
| 163 | Isolated findings that did not amount to a story |
| 164 | lack of time, little incentive, backlash |
| 165 | It was not enough to publish in its own right. |
| 166 | Antibodies from the same company handles in the same way didn't work in my hands. Not a publish worthy finding |
| 167 | Its a methods paper and we are just looking to use the methods described for our own project. |
| 168 | Because I have only made one attempt |
| 169 | The piece of data is included in a bigger project that is not ready for publishing yet. |
| 170 | We generated a new transgenic mouse line based on a previously validated mouse line that has been successful in multiple other labs globally. The new mouse line didn't work for us, and we're still in the middle of troubleshoot it. We don't know if it's the alterations we made, or if it was inherent in the original mouse line. |
| 171 | I assumed I was wrong. |
| 172 | No well ranked journals in my field are likely to publish such results. |
| 173 | I did not pursue that line of research |
| 174 | I didn't think it would be worth my time to try. |
| 175 | Too many differences in the experimental systems |
| 176 | Study is incomplete. |
| 177 | Lack of resources to achieve the level of accuracy and reproducibility required for publishing the data |
| 178 | Impossible |
| 179 | went and found another method/paper with which I can reproduce the method and results |
| 180 | Generally involved procedures that, do not seem to be publishable |

q32\$ If a finding you had published was not able to be reproduced, how was this resolved?

No. of Comments

123

| # | Comment |
|---|---|
| 1 | I have found relatively small mistakes in [a few] papers when I used my previous work as a basis for new work. These mistakes were always fairly minor and although they changed the published estimates, it was by less than 10% (sometimes by less than 1%) and never changed the conclusion. To my shame I have yet to write to the journal for the mistake that was around 10%, but it is on my to-do-list. I did write a corrigendum for one journal where there was a mistake in an example calculation given in the paper and that was published by the journal. |
| 2 | not resolved - the problems occurred because the data were no longer accessible |
| 3 | discovered mistake in reagent preparation |
| 4 | meta-analytic findings account for the divergent effects |

| # | Comment |
|----|---|
| 5 | I was contacted by the study authors, was able to provide clarity on methods, and it was resolved. |
| 6 | provided additional data and experimental detail |
| 7 | The finding was not reproduced in other studies (not in the same study). Later meta-analyses did not replicate the finding when data was summarised from many studies. IT is now widely accepted that the original finding was not causal, but was due to epidemiological confounding. This is not an unusual happening in epidemiology |
| 8 | Published findings remain at variance with others. |
| 9 | In the second paper, I said that the findings of study 2 were different from study 1, and I tried to provide reasons. |
| 10 | Next publication corrected and explained the issue |
| 11 | Personal communication with other research group |
| 12 | Not resolved - attributed to sample/population differences. |
| 13 | On several occasions, pursuit of an interesting secondary outcome that was statistically significant, failed to confirm the observation in a study in which the outcome was the primary focus of the study. Beware of secondary outcomes!! |
| 14 | This was some time ago. The reproducibility problem was found to be due to a switch in [sample] that was assumed to be inconsequential but in fact substantially altered [result]. We learnt more from exploring the poor reproducibility than the initial experiment. In a second instance the assumption again was made about the [sample] conditions. Poor reproducibility came from widely varying growth factor levels in [sample] |
| 15 | Our study had unique data Until a similar study is done it will not be replicated. |
| 16 | We found a [characteristic] that was not retrieved by another group. We discussed this with the other group, compared protocols and arrived at the conclusion that our differences were due to the state of maturity of [sample] , which varies with differentiation protocols. |
| 17 | Agreement that differences in methodology, cohort etc accounted for differences |
| 18 | We figured out the reason for the inconsistency and published 2 more papers accounting for it, conceding the original error in interpretation. |
| 19 | We identified why there were differences in results (it was due to a change in methods) and actually published a methods article describing how using different reagents/methods can produce artefacts/confound interpretation of specific assays! |
| 20 | We have no funding to commit to the six months required to publish a new paper to point out the mistake and correct the error. We will also struggle to get this published as well. It is weighing on me considerably. It is one research finding that was generated by a mistake by a [colleague] in the lab and it is not a mistake that is obvious in the paper (a sample swap). It was not fraudulent, but an honest mistake. I would like to correct this finding but don't know how to achieve this. As time is ticking on it will become harder and harder to resolve this. I am ashamed about this and feel culpable as a scientist and failing my own standards. |
| 21 | Focus of ongoing significant debate in the literature and at meetings |
| 22 | A third study from another group then validated our findings. |
| 23 | It was a meta-analysis of studies and when a triallist tried to implement findings from a large systematic review they were not able to reproduce these findings in their setting. We discussed a range of contextual factors that were likely to have impacted on that and revised the meta-analysis to include equity analysis and analysis for a range of other contextual factors. |
| 24 | By repeating the experiment with the same mice and antibodies. |
| 25 | subsequent correction published |
| 26 | Discussions between parties involved |
| 27 | Normally, we can reproduce our published findings. Sometimes, the findings could be repeated partly. The differences were largely due to experimental conditions were not completed the same. Sometimes, we tried to repeat our studies, but it is impossible due to ethics issues. |

| # | Comment |
|----|--|
| 28 | This was due to use of earlier generation compounds which lacked complete specificity. |
| 29 | Different samples give different results all the time in my field, due to slightly different inclusion criteria. These questions are not phrased in a way that is applicable to my field (not RCTs). |
| 30 | Difference due to the serum in the media. |
| 31 | Understanding of experimental models, patient demographics. |
| 32 | It is an inherent issue in real world epidemiological research. It cannot simply be 'resolved' |
| 33 | I am thinking of an association between [disease] risk and genotype - there are large inter-population differences in control allele frequencies (it is in the top 5 genes showing large differences [in a specific location]), and demonstrable large gene by [demographic] interactions on both [disease] and related phenotypes. This is only loosely a problem of reproducibility, as it reflects important biological heterogeneity that is not always recognised. So multiple studies have demonstrated an effect. and others have not - statistical tests for study heterogeneity are highly significant, but these differences are not technical artefacts. |
| 34 | Still open re the truth or not. Most are not yet replicated because we are underpowered. As larger meta analyses are performed many uncertain results are now being validated |
| 35 | [Method] for a particular [sample] cannot be reproduced since that batch of [sample] is no longer available from the company, and the next batch does not work. |
| 36 | For one we published a follow-up letter in the same journal to highlight the problem. For another - we reported a RCT and [some] others ran similar RCTs after - with mixed results - meta-analysis was feasible and has been used to deal with this |
| 37 | We tested a procedure we previously published by a [colleague] after the person who generated the data in the paper had left the lab. [Another colleague] could consistently not reproduce the data in the paper, and consistently observed a result that was opposite to what was published, which was very worrying for me at the time. [This colleague] spent nearly a year going through every parameter to work out why the data was not reproducible and as part of this process we also recruited other independent researchers to try to reproduce the experiments – some people reproduced what was in the paper and some reproduced the data of the new person. Initially I suspected the first person had manipulated the data, which was most worrying, and I was on the verge of retracting our publication, but the fact that some other people could reproduce the data made things very unclear. In the end, we discovered a completely innocent reason for the lack of reproducibility which related to a subtle difference in the protocol that was not clearly written down in the paper. It was the small sort of thing that could be easily overlooked as being an unimportant parameter for the experiment. In hindsight this parameter proved critical. We have not yet published this issue yet. But lessons learnt are that some experimental details can be critical, but not obvious, to how the results are produced. Hence these details are not properly recorded in the publication. This is not an issue of poorly describing the methods in the paper – rather it is an issue that possible minor variations of standard methods are hard to rule out when you don't know that they can affect the outcome. The second lesson for us was that this finding has opened up an unexpected avenue of interesting research based on the anomaly in the methods. We are planning to publish this soon as both a precaution to other people using the methods of the published study, and for its new insight into the biology it provided us. |
| 38 | we corresponded with other researchers and swapped animals. They reproduced our data and revised their original study |
| 39 | Discussed with the researcher and invited them to my lab to resolve the discrepancy in results |
| 40 | Through an understanding of differences in the context in which the intervention was conducted (differences in setting and population) |
| 41 | We reviewed the original notes of the [colleague] in our lab and found that not all of the experimental details had been included in their detailed protocol. We rectified this and were able to reproduce the findings. |
| 42 | I supplied extra tips on how to use the reagents to the authors, the purchase of new reagents solved this reproducibility problem. There have also been situations where antibodies have been discontinued after publication. |

| # | Comment |
|----|---|
| 43 | We retracted the paper. |
| 44 | by publication |
| 45 | discussion with the other research group |
| 46 | Yes, in a further study. It appeared that the analysis method employed in the replication was more effective at obtaining a 'true' result than the original published work. This has subsequently been published and we now use the new analysis method in all similar studies. |
| 47 | The testing required a higher degree of clinical expertise to work with severe [disease] that the researcher who attempted replication did not have. |
| 48 | Further RCTs and meta-analyses |
| 49 | Different researchers using their own version of the same genetically modified mouse have obtained different phenotypes. [Identifying comment]. I wholeheartedly believe the data we obtained because we have reproduced it several times in our lab. |
| 50 | Not resolved or investigated or Retraction |
| 51 | The field |
| 52 | My group repeated our experiments, as did the other group, and we were able to come to a consensus that our findings were correct. This was then replicated by a third group. |
| 53 | Initial RCT was repeated in another setting / country. 1st study didn't reproduce findings but second RCT did reproduce findings. |
| 54 | not applicable |
| 55 | There are a few examples. In one case [Organisation 1] funded a project between our group/[Organisation 2] and [Organisation 3] where we took our entire equipment [overseas] and carried out the study in parallel using our two different methods. We and [Organisation 2] showed that our method was correct and we published this together and agreed with [Organisation 3] colleagues on a final result. |
| 56 | In this case it was finding from collaborator that I could not reproduce. In the end I required written statement from collaboartor to state that findings were correct. |
| 57 | Still being pursued. Reproducibility again is due to different samples and some differences in availability of reagents resulting in slight changes in methodology. One potential statistical analysis error is being pursued. |
| 58 | I examined the differences between the papers (often I review those papers and as long as the data/statistics are sound, I readily accept those papers to be published even though they can't replicate what I've done), and figured out that [different population demographics] were used in the studies. We published an influential paper attributing the conflicting findings to [demographic] differences. This not something that the conflicting studies were aware of.. ! Pretty obvious difference in my opinion. |
| 59 | More research as to methodologies revealed a critical step that was not recognised as significant |
| 60 | RETRACTION |
| 61 | In the literature among colleagues and competitors - and we ended with the 'right' answer in the end |
| 62 | I am contacted by researchers who couldn't use our codes (we make our codes available). We repaired the bug in the code and/or helped the researchers to use the code for their experiments. |
| 63 | [Identifying comment] |
| 64 | Discussed with other research group- we identified errors in there methods ie large variations in their data due lack of rigour in data collection |
| 65 | Research in the area is continuing, with groups actively investigating the impact of larger sample sizes on the consistency of earlier findings. |

| # | Comment |
|----|--|
| 66 | This is a bit specific so I'll try and make it easy to understand. I had a finding [after conducting an experiment] and found a particular decision-making outcome that another group did not replicate. I later found that, with more specific [fragments], they were targeting a functionally different region, and was able to replicate my own finding with a more specific boundary to the target region. |
| 67 | When contacted by the other researcher, I worked with them to identify details of the methodology which they may have done differently than me, until they received a similar result. |
| 68 | In clinical research, with different populations and different diagnostic and management algorithms, this happens all the time. That is why we have meta-analyses. It is resolved with different and larger trials, or pooling data, or considering the differences in populations. |
| 69 | No. |
| 70 | Associations I have reported have not been reported in other studies. We have carefully examined the cohorts included, follow up of studies, and the potential biases that may have affected both mine and other studies and tried to understand where the differences may lie. It's not very straight forward in some observational studies, despite large samples and good internal validity. |
| 71 | One paper did not replicate, but this was of recognised low quality. Future multiple groups undertook high level studies which then replicated the findings. |
| 72 | Not resolved |
| 73 | Our subsequent paper found a difference we missed in our original work because our original work was underpowered. |
| 74 | This was resolved as far as the result did not replicate in a larger sample size. |
| 75 | Nothing to resolve. Conducted in an entirely different group in a different country with different health care systems so it is entirely reasonable that findings will be different |
| 76 | In epidemiological research it is normal that different studies come to somewhat different conclusions. This is part of the natural variation of the processes we study. In the end its the consensus of multiple studies from different research groups that resolves the issue. |
| 77 | multiple studies where some were able to reproduce and few not able to. Difference in methods in the negative papers seemed to be the issue |
| 78 | Replication was apparent but could be hypothesised to be differences due to research design, setting and inclusion criteria (applied health services research) |
| 79 | The research group trying to reproduce our data were inexperienced with the analysis and incorrectly carried it out. Journal was notified. This is still pending resolution. |
| 80 | By considering differences in participant selection and protocols and the broader body of work in which our findings sit |
| 81 | We could not resolve why the finding was not reproducible. Other data within the publication was reproduced. |
| 82 | sending the researchers more detailed protocols |
| 83 | It was reported in the literature and then my result confirmed by a 3 publication. Subsequently by others. |
| 84 | other methodologies used by other teams and apparently resolved the issue. my own methodology was never replicated or refuted. [Identifying comment] - it appears that the consensus does not support my original finding). |
| 85 | Discussion with the researcher involved. The issue was that they did not undertake the experiment in the same experimental model which meant that the findings could not be extrapolated to other settings. |
| 86 | Further research to examine reasons for the failure to replicate with eventual resolution |
| 87 | 1. reagent quality needed improving to confirm original finding 2. inappropriate methodology was applied in the latter study |
| 88 | In epidemiological and policy impact research, often the conditions have changed so that the finding cannot be tested again. (The questions in the survey seem to assume we are all lab scientists.) |

| # | Comment |
|-----|---|
| 89 | Usually this is normal and meta-analyses document all the effects, the overall effect size and the heterogeneity, which we use to try and reconcile differences between studies. However, sometimes people are less collegial and publish failed replications to try to discredit your research. In one instance a person miscited my original research, used the wrong formula, and then claimed that they couldn't replicate my work. [Identifying comment]. I think failure to replicate is most often because people use different methods, and the differences are easy to resolve if people are fair-minded, but it is often self-interest that leads to problems where people argue about what is wrong or right. It is not really about the research. |
| 90 | multiple publications in that area have lead the extended research community to arrive at a consensus about where the truth sits. |
| 91 | We published the results from a study with much greater power clarifying that there was no association. |
| 92 | Not resolved - we and the other group have met on a number of occasions to try and resolve the issue |
| 93 | Never |
| 94 | Larger studies were undertaken then were possible when the original was done. This showed that the result from our study did not hold (used genetic data) |
| 95 | Requires a meta-analysis to resolve differences - may be sample differences, test differences etc |
| 96 | It wasn't - I was just criticized and told I was wrong even though it was the most rigourous findings to date |
| 97 | The group that tried to replicate the finding published a paper, saying they were unable to replicate our findings - and stated potential reasons for it. Both groups now work together to understand why this finding is different [Identifying comment]. |
| 98 | Not resolved to my knowledge |
| 99 | Left unresolved. Experimental differences between groups were not addressed but likely underpin the differences |
| 100 | Not sure these can be 'resolved'. There are subtle differences between papers and research processes. |
| 101 | Lots of findings are not reproduced in epidemiological research due to work being conducted in different populations or because comparable measures are not available across studies |
| 102 | Subtle details in the methods which meant that we were looking at slightly different variables. |
| 103 | A subsequent (independent) study re-confirmed the original finding, so we felt vindicated. |
| 104 | There are significant differences in clinical management and investigational techniques between clinical centres, and thus it is expected that not all studies from different populations will have the same results. |
| 105 | There is difficult to resolve this issue due to the word limit and requirement of the journal which does not allow me to make my research transparent. There is some cases where the data is requested, however the participants did not allow for data sharing. |
| 106 | By review of the methods and acknowledgement of unrecognised errors in the original methods |
| 107 | it was a small dataset and the error in the data was identified (when used for teaching purposes) and corrected |
| 108 | It was resolved with a further data collection series |
| 109 | During my [studies]...was advised that no action was needed as the paper was already published! Supervisor now dead and was 20 years ago. |
| 110 | Not resolved but discussed differences in cohort outcomes in subsequent paper. |
| 111 | Materials were transferred to a third lab who reproduced the study. They were able to reproduce our results. The study was complex and the first lab was unable to reproduce due to a lack of technical skills required. |
| 112 | I repeated the study and republished |
| 113 | As a qualitative researcher, my primary concern is not about reproducibility. Transparency, particularly in relation to inductive generation of results and abductive reasoning when develop theory are priorities. |
| 114 | I don't know. |
| 115 | Research cannot always be reproduced because of context. This is particularly the case for qualitative research. |

| # | Comment |
|-----|---|
| 116 | It was in public health, which is more difficult to control for the many external factors influencing success. |
| 117 | Still unresolved due to technical inability of the research group trying to replicate our data. This is an ongoing battle with the journal where the data is published and is increasingly frustrating. |
| 118 | It was not resolved. Two independent laboratories had a technique work. A third didn't and published on this. |
| 119 | Reagents from the same supplier were used for the chemical reaction and same silica for compound purification |
| 120 | The samples we used were slightly different from the original ones we used- that could explain the lack of reproducibility. |
| 121 | Not resolved via experimentation, more considered to be part of the care and caution around the widely accepted assertion that 'other labs quite often will get different results with the same methods' Whether they are the same, whether the full details are given to replicate, and what effect differences in technical skill etc influence outcomes is not known |
| 122 | Due to differences in strains - published new finding with commentary. |
| 123 | Not resolved |

q36.7\$. At what stages do you generally discuss responsible research practices with your supervisors / senior colleagues / senior administrators? (Other)

No. of Comments

90

| # | Comment |
|----|--|
| 1 | at board meetings at least annually |
| 2 | After looking at twitter or retraction watch. Seeing dodgy researchers getting let off. |
| 3 | Patent applications and R&D contract reports |
| 4 | when grant applications are being developed |
| 5 | in experimental design sessions |
| 6 | When required |
| 7 | when study protocol is in development |
| 8 | Commencement of each person's employment and each project |
| 9 | developed an acknowledgement statement to ensure all involved were duly acknowledged |
| 10 | Institutional review of data plans |
| 11 | It is an interest. I see computational modelling (not statistics) as an underutilised tool for checking experimental data |
| 12 | At every meeting at any stage of a project - which is daily to weekly - we embed responsible research practices with research staff and students |
| 13 | When conflicts arise about authorship |
| 14 | As the need arises |
| 15 | When relevant |
| 16 | at institutional educational forums |
| 17 | whenever appropriate |
| 18 | During co-teaching sessions |
| 19 | As required |
| 20 | responsible research practice is good science and is built into everything we do |
| 21 | WHEN TE PROTOCOL IS BEING PREPARED |
| 22 | often comes up in conversations/weekly or fortnightly catch ups with my direct supervisor |

| # | Comment |
|----|---|
| 23 | At various times, some of the above, also at conferences |
| 24 | when there are problems |
| 25 | when dealing with funding bodies who wish to have undue influence |
| 26 | when matters arise. |
| 27 | During regular supervisor meetings |
| 28 | when papers failing to use responsible research practices are published / retracted |
| 29 | When reviewing papers for journals |
| 30 | When new research being designed (specific to the project) |
| 31 | As part of information sharing practices associated with highly collaborative cross-institutional and cross-sectoral research |
| 32 | When I foresee a problem ... |
| 33 | When discussing a paper published by other groups |
| 34 | At both structured mentoring events and socially |
| 35 | Prior to/in very early stages of a project starting to ensure appropriate data collection required for publication is being documented. |
| 36 | during weekly data review meetings |
| 37 | In the initial stages of designing a research project |
| 38 | it is core in everything we do |
| 39 | When planning/designing experiments |
| 40 | I am planning formal research training for our students, and am in discussion with the graduate school about implementing this |
| 41 | when reviewing |
| 42 | during data collection |
| 43 | regularly usually as mentor and supervisor- of students, post docs and other researchers |
| 44 | Whenever I can. All the time. Every day. |
| 45 | When I encountered bad practices in the research centre. |
| 46 | Project planning stages |
| 47 | I am a PI, so rarely discuss with a senior (Dean) |
| 48 | At in house research presentations |
| 49 | when studies are being designed |
| 50 | study design stage |
| 51 | i am the senior staff member, and we care. the institution and heads of school appear not to. |
| 52 | when reading new papers from other authors |
| 53 | during feedback to our board |
| 54 | When things are thought to have gone wrong |
| 55 | Advisory Group meetings, team meetings, mentoring meetings |
| 56 | When reviewing the work of others. |
| 57 | at occasional seminars |
| 58 | during project development / protocol production |
| 59 | During the experimental design process |
| 60 | it is part of the research process - we are always discussing it in the context of study design, consent, data collection, data sharing, reporting and interpretation, etc. |
| 61 | It is more ad hoc. I have had several PhDs complete in this domain (bioinformatics workflow repeatability) |
| 62 | during phd supervision meetings |
| 63 | design and protocol stage |
| 64 | When students are introduced to the lab. |

| # | Comment |
|----|--|
| 65 | I am the senior colleague in my research group so i discuss these things with my staff regularly but you don't ask about that |
| 66 | NA |
| 67 | I train others on these issues - so they come up in discussions about training |
| 68 | Again, if you are a decent scientist all of these boxes should be checked |
| 69 | as the supervisor of the group I discuss this when data is being collected/ experimental designs are implemented. I do not often discuss this with my senior colleagues. |
| 70 | When a study is being designed; when data analysis plans are being drafted; when data management plans and/or archiving procedures are being drafted. |
| 71 | When designing a study |
| 72 | During project/grant development |
| 73 | teaching of undergraduate and post graduate courses, Research Integrity meetings |
| 74 | at committee meetings |
| 75 | When discussing papers published by other groups and the high level of variability in results in our field. |
| 76 | In consultations with consumer advisors |
| 77 | this is more trouble shooting discussions |
| 78 | During experimental design |
| 79 | As and when they arise during the conduct of a research project |
| 80 | in journal articles |
| 81 | When study data is being maintained |
| 82 | Initial discussion about a project mainly |
| 83 | When critically analysing published work - i.e. during literature review |
| 84 | When designing and preparing for experiments |
| 85 | When planning for and performing data collection |
| 86 | Executive meetings |
| 87 | prior to data collection |
| 88 | When planning a study. |
| 89 | I try to discuss and am ignored |
| 90 | At the inception/planning stage of a new stream of research |

q40.7\$. How are you assured about the quality of the design and methods for a project outlined in applications considered by your committee? (Other)

No. of Comments

11

| # | Comment |
|---|---|
| 1 | Our ethics is mostly about treatment of participants, the scientific quality is less carefully scrutinised. |
| 2 | All greater than low risk applications require statistical review prior to submission as well as peer review, independent review, if appropriate pharmacological review |
| 3 | CI expertise |
| 4 | I am also, in some cases, able to read the logic of a proposed project and form an opinion on whether the hypotheses could plausibly be answered by the methodology. |
| 5 | Consulting with experts in field |
| 6 | Sometimes the publications and reputation of the applicant are known to me and are sufficient. |
| 7 | I'm not assured about the quality |
| 8 | scientific and drug committee |

| # | Comment |
|----|---|
| 9 | Within relevant Commonwealth and State legislation, all applicants are required to fully respond to all criteria in an on-line form application which is carefully vetted, criteria by criteria |
| 10 | The review process that includes myself and other members collectively |
| 11 | Often the HREC feedback is the main source of advice to researchers, including student researchers. |

q41\$ What systems does your institution have in place for measuring, monitoring and reporting the quality and outcomes of research?

No. of Comments

73

| # | Comment |
|----|---|
| 1 | We have documents for review of performance including quality and outcomes of research that our staff are measured against. We publish an annual research report. |
| 2 | SOPs and expertise in data management, monitoring (on site and centralised) and quality, compliance and research outcomes. |
| 3 | Subscriptions to Scopus and other bibliometric databases; ERA; annual performance reviews of all academic staff |
| 4 | Review at submission stage Public presentations and discussions Peer review during planning and design phase |
| 5 | Limited but actively trying to address. |
| 6 | Internal/external peer and ethical review |
| 7 | ISO9001 and a QMS system that captures principles of continuous improvement. |
| 8 | All our research platforms operate to a minimum ISO 9001 certification which requires regular reporting, curation and secure storage of data, adherence to SoPS and a robust risk management system. All manuscripts and grant applications should be read independently |
| 9 | About to institute research supervisor registration and training Research ethics committee, research integrity committee |
| 10 | Being developed through Research Services |
| 11 | Our institution measures the grant success of individual researchers as well as publications and citation indexes. It is also promoting high quality research by supporting core infrastructure that is accredited |
| 12 | There are various committees established for each project and they determine the methods for measuring the quality and outcomes. There is a requirement for the project teams to provide progress reports against deliverables at periodic intervals. |
| 13 | A full QMS with regular audit. Mandatory training requirements for all research staff. |
| 14 | Research information systems, library systems and College oversight |
| 15 | Annual audits |
| 16 | Induction, training sessions, web info |
| 17 | Research integrity office and staff |
| 18 | Research integrity office, ethics committees |
| 19 | Comprehensive reporting on outcome metrics. Procedures for the management of research integrity breaches. Promotion of a culture of openness and collaborative problem solving for research integrity issues. |
| 20 | Academic standards framework outlines expectations. Internal performance review of staff included quality and outcomes. |
| 21 | Strong research policies, Annual institutional reports, reporting through the HREC and AEC, research quality embedded into each staff member's annual contribution review, encouraging (and funding) collaborative research, benchmarking, participating in ERA and other benchmark activities, open culture where people are encouraged to question. |

| # | Comment |
|----|--|
| 22 | Some elements of internal peer review, and quality indicators in Role Statements exist. |
| 23 | Few if any. Some tools to assist researchers in establishing the impact of their research, including for non-traditional research outputs. |
| 24 | As a university, there are robust systems in place for this, involving several areas of the institution's operations. |
| 25 | Records of allegations and disputes. Central research committee (DVCR), Faculty research committees. |
| 26 | unknown or Informal reporting of quality indicators, though they are in promotion criteria. |
| 27 | As part of our researcher induction process as well as part of our 'approval to submit a grant' and Eol processes via the ODVCR |
| 28 | In my role, other than policies and procedures, HREC and AEC, as well as ERA/E&I I am not aware of systems as such |
| 29 | Monthly Research Committee meetings where research projects are reported on and monitored. |
| 30 | No central systems, systems are established by research teams working at the institution. |
| 31 | Monthly review meeting of research project progress, etc. |
| 32 | Monitoring and reporting through HREC committee. |
| 33 | A Human Research Ethics Committee supported by policies and procedures, including forms, and access to NHMRC documentation on ethics/ COIs etc. Within the School of Medicine there is a Research Committee which is active in oversight of the research. Research Office has an internal grants management system (IRMA) but is lighter touch in project management than in previous roles I've had elsewhere, i.e. we don't attend technical updates. |
| 34 | At the highest level there is the Research Governance Framework aligned to relevant laws, regulations and guidelines, which comprises Policy, Procedures and Processes. However, there are also various operational processes, digital platforms and reporting activities which enable measurement, monitoring and reporting on research quality and outcomes (for example, we have governance checks for ethics and also a related digital platform for managing this). |
| 35 | use access |
| 36 | Annual and Final reports required |
| 37 | Measuring - none. Monitoring and reporting - the provision of annual and final report |
| 38 | Monitoring and reporting as part of ethical oversight (eg: annual reports) Use of institutional repository for research outputs Use of research management system |
| 39 | We report to granting bodies as per grant agreements. All human and animal ethics projects that are approved have annual reporting requirements. However, our organization doesn't have adequate resources to review all of these adequately We don't have internal systems (databases)for measuring, monitoring & reporting can be easily tracked and reported on. |
| 40 | Academic Quality Assurance Committee, University Research Committee, Research Integrity Advisors |
| 41 | Publications are captured in publications database. Research database to monitor and report on whether funded research meets milestones/achieves outcomes. Appropriate use of external research funding is monitored by various financial controls and systems in place. Annual reporting required for research requiring ethics and related approvals. I don't think there is any institutional-wide system here that measures, monitors and reports on quality and outcomes (outside publications) of research. Each area will probably have their own way of doing these tasks. |
| 42 | Research Quality Committee Regular Lab Meetings Regular internal research presentations Clinical governance audits Animal ethics governance |
| 43 | Regular reporting |
| 44 | None that I am aware of |

| # | Comment |
|----|---|
| 45 | None |
| 46 | no idea |
| 47 | Annual reporting |
| 48 | Up to individual groups to measure monitor and report. |
| 49 | Limited although we do measure outcomes on an annual basis |
| 50 | Records number of publications per ranked journal |
| 51 | Impact framework, communications resources, community engagement forums |
| 52 | Focus on translating research into practice; strongly recommend evidence based research; monitoring officer in research governance with direct access to management; reporting of research results both internally and externally - publications and presentations, in-house training for junior staff |
| 53 | Research data and animal monitoring records are captured on databases such as labarchives. Success with grants and publications by peer review is used as a method of measure. |
| 54 | 1. Good experimental design reviewed by the researchers in our collaborating institutions and their supervisors 2. Continuous oversight of research undertaken by subordinate researchers by the research department heads |
| 55 | Data is collected for standard metrics around publications, impact etc necessary for government funding. There are dedicated publications focused on research outputs in addition to use of the webpages and social media. |
| 56 | Unsure |
| 57 | Research Integrity Climate survey assesses perceptions of the research community at RMIT - it determines issues that are related to the 'quality' of research. |
| 58 | ethics approval process research integrity officers |
| 59 | There seems to be support available for monitoring during research but not on the outcomes of research after the fact. This seems to be a significant gap in the University's ability to self analyse the reproducibility of the work being undertaken. Post approval monitoring of animal ethics protocols exists but not after the experiments are completed and at the publication level. |
| 60 | Extensive reporting (and review regime) which incorporates: annual reporting; ethics annual reports; HDR student annual reporting; HDR candidature assessment |
| 61 | I'm setting up the research from scratch despite there being a HREC committee for about [number] years now. There are few protocols, policies and no procedures/processes documented - I'm doing them now by basing everything on what I find from leading research institutes from their websites and linked docs. |
| 62 | Ethics committees |
| 63 | Educational resources and information sessions. |
| 64 | Regular project meetings, staff supervision, project audits (random) and self audits |
| 65 | Ethics assessment Journal quality monitoring Citation metrics Publication quality measures are reported 5 times a year to the research leadership |
| 66 | Our institute has a research office with staff who manage all the measurements, monitoring and reporting of the quality and outcomes of research. There is a close tie with research office staff of the affiliated university; the data is collected collaboratively. There is an online system to support tracking of research outputs. |
| 67 | Oversight, observation of research practice by officer independent of the research group, department or faculty |

| # | Comment |
|----|---|
| 68 | Limited. Reporting compliance is poor and there are insufficient resources and/or processes in place to close the loop on research, assess outcomes and impacts. There is also no research monitor to intensively monitor the ongoing conduct of research post-approval. As such monitoring is overly reliant upon self reporting via annual reporting. |
| 69 | The Office of Research monitors all of this seriously. The existence of the ERA has intensified the focus on monitoring of publications. |
| 70 | Not sure if there are any |
| 71 | The University uses the national systems such as ERA and E&I to provide a baseline of performance. Internal systems have been developed to show performance in research outputs and research income. Additionally the University subscribes to SciVal. |
| 72 | Unsure |
| 73 | Ethics group |

q42\$ If you have any further comments you would like to make about the culture of your institution in regard to responsible research practices, please provide them in the space below.

No. of Comments

529

| # | Comment |
|----|---|
| 1 | my institution runs regular audits of research projects in addition to those run by the ethics committees to make sure that all our research complies with responsible research practices. there is also board level oversight of research governance |
| 2 | I believe this is a leadership/cultural issue of great importance that sits alongside research excellence and academic performance as determinants of reputation, credibility and trust. It must come through the supervision and training of junior staff and for this reason it is very important to have senior staff who place a high importance on rigorous science and scientific quality/excellence. |
| 3 | There's still too much focus on international league tables which are simply a measure of the institutions size and promote a culture of quantity over quality. |
| 4 | institutions don't face up to the issue of publication charges |
| 5 | N/A |
| 6 | Open access publication is widely accepted, data sharing less so. |
| 7 | Individual larger Institutions dealing with voluminous applications for research from many different different disciplines find it difficult to give consistent advice and put in place risk based approaches that are never assessed. |
| 8 | I note that the questions about reproducibility and focus exclusively on biomedical research. Many research methods do not require reproducibility. |
| 9 | i have been trained by a PhD supervisor who didn't follow ethical research practices, however as a junior phd student, didn't realise that it was not ok or how bad it was to not follow due processes. |
| 10 | both authors and editors must start to promote full disclosure of data; ensure contact 'n' and full access to all experimental. |
| 11 | Nothing to comment |
| 12 | There are some individuals in my institution (but not in my immediate research group) who engage in dodgy authorship practices, claiming authorship on publications that they have little or no intellectual role in. |
| 13 | The university has several research integrity advisors available if issues arise. |
| 14 | The institution does not facilitate open access publishing. |
| 15 | While senior administrators support open access publishing, they do not provide funds for it. |
| 16 | My institution supports open access publishing only IF there are funds to cover it, given that it is so expensive to publish in an open access journal in my field (several thousand AUD). |

| # | Comment |
|----|---|
| 17 | Formal seminars about what constitutes responsible research practices should happen annually. Senior mentors should take more responsibility for junior investigators and their research practices. |
| 18 | Corporate image is way more important than responsible research practices. These are not the same thing. |
| 19 | There seems to be minimal concern of the large amount of rubbish research that goes on for fear of offending the responsible researchers (i.e. that criticism might lead to them withdrawing from research) |
| 20 | The avowed culture is supportive but the reality is very different: it is all about saving money! |
| 21 | Having published study/trial protocols etc and a prospective analysis plan from the outset resolves many of the problems that can arise. Most high level publications require such attention to detail. |
| 22 | The emphasis on responsible research practise in this questionnaire seems out of proportion with the reality of issues facing researchers on a day to day or strategic basis ... |
| 23 | my institution may support open access and archiving of research in principle, but it does not facilitate this. Open access publication fees are huge and cannot be recouped. Research grants explicitly exclude budget for publication. In the last year this has cost me in excess of \$20,000, which i have had to skim off other grants to cover. My institution has no plan or strategy. this is a disincentive for me to help anyone else (students or ECR) publish, as we cannot fund their output. |
| 24 | cost of open access may be prohibitive - play off between high impact |
| 25 | no |
| 26 | Some questions on reproducibility crisis are hard to respond to as they are situation specific and not possible to generalise. My work involves collecting data on Aboriginal and Torres Straits Islander children and hence sharing of data is limited due to cultural sensitivities |
| 27 | Responsible research will increase with job security. |
| 28 | OPen access publishing may cost money and there is no budget for this. |
| 29 | Open access publishing is great but funds to do so are often a limiting factor - this leads to inevitable publishers imposed embargoes on general access to material we publish on many occassions. |
| 30 | No. |
| 31 | We have a highly compliant culture; academics would be mostly aware of responsible research practices; but we are a large organization and ensuring all individuals act responsibly is challenging |
| 32 | open access and data sharing should be the norm for publications |
| 33 | Institution agrees in principle with these practices but could do more to resource them. |
| 34 | Open access publishing is often more expensive than non open access. These funds come from grants. Hence there is a natural reluctance to pay the extra costs. |
| 35 | NA |
| 36 | Strong culture of rigorous and responsible research. |
| 37 | The costs of open access publishing are often prohibitive for small grants or grants that do not provide access to research non-salary funds. |
| 38 | N/A |
| 39 | The Institution supports data and code sharing as well as open access publishing but have not provided any means to help with this. For instance, our institution has an open access policy where they would like to see articles published open access but provide no funding for this, it comes out of the authors' funds. They have a repository but not for final version articles, only author-approved versions. Provision of greater resources by Institutions for these things would aid research culture and improve research practice through open access publication, code and data sharing. |
| 40 | I work part time and remotely so unable to offer much comment |
| 41 | Policies and standards are at a high level. The pressures of publication and grant success may encourage short-cuts and selective reporting. |
| 42 | This is discussed frequently at research forums |
| 43 | Limited training of junior staff |

| # | Comment |
|----|--|
| 44 | My institution takes responsible research practices very seriously. They are discussed regularly at monthly meetings and policies have been implemented. |
| 45 | Open access publishing is, I believe, very important, but it is often more expensive and there is no mechanism in place to fund this cost, neither from any funding bodies that fund me, nor from my institution. The cost therefore falls to me, and I often cannot justify it given my limited budget and other expenses. |
| 46 | Open access publication is supported but not affordable for many researchers in my institution |
| 47 | these questions seem more appropriate to lab based research and not epidemiological research! |
| 48 | strong research culture and mission |
| 49 | na |
| 50 | Our university does not have access to most of the online publishers so we have to pay if we want to publish in open access journals. |
| 51 | Many of the above questions seem more relevant to laboratory research |
| 52 | My institution strongly supports responsible practices and requires all staff to read and digest various important codes and policies at regular intervals, and to pass on-line tests. |
| 53 | My institution has a very rigorous and high expectation for all research to be conducted according to NHMRC guidelines and results to be open and fully reproducible. |
| 54 | no |
| 55 | Some universities will not support publication in an open-access journal, as they already pay for subscriptions to journals and view open-access as inappropriate. |
| 56 | N/A |
| 57 | NA |
| 58 | We are not given the funding support to pay the fee to make our research papers open access. The nature of our research means that we are rarely allowed to share data because we are not the custodian. |
| 59 | - |
| 60 | Open access publishing is usually not affordable. The pressure to publish to get grants to stay in a job hinders high quality reproducible research. |
| 61 | I would like to publish open access more often, but my grants and the Institution do not have sufficient allowances for this. This is more than an institutional problem. It is a global issue that needs collective advocacy. The current systems are either antiquated or not sustainable. |
| 62 | I think younger researchers are a lot more proactive at open research practices; sharing data, publishing pre-prints etc. Most of the senior researchers (supported by management) are the types of people who are more interested in 'protecting their research' rather than 'advancing knowledge' and many even won't share data within the institute. |
| 63 | Very conscious of ethical research |
| 64 | Business development focus at odds with transparency and sharing. |
| 65 | none |
| 66 | See previous comments. |
| 67 | Generally good |
| 68 | The focus of the institution is on reputation/marketing rather than old fashioned concepts of rigour and significance. |
| 69 | I completely believe in responsible research practices and have introduced teaching materials on these issues to my students. However, my university tends to introduce various 'top down' policies and procedures to ensure staff are engaging in responsible research practices without appreciating the nuances and specific challenges faced within specific disciplines. For this reason, I very much believe that improvements in research practices should come from the 'bottom up' and be promoted by researchers themselves rather than management if the best traction in terms of improving attitudes and practices is to be achieved. |

| # | Comment |
|----|--|
| 70 | Coming from human genetics and epidemiology, we are very sensitive about threats to validity of research, and there is a general movement to make datasets available (Bermuda Principles etc) and for software to always be open source or public domain (I am aware of only a handful of attempts to develop commercial software for statistical genetics, and these have not been supported by the community). This extends to the institute and department level. |
| 71 | There are plenty training structures in place for students and ECR. I consider them of little benefit. The culture of responsible research practice depends on example and mentoring rather than courses. Open access publishing is poorly supported by NHMRC and by Institutions. Costs are rising. Routine use of preprint servers is one way round this issue. My group publishes most of our work initially on BioRxiv. |
| 72 | One important point is that publishing in Open access journals costs a fortune!! This needs to be taken seriously. |
| 73 | No |
| 74 | The ethics committees are highly independent of the institution, but mixed quality in terms of expertise and some tend towards punitive action, which inconsistent depending on their level of personal trust with individual researchers. We have less well developed support for research integrity in general. |
| 75 | open access requires paying a publication fee. I don't get a budget to pay for publication from my university so can't do this. |
| 76 | We have good resources in this area. |
| 77 | No |
| 78 | The institute will not pay the extra fees required for open access publishing. NHMRC effective decrease funding is increasing pressure on people to do shoddy work just to publish |
| 79 | - |
| 80 | Open access when publishing costs money that is not able to be budgeted in NHMRC grants. Costs more than society publications and can be seen as less prestigious/poorer quality/predatory than closed access (nature, science cell etc) vs Frontiers, PloS. |
| 81 | Although my institution provides practical support for and mandates training in responsible research practices, it has policies and practices that encourage poor behaviour such as monetary rewards for publications in high impact journals, monetary rewards for high achievers as defined by the institution, almost entire reliance on metrics to evaluate the research value of staff. |
| 82 | SUPPORT FOR OPEN ACCESS AND DATA SHARIG IS ESPOUSED BUT THERE ARE NO RESOURCES TO ASSIST WITH OR MANAGE THIS |
| 83 | Responsible research is not a process, although defining the principles in a process is helpful. Responsible research is a culture. As with all cultural issues, they have many inputs and you know when you have it right, but fixing it when wrong is complex task. |
| 84 | My institution has reduced support for researchers at the same time it has increased metrics for performance |
| 85 | This question set is biased towards scientists who do basic research and can answer these type of questions. It is very difficult to expect reproducibility of a clinical intervention with patients in real health care settings, given the cost implications and the complex nature of clinical settings. |
| 86 | If more support was provided for publication costs for early career researchers (and established researchers) we would be far more likely to publish in open access journals or select open access as an option when publishing an article. The costs associated with this, especially for high impact journals, are prohibitive |
| 87 | No money made available for open access publishing from my institution so would need to come from personal grants/funding sources |
| 88 | N/A |
| 89 | Open access publishing - everyone supports it, but the cost is significant - while there is no requirement for it then we will all publish at the cheapest level and then wait the 12 month embargo to publish on our institutional websites. to be fair, this is probably a good outcome - open access is very costly and who should bear the brunt of it? If it is a requirement, then people will use their grant money to do it. |
| 90 | There is a lot of talk/policies about it but very little on the ground support to actually do it. |

| # | Comment |
|-----|--|
| 91 | My institution supports a handful of researchers who I do not feel are performing rigorous research based on data presented both verbally and in publications; however, I do not feel that my concerns would be heeded if I was to raise them due to the 'superstar' nature of certain researchers, and a lack of knowledge of senior administrators in these research foci. |
| 92 | Open access is not encouraged because of the cost and the opinion that the University pays twice, first to publish the publication and later access them. |
| 93 | In observational public health type studies you dont expect exact 'reproducibility' as you seem to be implying here. I am having trouble replying to many of these. Our institute has high standards regularly discussed. But every study has such a different context. You expect coherence to emerge with multiple high quality studies but failure to get the same result does not imply low quality or dubious research as is perhaps could in lab based research. |
| 94 | Cost of open access publications often makes this prohibitive. |
| 95 | Responsible research practices are taken very seriously but more from an ethical standpoint. There is a lot of training about the ethics of responsible research practices. However, there is less information on what that might look like on a practical, day to day level. It is also unclear how effective the training is as it is difficult to monitor what the expected outcomes might be. |
| 96 | Open access is expensive and I cannot afford it from research funds. |
| 97 | There are no funds to pay to put a paper in an open access journal. If this is something the NHMRC wants then perhaps it could sponsor this for the researchers |
| 98 | Sharing of data is often prohibited by ethics committee restrictions. Large projects often take a long time to complete all analysis, so the research team that collected the data require a period of exclusive access, to prevent delay of publication of the headline papers. |
| 99 | My university should take complaints seriously and address academic misconduct. It is disgraceful to have to work with a person who did not write their own PhD, and does not write their own papers and grant applications. |
| 100 | The culture within the institution is excellent but external factors (e.g. funding short-falls) have significantly impact the number of senior researchers still present. |
| 101 | There is little appreciation of different types of research. This focus on the reproducibility crisis has overshadowed innovative and groundbreaking work. |
| 102 | Responsible research practices depend on integrity of the individual investigator and probably not too different from individual vendors in a business world. You can build in rules and regulations but part of me feel that if for every rule there will be ways to circumvent it if such is the intent. At the end of the day it comes down to the individual. |
| 103 | none |
| 104 | The questionnaire doesn't really capture the institutional pressures to push research into areas that may or may not be feasible. NHMRC has itself sometimes encouraged the research community to push into areas that are infeasible on the grounds that they are 'innovative'. Innovation when not counterbalanced by tests of feasibility may not lead to the desired outcomes. |
| 105 | I'm not clear what you mean by senior administrators having any input into supporting data and code sharing when publishing - this is something that should be in the remit of researchers (i.e. the people doing the work), not administrative staff (i.e. the people supporting the researchers) |
| 106 | its one thing for administrators/NHMRC to support open access but the main issue with it is the prohibitive cost which has been completely passed on to the researchers. |
| 107 | We teach these principals to our students and are a highly collaborative and transparent institute. As such, it would be very difficult for any single person to deviate from best practice. I think things tend to go wrong more often within insular research groups buried in university departments. |

| # | Comment |
|-----|--|
| 108 | Every white person wants to work in Aboriginal health and far too many white people feel far too comfortable to present and talk about Aboriginal people and research. Most of the Aboriginal grants awarded to white people only have 1 or 2 Aboriginal people on it as token spots. White people should be ineligible for the 5% of Aboriginal funding. If NHMRC allocated 5% to women but allowed men to apply and most of the winners were men then this would be a serious issue. The current system tells Aboriginal people that they are not smart enough to be CIA and that they need a white person to be CIA. Is this how we should treat women? that they are not smart enough to win so they need men ? |
| 109 | My institution takes this very seriously |
| 110 | <p>Sometimes research reproducibility is an issue that researchers that arent doing that great scientifically like to talk about. They seem to think that other people are doping better then they are because other people are 'cheating' and are dishonest, basically its an ego situation lots of times, with big egos trash talking others. I think we all as scientists make an agreement to be honest and publish an accurate reflection of reality, and most everyone I know is fully on board with that pact.</p> <p>Some of the issues with reproducibility came from doing research in vitro that didnt pan out when taken in vivo. Other issues with reproducibility came from people too married to their own pet hypothesis, or afraid to acknowledge a previous publication error.</p> <p>I am also aware of more then one senior researcher that loudly behave like they think there is a major issue with data reproducibility, but then I find out later that there are well known issues with their own work, and errors they have not corrected from the past. So it seems in some cases that the loudest voices might be contributing the most to the issues with reproducibility.</p> <p>The newer generations are so linked to in vivo results, there is so much less ability to influence the data, so I feel the new generations will fix the problems if empowered.</p> |
| 111 | My Institution strongly supports and fosters responsible research practices. However the processes for supporting research are often long and tedious and sometimes adversarial. This does not facilitate research progress. |
| 112 | Supports ethicla research. Could provide more reserach support than it currently does. |
| 113 | Open access publications is often inhibited by lack of funds to pay for this |
| 114 | No |
| 115 | Not applicable |
| 116 | While there is support for open access publishing this is often not backed up by funds (unless it is part of a larger grant that includes funding for publishing). |
| 117 | <p>my institution is generally pretty good with ensuring researchers understand the principles of responsible research practices, with regular workshops, seminars etc.</p> <p>If I ever had any questions about this topic, I would feel like there is someone at the institution who will be able to answer my queries.</p> |
| 118 | i think there needs to be better communication and sharing of resources in this space. |
| 119 | feel it is well supported (tools/skills) and good culture is encouraged |
| 120 | <p>Open access is very expensive. My institute does not provide any funding to support open access, rather provides a portal for researchers to deposit accepted versions to allow public access.</p> <p>The whistle blowers are quite often bullied by their supervisors to shut up when they report research misconduct. The supervisor never received any academic penalty for such behaviour even after a formal complaint to the higher level, therefore encouraged the culture of covering up.</p> |
| 121 | Open access does not solve the issue it just burdens individual researchers with more costs |
| 122 | No sure which tree this survey is barking up! |

| # | Comment |
|-----|---|
| 123 | <p>- Responsible research is not valued or rewarded. The important metrics are # of pubs, amount of research funding, and number of research students. While there is an assumption and expectation that research is being conducted responsibly and rigorously, the onus is placed on the individual researcher to do so.</p> <p>- The necessary tangible (i.e., funding for open access publication or replication studies) and non-tangible (i.e., resources, oversight) resources are not made readily available.</p> |
| 124 | Taken care to put appropriate research practice in place and reinforce this to students and research staff. |
| 125 | This survey assumes that all research is experimental but that is not the case. Much of the research I do is public health type research and research using big datasets. The ethical issues around this sort of research are somewhat different from experimental research, especially in relation to replication of findings. |
| 126 | Support for open access publishing is not available from my institution - the cost of this must be borne by the individual researcher/research group |
| 127 | it is hard to get the \$\$ to publish in open access journals. |
| 128 | Access to funding to open access papers is a limitation. |
| 129 | no |
| 130 | Culture is supportive but funding or employment is not always supportive |
| 131 | The area of data and digital research is a high priority for my institution and considerable investments are being made in infrastructure, training and people to support best practices |
| 132 | I do think that responsible research practices is something that needs to be trained at an early stage in the life of a student (from school to Uni etc). I find that students from developing countries are often lacking this training and it is somewhat difficult to teach them. It is a great part of our training these students but it is also wonderful to see how they come out of it and get it! |
| 133 | There is considerable gratuitous authorship in my workplace. Also, occasions when authors have been omitted without their knowledge. |
| 134 | [Identifying comment]. In my previous university employment, the culture and the support were so poor that I resigned. I was even once ordered to do something in clear contravention of NHMRC rules. |
| 135 | I would make the comment that not all research can be exactly reproducible (e.g.). I have answered above in the context of studies that have led to clinical intervention trials where the current media focus remains |
| 136 | I don't think responsible research practices are discussed enough to be honest, here or anywhere that I have worked. |
| 137 | Strong leadership on research integrity is crucial to ensure our institution spends public money responsibly. We would benefit from an external body who could referee any ethical disputes, however |
| 138 | costs to open access can be prohibitive |
| 139 | <p>There is 'support' for open access publishing but insufficient funds to actually achieve this outcome. The NHMRC do not allow us to budget for publications outcomes, but the institution expects us to meet publication outcome costs from our project grants - hence either we compromise extent of analysis to facilitate open access publication, or we forego the open access publication.</p> <p>I personally do not have a problem with access to statistical expertise as I am sufficiently experienced to be able to do most of my own analysis myself (but am not a biostatistician). However, I can tell from the number of requests I get for statistical assistance that insufficient support is available to researchers that do actually need it.</p> |
| 140 | <p>See previous note re aspects of these questions where a not applicable option isn't available.</p> <p>Funding a significant issue for us currently despite internationally recognised high quality research. This is resulting in contracts of long term post-doc's not being renewed; my own employment and research career of over 25 years under threat (working on LSL; part-time instead of full-time); open access considered an indulgence in this climate¹</p> |
| 141 | N/A |
| 142 | The culture is fine. Cuts to funding and/or efficiency dividends make conducting research in an appropriately thorough manner difficult as we have too much red tape that we need to deal with as Institutes are passing the buck to the researcher to do all the administrative/teaching work. We only have so much time in the day so our research progress suffers... |

| # | Comment |
|-----|--|
| 143 | My institute is great, I've never heard of horror stories or retractions in which researcher in my institute was senior author. But the funding climate is the problem. |
| 144 | Culture is primarily determined at the level of group/CI, not from the senior administration. Each group/team operates fairly independently with respect to research culture. Issues are only addressed if they are brought to the attention of a senior administrator via a complaint or concern. |
| 145 | All institutions like to SAY they support responsible research practices, but all of their behaviour incentivizes the opposite. In terms of what kind of research is rewarded, what kind of researchers are promoted, supported and feted by the institution, and what expectations they place on researchers in a high-pressure environment where underperformance means the end of your career, careful, incremental, rigorous research is too risky to your career. If you insist on doing things properly, then you have to resign yourself to always sitting on the bottom of the career ladder, and being ostracized from many 'successful' research groups. |
| 146 | I work in a tertiary education institution where responsible research practices are strongly encouraged and supported. |
| 147 | Neither NHMRC nor my institution will pay for open access publication, and I am not sufficiently paid to fork over 3 grand a paper out of pocket. This isn't the fault of the senior administrators - the budget won't stretch that far. As well, many of these questions do not apply to responsible research practices in observational human research or qualitative research. |
| 148 | There is no financial support available to enable many of these practices |
| 149 | For my institute the issue with open access journals is the cost associated. This needs to come out of grant budgets, thus most try for 'free' publishers, not paid ones. |
| 150 | There isn't always funding for open access publishing, but it is generally accepted as the best way to go |
| 151 | With respect to the questions about data sharing, I work in an area in which this can be a problem due to ethical considerations. |
| 152 | This institution places great emphasis on the quality and integrity of its research output. |
| 153 | No further comments. |
| 154 | NO |
| 155 | They don't even think about until it gets to fraud that becomes public - unless it goes public they don't want to know especially if attracts funding and lots of attention for the Uni |
| 156 | I think most institutions strongly support responsible research practices, however the training at a PhD level is often insufficient. This is particularly evidence when the supervisors are not full time researchers. |
| 157 | N/A |
| 158 | Everyone supports open access publishing, but not everyone is prepared to pay for it as it is anywhere from AUD\$4000/paper and at publishing 10 papers a year it comes costly |
| 159 | Very good culture of responsible research practices |
| 160 | More funding and personnel support would help the institute implement change. Many researchers are driving this and they are very time poor. |
| 161 | open access comes with a price tag that is not always available on grant funding. |
| 162 | It is cut throat [Identifying comment] |
| 163 | Our Institution and senior researchers have very high standards and expectations for publications |
| 164 | No |
| 165 | It would be good to have funds available by my institution to support open access publishing. |
| 166 | I agree with open access publishing in principle, but the business model employed by publishers is highly unethical. |

| # | Comment |
|-----|--|
| 167 | Financial constraints dominate our ability to publish in open access journals and time limitations preclude us from having exhaustive discussions about best practice. However, my strong impression is that we are committed to best practice in terms of our conduct of science, and in providing a safe workplace where admitting mistakes and sharing problems is encouraged as the best way to behave. Our data recording is regularly reviewed by an external, independent agency, and my institution strongly promotes the correct use of an electronic laboratory notebook for all records. |
| 168 | N/A |
| 169 | Nil |
| 170 | N/A |
| 171 | Institutes should pay for open access publishing. |
| 172 | Awareness of privacy in the digital age is not as widespread as awareness of issues regarding pre-published protocols, peer review etc. This is likely similar in other institutions. |
| 173 | I have no further comments |
| 174 | My institution wants open access publishing but will not support the costs of this, making it the responsibility of the researchers to find the funds. |
| 175 | There is support for open access publishing but not necessarily funding to do so. |
| 176 | No |
| 177 | There is huge variation in attitudes on responsible research practices within the institution. Some of heavily invested, others can't see what the fuss is about. Minimal practical support is provided, however. |
| 178 | My research group is very aware of responsible research practices and we report weekly to our Group Leader. This includes both where responsible research practices have been upheld (ie. in study design, study selection criteria, blinding of trial subjects, development of statistical analysis plan prior to commencement of study, registering study protocols, developing code for analysis etc) and when we think there may have been a breach. (including data protection and privacy). |
| 179 | The research culture in my institute is so incredibly negative that it's a threat to human life. Our system is so wrong that the NHMRC should be seriously concerned. |
| 180 | Costs of open access publishing are prohibitive. The journals are ripping us off, big time. |
| 181 | open access publishing is often too expensive though it is preferred. |
| 182 | obsession with funding but not similar obsession with seeing the research being done well. I would like to see more celebration of genuinely good research and less focus on money. no transparency when it comes to processes for monitoring research fraud. |
| 183 | the current ethical approval process is overtly onerous and inhibitory, simply because the committee and chair do not have any research expertise or experience, and seem not to seek or believe this advice. Common research practices should be supported. the majority of researchers perform ethical research and are well aware of the guidelines, but they seem to have recently been implemented from a highly conservative and uneducated perspective. |
| 184 | none |
| 185 | Paying for open access is an ongoing issue. We often can't fund this from our grants, our students don't have funding to publish, and my institution doesn't have an open access repository. |
| 186 | I think my institution is generally supportive of responsible research practices, but outputs such as: publishing many papers, obtaining Nature papers (for novel/innovative study results), and obtaining grant funding are still valued more than responsible research, mainly because University funding and prestige is also based on those outputs. Currently, no one is rewarded for responsible behaviour and practices, such as: receiving methodological training, publishing null results, having open access data/publications or mentoring others. |

| # | Comment |
|-----|--|
| 187 | <p>[Identifying comment], I was aware of a couple instances of extremely poor research practice, that might have veered towards fraud.</p> <p>Systems and processes to manage this are generally extremely poor - particularly when Chief Investigators are very famous, and very well funded, and where there are very complex financial conflicts of interest.</p> <p>The 'big players' are close to untouchable - and if any of their PhD scholars speak out about what is going on, they are committing career suicide.</p> <p>Corruption within research is a sad reality. It is closely linked to workplace bullying, harassment, sexual harassment and general abuse of power, which universities and hospitals currently do not have good processes to manage.</p> |
| 188 | The barrier to open access publishing is Cost - so while the institution may like open access publishing if they dont provide any funds - then it is not meaningful support. I'm surprised the questionnaire does not specifically mention the issue of cost - as it is the major barrier for all the researchers I know. |
| 189 | I have found [University] support excellent and better organised than the last 2 -3 universities from which I have led research teams |
| 190 | The lack of financial support for open access publishing is an issue. NHMRC funds cannot be used for publication costs. |
| 191 | Even though the research leaders in my centre have published on the importance of research integrity, reproducibility, and research quality, they do not follow those practices themselves. There is zero openness to openly discuss this, which is very discouraging for an early-mid career researcher like myself. The culture is that senior people are always right and cannot be questioned. There is also no concern about the proper mentoring/teaching of junior people. The prevailing drive is for senior people to get more outputs and grants. |
| 192 | re open access and data/code sharing - 2 barriers to this: (1) funding - substantial time and money are required to be able to do this, usually excluded as an item in NHMRC/ARC grants therefore if no funding support, it is completely infeasible even if all researchers on the team want this to happen (this is the normal situation, in my experience - everyone wants the publications and data/code to be open access, but it never is due to lack of resources); (2) ethics - we have been in the situation (more than once) where ethics committee has vetoed data sharing - there is work to be done here on varied interpretations of privacy and consent, as researchers we just have to follow what ethics review boards tell us (not) to do. |
| 193 | Nil |
| 194 | No. |
| 195 | Open access publishing is far too expensive to do routinely |
| 196 | Open access publishing discouraged by our Research Office because of the cost. A small amount available each year to support approx one open access a year in our Faculty |
| 197 | My institution is always concerned about responsible research practices and ethics, and they are part of its culture. However, it is the responsibility of group leaders to make sure this is practiced. |
| 198 | Our Centre has a policy of open access publishing, and is looking to ways to create open access user-friendly resources for end-users of the research, but this is definitely not something that happens throughout the university. |
| 199 | Even though open access publishing is supported, many do not have the funds available to them to do so. |
| 200 | N/A |
| 201 | Departments support issues like data management, but provide no resources to do so. They now even want to charge to store archived data (even though one would think this is an infrastructure cost). How can you fund storage of data from an old grant out of new grant funds? |

| # | Comment |
|-----|--|
| 202 | With regard to open access publishing, there is institutional support for open access publishing but not funding which means that the open access fees need to come from my research budget. Given the high costs for these open access journals (especially for those where the institution already pays subscription fees to the publisher), it is not always feasible to publish in open access journals or to pay for open access for articles in subscription journals. |
| 203 | We use health data, and are limited in our capacity to share data outside of our research team. However, my institution does encourage research transparency, code sharing, etc - where possible. |
| 204 | The issue of open access publishing has been fudged in Australia, due to a lack of political will and resources. We would benefit from much broader access to gold open access publishing, but it needs to be negotiated at a national level by governments and universities with publishers so that most researchers have access to gold open access publishing without additional fees to them or their institutions. Publishers make way too much money from academic work, and inhibit access to published research. |
| 205 | none |
| 206 | N/a |
| 207 | Institution will pay for open access publishing (if certain reasonable criteria are met) |
| 208 | No further comments. |
| 209 | NA |
| 210 | Nothing to add |
| 211 | One area of research wastage is the poor management of ethics committees. There is a lack of clarity in the sector about multi-centre ethics submissions. I would prefer to have research assessed for ethics once and done well. Our team is happy to pay for it, but at the moment we end up with so many committees looking at it - an absolute waste of time... |
| 212 | Which of the following do you think matters most to the validity of your research? - Reproducibility after publication. |
| 213 | There is no benefit to a researcher in having their work reproduced. Yet there is significant risk in providing the detailed protocols and open access to the data that is required to reproduce the research. Unless this changes the culture will not. |
| 214 | No |
| 215 | Much more training needed about research ethics for staff at all levels. |
| 216 | Space is always a challenge in universities .. |
| 217 | Lack of salary support means that we are constantly trying to obtain funding for our own and our staff salaries. Also not having administrative support means we have a high administrative burden which reduces the time we can conduct our research and ensure the rigor of our research practices. |
| 218 | It is a top priority in our Institution. |
| 219 | slack, lazy, cheapskate, ignorant, self-serving, conflicted, |
| 220 | None. |
| 221 | N/A |
| 222 | NA |
| 223 | My institution has been a sound support to me however there are no Aboriginal health researchers in my institution which hinders my career development. I have committed to remaining in my institution to stay committed to my local Aboriginal communities however I have to use my research funds to travel interstate for most of my support. Even then I have limited Aboriginal senior academics to advise my growth. |
| 224 | - |
| 225 | While senior administrators support open access in principle, funding open access is an issue. With an average publication rate of 10-15 articles at \$4k per article, I could fund a research assistant |
| 226 | Not applicable |
| 227 | No |

| # | Comment |
|-----|--|
| 228 | The DVC (Research) in my organisation does not support open access publishing by providing funds. At senior meetings the DVC (Research) at [University] is invoked and his/her apparent analysis of [University] data is reported by our DVC to indicate that open access publishing does not result in more citations and is therefore worthless. I have no idea if the DVC [University] did this analysis or whether this is even true but it is often stated at University level committees in my University. Sigh! |
| 229 | Cost of open access is a barrier |
| 230 | Open access publishing usually means higher publication fees - there are no funding sources for this available internally at my institution. |
| 231 | No real issues. All universities are beauracratic. |
| 232 | No further comments. |
| 233 | no |
| 234 | I have directly reported concerns about data integrity to senior management and was advised that the person was much better than they used to be... No action was taken. |
| 235 | N/A |
| 236 | Most of my colleagues are incredibly responsible and rigorous about publishing results. They almost downplay the findings in the main. There is one who is less rigorous but the others keep a close eye on their conclusion and manage to tone them down to avoid over-interpretation. A great team. |
| 237 | Institute has policies for responsible research. The Institute has a research integrity officer and has procedures to facilitate responsible research including plagiarism checking, internal review of papers from non-author senior scientists, authorship portal etc. However, the governance and administration support for responsible research should be improved to ensure researchers are able to follow the code of conduct. |
| 238 | None |
| 239 | N/A |
| 240 | I feel that the culture at my institution is very transparent about the need to follow responsible research practices. It is openly discussed and addressed immediately if detected. |
| 241 | We have very limited access to statisticians - if we need to see them, we have to pay approx \$150 per hour using our own money. [Identifying comment] |
| 242 | My group supports open access however because we are a government agency it is difficult to justify spending tax payers dollars on open access fees |
| 243 | other than Ethics and biosafety committees, our institution rarely, if ever, interferes in anything to do with research practice. |
| 244 | I think my institution has an excellent culture with regard to responsible research practices, including informal and formal discussion of issues that should be attended to. |
| 245 | We have invested a significant amount of time and effort to bring our standards up over the last 18 months. A key feature has to be remove pressure to produce papers, grants etc as a metric that measures success. The one dimensional KPI to push out volume of papers is a key reason for poor standards. |
| 246 | Cost of open access publishing is often a deterrent |
| 247 | My institution provides a financial reward for publication in journals with a high impact factor. This drives research where the impact factor of a publication is more important than anything else including quality and reproducibility. |
| 248 | No further comments |
| 249 | there's been increasing talk about it. i don't think this is seen as a priority in the business of research income outputs and impact. but please remember that failure to replicate is not just about integrity! |
| 250 | Very strong governance and procedures for responsible research. |
| 251 | No further comments |

| # | Comment |
|-----|---|
| 252 | NHMRC governance reforms created a new significant barrier to the conduct of responsible research. Whilst more individuals scrutinizing local practices is to some extent clearly needed and useful, the level of additional bureaucracy and significant approval delays are at odds with the original intent of NHMRC ethics and governance reforms. This (relatively) new governance system has become a very major barrier to the successful conduct of high quality research. |
| 253 | Not about the culture - but about the blinkered nature of these questions. Your definition of reproducibility of results is very limited and hardly applies to my research areas (translation, implementation) where we do not expect reproducibility as we are aiming to target those who will benefit most (or least) from our research. |
| 254 | n.a. |
| 255 | Open Access publication is a requirement now for many funding agencies, including the NHMRC. However, there is not always funding to support this at the level of individual departments and Universities in Australia. |
| 256 | The quality of the journal is typically seen as a priority over open access |
| 257 | Open access publishing is only possible, if you have the funding available to pay for publication - these costs are increasing with an average of AUD\$4,000 for one article. |
| 258 | N/A |
| 259 | n/a |
| 260 | I think reproducibility of research being an important issue. However, I don't understand why this survey is important at all. |
| 261 | (1) there is complete support for open access but no funds to pay for it (2) there is a lack of infrastructure support to share data (3) generally speaking, the administration of large research projects (e.g., trials, cohort studies) is very resource intensive and ongoing beyond the life of the project. The infrastructure is often not available - especially person costs - to support the running of large trials. This is not institution specific. |
| 262 | Funding not adequate for open access. No sound institutional advice re this. |
| 263 | Reproducible results are valued highly and encouraged |
| 264 | Admin supports open access publishing in theory but does not provide funding to support it |
| 265 | It's mostly problem-based learning, when you plan a study then you discuss it |
| 266 | The area of panel members not declaring true conflicts of interest in order to direct research funding in a particular direction needs to be addressed. The panels are loaded. |
| 267 | Pressure to get a 'good result' is present. Although we stick within the letter of the law, I think sometimes senior leaders are happy to waive the 'spirit of the law' if it will get them a better result. |
| 268 | we use a lot of existing data, so some of these questions weren't super applicable. |
| 269 | The only challenge I regularly face (aside from funding) is access to biostatisticians. I have some support via a collaboration, but my school does not have a statistician. |
| 270 | Supports open access publication but limited by funds |
| 271 | No further comments |
| 272 | NA |
| 273 | I conduct research through a number of different academic appointments in the context of being the industry PI these days hence g answer varies |
| 274 | We do not have financial resources to support open access publication charges. These charges are not supported by grant funding. I operate entirely by grant funding. My Institute does not provide any funds for publication, colour images or open access. |
| 275 | In my answer to 39 - the good applications include these things. The poor ones do not and sometime the researchers do not understand why they might need to be included |

| # | Comment |
|-----|--|
| 276 | The quality of applications can be poor, inadequate description of study activities and demonstrate a lack of understanding of the National Statement on Ethical Conduct in Human Research. Ethics can be an 'afterthought' and frequently prepared by junior members of staff with inconsistencies between documentation, poor presentation, grammar, typos etc which includes patient information sheets and other communication with potential participants |
| 277 | No encouragement to publish openly. Frequent reward of scientists who make sensational but poorly supported claims. |
| 278 | NHMRC mandates open access. Fees are high but these are not included in any awards given. Yearly publication costs may be as high as a junior research assistant in small groups. It would seem appropriate that a mechanism to support funding open access publications be developed. |
| 279 | Funding is the biggest problem. We would all love to be as rigorous as possible, and repeat findings (or increase n) until we are certain of our results. But we don't have this luxury, and sometimes we just need to go with what we have got. The fact is, rigor is costly. |
| 280 | The culture within my group and institution as a whole is very good. However, my biggest concern is the current lack of funding and that desperate people sometimes do desperate things, which may be unethical/nontransparent so they can stay in the game. In the current funding climate, if metrics like publication No# or citations/H-index are what are used to rank everyone, less and less people will be considered worthy of funding and this may have a dramatic effect on research output/publication quality. |
| 281 | Open access is expensive, and not necessarily covered by the Universities or funding agencies. |
| 282 | The culture is quite mixed, there are many groups who have a culture of high integrity for responsible research practices and we include a formal training unit for PhD candidates on responsible research practice. On the other hand there are some research groups who do not appear to have a high level of commitment to responsible research practices. |
| 283 | The pressure to publish is intense and is applied by senior members of the institution on all research staff |
| 284 | We have to pay for open access publication from own funds |
| 285 | N/A |
| 286 | No |
| 287 | The additional cost has prevented me from making my publications 'open access'. |
| 288 | I have always felt that my institution takes responsible research practices very seriously and provides resources to help ensure that. |
| 289 | OA supported in principle but budget restrictions do not always allow actual OA publishing. This is a major barrier to OA. |
| 290 | I would not rank responsible research practices as the most pressing threat to good science in my institution. |
| 291 | There needs to be instilling of an attitude that publishing work fast and in high numbers sometimes is not a good thing and can come back to haunt you if the stringency and the time taken to enforce that stringency is not there. In my opinion, our reward system is not good and does not encourage strong and consolidated works to be published. Rather the emphasis is on numbers and speed in getting the work out. This latter approach has significant issues. |
| 292 | There is an unhealthy culture in the institution of assigning a researcher's worth to KPIs, in particular the number of papers published and the amount of research funding attained. This drives inappropriate research practices, such as gift/guest/ghost authorships (which is far too common), data in published papers that are not reproducible (due to the pressure to publish fast to improve track record, to meet KPIs, or for prestige), and funding allocated to already funded/completed projects (this happens because projects are never checked with those already funded/completed/published, hence the same grant is funded from multiple sources and the outcomes are seldom tracked). |
| 293 | My institute follows the NHMRC guidelines. |
| 294 | There is no support for paid open access publishing. There are also limitations on data sharing, this is not a simple process. |
| 295 | Nil |

| # | Comment |
|-----|---|
| 296 | NA |
| 297 | I find that often research methodologies in our team are re-used across multiple studies. Sometimes these are not appropriate for the research questions being asked. Often this is done with the intention of acquiring more information just-in-case something interesting comes up, or to pool more information for use later on. |
| 298 | I don't honk it is the culture of my institution which is at issue, but the Australian research environment in general. We are underfunded, have unrealistic and ever increasing targets to meet for productivity to be competitive enough for salary funding to have a job and time to spend on quality control and improvement is as a result scarce. If people are overloaded with students, projects and papers, how can we spend sufficient time to ensure quality? |
| 299 | Research ethics committees do not meet often enough to keep clinical research moving smoothly. Moreover, the research ethics committee insists on the equivalent of a full ethics review, even after ethics has been approved through a NEAF and other university's ethics committees, and even when our university's only involvement is in statistical work/data analysis. Given this insistence, the failure of the committee to meet between December 1 and February 28 (no scheduled meetings in this time) can substantially delay research which have received ethics approval through a NEAF and SSA. |
| 300 | I have no questions about the integrity of my research institution. Other institutes I have questions about, but my institute I consider myself incredibly fortunate. |
| 301 | My institution has a LOT of policies and procedures about responsible research practice, but they more often than not miss the point and address the legal / liability side of things without addressing (or even hindering) other important aspects of research integrity. |
| 302 | Reproducing findings is far less a feature or consideration of qualitative research (though not completely irrelevant). But coming from a non-positivist paradigm, it is hard to relate with most of these questions. We have no discretionary funding for open access publishing - there is no way for us to pay the very large fees. |
| 303 | Clinical Trials are not viewed as a priority. The Hospital is interested in industry \$\$\$\$. There is no core funding to facilitate research. Audit is not done as people regard this incorrectly as research. Interstate variability in policy is daft and prohibitive. I am astonished how you get new young fellows into clinical academia? |
| 304 | Nil |
| 305 | Costs of open access publications need to be better supported so the costs are not pushed back onto research groups who have to find the money to pay the costs from some magical pot of money or be seen to be doing the wrong thing by not always allowing open access. |
| 306 | An institute with a heavy bias to genomic studies which is sidelining those that work with proteins. Little equipment money available and never spent on protein technologies. No equipment replaced/repared due to costs. Computers not supported beyond 3 years but no money to replace either. |
| 307 | Working in a Biotech start up environment translating basic research to the clinic responsible research practices are critical but publication, while important is less so than in a discovery research setting. We tend to publish the major findings only with little publication of incidental information accrued on the way. |
| 308 | Within my institution there is the full spectrum of researchers- from the very honest and ethical, through to those that will do anything short of faking data to get a paper. I see them intentionally design their experiments to give them the results they want, and misrepresent their work to get grants and papers. Our senior administrators talk about research ethics but will not probe individual researchers too hard when they are prolific publishers |
| 309 | no comments |
| 310 | Open access is not a simple universal good. It just shifts the costs of making a publication available from the reader (or reader's institution) to the author (or author's institution). |
| 311 | Open access publishing comes at a cost which is not always affordable so this is a factor that affects this practice |

| # | Comment |
|-----|---|
| 312 | Exorbitant open access publication charges (and lack of funding - including being unable to include in NHMRC budgets!) can be a significant barrier. |
| 313 | Open access publishing is not the answer. It is incompatible with effective peer review. However like most C21 trends it will no doubt take over from the current methods of peer reviewed publication without evidence of superiority because non-experts think its probably better. Our institution is not able to pay the large fees demanded buy the 'for profit' open access journals. |
| 314 | Budget stress is at levels that it is impacting integrity and reproducibility efforts. This includes supervision ratios. |
| 315 | standardising institutinal training and providing the training to all staff regularly. |
| 316 | none |
| 317 | N/A |
| 318 | The institution should provide budget to support open access publishing. |
| 319 | N/A |
| 320 | No |
| 321 | None |
| 322 | At times responsible research practices appear to be an after-thought, not the foundational mind-set. |
| 323 | Does not appear any different to that in other Australian institutions, with a mix of good and poor practices. Younger and early-career researchers seem more likely to engage in discussion and education about responsible research practices. |
| 324 | Although it s a negative way of re-enforcing these ethics, we have developed a policy on integrity for all researchers and all researchers must take this course prior to commencing any research work at the university. This includes visiting researchers too. However, it is amazing how the rumour mill gets churning once it is 'heard' that one of your colleagues is being investigated by the 'Integrity Team'. This does tend to focus our academics in this area. |
| 325 | We are a small institution that engages in multiple work streams, one of which is research. This limits our capacity to establish a strong, central research culture. |
| 326 | Research is not the main priority of the organisation - it is a tertiary health care service first and foremost. |
| 327 | I have only been here for [a short period of time] and still have a lot to learn about this organisation's practices. |
| 328 | Our organization is a health service and research isn't 'core business'. We have much university-based research undertaken in our organization, but there is poor communication between our organizations means a lot of ignorance. Even if we did have the information, we don't have the electronic systems to utilize the information |
| 329 | N/A |
| 330 | NA |
| 331 | n/a |
| 332 | Whilst administrators at my institution do support open access publications, they do not provide financial support to publish at open access journals. Therefore this policy is often only supported if individual researchers/research groups have funding available to publish in open access publications. |
| 333 | Main barrier to open access is cost. |
| 334 | The culture is less of a problem than the lack of funding for resources, infrastructure, research and open access publishing |
| 335 | Open Access publication - issue is funding to do so, when grants are already very tight Open access to data - some challenges when dealing with patient data which may be identifiable |
| 336 | my school will not provide money to pay for open access, so while they support it in 'theory' they will not pay so what are researchers to do! Use their own money - it is quite expensive, usually over \$1500. |
| 337 | We ask for internal peer review |

| # | Comment |
|-----|--|
| 338 | Persuading applicants to obtain independent peer review can be very difficult - many applicants either make a fuss/complain about this or submit applications without such review. Resolving this is time-consuming and very trying, although my institution itself is very supportive |
| 339 | No |
| 340 | I feel that our committee examines each research proposal on its own merit and examines in detail all items I've ticked in this section. |
| 341 | Our University has some issues with research practices, particularly in the Faculty of Health. Lots of nepotism...etc...these things seem more important to the team than actually getting the work done. |
| 342 | Institution so varied that such a culture difficult to initiate let alone sustain. |
| 343 | No further comments |
| 344 | Resourcing and appropriately skilled/trained experts is limiting |
| 345 | <p>Senior people support open access funding but our Institute has never produced a policy for how to pay for this, and to access financial support for this. The NHMRC will not fund publication costs in grants, so this makes this a very difficult bar to reach especially in the early years of research when you are reliant upon funding from supervisors to support this.</p> <p>This is an area that the NHMRC has an enormous responsibility for, and could be solved simply by allowing this to be incorporated into grant funding AND expected as a clear output of all NHMRC funded research in the same way that the NIH does.</p> |
| 346 | Positive culture, developing |
| 347 | No |
| 348 | NA |
| 349 | There is no funding set aside for open access publishing, so any charges come from the research budget. Therefore if it is possible to publish without charge (but not open access) I have to choose that route. |
| 350 | There is certainly disparity between my institution's theoretical support for responsible research practices and the availability of resources to support this. As such, I would generally say that all of my superiors/supervisors are in support of and actively aiming to conduct responsible research, however access to resources (e.g. statistical expertise, technical / administrative support) is lacking. Additionally, the pressure AT ALL LEVELS to publish-or-perish, job uncertainty and the reduced pool (and increased competition) for grant funding all contributes to an overall barrier to conducting research that aligns with responsible practices. |
| 351 | As a multi-cultural university, there is no consistency in understanding about the Australian Code for the Responsible Conduct of Research, or how to apply it in specific instances. There are also cultural differences in how we discuss and communicate appropriate conduct. |
| 352 | Intense focus on rankings and grant success drives a lot of policy and intensifies the power imbalances within research groups, which is likely to result in very low reporting of poor practice/conduct. |
| 353 | There is the 'code' and the 'national statement' to guide responsible research, however they do not cover specific issues and some research carried out in foreign countries. It would be an advantage to build up some kind of 'juris prudence' applicable to research with a database accessible to researchers and HREC members |
| 354 | No. |
| 355 | It might be useful for you to distinguish respondents from the physical sciences and respondents from the social sciences. Reproducible research is a critical issue in the physical sciences but not as significant in qualitative research such as construction a case study or using interviewing techniques. Certainly social science survey data should be reproducible, but there are many factors that complicate reproducibility in other social science methodologies. |
| 356 | NA |
| 357 | For questions 38 and 39, I can't give yes/no answers because projects vary and not all these issues are relevant in every project. Similarly for 40, each of these (apart from internal review which is done for all protocols coming to HREC) they may or may not be relevant for a particular project. |

| # | Comment |
|-----|--|
| 358 | All research proposals which are presented to the Committee are thoroughly reviewed both internally with the researchers and then at committee level by at least 4 reviewers. |
| 359 | <p>Insufficient mentorship appears to be a key issue that could be addressed. Please see recent research about this from The Netherlands - http://wcric2019.org/uploads/files/archive_other_sessions/day_2_june_3/cc12_v1.pdf</p> <p>Similar to elsewhere (e.g. The Netherlands, Japan, Korea), we need to develop the diverse community of practice of specialists, researchers, Research Integrity Advisors, senior leaders and administrators who are involved in the research and research management of responsible research in Australia. The benefits of this activity would benefit the culture of our institution.</p> <p>There appears to be a lack of transparency in Australia with regards to addressing breaches of responsible research. This is in contrast to Canada where the SRCR publishes 'case files' that report on the management of breaches. A similar approach in Australia would be a step towards greater transparency that would increase confidence to discuss problems.</p> |
| 360 | Researchers often do not see the ethical dimension of methodology, but if the methodology is poor then the beneficent test fails because the research results will be flawed. This is for humanities and social science research. |
| 361 | I think the institution is committed to ethical use of animals in research, however, I also think that some researchers are still making a cultural shift to view animals as sentient beings. Most of the researchers demonstrate profound respect; some, however, do not. I also worry about the career pressure on researchers to secure grant funding and publications leading to excessive use of animals. This is not an institutional issue as much as a whole of research practice issue that is based in outmoded research practices. |
| 362 | None. |
| 363 | we try to ensure that research will stand up to the rigorous of the committee's evaluation |
| 364 | I am not sure that we have a policy for lab based research with regard to practices to help promote reproducibility. We have electronic lab books however there isnt an institute SOP to ensure that experiments are recorded in the appropriate manner. We do have oversight for human and animal ethics, OGTR compliance and risk assessments. |
| 365 | - |
| 366 | <p>I would like to see more emphasis put on robust research protocols and planning from the early phases. Reporting of exact methods, mouse background information and other variables that may not be accounted for in the publication of results.</p> <p>Researchers are nervous when they don't get the results they expected and tend to try for further repeats/minor tweaking rather than stopping and reviewing wholly what could have gone wrong. There is definitely pressure to publish more rather than higher quality and take time for high quality experiments.</p> |
| 367 | Open access publishing is supported but it cost money and there often isn't enough money to cover the demand for open access publishing. |
| 368 | The culture at some parts of [Institution] that I have been involved in is toxic and not inclusive. Some people exhibit unethical behaviours that are known to leaders but nothing is done about them until formal complaints are made and investigations are undertaken. This institution rewards self promotion at the expense of researchers that are ethical. |
| 369 | Re question 41 more vetting of research projects could occur prior to HREC consideration in some cases |
| 370 | Internal review and control within the institution is very poor. Many projects seem to just get a tick and flick from supervisors and then sent to the HREC. Is this because they don't care about HREC? Or they are happy to rely on the HREC? Or because the Supervisors are lazy? |
| 371 | None. |
| 372 | We are often left in the dark as postgraduate students. We are expected to trust our supervisors judgement and decisions when it comes to research practices. The conversations are more of a yes/no scenario rather than a discussion or teaching moment. |

| # | Comment |
|-----|---|
| 373 | There is a grey area whereby research is initiated by funding so there are considerations about how responsible that is |
| 374 | In some more advanced student studies eg post graduate, more attention could sometimes be given to inclusion of positive and negative controls and blind studies |
| 375 | In my opinion, my institution is not sufficiently prescriptive in requiring researchers (staff and HDR students) to complete (or provide evidence of prior completion) a basic course of instruction in the principles and practice of ethical research with human participants. There is an assumption that staff and HDR students have, somewhere in their past, been instructed appropriately in the basics of ethical research with human participants. |
| 376 | Sometimes institutional pressure to continue with research |
| 377 | Cost still can be prohibitive for open access publishing. My last paper in an Open access journal cost >\$AU2500 just for publication open access fees. |
| 378 | Our commitment to responsible research practices is extremely strong - this is a very key part of our assessment of all research which comes before the committee. |
| 379 | Nil |
| 380 | While open access publishing is supported in principle, there is no allocation of funds to allow for publishing in most open access journals which require significant payment. Additionally, funding bodies, such as the NHMRC do not allow for these charges in research budgets. |
| 381 | None |
| 382 | Additional peer review may also be requested. |
| 383 | There appears to be reluctance for researchers to adopt new methods to promote reproducibility of experiments. It appears to be as a result of limited funds and time and a bigger focus on securing grants and funding to stabilise their career, which is at odds with ensuring a high standard of research practices. |
| 384 | The reviews undertaken by this HREC are extremely rigorous and detailed. I am confident poor quality research does not make it through the process |
| 385 | The repeated requirements for statistical analysis are placing a significant burden on junior researchers or investigator initiated projects. Particularly considering that good statistical support is difficult to get and expensive. |
| 386 | At our university, we do little science review of ethics applications. All PIs are university staff members, so we are guaranteed some minimum expertise of the official principal investigator, however, specific applications are not rigorously evaluated scientifically nor do we require enough information on the ethics applications to make these determinations. |
| 387 | I feel that our HREC is doing an extremely good job in assessing and analysing the projects. |
| 388 | They are capable and qualified. |
| 389 | We have rigorous discussions on every research proposal that we read. There are always an amazing assortment of points of view. |
| 390 | All staff undergo GCP training All staff are mentored and supervised for research skills Probably closer monitoring than most as all research is in teams and we are not a big organization, so it is hard to get away with poor quality work. |
| 391 | No |
| 392 | [Identifying comment], I am constantly reassured by the expertise of the diverse array of members that makes up our committee. |
| 393 | [Identifying comment] I look more at ethical considerations around the participants, how data is kept, whether it is re-identifiable amongst other things. I do not verify the science but will ask questions if I am not sure about it. |

| # | Comment |
|-----|---|
| 394 | I think the committee is not sufficiently skilled to judge responsible research practices. The committee is constituted to evaluate ethical principles. They are often ill-equipped to judge statistical matters, randomisation, selection bias or the conduct of research in spheres outside the experience of individual members. This does not, however, prevent committee members from raising objections, and once raised, these are rarely answered by other committee members but are usually returned to the applicant. In my view a lot of time is spent by applicants answering questions that are not related to ethics. |
| 395 | There is no concern for the validity or reproducibility of research - just with quantity and output |
| 396 | Exhaustion from overwork sometimes appears to result in laziness |
| 397 | Value having members of the scientific review committee attending our HREC to respond to any such questions the ethics committee might have |
| 398 | [Identifying comment]; this manager is implementing changes across the board to improve the framework within which our researchers work. To date, I have only observed good intentions with respect to responsible research practices of researchers at our institute. I find the biggest barrier to researchers adhering more carefully to research compliance guidelines is their extreme lack of time for administrative duties. In order to be successful, researchers must devote so much time and energy to their lab work and their grant writing. There aren't enough hours in the day for them to then tend to various administrative duties, such as preparing a well-written 64 page animal ethics application; or submitting an incident report in a timely manner for example. We are working towards an online system that will hopefully alleviate some of the time burden for researchers and make their administrative/compliance duties less onerous. |
| 399 | our role has changed. Clinical trials are now evaluated elsewhere. The majority of our proposals are medical students who are doing their 3/4 th year research project. |
| 400 | The above questions are predicated on a particular model of research methodology. Most of the research I see does not fall into this group, and tends towards the qualitative social sciences end of thing. A lot of the options above are irrelevant. |
| 401 | It's a very hostile space to fight in. |
| 402 | In relation to many of the possible selection items presented in Questions 38 & 39. If a reader on our ethics committee raised these topics in their reading comments or at the meetings, they would be instructed that these are research methodological and design related comments, which are out of the scope of the committee's role and not relevant to their research application approval process. |
| 403 | The culture would be greatly improved by increased funding for more oversight |
| 404 | Nil |
| 405 | N/A |
| 406 | If a researcher is seen to be 'successful' - ie gets lots of funding the culture is to fall over backwards to ensure their research protocols are approved |
| 407 | Feel is a good culture. Have sat on others in the past that has had a section that I feel the culture was not so good |
| 408 | Research review is robust and rigorous but is front loaded meaning that as long as researchers say the right things in their ethics applications there is no accountability to follow through. Additionally, research is named as a strategic priority but this is only lip service as it is treated as an after thought at the executive level. Lastly, there is a class system apparent in which more junior researchers are penalised for minor errors or administrative oversights while senior researchers committing borderline misconduct are not investigated or penalised. |
| 409 | No interaction / support from my University |
| 410 | Support is not to say 'Yes' but to financially fund the submission of the publication in an open source journal. |
| 411 | . |
| 412 | Open access is very expensive and we can't use NHMRC funds which makes it very difficult. NHMRC needs to allow funding for open access |
| 413 | N/A |
| 414 | They are supportive of open access but do not provide the funding for it |

| # | Comment |
|-----|---|
| 415 | <p>In my responses, I am mainly responding to what I have set up in my research team and network [Identifying comment]</p> <p>Much research is not reproducible due to poor methods. There is inadequate research done prior to pilots. There is an overwhelming culture to go to RCT testing before the intervention is ready, and it is determined that it is needed, wanted, implementable. The research ideas are built in isolation to the end user, and the end user is not properly engaged in the design and testing of the intervention. NHMRC culture discourages proper testing of public health / health services interventions and researchers go to RCT too quickly. Researchers don't even knowable methods of co-design, quality testing, improvement and many other techniques to build interventions. Intervention building science is extremely weak or non-existent - hence \$Billions is wasted on projects that come and go, and there is no impact on community.</p> |
| 416 | NA |
| 417 | No |
| 418 | Open access publishing is supported in theory, but not financially by my institution. This means when there is a cost associated with open access publishing it must be covered by individual research funds, which are not always available. |
| 419 | [Identifying comment] I have taken on various roles within the institution to learn about the institutional culture and I have found it to be hierarchical and on the whole unsupportive and I get the feeling the experience researchers have low trust in the capabilities of the junior researchers, which may be well placed, but perhaps some idea of growing this generation of researchers would be great to inculcate? Metrics are based on publications and within the current institute, and clinical scientists are misunderstood because they don't express investigations and outcomes in terms of genomics or epigenetics, but rather in terms of systems. |
| 420 | Through our Research Excellence Committee we have recently been discussing this issue more. We are starting to think more broadly about what we can do in this area. However, research on the whole is unbelievably discouraging of research replicability, it is hard to get funding for such work or to publish it. |
| 421 | open access costs and the institution does not pay for it as a general rule |
| 422 | Apart from training when I started the HDR, I'm not sure where my institutions' policy/guidelines are or my senior administrator's opinions about open access or data sharing. There are several well-trained people I could ask for help in responsible research practices, but they have limited time/resources and sometimes cannot dedicate the time needed. I'm not sure better training will improve poor-quality research, as it's the pressure from external funding that drives this. |
| 423 | My Institute is pretty good. |
| 424 | <p>In my area of research, there are a couple of papers (seminal) in the literature which are clearly not able to be reproduced. The research group is renowned for their work and funding from the NHMRC. The effect sizes of the observations are incredible.</p> <p>That said, I have one paper that is also difficult to replicate - it has 1000+ cites. Being able to write a note on why the intervention was so successful would be very helpful for others - as the diagnostic inclusion factors at the time were not well defined and yet now 2 decades later from part of the clinical narrative. So a chance to further describe and define the population in modern terms would be helpful for others to replicate / optimize their protocols.</p> |
| 425 | Open access journals in my field often have lower impact factor and lower perceived reliability and prestige. There is a sense that people pay to have their articles published, rather than rigorous peer review process for non payment journals. They are also very expensive- can be thousands of dollars to publish. Therefore preference is often for non open access journals. |
| 426 | <p>No problems with responsible research practices.</p> <p>The problem is too much low impact research.</p> |
| 427 | Cost is the issue with open access |
| 428 | NA |
| 429 | None |
| 430 | Nil |

| # | Comment |
|-----|---|
| 431 | Junior researchers take on all the responsibility all too often. Many senior authors put their names on papers that they have contributed little too and often junior researchers have to follow up senior researchers multiple times to get any input. |
| 432 | I'm finding this survey really frustrating to fill out because it seems to be almost exclusively designed for quantitative researchers. This makes it feel like my rigorous (but with different rigour domains than quantitative work) qualitative, applied, consultative, research is not considered valuable by NHMRC. I sometimes experience the same thing at my institution but there are resources (human and other) that I can draw from there. |
| 433 | Huge pressure on graduate research students and early career researchers places senior researchers and group leaders in a position of constant vigilance to guard against fraud or sloppy research practice. |
| 434 | Considering increasing the level of scrutiny on research conduct across the university. |
| 435 | The pressure to publish means that junior researchers (post-docs and PhD students) are expected to cut corners, rush research, and work outside of their areas of expertise. The focus is on number of publications rather than on quality of publications. There is even less focus on what will happen to the research beyond publication - very little focus on how it will impact in the real world and its relevance to consumers. Little focus on implementation of research. Where I work there are 'quotas' for number of publications required per year [Identifying comment]. We are ranked by our publication outputs annually (name and shame). We are encouraged to write papers that have no clear purpose and include multiple authors on our papers - of whom many have had almost no input into the research/paper. As short-term, contract workers we have limited opportunity to raise such issues, or if we do, we fear contracts will not be renewed/extended. |
| 436 | no |
| 437 | Open access is expensive! At the beginning of my career and before I do a PhD, I don't have access to schemes that can get my work published open access. |
| 438 | I think the culture in my institution is a response to the larger culture of research, where the motto 'publish or perish' makes it impossible for early career researchers to be primarily concerned about the quality of the science. Indeed, the focus on track record (i.e. number of publications) when being assessed for funding applications means that researchers are forced to pump out vast numbers of publications and as a necessary consequence the quality of work suffers. |
| 439 | We are trying to fulfill more and more guidelines/requirements made be people who have no clue of what a laboratory is. Because of this the costs of research are skyrocketing and therefore less and less is being done and the steps forward are infinitesimal. It is embarrassing preparing grant applications where the costs are astronomical compared to the expected gains that rarely answer a real world question. This institution wonders why Industry avoids us like the plague - I wonder if this is why |
| 440 | - |
| 441 | No |
| 442 | Nil |
| 443 | too many departments & bureaucracy, making it difficult to communicate any problems in research practices |
| 444 | I feel as though responsible research practice is only brought up as a topic for discussion when there is e.g. a revision to an ethics guideline or code of conduct, or when there is something in the media about irresponsible research. I think this reflects poorly on us and that responsible research practice should be something we think about and talk about more often - something that is kept 'front of mind' rather than just remembered occasionally. |
| 445 | Although Open Access publishing is recommended this often requires the payment of publication fees - it's an unfair burden especially on ECR/MCRs as such costs are rarely covered by research funding nor by institutions. |
| 446 | None |
| 447 | Publication track-record (requirement for some top journals plus quantity padding, including nominal co-authorship) and constant desperation for inadequate grants/fellowships, promotion and employment, are the dominant drivers of academic priorities, not validation/replication. Institutions and academics have extreme reputation and/or reprisal liability to investigate or expose fraud. |

| # | Comment |
|-----|--|
| 448 | none |
| 449 | The institute is great, the fundamental flaws in academia are the issue - When people are trying to keep their job it naturally increases the pressure to deliver 'positive' publishable results. |
| 450 | No |
| 451 | nil |
| 452 | <p>Open access publishing is unfunded and expensive. We only publish open access as a last resort due to expense, which is unsupported by grants/institutions and research funds.</p> <p>Hospital based investigator initiated translational research is pretty much unsupported by institutions in terms of training, staff support and funding. There are huge pressures on staffing that make having the staff available is always difficult, many clinicians would like to do research but don't know how to set up and properly resource the studies. Clinical PhD students also often miss out on internal institution training services and are 'on their own' in terms of skills in analysis/data management and protocol development.</p> |
| 453 | Open access publishing is supported in theory but not funded in practice. |
| 454 | NA |
| 455 | none |
| 456 | In my group in my institution i'm comfortable and confident about our focus on responsible research. But I suspect that (from informal conversations with other PhD candidates) practice varies across other groups in the institute - so is therefore largely reliant on leadership within groups |
| 457 | [Identifying comment] |
| 458 | I think my institution supports open access publishing to the extent that it is required by funding bodies or for very important papers but not necessarily for all papers due to expense. Data sharing is difficult because of highly sensitive human research data. |
| 459 | There is no funding in my university for open access publication |
| 460 | None. |
| 461 | The whole system is about 'publish or perish'. There is a definite and explicit culture of pushing researchers into areas that will help academics achieve their output expectations. This means the majority of research is based upon literature reviews or non-clinical studies in order to reduce costs and meet performance scores. Excellent researchers are pushed into teaching, and excellent teachers are pushed into publishing. This effectively reduces the quality of research in order to increase the quantity. |
| 462 | none |
| 463 | Sometimes group leaders encourage incorrect study designs for their own grants |
| 464 | No |
| 465 | Academics in -all- universities (including mine) are under greater pressure than ever to win grants and publish. These pressures must inevitably compromise the quality of research output. The situation is worsened by the the burden universities place on academics in terms of petty tasks and other hoops that we are made to jump through (including, but not limited to ethics committees, policies around GMO use etc). |
| 466 | We do not support open access because of the cost involved, and the high profit that publishing houses already make. As an ECR there is no ways I can afford open access publishing fees. I am not regularly made aware of my institution's policies and I am unaware of any staff training in this area. |
| 467 | The culture in my institution is very poor and inexperienced. It is all just cut-throat churn out papers with no real concern about how or what is published. I think this is widespread. Similarly, we are all encouraged to collaborate but there are no rewards for collaboration. ONLY the leaders are rewarded. SO everyone is striving to be the leader and collaboration is tokenistic at best |
| 468 | I am very impressed by the high ethical standard which the [University Animal Ethics Committee] tries to apply when assessing new projects. However I am concerned at the apparent limited grasp among my colleagues on the committee about conflicts of interest and also the long time it takes for [University] investigations of alleged research malpractice to be started and completed. [University] is implementing research master which it is presumed will improve the compliance level amongst researchers for e.g. submitting reports on time. |

| # | Comment |
|-----|---|
| 469 | No |
| 470 | Serious challenges accessing highly skilled statisticians (they're hugely over-committed and over-worked) and advanced applied statistical training (advanced courses run unpredictably and very infrequently, they're expensive, they're often interstate, they're poorly advertised). |
| 471 | No |
| 472 | i think the main issue isnt to do with my institution, but the pressure in academia to publish, and the comp[etitiveness for grants. |
| 473 | I have sat on [multiple] ethics committees over [many] years . I have often found the addition of a good statistician to be a very helpful to the committee This is not just in relation to animal numbers being used but in the model being used and the questions that are asked . |
| 474 | I have heard about research integrity officers, but I don't know of who that would be at my Institute. |
| 475 | In the research institute I am affiliated with, because the organisation is smaller and I work with people passionate about reproducibility and research rigor, it is easier to develop and implement strategies to improve reproducibility as a whole. In the university where I am based, because the organisation is much larger, and there is no suitable metric to quantify or incentivise reproducibility, it is harder to improve and implement strategies for reproducibility broadly. I sense that there is growing awareness of the issue, but it is patchy and difficult to address. In my part, I am trying to address these problems with different research groups. |
| 476 | The level of diligent and professional application by process and practice of all ethics committee staff is of outstanding quality. |
| 477 | As a leader in my institution, I think it would be interesting and useful to promote better and easier institutional support for data and code sharing when publishing research results |
| 478 | Our institution supports open access publishing but does not provide funding for open access publications. |
| 479 | University integrity office is very slack. A PhD student has reported a supervisor (Professor) for poor integrity on multiple counts (which I agreed was poor) and although integrity said to us they were "not surprised" and had "had several other reports" they did not follow up (citing change of their staff as the reason). The supervisor is still working and behaving poorly and we have heard this from many other researchers since. So if it is not led well from the top, and there are no consequences for senior staff performing poorly, then you can expect ongoing poor behaviour. |
| 480 | No further comments |
| 481 | no |
| 482 | Cost is a big issue with open access publishing in my institution and no budget is provided |
| 483 | The organisation seeks to provide the best ethical and scientific outcomes for research undertaken. |
| 484 | It is changing for the better, but there is considerable resistance from the old guard, and it is a source of frustration for young guns trying to establish a career. |
| 485 | The number of publications is valued over responsible research practice, leading to some groups publishing and researching hastily |
| 486 | Open access publications are prohibitively expensive. We try to publish in free good journals that become open access after a year. |
| 487 | The chronic lack of funding for research within the NHMRC system (both infrastructure and research) means that while the vast majority know what is required access to appropriate expertise is an on-going problem. Furthermore, as one must perform most of the power calculations, etc. prior to applying for or receiving funding to conduct the research there are no resources available to actually obtain high quality advice (and even if this advice was available prior to grant applications 90% of the advice given would be for projects that were no funded and hence the resources would be wasted). |
| 488 | Our institution is keen to foster more innovative, risk taking and C&C empowering research, but the NHMRC is a closed 'mates club' which uses surveys like these to maintain control and exclude 'outsiders' from the self serving club |

| # | Comment |
|-----|---|
| 489 | The extreme competition for grant funding is degrading the collegiate nature of research departments and institutions. Nobody feels safe, not even the senior people charged with mentoring the M/ECRs. This stress brings out the absolute worst in everyone. |
| 490 | As open access publishing is often involved with a cost it is hard to encourage phd students who are on small scholarships to spend much needed funds on open access publishing. |
| 491 | My team leader/supervisor is verbally committed to, and pushing for, responsible research practices and robustly reproducible data. But I do not see this supervisor actually making any changes to his own practices, and I do see [them] making the same errors in responsible research practices that [they] say [they] are working against. However I do see the junior/mid level researchers trying to incorporate better practices into their research, there is definitely an understanding that this is very important to good research |
| 492 | Pressure to get funding, have HDR students and publications results in a culture where people sometimes do research for research sake. Some HDR (and some undergraduate) projects seem to be done just because they have had an approach, or a course requirement and need something for the student to do. It's very difficult for an ethical review body to question these. |
| 493 | No |
| 494 | I am strongly motivated to ensure that our group's research is responsible and reproducible, and the culture of my institution is both accepting and supportive of these efforts. |
| 495 | no |
| 496 | Open-access publishing has little to do with reproducibility and, in my opinion, these journals commonly encourage poor peer-review practices. Money spent on making publications open-access would be better spent on having dedicated staff that work with research groups to prepare preprints, shared datasets, etc. |
| 497 | It's supported, but the time and cost it takes to do so are still huge set backs when I'm the only person on my team with expertise in this area. |
| 498 | NA |
| 499 | My own boss does not emphasize on such things. It's all about publications and results. My boss is not even transparent with all his students. |
| 500 | The problem I have encountered is lack of adequate collaboration between different units of the same research institution due to the existing culture of competition for NHMRC funding. Idea and expertise sharing within different units is limited as most groups will be competing in the same category for the NHMRC funding. |
| 501 | All good |
| 502 | Impact factor is still more highly valued than journals that value open and transparent reporting. Funding is dependent on impactful publications (and quantity of publications), so there is no incentive to change practice. Junior researchers are willing to change, but senior researchers mentoring these junior researchers cannot appear to radically support changing practices when funding is so competitive and so limited. |
| 503 | Research data management secure storage space provided by Institution is very good step in this direction. Most recently coupled with electronic notebook. Research Integrity officers important too. |
| 504 | n/a |
| 505 | A lack of statistical knowledge of my superiors has severely affected my ability to produce reproducible and valid research work in some cases, as has poor recording and transmission of knowledge from previous lab members. More permanent and systematised storage of data and experimental procedures would go a very long way. |
| 506 | The cost of qualified staff to conduct my research is the main barrier |
| 507 | Some senior researchers see open access as a waste of money |
| 508 | open access publishing is encouraged only when there is a specific budget within the project to do so Statistical support is lacking and causes some anxiety about the validity and accuracy of the analyses |
| 509 | It seems like it's an unspoken agreement that research needs to be responsible, and a lot of what I've learned has been from experience (from simple things like writing in pen, to how long to keep samples for). It has also come up in discussions with my supervisors, so it feels like responsible research is an important habit to have instead of anything 'extra' on top of research, if that makes sense? |

| # | Comment |
|-----|--|
| 510 | It is often difficult to talk to supervisors about responsible research practices because all they see is the work involved. I often feel I need to decide between responsible research/reporting and obtaining a publication to further my career. It is one of my chief concerns in research and makes me feel disinclined from pursuing a career in research. |
| 511 | Present in rhetoric, very little actual oversight. |
| 512 | This issue is hardly ever discussed at my institute |
| 513 | None |
| 514 | lack of statistics |
| 515 | Insufficient funds |
| 516 | Responsible research is not typically considered important. Senior staff spend more time talking about things that do not matter e.g. 'That woman researcher is wearing expensive clothes! Who does she think she is!' they seem to ignore results and true science, and instead try and play politics with the blokes. |
| 517 | Open access publishing requires the payment of a fee for publishing. In some projects, this budget is not included in the grants or the department spendings and needs to be covered by individuals/personal grants. This concern has been raised in every discussion I have participated in when choosing the target journal. This item should be included in grant proposal budgets. |
| 518 | The institution is trying to improve but is quite a distance away from this. |
| 519 | NA |
| 520 | N/a |
| 521 | More rigorous auditing is required - shocking practices especially from senior researchers |
| 522 | As a HDR Student I feel lucky that my institution is legitimate. I am learning how to do things properly. |
| 523 | na |
| 524 | n/a |
| 525 | There are no full time researchers in this hospital and health service setting. Clinical staff are encouraged to undertake research though often prospective researchers fail to take advantage of in-house research support services that are provided. Students are frequently not supported by their supervisors from external institutions, especially in the design and planning stage. |
| 526 | I am not a lab-based researcher - my research is public health. I feel many of the questions above were referring to lab-based research. |
| 527 | My department is qualitative research focused. I can see however the problem with quantitative research. In qualitative research we cannot avoid bias but we acknowledge it |
| 528 | Lack of resources is a big issue |
| 529 | There is no overarching research body or guidance |

q43.10\$. How does your institution offer education and training about responsible research practices? / How have you received education and training about responsible research practices? / How have you received education and training about responsible research practices that are relevant to the proposal that your committee considers? (Other)

No. of Comments

101

| # | Comment |
|---|--|
| 1 | familiarisation with the NHMRC guidelines for ethical conduct of research is mandatory at my institution |
| 2 | Through dissemination of our strategy, mission, values etc that include this |
| 3 | A long while ago in my first job |
| 4 | This training is under development and will soon be mandatory across the university |
| 5 | Self guided learning |

| # | Comment |
|----|--|
| 6 | I arrange for our lab to undergo mandatory GCP training. Also voluntary sessions on Open Science also available |
| 7 | I coordinate this training for novice research supervisors |
| 8 | Internal meetings |
| 9 | Seminars |
| 10 | Colleagues are trained in GCP etc and are a good resource. My university also provides courses on this. |
| 11 | I work in computational biology and things like code repositories and open access sharing are very much standard practice in those industries; scientific research is behind many other fields in terms of best practice |
| 12 | I just learnt the skill while doing the job and working with outstanding scientists |
| 13 | By keeping up to date with best practice in the literature |
| 14 | During conversations with peers |
| 15 | Discussion of papers at journal club tutorials with students |
| 16 | Responsible research practice is good science and we were trained to do good science. |
| 17 | AS PART OF IMPLEMENTING RESEARCH TRIAL WITHIN OUR RESEARCH GROUP |
| 18 | Overseas IRB 101 and 102. |
| 19 | mandatory GCP training |
| 20 | Reading |
| 21 | institutional seminars on the subject |
| 22 | being part of research community valuing and promoting responsible research practices |
| 23 | Requesting advice from Ethics committee on specific topics or situations. |
| 24 | Read up discussion in the field |
| 25 | Part of the core business of my work |
| 26 | From School onwards (see my comment above. Mentors and colleagues - all contributed.... Heaps of discussions at home including with partner and even my kids... |
| 27 | I received my best training in rigorous research in an NGO before I became an academic. Study design, data checking, record-keeping were all taught and done more carefully than in a university. |
| 28 | peer group discussions at work |
| 29 | GCP training as part of sponsored clinical trials training |
| 30 | Own research and reading |
| 31 | Publications |
| 32 | about to institute supervisor registration and training (mandatory) |
| 33 | Reading the literature on research methods and statistics. |
| 34 | Just read the journals you can't avoid it |
| 35 | I am a Dep Chair of an HREC and have received additional training |
| 36 | From data custodians |
| 37 | While doing my degree at Harvard. |
| 38 | GCP |
| 39 | Journal articles |
| 40 | GCP course |
| 41 | Trained at an overseas institution |
| 42 | Being a member of HRECs |
| 43 | it is just common sense. I work closely with families and patients and cannot imagine planning to deceive them. If I ever published something incorrect, it would be down to a mistake. However, I am very fortunate in that because of my reputation and job there is no pressure on me to publish or get grant money, just to get results for patients and their families. |
| 44 | From international collaborators |

| # | Comment |
|----|--|
| 45 | Research teams have checklists and policies to follow for research practices |
| 46 | Mandatory training will be introduced soon. |
| 47 | Mandatory training through involvement in clinical trials with industry partners. |
| 48 | training is typically uncoordinated and not comprehensive |
| 49 | NHMRC guidelines |
| 50 | completion of on-line good research practice courses mandated as CI on some grants. |
| 51 | It is also part of personal believe and quality |
| 52 | Much of this is self-taught; access to some expert colleagues |
| 53 | GCP training multiple times |
| 54 | Study-specific GCRP training |
| 55 | Articles |
| 56 | I attended a seminar on this topic delivered by David Vaux. |
| 57 | GCP training |
| 58 | funding body advice, online training at institution, information in scientific publications |
| 59 | Easily accessible guidance and resources |
| 60 | Mandatory for all HDR students prior to confirmation and for supervisors, non mandatory for other research staff but currently under review with the intention for it to be mandatory for all research staff and professional staff supporting research. |
| 61 | website, info sessions |
| 62 | I have taught social science research methods to HDR students for nearly 20 years |
| 63 | I am an active researcher and are familiar with all research protocols. |
| 64 | Where relevant, I access advice from appropriate staff and/or review published guidelines. |
| 65 | Access to a range of materials including the Code. |
| 66 | Web resources |
| 67 | Extensive prior research practice experience. |
| 68 | have developed instution teaching modules in this ara, so self taught for some |
| 69 | Attendance at research ethics workshops. |
| 70 | Have experience with wildlife research in the field. |
| 71 | I teach research methods myself |
| 72 | Supervision and training in research practices through PhD |
| 73 | I am about to attend an Ethics workshop and also undertake online ethics training |
| 74 | I have learned as part of clinical epidemiology qualifications |
| 75 | Training in Good Clinical Practice in clinical trials I have been involved in |
| 76 | 20 years experience at National Measurement Institute specialising in method development and validation and development of measurement standards |
| 77 | I came to my current HREC with >10 years experience, so the focus was on administrative induction. |
| 78 | Training sessions within the committee meetings occasionally |
| 79 | I'm: Cat C ex WIRES so some wildlife training; also retired pharmacist |
| 80 | I have developed new public health tools and processes to ensure the research outputs are 'responsible', ie use tax payers wisely, are fit for purpose, needed, wanted and implementable. |
| 81 | I am a Research Integrity Advisor and attend monthly meetings for this role |
| 82 | I have been doing my own reading in the area and informing people about it |
| 83 | I run them in some cases |
| 84 | Own research and reading |
| 85 | through my masters by coursework |
| 86 | Self education and training from external providers |

| # | Comment |
|-----|---|
| 87 | UNSW short course on animal ethics (2 day course) |
| 88 | Reading the literature, working group seminars |
| 89 | Self-learning and exploring, conference workshops |
| 90 | Self education |
| 91 | Reading publications to study methods, reading up on statistical abuse and crisis of reproducibility and how to fix or avoid |
| 92 | Reading |
| 93 | International work with key peak bodies |
| 94 | These are guesses, I don't know and for Q44 |
| 95 | Taking self-lead, online courses in statistics, programming, and open science methods and conducting research in the field |
| 96 | Good Clinical Practice training |
| 97 | As a member of an HREC |
| 98 | CITI training working in USA |
| 99 | In the first few years of my HREC membership training and even conference attendance was available. In recent years this has been limited to process updates within the monthly meeting agenda. |
| 100 | Worked in a library for a while |
| 101 | As part of ethics committee role |

q45.8\$. Education and training about responsible research practices is provided to... (Other)

No. of Comments

9

| # | Comment |
|---|---|
| 1 | some of the above are not applicable |
| 2 | Mandatory for HDR students. Optional all other staff. |
| 3 | Basically all research staff are expected to complete mandatory GCP training once every 3 years. |
| 4 | Faculty administrative staff e.g. Associate Deans Research |
| 5 | RIAs, Specialists in research integrity |
| 6 | Unsure |
| 7 | Research assistants |
| 8 | Training courses are conducted by HREC and RG staff but attendance is not mandated (and is frequently poor) |
| 9 | I have no idea about others. Training to committees is very basic aimed at lay members understanding |

Pressures

q55\$. What effect do you think that competition in research is having on the production of high quality research? Why do you say that?

No. of Comments

1116

| # | Comment |
|----|---|
| 1 | You've got to be kidding! Research is an industry, and most people within it are motivated by self-interest. The goal of which is to produce as much 'research' as possible regardless of quality so, obviously, lots of low quality research is produced. This is not rocket science. The real problem is that enormous amounts of money are invested in generating useless products that no one wants. So that is a failure of the business model, regulation and the market. |
| 2 | You stress people out enough and they'll make bad decisions. For example, my job is contracted, as are many in academia (tenure is a myth) so my livelihood, ability to feed, clothe and house my family, relies on my journal outputs, grant income and impact. I don't compromise my research quality but the personal toll is enormous- I have now been in contracts for over [a decade], that's [over a decade] of no job security. You try it. And in the most recent round of investigator grants, designed so called to fix inequities, who got the money??? Old white men. It was a disgrace. And what ia this Melbourne bias? Why does the majority of funding go to Victoria? They're not better, they're better connected. So you tell me, what is the impact of 'who you know' on research quality? Is funding more likely to go to the well connected rather than those presenting the best quality work? BLIND PEER REVIEW is the answer. review proposals with no identifying characteristics and give a score. Then have a separate panel range the ability of a team to do a type of research (rather than the whole proposal). Weight the proposal higher than the CI scores. Then see if the same disparities occur. |
| 3 | you need to want it |
| 4 | You need to get a job or funding in order to publish and sustain a career in research. This will inevitably lead to people cutting corners because they are stressed about their job security or the job security of the people that they employ. |
| 5 | You need some competition to get people focused. |
| 6 | you need funding to do high quality research |
| 7 | You know that your research article has to have something special to be publishable, so you keep pushing for that extra 'something'. |
| 8 | Without external pressures, I think we all would have more time to test whether our own study results, and those of our peers, are reproducible |
| 9 | Without competition, there will be no rise in standards or innovation. Healthy competition drives research productivity and rewards those who are likely to produce research with the greatest impact |
| 10 | Without competition, people may not work so hard to get research done. |
| 11 | Within reason competition drives performance and excellence |
| 12 | With NHMRC funding becoming so difficult to obtain for young / early career researchers, it is not only driving good researchers/clinicians out of academia, but also I've seen it tempt others to 'churn' out research that is of poor quality but just publishable. |
| 13 | Will automatically lead to compromise in research quality. |
| 14 | Who are we competing against exactly? Is the point not to achieve a common goal, to achieve something? Too many groups, doing too many different things, competing for the same resources, leading to few tangible outcomes and rushed research. |
| 15 | While there are both positive and negative effects, the nett effect is positive. |
| 16 | While the competition to get interesting research completed and published in a 'good journal' is a good thing, improving the quality of the research to get better results, the competition to get funding and to get jobs is very demoralising and depressing. It can take focus away from the research itself thereby resulting in less than optimal quality. |

| # | Comment |
|----|---|
| 17 | While it is positive for the highest quality of research stands out, the negative part should also not be ignored, as the lack of supportive infrastructure may diminish the desire for a research career of the next generation. |
| 18 | While competition is good in a truly fair environment, when the situation arises when you have a smaller resource to draw from it becomes more political and people tend to pick sides, be conservative and risk adverse. |
| 19 | While competition could be a good motivator for high quality research, in the current funding climate, I believe that pressure to gain funding is too intense to have a positive effect on research outputs. |
| 20 | Whether we want to believe it or not, our staff will feel pressured and I believe cut corners in research quality in trying to push results forward. Sometimes I feel pressure to get experiments done faster than I would think is safe and responsible for quality and also feel pressured to use less animals than I would like (i.e. only JUST stat significant numbers). I like to use larger numbers as we use gut pathogens which can produce a lot of variability. This means more money, time and resources. |
| 21 | Where even to begin? Quality depends on funds and personnel. When both are in short supply, quality MUST suffer. |
| 22 | When you are competing, you want to be the best and want to produce high quality research in high impact journals where reviewers always ask to see negative and positive controls. |
| 23 | When the quality of a person's research and/or them as a scientist dictates whether somebody gets a job and therefore a livelihood, and this is represented as a metric that does not take into account whether that scientist is doing rigorous, transparent, reproducible work, then there is more pressure to produce a paper than there is to do adhere to rigorous standards of science. People will just 'do what they perceive is necessary to maintain a career in the hypercompetitive environment of academic research' (Rigor Mortis by Richard F. Harris) |
| 24 | When success rates are this low, there is pressure to stand out at the expense of producing reliable quality research |
| 25 | When only 10% of the workers get paid, they cut each other's throats. |
| 26 | When funding cannot be obtained, research cannot be conducted! |
| 27 | we want more productivity, rather than focussing on quality |
| 28 | We spend our time seeking funding and pushing out numbers of papers. Better time spent when funding is provided for longer so time can be spent on quality research, not speed. |
| 29 | We spend more time competing to the detriment of collaborating. The competition between institutions because of funding models is killing research in Australia. |
| 30 | We no longer have time to think creatively because the pressure to deliver output is so high. The low funding success causes a considerable lack of morale. There is also insufficient time to truly allow research to come to fruition before we are required to publish it. |
| 31 | We lose great scientists all the time because they cannot get job security. The pressure of having to get publications to get funding makes people cut corners and publish what they think journals or funding bodies want to see. |
| 32 | We hope that high quality research will reap the benefits so need to lift the game to be successful. |
| 33 | We have a researcher in our department who compromises research integrity all the time (and is well known for doing so), but senior management support [them] and have even removed [their] teaching requirement so that [they] can dedicate more time to dubious research, solely because [they] publish so many papers. This does not set a good example for junior researchers in our department. |
| 34 | We can't keep good people in the field due to changes in fellowships |
| 35 | We are not all equal in the face of competition.. australia is a small country when it comes to research and our budget is very small compared to the big power houses of research. .. hence we cannot compete efficiently yet are judged on the outputs expected from those power houses |
| 36 | We are losing potentially good research workforce |
| 37 | We are competing for too few resources and funding. |
| 38 | wasted time |

| # | Comment |
|----|--|
| 39 | Very good basic scientists, that do basic research only, are losing their jobs due to lack of funding. While funding favors clinicians who already have very full workloads. |
| 40 | value differently |
| 41 | Vaccine. 2013 Dec 9;31(51):6041-2 https://www.ncbi.nlm.nih.gov/pubmed/24184289 |
| 42 | Trying to get really high impact papers leads to publication bias |
| 43 | Trying forever to be new and novel to attract grant funding, versus sound incremental building on what we know that could provide real advances in e.g. healthcare. So much time spent on applying for grants for salary support that could be spent thinking about and spent on research |
| 44 | Track records are essential to getting funding for research and they are readily manipulated. There are loads of great projects that are not funded because the team doesn't have hundreds of papers in 'High Impact' journals or a superstar CI. |
| 45 | Track record counts more in competition than a good idea |
| 46 | Top journals require very rigorous research and the completion of checklists and evaluation of bias. We aim higher and ensure we are implementing best practice because we are competing to get our work into the best journals |
| 47 | Too much time wasted on grant applications you have no hope of getting |
| 48 | too much time wasted on applying for unsuccessful grants. also too much time trying to increase publication quantity. |
| 49 | Too much time spent playing games and too much random variation in processes. (Top conference venues and grant applications etc may have only around 20% success rates) |
| 50 | Too much time spent on writing grants to acquire funding to stay competitive in your field (and to stay in a job) takes away from the amount of time available to conduct and translate research to strengthen health systems. |
| 51 | Too much time spent on writing applications for funding, too much time taken on preparing tenders and assessing tenders. Takes away from time for actual research - and uses resources that would be allocated for research projects. I think there should be a different method of allocating research dollars. |
| 52 | Too much time spent on non productive activities - eg. grant writing. |
| 53 | Too much time spent on applying for grants and doing administrative tasks and all the other pieces that are required to be 'competitive' -- this makes for less time doing deep thinking and actual research and opportunities for creativity and innovation |
| 54 | Too much time on writing grants detracts from doing actual research |
| 55 | Too much time is spent on trying to raise funding - time wasted from producing the research. For some of our excellent younger scientists, this can force them out of research. however, it is clear that less competent scientists should not be funded |
| 56 | Too much time is spent chasing funding and lack of long-term funding impairs the ability to work closely with community on important research topics. |
| 57 | Too much time focused on outcomes, not the science. |
| 58 | Too much time and effort is spent competing for very limited funding and other resources, when it could be used more productively doing high quality research. |
| 59 | Too much stress on researchers - healthy competition is good, however I believe the competition, especially in relation to jobs, promotions and funding is too much and is leading to considerable stress and burnout among researchers. |
| 60 | Too much pressure to publish more papers. Leads to poorer quality papers. |
| 61 | Too much pressure to publish |
| 62 | Too much pressure to produce publications in a short time frame - more publications of lower quality rather than fewer of higher quality. |
| 63 | too much pressure inadequate funding |
| 64 | Too much low quality science - but high 'visibility' work being published. Most of it not reproducible. wastes many resources and time. |

| # | Comment |
|----|---|
| 65 | Too much literature available that is unsynthesised. |
| 66 | too much focus on publications in promotions etc without appreciation of the time needed for ethical research obligations (e.g. community consultation, feedback of results) when working in remote communities |
| 67 | Too much competition leads to cutting corners and rushed substandard work. |
| 68 | too much competition - difficulty in getting ongoing funding |
| 69 | Too many people, some of them mediocre or not properly trained, competing for limited resources. It is inevitable that some will cut corners. We need less people, but better prepared, doing research |
| 70 | Too many high quality grants are not being funded due to unavailability of sufficient funding. This means that short-cuts have to be taken, to produce the highest impact work possible with limited resources and time available. |
| 71 | Too little funding for growing number of researchers |
| 72 | To receive funding, or publish, work needs to be of high quality |
| 73 | To publish in higher level journals requires taking a lot more notes, better record keeping and doing a lot more research for supplemental figures. |
| 74 | Too much time is spent in applying for grants. Too many good grant are not funded. |
| 75 | To have outputs in esteemed journals is requiring quality outputs. This of course could also result in people taking short cuts but overall I believe it is positive. |
| 76 | To be successful in a competitive climate, research must be of high quality. Whilst competition does increase the pressure to publish without delay, publications that are not of a high standard or have shortcomings will quickly be identified by peers. |
| 77 | Time without publications - which may be spent addressing experimental quality and aiming for the highest possible quality/major impact paper - is penalised as time without output. |
| 78 | Time spent, harder to collaborate |
| 79 | Time spent applying for funding, focus on topics considered publishable |
| 80 | Time pressure to publish or show impact leads to be competitive in funding applications leads to rushed research. |
| 81 | Time pressure to publish before others |
| 82 | Those who can compete effectively produce high quality work. This comes at the expense of their mental health, that of their colleagues, and their families. The less competitive producers of quality work will also eventually be lost to science. |
| 83 | This question is difficult to answer as there are both positive and negative effects to consider; the net effect of which I would rate as positive. The highly competitive nature of peer review funding and publication in high quality journals necessitates very careful thought, planning and high quality research. Scientific integrity is also at the very heart of science itself which strives for high quality essential for meaningfully answering any given research question. The level of difficulty in attracting research funding has a very negative effect on research quality as high quality research is impossible without funding and opportunities to conduct it. The regulatory approval process in Australia, particularly the new Governance system, is now also having a highly negative effect on research, at least locally here, since the additional layer and level of bureaucracy and very long approval time-frames very significantly detract from the conduct of research. Bureaucracy aside, the net effect of competition (for funding and peer-review publication recognition) in research is I think positive. and regulatory approval process landscape in Australia is now almost impossible to successfully navigate. High quality research and this |
| 84 | This pressure is leading to less 'thinking', less innovation. The competition results in many of us missing out on grant funding. people can only take so much, many of my colleagues have left academia because of the competition and pressure. its just not sustainable. you can take it for a while, but not too long. |
| 85 | This phenomenon has been around for many years and it's becoming a real problem due to high competition in attracting research funds. Researchers are 'forced' to publish results prematurely to have a chance on the next grant. This is downtrend spiral for the Australian research culture. |

| # | Comment |
|----|--|
| 86 | This is mixed really some competition in required but the extent of competition and the paucity of funding in Australia has to negatively affect quality even if this is just the number of papers the data is distributed across, ie less quality more quantity |
| 87 | This is a complex question. In some aspects the effects of competition are clearly negative, for example in driving researchers to cut corners, perform low-quality research or even fabricate research, all for the sake of publications. On the other hand, competition drives ingenuity and accelerates outcomes. Accordingly, I think the net positives outweigh the negatives and I have thus selected 'A positive effect'. It will nonetheless still be very important to mitigate the negative effects of competition. |
| 88 | this has been particularly so with the Health Services HREC |
| 89 | This has become an environment of high pressure and competition, with little success rate. The lack of funding in all areas with increasing number of health needs/funding applications has made this a very challenging environment to work in with no long-term job security. The time that has been invested in people to build research careers, only to have the majority not continue in this important field, is a waste of precious resources and effort. A more robust funding model is needed to ensure that high-quality researchers can remain in their field and lead the way in health-related discoveries and improve health outcomes for our Country and beyond. |
| 90 | this culture of extreme competitiveness is detrimental to the quality of research, innovation in science, and also is discriminatory to many minorities (e.g. clinicians, working parents) Instead of focusing on quality and discovery and translation, the researchers in Australia are focusing on quantity and track record. This is also causing people to hesitate taking a break from academia for other jobs in industry, policy, or healthcare that would enhance their research in the long run. |
| 91 | Think it's much more complex than stating that competition reduces high quality research - a much more nuanced assessment of the causes is required. Indeed I'm not 100% sure that there is so much poor quality research. I think people are induced to 'over-claim/hype' their findings in order to achieve publication/funding etc. The problem comes when people try to extrapolate on this research, without considering the data on their own merits (i.e. ignoring the hype). Too often a valid and statistically significant effect is taken as evidence to move for example to clinical trial without consideration of the extent of the effect. That is, there is nothing wrong with the underpinning research, it's just that few people stop to consider whether the statistically significant effect is enough that it would cause a detectable/positive outcome when applied to a complex biological system. |
| 92 | There's nothing wrong with competition when it comes to publications, recognition etc. I think it drives great science. But the high level of competition to secure grant funding to simply earn a salary is outrageous. People's livelihoods depend on a contest where only a tiny fraction of highly qualified people actually win. That level of pressure crushes people rather than motivates them. It creates stress that permeates everything that they do in life, since competing at an insanely high level is the only way for them to have job security. It hurts researchers and their families, and creates burnout and pressure to cut corners. |
| 93 | There's not enough money from funding bodies to support everyone and given the bad working conditions (short contract lengths etc) there is a lot of pressure to publish at a high rate. Anne Kelso has said on record that they are hoping for investigator grant numbers to drop so that success rates can rise. Given that there's ~200-300 new PhDs graduating each year that means we need more than that number leaving research for her plans to come to fruition. It's a terrible climate to be a research scientist. |
| 94 | There's increasing pressure and reduced funding. I feel I am well funded and recently promoted but still feel stressed because of the current NHMRC changes. |
| 95 | There's a balance to be had - too much competition engenders pessimism and people don't try, but some competition is necessary - we all learn from it. |
| 96 | there needs to be some competition to motivate us to work more efficiently, however, in the last year the pressure has increased substantially and I am aware of many situations where bullying and underhand behaviour occurs, even in NHMRC panels I can see the games being played to subtly reduce others scores |
| 97 | There is too much pressure to produce quantity and quality. There are too many journals with highly variable quality of both articles and reviewing. |

| # | Comment |
|-----|--|
| 98 | There is too much pressure to be successful and it detracts from step-wise scientific and career progression and also quality science. |
| 99 | There is too much pressure placed on the importance of the number of papers published each year rather than quality and thoroughness of research protocols. |
| 100 | There is too much pressure on quantity and too many outlets for poor articles. There's always a 'home' for papers, even when they shouldn't be published. |
| 101 | THERE IS TOO MUCH EXPECTATION TO PRODUCE NEW / NOVEL STUDIES AND NOT ENOUGH TIME SPENT ON UNDERSTANDING AND REPLICATING CLINICAL RESEARCH RESULTS. REPLICATION IS VITAL TO AID TRANSLATION / IMPLEMENTATION |
| 102 | There is so much pressure to publish - and no to be beaten to publish - that many small papers are published rather than much larger studies that are much more complete. |
| 103 | There is so little funding here that perverse behaviour starts to develop. Equally, the quality is so poor that many researchers are valued for publication number, not quality. How often does an Australian group lead a Cell, Nature, Science paper for supposedly one of the highest income countries? |
| 104 | There is pressure to publish things before they are ready - usually before the researcher has had sufficient time to reflect on the outcomes of their work. A substantive period of reflection would improve the quality fo many publicarions. |
| 105 | There is pressure to publish something and to publish quickly regardless of what it is in order to build a track record Competition prevents and reduces collaboration Pressure to do things quickly to prevent being pipped at the post, means quality is compromised |
| 106 | There is pressure to publish or perish and this leads to academic making this a priority rather than thinking about the clinical importance of their research questions and outputs. |
| 107 | There is pressure to publish multiple articles from a single research effort making the outcome less translatable to clinical practice |
| 108 | There is pressure to only publish "positive" results and null results are less likely to be published. Funding and jobs are always short term eg 12month contracts. Having a higher number of publications in higher impact journals is prioritised for career progression and given greater peer recognition than real societal benefits from research or good quality research that is published in lower ranked journals |
| 109 | There is pressure to move onto the next project or the next grant to be written before the first one is properly wrapped up |
| 110 | There is pressure to just publish anything, and to salami slice research to increase publication output. |
| 111 | There is nothing wrong with healthy competition to motivate people to think differently, be more inovative, cross disciplines, foster collaborations etc. However, too much competition is detrimental, particualrly in a limited funding envorinment (or when NFFC rate are rediculously/unreasonably high; 70% NFFC means that there needs to be more money in the system. 7.3% success for L1 investigators.....really! That's just BS. |
| 112 | There is not enough time invested in researchers to allow them to fully understand the implications of their findings. Impact of findings may not be apparent for years while our contracts are only year to year. |
| 113 | There is not enough money to meet university metrics |
| 114 | There is no time to replicate findings; we need to publish up to 10 papers per year so speed is important |
| 115 | There is no stability in research careers which is needed to establish high quality work on complex areas |
| 116 | There is no doubt that competition in research is extreme with very limited opportunity for obtaining personal and project funding. However I do not think this impacts on the production of high quality research. To me everyone should be 100% committed to producing high quality research no matter what the pressures are and I certainly take this view. |
| 117 | There is more pressure to publish and provide answers, even if they are spurious, than to ensure that work is robust and defensible. |
| 118 | There is high competition (i.e. the publication or perish concept) that means the quality of research is not super strong |

| # | Comment |
|-----|---|
| 119 | There is enormous pressure to be the best: the most highly awarded with prizes, the highest number of publications, the best self-promoter. It is becoming ridiculous. The grant funders and employers listen to the squeaky wheels saying how they are the best, and the squeaky wheels get oiled. Meanwhile, the science takes a back seat. Excellent science that isn't advertised as being 'breakthrough' goes unfunded, scientists leave science and you are left with people who blow their own horn but often have no reason to blow it. |
| 120 | There is constant pressure to publish positive results that will impact the field. Publishing negative data is uncommon and in some ways, one might be made to feel like they have 'failed', although it is not a true reflection of the researcher's ability. The constant pressure and competition to publish 'high impact' research might drive researchers to cut corners or omit the full story, and just focus only on the parts that 'sell' the story. Some competition is required for high quality research, but too much and it tips the scale into having a negative impact. |
| 121 | There is competition for grant funding between supervisors and candidates that sets up potential, albeit unconscious, conflict of interest |
| 122 | There is competition for funding so research must be high quality to attract this funding |
| 123 | There is an ever present urge to have results quickly, have HREC approve quickly. It seems to me that sometimes this flows from concern for people and for helping ease burdens, at other times it appears to be a push to gain recognition, research funding or financial advantage. |
| 124 | There is an enormous pressure to be first to the post. This leads people to engage in behaviour that can compromise the rigour and quality of science. |
| 125 | There is an attitude to achieve and showcase in a competitive environment |
| 126 | There is always a rush to publish findings. To often the first group to show something, even if their study is less rigorous than those that follow, gets major credit for the finding. Everyone has a story about being scooped while they waited for more data or additional confirmation of their data/results. |
| 127 | There is a very high level of pressure to generate 'exciting' and innovative findings. This leads to a tendency to cut corners and to exaggerate the importance/significance of finding. |
| 128 | There is a negative effect where some researchers don't collaborate, won't share successful grants, won't cite or acknowledge 'competitors' etc. as they think it will make them less competitive. Also it can lead to ridiculous levels of self-promotion where researchers will describe themselves as 'pioneers' or having made 'breakthroughs' when they patently haven't! The issue is nuanced though - some healthy competition ensures that researchers can't ride out a career on one piece of work that was done years previously.. |
| 129 | There is a lot of time and resources wasted |
| 130 | There is a lot of pressure to have a high number of publications to be competitive for NHMRC funding. If a junior researcher is not competitive for external funding, they often are unable to hold an academic position. |
| 131 | There is a lot of incentive to cut corners and rush projects through to completion for papers and grants, and very little incentive for thorough, rigorous research. |
| 132 | There is a lot of anxiety associated with pressures around attracting funding and having a job |
| 133 | There is a journal for everything irrespective of quality |
| 134 | There is a huge amount of wasted researchers time due to researchers having to submit large numbers of fundable grant applications that are not being funded. Additionally many papers that reproduce findings by others or have negative findings are difficult or expensive to publish despite rigorous research methodology. There also seems to be a focus by the NHMRC and its reviewers on innovation rather than significance with many solid and important studies that will change practice or address important patient outcomes not being funded as they are not considered innovative enough. |
| 135 | There is a greater drive to attempt progressing projects beyond the first set of results to produce higher quality research papers. |
| 136 | There is a focus on things that do not truly reflect the value and merit of what is being produced. |

| # | Comment |
|-----|---|
| 137 | There is a distraction from producing research output so that meets the needs of the people for who it applies. For example my research is focused on patient centred outcomes and care and preparation of clinical practice guidelines - however there is essentially no recognition given to the publication of guidelines nor publications that are aimed at consumers. It is all about high impact international journals. Yet the biggest impact on patients comes from clinical practice guidelines, decision aids and the like. This seems to be getting worse not better with NHMRC track record assessments. |
| 138 | There has to be a balance between co-operation and competition but some competition stimulates output |
| 139 | There are trendy research areas or technologies that researchers flock to because they are more easy to persuade granting bodies to fund, to publish in the glamour journals (eg Nature), and get a job. Trendy areas are more competitive, which creates more stress, pressure to publish, and more overlap of investigation (which could waste resources when people unwillingly duplicate other research programs and get scooped). |
| 140 | There are some negative and positive effects. Negative effects would include the pressure to produce a large number of publications, which in the rush to produce would increase the likelihood of errors, etc. A reasonable level of competition, however, could act as a motivator for higher achievement. |
| 141 | There are some aspects of competition that are beneficial in terms of producing research that extends the field however there are other aspects of competition that are bad as they can motivate researchers to mispresent their research to make it appear more compelling than it actually is because this might help it get published somewhere that is more prestigious. |
| 142 | There are positive and negative effects. On the one hand competition in research will, on average, allow the best ideas and best researchers to thrive. On the other hand there are biases and prejudice in the competitive research process that can undermine that very notion. There is also a prevailing notion that quantity of output is important for career progression rather than achieving a balance of quantity and quality. |
| 143 | there are perverse incentives to publish and win grants, at the expense of deep, considered thinking and longer-term work that really matters |
| 144 | There are many factors other than research quality (eg. association with high profile colleagues or research groups) that contribute to a researcher being competitive for funding, publications, and peer recognition. There is greater credit for publishing first than publishing the best quality study, which puts pressure on researchers to get results quickly. Little credit is given in publication review or funding applications for publishing negative results or results that differ from/call into question existing results, which often can require more time, effort and resources. |
| 145 | There are examples of poor work being hurried out the door. The importance of being first seems to have consumed some colleagues instead of the focus on being correct |
| 146 | The wrong metrics are used and these advantage some fields of research unfairly, as well as promoting inappropriate authorship practices |
| 147 | the willingness to collaborate to get synergies and leverage complementary skills and a more competitive critical mass, is compromised because each individual has to demonstrate success on their own to keep their job or get advancement, minimal recognition for being a collaborator in another persons successful joint enterprise |
| 148 | The whole industry is being killed by this cancerous trend |
| 149 | The time required to be competitive across all these areas negatively affects my research in that it inhibits creative and innovative directions I'd like to take but can't |
| 150 | The tight time frames and increased workloads in addition to the pressure to get research funded, completed and published leads to a reduction in the research being high quality |
| 151 | The stress of whether to publish a lot in less impactful journals or hold out to try to publish in a prestigious journal - which equals less publications |

| # | Comment |
|-----|---|
| 152 | The rush to publish to avoid scooping, and pressure to publish novelty over quality in high impact journals is having a very negative effect not just on the way we do experiments but how we interpret our data. I have seen pilot data used in grant applications, even though the researchers know it doesn't lead to that result in larger samples. The competitive pushes people to not lie, but also not tell the whole truth if it means funding and publications. That's a huge problem and waste so many resources. We are building temples made of straw instead of houses made of brick because of the competitiveness. |
| 153 | the rush to publish for the sake of publication is a very bad philosophy that is far too prevalent in Australia. |
| 154 | The rewards go to those who publish in high-impact journals. But it is documented that reproducibility is inversely correlated with journal impact factor. |
| 155 | The rewards for undertaking research include grant success, publications and citations, invitations to speak at conferences and meetings, promotion, new job opportunities and tenure, and public recognition through media, prestigious awards etc. All of these things are inter-dependent. All are recorded by and awarded to individuals. But the reality of most research these days is that it is a 'team sport' and success is dependent on collaboration and the smooth operation of teams. I think there has been some movement to recognise the importance of teams in some of the processes around research. But there is a balance to be found between competition (even if it is between teams rather than individuals) and collaborations that bring together the right mix of people to address the particular research question(s). It might be the best member of a new team is from a competitor institution or competitor team. I'm not sure the balance is quite there yet. |
| 156 | The rewards for being first are greater than the rewards for being right |
| 157 | The researchers all aim to do their best in every situation |
| 158 | The research effort is often slanted towards what will succeed competitively rather than what it is important to find out. |
| 159 | The research culture has significantly changed. A lot of it is about self promotion and prestige, rather than making any real discoveries or innovations. A researcher's worth is usually measured by their number of research papers and the amount of research funding they have attained, rather than on outcomes. The problem is that outcomes are seldom tracked beyond the number of papers published from the research funding. This drives an unhealthy research culture. For the small percentage of researchers, like myself, in which their research is truly focused on translating and commercializing discoveries and innovations (with Intellectual Property and Commercial-in-Confidence based projects) - they suffer from this research culture. |
| 160 | The reduced rates of funding rewards perceived 'exceptional track records' based on publication numbers , rather than high quality work. |
| 161 | The reallocation of government funding to MRFF, to starve NHMRC of funds leads (logically) to 5% success rates (already achieved for CTCS, other schemes no doubt heading that way). With the unavoidable variance in peer review, this means that only the most predictable research gets funded (established senior team, big burden of disease topic, traditional RCT research design), missing large quantities of high-quality research, especially in areas that do not fall under MRFF priorities (so most public/preventive health and health services research). I don't see that level of competition in formal publication, social media publication (which generates public recognition, when done well), peer recognition (which seems more linked to conference presence/presentations) or promotion. |
| 162 | The reality of science is publish or perish. The knock on effects are that scientists have to either work 24/7 at the expense of their families, or they have to forego some aspects of quality control to ensure that their publication rate is competitive. |
| 163 | The quality of the science must be of the highest standard for a grant application to achieve a sufficiently high rating to be funded. |
| 164 | The publish or perish pressure is real and strong. Funding, career progression and retention of position is all overtly impacted. |
| 165 | The publish or perish mentality has a lot to answer for in research. The pressure to find significant results is astounding. |

| # | Comment |
|-----|---|
| 166 | The publish or perish culture has seen a proliferation of publishing outlets. There is too much focus on publishing more and often. Problems that arise from this include: the rise of predatory publishers and inadequate or non-existent peer review in some areas. |
| 167 | The production of high quality research is limited by limited availability of funding for high quality projects, and numerous of researchers spending copious amounts of time on preparing high quality applications that will never get funded. |
| 168 | The production of high quality research almost always requires a large amount of effort. Competition motivates people to exert the extra effort required to product high quality research. |
| 169 | The problem is not in having competition but in what aspects of research are viewed as competitive and the environment (regulatory, policy and cultural) to ensure the competition does not lead to falsification and corner cutting. There also has to be a reasonable chance of being rewarded and research funding mechanisms must be seen as transparent and fair. If research funding always appears to go to those who publish the most then not surprisingly that's what people will do. |
| 170 | The priority becomes the impact or perception of the output, not the quality of the research |
| 171 | The primary reason I think the effect is negative, is because the competitiveness of the current research culture reduces collaboration (because potential collaborators are considered threats to promotions, funding, recognition) and seeking out peer feedback and support. While I acknowledge that this competition is designed to encourage and reward high quality research, it means that my colleagues are less transparent about their work, feel less comfortable sharing ideas and are continually under the pressure to perform. Additionally, I have seen early career researchers undertaking quality, translatable research pushed out of research because of their inability to secure further funding, or meet unrealistic publication quotas. There seems to be a bias from institutions, funding bodies and journals to award promotions/funding/publications to established researchers without consideration of the impact this has on developing student and junior researchers, and is beginning to result in a large generational gap in researchers in the field. My experience has also been that established researchers with large track records does not necessarily translate to high quality research either, especially with the pressures to work long hours and meet escalating output demands - the temptation to cut corners is far too strong. |
| 172 | the pressure to retain a position and funding leads to less time spent on actual research and more time spent on applications etc. |
| 173 | The pressure to publish quantity, not quality, based on quotas for salaries/promotions and fellowship applications has a negative effect on the production of reproducible and quality research |
| 174 | The pressure to publish or get a PhD etc must result in sometimes trivial research which is obviously not 'high' quality. This I think also accounts for a high proportion of poor quality applications to ACEC's as inexperienced researchers try to get on the research ladder. I think it also accounts for the many requests to modify approved protocols where one or another aspect of the original application simply hasn't worked as expected from the original references. (this goes to reproducibility as well) |
| 175 | The pressure to publish means that less time is spent on developing research projects that are more in depth and comprehensive. More reward is given to publishing the smallest publishable unit. |
| 176 | the pressure to publish large numbers of papers in high quality journals each year takes time away from planning and conducting research |
| 177 | The pressure to publish in high impact journals and the competition for funding in Australia are negative messages to young researchers. They are discouraged from pursuing research careers. |
| 178 | The pressure to publish has increased a great deal as the funding rates have decreased. To my opinion, funding and high-factor publications have passed the 'competitive' threshold and are now closer to the 'impossible' tasks leading people to cut corners to achieve their objectives. |
| 179 | The pressure to publish can lead junior researchers to undertake research that may be less innovative but more publishable (eg me too type studies) |
| 180 | The pressure to publish and to publish in high impact factor journals (compounded by these indicators as a measure of success/merit) - to get grants, jobs, fellowships, prizes - leads to hypercompetitiveness, mental health issues and incentives to cut corners. |

| # | Comment |
|-----|---|
| 181 | The pressure to publish ahead of competitors, so that one is more competitive for grants, could possibly result in some experiments not being done as rigorously as they should be. |
| 182 | The pressure to perform both in getting grants and high quality publications is linked to whether I have a job or not and have an income for my family. I spend a lot of time thinking about this and how to manage this and be more strategic etc etc, as do others, which takes time away from actually thinking and talking about research and having time to be innovative. I just did [some] of my post doc [overseas] and the environment was not the same there. We actually talked about research.. .and career as well. But in Australia it seems much more competitive and the emphasis on impact and translation I feel means there is a focus on short term short sighted research and not on blue sky research which mine falls into. This makes it hard to do what I feel is high quality research. |
| 183 | The pressure to get funded means writing 'safe' grant applications |
| 184 | The pressure to gain as many publications as possible means that some studies end up rushed or are smaller than necessary to demonstrate a true effect. Lack of funding also means corners have to be cut, for example in blind assessment, independent allocation etc. |
| 185 | The pressure to continuously pump out outputs, whether it be results, publications, successful grants etc in order to remain competitive must have a negative effect on the work being produced as researchers these days don't have the luxury of spending time getting it right. They need to produce constantly. |
| 186 | The pressure to bring money and perform on contract does not enhance an individual's best work and causes stress. I think the capacity to publish, get funding, get students etc is more important. |
| 187 | The pressure to be first out with results and to attract funding and working on reduced funding allocations results in researchers producing smaller studies and tempts them to exaggerate the significance of their findings. |
| 188 | the pressure to 'win' at the funding game results in some applicants being liberal with the truth about their research. |
| 189 | The pressure on sites to open studies and recruit patients is leading to more errors because of rushing and not taking the time and care required. |
| 190 | The pressure of quantity over quality is having a negative effect on my research and my team because we focus on transnational health care research and so we have a big focus on patient benefit rather than research for research sake |
| 191 | The pressure of maintain or achieving productivity (in terms of publication output) may drive people to intentionally or unintentionally publish without properly validating the results or providing full picture of what they have analysed (cherry picking). |
| 192 | The pressure mean that excellent people leave the field because of funding pressures |
| 193 | The pressure is 'passive'. I have never heard of a supervisor making a student or staff member falsify data to get a publication, paper or grant. However, the 'publish or perish' mentality is still very alive. While supervisors may not mean to pressurize students and staff, they can feel this anyway. Also, research students require results to publish a thesis and complete their degree, which an inherent pressure that can never be removed. Research is competitive and is becoming more so as we produce more graduates and postgraduates. |
| 194 | The pressure forces higher quality research proposals. I can see how in some instances this could result in fraudulent research, but this is not my experience. |
| 195 | The pressure for quantity in publications means less time for rigorous quality, and also can lead to pressures regarding things like authorship |
| 196 | The potential to cut corners and emphasise incremental research (quantity) over impactful research (quality). |
| 197 | The people I work with do not compromise quality |
| 198 | the peer review process is highly sensitive to identifying perceived flaws in research grants leading to rejection. It is less sensitive to rewarding innovation. So it is better to keep grants sound simple and flawless than it is to be innovative and potentially complex with possibly some details not fully resolved. |
| 199 | the original purpose of science is distorted. |

| # | Comment |
|-----|--|
| 200 | The only perceived value of any piece of research is where it is published. |
| 201 | the number of publications is too much a goal in itself |
| 202 | The need to publish quickly, to be first, leads to sloppy execution, incomplete analysis and replication, and sub-optimal reporting. The need to publish in high impact journals leads to fraudulent reporting. |
| 203 | The need to meet institutional KPI's for publication and funding means that research must be conducted in the fastest way possible. With limited resources available corners will inevitably be cut. What is needed are experimental standards or SOPS that are 'Community approved and validated'. Researchers performing in these areas should use these or have appropriately validated and published an alternate SOP. |
| 204 | The need to be first in an area that is broadly applicable to get publications in high impact journals does not necessarily signify or improve quality; however, those that work in more obscure fields which are less likely to get published in high impact journals have to work harder to get the recognition for their work which may objectively be of the same quality. |
| 205 | The need for 'top' publications to have a 'full story' such that researchers dont TEST hypotheses but gather evidence FOR them which means rigour is reduced. The need for research to be original means there is little benefit to reproducing part of someone else's study. The need to have a nice story means data is selectively included and pieces are left out if they don't fit, complex answers are less likely to be favourably reviewed and not having 'top'papers is an issue for both promotions/ career progression / getting an academic position and funding success. |
| 206 | The necessity to compete for inadequate funding to support the sector (particularly when a researcher has to fund their own salary) increases the likelihood of researchers carrying out studies that are less comprehensive than what is actually needed to move some fields forward in order to publish more frequently. |
| 207 | The nature of academia in Australia is that there are few spots and academics need to find funding for their own salaries or the salaries of their teams much of the time. Their career is at stake if they are not competitive in publications and research funding applications. This may cause them to compromise on the quality of research in the most extreme cases, or make poor decisions about research pathways based on whether or not they think they can be successful rather than innovative and so forth. |
| 208 | The most successful in terms of quantity are usually not who I think are doing the best work. There seems to much gaming of authorship going on in some communities e.g. many authors, each putting the other on papers. Fundning, university support and promotion is following those willing to game the system. |
| 209 | The more others are involved the better the outcome |
| 210 | The metrics used to determine success appear to favor output (including number of publications) over quality of research and innovation. |
| 211 | The metrics to assess a researchers success are too focused on the number of publications - some papers which may never be used as citations or to help foster new research ideas, whereas conducting research that has real-world relevance and the impact can be translated into community programs is not valued as highly. These researchers are then rewarded less with grants and fellowships, and the cycle of rewarding those who pump out publications (good quality or not) continues. |
| 212 | The medical college projects are not done for any major benefit except career development Pressure on researchers to produce may result in overlooking needed ethical Lessons to junior staff |
| 213 | The makes the primary focus doing research that is publishable/fundable, rather than answering the most important questions or progressing knowledge. |
| 214 | The main problem is the poor funding outcomes in Australia. This means researchers have to spend a disproportionate amount of effort on grant writing/reviewing to obtain the necessary funds to support their research activity. This means a significant amount of time is diverted from actual research . |
| 215 | The intensely competitive nature of research is detrimental to the entire research community. Everyone is burnt out. Not enough funding for excellent researchers. I do not recommend it as a job to people anymore even though I've loved it. Way too stressful and depressing. I feel like I'm going to be one of those middle aged homeless [people] living in their cars with 150 peer reviewed publications when my fellowship is next up for renewal. |

| # | Comment |
|-----|--|
| 216 | The insistence on making relevant / important discoveries forces researchers to design more rigorous hypotheses based on past data. It may also encourage them to work as part of bigger multidisciplinary teams that can answer more complex questions. I agree too much pressure can lead to erratic behaviour and unhappiness. |
| 217 | The increasing pressures of job security, competition for limited resources/funding, performance based metrics, gaining peer recognition, publishing in Q1 journals and the need to have a 'positive' impact of research can incentivise poor quality research practices |
| 218 | The incentive structures are not aligned with quality, reproducible work - it is about quantity and prestige of output. |
| 219 | The highly competitive funding landscape makes it difficult to justify taking risks in innovative research. |
| 220 | The high levels of competition between researchers make all less likely to collaborate, share knowledge and experiences as it is detrimental to individual progression. It is problematic within and across disciplines. The complete antithesis of the central basis of academia - building knowledge. |
| 221 | The high level of competition leads to many researchers potentially cutting corners. |
| 222 | The heavy competition is leading to high burden of time that is reducing productivity. |
| 223 | The groups I work in are much more likely to multi-disciplinary than in previous years. This ensures a wider skill-set required to publish in leading journal and obtain grants. |
| 224 | The funding situation in Australia is dire and this kind of pressure will only lead to increases pressure to publish and the negative issues that come with this. Also, emphasis on translational/clinical research is at the expense of thorough basic research to support claims and prove mechanism. |
| 225 | The funding environment for Australian research is brutal. The success rates are very low, and this is no security or fall back career. Careers can be decided on p values. Australian society would not accept these types of conditions if it were another career (teaching, allied health etc). It is absolutely not surprising that some people will miss-represent their findings, or cut corners because they have no capacity to do the job properly. |
| 226 | The frenzy of competition creates difficulties for the careful and robust design, conduct, analysis and reporting of research. It can also lead to some researchers being tempted to cut corners, or even to engage in research misconduct. |
| 227 | The focus of many high-achieving academics has been on the quantity, rather than quality, of publications. The positive reinforcing factors then follow in the form of successful grant applications, recognition in the field, and career progression. Responsible research practices and research innovation are often seen as less important, and not priority areas. |
| 228 | The focus is still on inward looking academics, researching for personal gains. Not on returning value to the end-users. Total different paradigm.... |
| 229 | the focus is on publications not research |
| 230 | The focus is on number of publications rather than the rigour of the research practices. Also, funding competition emphasises innovation rather than replication studies. |
| 231 | The focus is on amount published and author order not quality. Move the benchmarks for research and career advancement to quality/competency/accreditation/credibility measures |
| 232 | the focus is diverted from the quality of research to ensuring that funding is received |

| # | Comment |
|-----|--|
| 233 | The extreme competition is leading to: - huge stress levels and high rates of depression and anxiety in medical researchers across Australia, which reduces capacity to think clearly and make considered decisions in research (as elsewhere in life). Kind of ironic for health researchers to be suffering from major mental health issues as a result of their career in medical research. - It is very common to see 'slicing and dicing' of research data from a single study into several smaller publications to get more publications, since funding and other aspects of research are dependent on the number of papers. This results in more lower quality papers, that do not tell the whole story. - Early and mid career researchers are so desperate for funding that they are forced to put in grant applications under their senior colleagues names, and therefore never get the independence and recognition they deserve, and are more tied to their senior colleague's research agenda, limiting creativity and new directions. - lots of excellent researchers are leaving the field. |
| 234 | The expectations to publish at the current rates does not support thorough, well designed and validated experiments in smaller scale labs. To produce high quality work takes time, and it is not feasible to have high publication output with high quality in the current funding landscape (again, for smaller labs or more niche research areas). As an ECR, you are even more challenged because you are trying to break away from your PhD lab to carve our your own niche, but you have limited resources and man power, meaning you are not only writing the grants but also doing the bench work. It is almost impossible to do both effectively at the rate that is expected. Secondly, with research funding becoming more and more difficult to get, people will manipulate their results in a manner that is more supportive of their application. Having highly supportive preliminary data increases the feasibility of a grant and decreases risk, therefore making it much more likely to be funded. This is a terrible design, and encourages people to put forward inaccurate results. On a side note, I also think the way in which we publish is flawed. Methods sections often have unrealistic word counts, and no structured template meaning key information is missing or left out. The idea of publishing a protocol first with clear endpoints is a much more rigorous way to publish, it means that studies are judged on their rigour, design and impact, NOT how well the authors have framed the results. It prevents selective publishing and encourages/supports publication of negative findings. |
| 235 | The expectation in the field (ie. external colleagues, fellowship/grant panels, etc) to publish large numbers of high quality papers per year is unreasonable for the type of research i do. high quality research projects in my field take 3-6 years to be completed to a rigorous level. i refuse to compromise on the nature of my experiments, but this negatively impacts my publication rate, which in turn negatively impacts grant/fellowship success. |
| 236 | The environment rewards individuals not teams and yet teams are required to deliver research. It leads to poor behaviour and is inevitably unfair. |
| 237 | The environment is not conducive to collaboration within or across Universities/Institutes. People don't/can't trust each other in such competitive environments. |
| 238 | the emphasis on translation makes doing basic research hard with the new nhmrc funding scheme |
| 239 | The effort required to attract funding to support research projects and staff is very distracting. The peer review system lends itself to rewarding individual pursuit and can create barriers to collaboration and team science. It feels like a system where the rich get richer. |

| # | Comment |
|-----|--|
| 240 | The effects of competition/pressure is mixed and is more complex than just positive vs negative, and the outcome is highly individual specific. Competition/pressure on the quality of research output (e.g. in the context of your field internationally) is necessary, as it is a strong motivator for people to do the best work they can, to apply themselves, to explore new ideas and methods, and approach their work from different angles. However, when funding is scarce and job stability limited, competition just to survive and be able to stay in the system probably has net negative effects, causing people to pursue the minimal publishable unit to get higher numbers of papers (a damaging 'incentive' in job/grant review systems that should be combatted to push for prioritizing quality over quantity), and cutting corners in research. This is particularly important at more junior levels, where the Australian grant systems currently require early/mid career researchers to devote enormous amounts of time to write grant applications to support their own salary (which is increasingly challenging for a lab head to cover) in enormously competitive systems, while in doing so they sacrifice the time they get to devote to doing their research while still having to compete on a global scale in terms of the quality of their research. Collectively this reduces the quality of the national scientific output. Too much time is spent simply trying to obtain funds nowadays, especially for the EMCRs who need to be able to focus on doing their best research. |
| 241 | The effect varies depending on the situation. In a situation where all parties have access to the information and resources they need, I find competition in research results in better research as all parties do their best to produce better data. |
| 242 | The driver for all decisions in science is funding and the greatest competition is for sustainable funding. As a result the scientific imperative for quality gives way to doing work that is 'fundable' and the scientist 's activities are driven by what do I need to do to get funded. At this present time all the funding drivers promote mediocrity; the most obvious example of this is feasibility score of a grant; if a reviewer can tell that a 5 year research plan is feasible in its entirety (as is required for a good score), then that means that the work is not pushing any boundaries and is mostly derivative. ie if a grant scores highly on feasibility it will be highly fundable; but in reality its questionable as to whether that research is worth doing. Another example of the negative effects of research managerialism is that it is now desirable for the scientist to be engaged in many committees; putting aside that NO scientific discoveries are ever made in committee meetings; there is now a proliferation of committees that have no value other than to create a box that researchers can tick on grant applications. High quality research requires researchers to take risks; the competitive system is very risk adverse |
| 243 | the drive to get more publications vs the time to produce a result set of better quality |
| 244 | The drive to achieve in the face of competition can lead to the wrong focus, rather than pursuing the research to answer a question, the focus becomes to be first....and this leads to inappropriate research practices. |
| 245 | The dog eat dog world of research, lack of tenure for scientists, completely unreasonable expectations has many consequences. It results in slap dash, high publication volume research being rewarded. Those who do slow, high quality, thoughtful research are not rewarded, lose their jobs, or change behaviour when subjected to enough selection pressure. The pressures around academic promotion definitely influence trying to get prestigious publications at all costs. This environment is also VERY bad for the humans involved - anxiety, depression, burnout, suicidal ideation are very high amongst Australia's researchers - this is an intolerable environment for women with young children, and these researcher mothers are generally super stressed out - which impacts on their parenting. Research widows/widowers and research orphans - ie partners and children who are ignored through the punishing schedule of academic are common. The expectations around national and international travel, time away from home, and working after hours and all weekends are truly dreadful for the health of researchers and their families. While I love research, I generally cannot recommend it as a reasonable career option for all but the most ambitious (and mostly, narcissistic, or antisocial personality disordered, or aspergers). |

| # | Comment |
|-----|---|
| 246 | The dismal prospect of early-mid career researchers securing a fellowship (in spite of the recent overhaul of the NHMRC funding schemes), gaining a tenured faculty position, both dependent on the quantity of publications (implicitly expected of academics across institutions in Australia), is having a negative impact on the production of high quality research. Although the criteria for judging a researcher's track record have now taken into consideration research impact, recruitment and promotion continue to rely on conventional metrics (e.g. H-index, no. of citations); such indices are influenced by a range of factors (e.g. field of research, networks, connected-ness, funding, number of researchers in that field) across disciplines, which result in wide variations in the track record of early-mid career researchers, and with those publishing more and quicker getting promoted quicker, in spite of the quality of their research. |
| 247 | The desire for lots of publications so that some of the findings are diluted to have more publications |
| 248 | The current funding environment and research culture in Australia has created a situation where researchers are often judged on quantity rather than quality. As such, this leads individuals to become insular and reduce their collaborative efforts, to potentially cut important corners in the race to publish, and to often introduce (unfair) bias into their assessment of others research in the need to be successful in their own right. Whilst the current environment may not heavily impact senior researchers, as a mid-career researcher I am finding it incredibly difficult to receive support in emerging as my own group leader. Mentorship and opportunities once offered by senior researchers have recently been retracted in their own need to maintain a competitive research profile. This can only negatively impact both quality of research conducted, and ethical best practice research. |
| 249 | The current desperate funding situation and associated rock-star system is terrible for innovation, for research as a public good, for emerging researchers, and for maintaining an educated mid-level research workforce. If you keep cutting out the bottom half to three quartiles of performers you will find, in short order, that you have no research system. However, a little bit of competition is clearly motivating for many researchers. |
| 250 | The constant pressure to produce/do more diminishes opportunity and value for collegial conversations about research and research issues. |
| 251 | The constant challenges in attracting funding means that researchers have less time to undertake high quality research activities as they are constantly looking for the next source of funding. In addition, concerns around confidentiality sometimes has the effect of making researchers less inclined to openly share their data. |
| 252 | The competitive pressure to obtain funding take time away from ensuring the rigor of our research. |
| 253 | The competitive nature of research funding in Australia does not foster collaboration, community focused translational research or the space for high quality slow research to occur. |
| 254 | The competitive nature of grant and salary funding means that people are less likely to share ideas / data, so as to 'save' it for their own track record. It also means that people spend more time on tasks that serve track records rather than making discoveries / contributing to science. It also creates conflict (e.g. about authorship, grant CI position) within collaborations. |
| 255 | The competitive environment and pressure I think still leads to higher quality science as we need to be more careful to get it right (the reviewers can pick this up if they are good enough). There are a very small minority that cut corners (there should be a national ethical oversight board/committee to address these). |
| 256 | The competition to publish faster and better makes some research forge their data or steal ideas from the students in the same research group. |
| 257 | The competition to obtain funding is too great, and so we are losing good people in medical research who are unable to get funding in this competitive environment, despite the fact that they have high quality proposals. |
| 258 | The competition promotes quantity that itself negatively impacts on quality |
| 259 | The competition pressure cooker nudges researchers into not fully investigating or having the chance to replicate details of experiments, rather to get any data that is publishable out ASAP |
| 260 | The competition is mainly in obtaining funding. There is so little funding that many very good research proposals are not being funded. |

| # | Comment |
|-----|--|
| 261 | The competition inhibits sharing findings, tools, materials; discourages collaborative projects. (So I need to consciously resist these) |
| 262 | The competition improves the quality of funding applications and publications - they have to be good or they wont get funded/accepted |
| 263 | The competition for research funding is significantly limiting innovation and 'blue sky' science. |
| 264 | The competition for funding, particularly NHMRC funding, is now so intense that enormous amounts of time are wasted writing good applications that have little to no chance of success. The recent results from the first Investigator round are proof of that - abysmal success rates particularly for mid-career researchers. This is so incredibly demoralising and sucks the life out of research discoveries and translation - so many of us are in a perpetual state of insecurity and anxiety about funding. We don't know if we will have jobs, so how can we plan a high quality research program that has room for mistakes and dead-ends? Funding pressure breeds conservatism and concentrating more funds in the hands of teams that already have substantial funding. It's crushing. |
| 265 | The competition does drive individuals to perform at their very best |
| 266 | The changes of ther NHMRC fudning schemes has made it incredibly difficult for many researchers to obtain grants - this is very negative. |
| 267 | The challenging funding environment is counter-productive to good research. I spend a lot of time writing grant applications - and less time actually undertaking the research! |
| 268 | The calibre of most research presented to the committee is high, Those which are not are sent back for further review |
| 269 | The basic metrics (publications, grants) encourage infelicitous practices such as one-sided presentation of evidence, p-hacking, capitalisation on chance, data fiddling, unadventurous lines of research, data mining ... |
| 270 | The balance is not right - while competition is important and can be motivating, if people are concerned about sustaining their careers, than meeting KPIs (publication numbers and external funding) are more important than the quality of what is being produced. The current metrics for success also discourage high-risk, difficult, expensive, and/or time-consuming research due to the potential for failure, negative findings, or insufficient pay-off (i.e., pubs). |
| 271 | The amount of time spent applying for funding is massive (not to mention time spent reviewing other's grants). It may not reduce the quality of research, but it certainly reduces the time available to actually do quality research. |
| 272 | The absence of secure funding, the lack of transparency in how some funding schemes -MRFF- distribute funds, the lack of training for novice reviewers in the new NHMRC Investigator and Ideas schemes. |
| 273 | The 'publish or perish' mindset means that educators who have little interest in research are being pressured into doing something/anything to maintain their employment. In situations where researchers are genuinely interested in research, they are being pressured to produce results faster than is compatible with high-quality work. Further, the government approach of 'focused' research (e.g. ARC and NHMRC) is forcing researchers into 'trendy' areas, rather than allowing them to undertake the research they want to do and are interested in/trained for. This inevitably leads to slipshod, poor quality research! |
| 274 | The 'publish or perish' mentality is deeply unhealthy, many have become focused far more on the outcome (publishing) rather than processes (ensuring quality along the way) |
| 275 | The 'publish or perish' environment in which we operate means that we are pushed to publish as rapidly as possible- even when there is little new knowledge. I am also concerned with the pre-occupation with publication in high impact journals - not all research fields have high citation rates and this puts those of us in less highly cited fields at a material disadvantage when trying to secure grant funding. |
| 276 | Temptation to cut corners |
| 277 | temporal pressures to be first to publish research can lead to rushed protocols and methodological flaws/inadequacies |
| 278 | Teamwork and sharing lead to better outcomes |

| # | Comment |
|-----|---|
| 279 | Taking on big questions or doing novel innovative work is too risky in the current funding climate. With the level of competition for funding and positions doing safe, 'hot topic' work that supports the interests of well established senior researchers seems like the only way to keep your career alive. |
| 280 | takes the thrill away. It almost doesnt count unless it gets into cell nature science... |
| 281 | Supervisors are stressed due to lack of funding from NHMRC. This puts pressure on PhD students and mental health issues a huge problem. This can delay outputs. |
| 282 | Studies that take a long period of time (e.g. prospective cohort studies) have insufficient outputs so lower quality cross-sectional designs are utilised. Funding is not transparent - competition leads applicants to exaggerate claims/potential of their research.' Competition negatively affects collaboration |
| 283 | studies maybe performed and reported on that are valuable but dont ever get to publication |
| 284 | studies are often rushed, or not fully thought through to obtain best information. The breathe of research and scope is often limited and not fully explored to provide complete answer. Research has become very targeted and now has no, or very limited scope to add extra arms or extend study if interesting unexpected findings observed during study conduct. |
| 285 | Studies are designed to produce high impact papers rather than answer a research question. Researchers move into the 'hot' areas of research as that will drive funding and publications. |
| 286 | Striving to achieve highest quality in terms of publication number/quality/impact is necessary to achieve success in a highly competitive funding environment. This drives up quality. However, the system is inequitable as it favours those with privilege and prior success/funding. |
| 287 | Stressed researchers are less rigorous and productive and have worse mental health |
| 288 | stress, poor outcomes |
| 289 | stress leads to mistakes (generally accidental and unknown) |
| 290 | Stress is never good mentally, physically and emotionally. |
| 291 | Stress & chronic corner cutting |
| 292 | Stops complacency! Keep active and engaged and striving for good scientific outcomes |
| 293 | Stimulates Government to consider funding opportunities. Enhances National and International Debate |
| 294 | Spend more time applying for funding than actually doing research; pressure to publish means you might publish earlier than you would have - the study is not as complete as it could be. that is not to say that the research isn't good quality, just that you do the bare minimum to get into a particular journal and don't dive deep to get the true discoveries. |
| 295 | speed to publish ensure outcomes are available early and competition creates an environment that ensures better studies are published in better journals. Training to better manage the associated conflicts of interest would help |
| 296 | sometimes, there's a pressure to apply for so many funding schemes, there's little time to actually think about what research we really want to conduct. I feel like sometimes we have to design our project (in some ways) to fit with eligibility criteria or priority areas, as opposed to the other way around of identifying what knowledge gaps really need to be filled and designing good quality projects around this. |
| 297 | Sometimes the competition in research can cause pressure especially in junior researchers that might affect the quality of their research. These junior researchers may need time and encouragement to accomplish their goals and produce high quality and reliable research. |
| 298 | Sometimes need to conduct lower complexity work to enable publications, eg. surveys of staff etc. |
| 299 | Sometimes it is the publishable studies and grants that get the attention rather than the quality ones that will make a difference |
| 300 | Sometimes I have seen papers in open-publication journals that are poor quality, overstate the case or contain false statements, and they come across as lazy and just filling a quota. I was shocked by the laziness. |
| 301 | some positive and some negative effects. Not sure what the net effect is |

| # | Comment |
|-----|---|
| 302 | Some people who are very driven can lack judgment. Some papers should not see the light of day but are packaged up and forced through because otherwise the work of a junior researcher (for example) would not result in a publication. |
| 303 | Some much needed research projects which are designed by community are overlooked in competitive funding rounds because there aren't enough resource to write competitive applications for limited resources. |
| 304 | some levels of competition are necessary and even good. |
| 305 | some healthy competitiveness is reasonable but the extreme competitiveness in our current funding environment is creating a large amount of pressure and stress to perform, taking up too much time in administrative tasks and writing grant applications. This is stifling innovation and creativity. Increased pressure to increase outputs when too much time is spent on other tasks not directly related to research. All of our major funding schemes are heavily biased to publication as a measure of track record. Research grants of small amounts that do not provide adequate time or funding to complete a body of work, and do not provide any room for unanticipated results, extra optimisation or validation which is inevitable for high quality research. |
| 306 | some degree of competition is clearly better than no competition at all: it makes you work harder, think harder. |
| 307 | Some competitive is good. However the excessive stress associated with competition can be detrimental. |
| 308 | Some competition provides motivation to succeed. However, it also drives false claims of originality and group-think. The major journals are becoming clubs where the editors are gate-keepers and only research that is trendy even gets reviewed. That is an indirect consequence of the competition to publish in those journals and the consequent deluge of submissions. |
| 309 | Some competition is ok, but the current level is ridiculous. In my experience, competition doesn't just lead to sloppy research, it causes people with great ideas to leave the system because they don't fit the mould of a 'high performing' researcher. This decreases the diversity of ideas being examined, and invariably affects women and early career researchers disproportionately. In my view, competition impedes creativity, and therefore, innovation. |
| 310 | Some competition is helpful, intense competition is harmful. |
| 311 | Some competition is healthy, but it is unrelenting in the research sector. This is particularly true when you survive on soft money. The salary support schemes are hyper-competitive and entirely unrealistic. |
| 312 | Some competition is always good as it means that researchers can then strive to be the best. However, excessive competition can lead to people straying quality research in order to publish due to pressure. |
| 313 | Some competition is a good thing, but perhaps the current environment pushes it too far |
| 314 | Some competition helps focus on important questions to improve quality |
| 315 | Some competition and pressure can be beneficial (but obviously not excessive competition) |
| 316 | Some areas of the research activity are open to fraud, and cheating is the easy way to achieve competitive success. |
| 317 | So much valuable time is lost in applying for grants and this impedes productive teams. I have experiences extensive bias in the review of NHMRC grants. |
| 318 | Small amount of competition is probably a good thing, so that everyone stays abreast of what others are doing, and ensures that there is no overlap. However, too much competition has the potential for generating pressures that lead to lack of reproducibility. |
| 319 | Scientific discovery is a core of research which should be conducted without 'pressures' especially that related to |
| 320 | Short cuts and hoarding of funding. |
| 321 | Severely inadequate public funding of research creates extreme competition. Especially in 'preliminary data' of grant applications which are sealed, there is high tendency for fabrications with no perceived risk of getting caught. It's generally accepted that peer-reviewed articles need to be interpreted critically by default. |

| # | Comment |
|-----|---|
| 322 | Senior researchers allocate larger amounts of time to writing grant proposals instead of conducting experiments, supervising students, analysing data, writing papers, peer reviewing etc - ie we waste a lot of time (ie 90% of our grant writing time based off ~10% funding success rates) when we could be doing more productive research that contributes to quality science |
| 323 | Selective reporting of results can make the difference between a high impact publication or a standard publication. |
| 324 | Seems to lead to lack of innovation (follow a trend, e.g., yet another cryo-Em paper on a membrane protein) and funding of already successful people doing the same work with a small variation. Also lack of diversity - same people with similar behaviours get funded and new people mimic the existing successful types/ |
| 325 | See my previous free text comments on unrealistic levels of productivity required to be competitive. |
| 326 | Securing funding to ensure career viability is a primary concern of every researcher whom I know, and the success of funding outcomes are almost universally understood to be influenced most significantly by the quantity of publications, especially in top-ranked journals, rather than the quality, impact, or translation of the research itself. Whether or not this perception is accurate, it exerts a pressure to publish smaller pieces of work more frequently, and with these accelerated timelines there can be less attention paid to the validity and quality of the research. I don't feel that this is such a concern in my group, because we have a strong culture of validating our findings and publishing all of the supporting data, code, and research materials. But it is something that we are all aware of. |
| 327 | Science is not a free-market economy. Science is a collective endeavour of the human race and doesn't belong to individuals, or even to 'scientists': Everything is open to question and there are no 'positions' or 'interests' to defend or to further in opposition to other interests. Competition is anathema to that ethic. It has contributed to the current situation in which it is statistically demonstrable that most published research findings are incorrect, |
| 328 | Salami slicing |
| 329 | Rush to publish reduces quality |
| 330 | Resources are finite and competitive, therefore everyone is out-competing each other. As success is measured by publications and grant funding, there is a bottleneck for success where only a small few will have a truly successful career. I feel this drives researcher to try to balance quality with quantity, while also promote their own brand and develop networks etc. All these aspects produce very time poor researchers. This is less of an issue for senior researchers, but for EMCR this factor leads to rushed work to hit KPIs and provide evidence for why they deserve a promotion. This doesn't mean that the work isn't good, however it is just a reality of modern research. |
| 331 | Researchers spend too much of their time worried about the competition, instead of focusing on doing a good quality job on the task at hand. We also have to spend funds for one study on pilot work for the next study as well as the present study, so we can be more competitive for grant funding in the upcoming rounds. It is like we are always chasing our tails and having to think two years in advance. |
| 332 | researchers spend most of their time applying for funding that will not be awarded. Time spent actually conducting research is reduced. This is a system which stops researchers from actually doing the work they need to. Research which is interesting but not positive is likely to be abandoned earlier as it will not lead to further grants. |
| 333 | Researchers spend a lot of time writing grant applications when they could be spending that time conducting research and disseminating those findings through the peer-reviewed literature and to end-users |
| 334 | Researchers spend a huge amount of time applying for grants. |

| # | Comment |
|-----|--|
| 335 | Researchers spend a considerable amount of time and effort evaluating their performance against their peers via successful grants and level of publications. This is to the detriment of the time they put in to their own research. Peer review is essential but lack of research funding and the application of somewhat arbitrary benchmarks for success does mean that solid, well performed research (that may end up very well cited) suffers behind the claims of 'cures for cancer-in the next 5-10 years that often appear around grant application times. Many researchers feel they have to perform and promote their work to be funded which must impact on the robustness of their research. |
| 336 | Researchers should aspire to high achievement. Competition sets a benchmark that is constantly updated. |
| 337 | Researchers quality of research is trumped by quantity of research in order to make career gains in the institution they work in. |
| 338 | Researchers put the need to publish over the need to do good quality research just so they can meet metrics to be competitive for funding. |
| 339 | Researchers may feel the need to cut corners and compromise on animal welfare to get the upper leg and be able to publish before the competition. |
| 340 | Researchers have said things along the lines of 'publish or perish'. It is also clear at ethics meeting that the quality of submissions is not as high as it could be and I am guessing that this is due to extreme time pressures. |
| 341 | Researchers focus on short term ticks for KPIs and now what is beneficial to society and the economy. |
| 342 | Researchers feel compelled to produce greater quantities and quality of publications. At the same time, journal reviewers do not have the time or inclination to check publications in great depth. Thus data to support publications may be inflated, selectively cleaned and/or invented, to produce publishable results. |
| 343 | Researchers are under pressure to produce higher quality work |
| 344 | Researchers are under pressure to produce high impact research, and to increase research output without any new tools or training to increase their output or efficiency. |
| 345 | researchers are under constant pressure and I suspect they rush to keep up. Academic researchers are expected to work ridiculous hours - our own VC (from group of eight uni) says at researcher inductions they they are expected to work long hours (nights, weekends). Senior researchers who do work 'all the hours in the day' - as one said to me once (and I note these are normally people without children), expect junior researchers to do this. It is not right. No wonder junior researchers get disillusioned and leave. |
| 346 | Researchers are tempted to publish perfect stories and cutting corners. |
| 347 | Researchers are spending too much time competing for grants, recognition, etc, rather than focusing on the work at which they are most capable. |
| 348 | Researchers are spending more time on grant applications than they are on scruff research |
| 349 | Researchers are so stressed about having jobs they submit conservative grant applications. When they submit innovative proposals, peer review is harsh. When people are stressed and overworked, as researchers are, with the ridiculous list of conference, peer review, community engagement activities they're supposed to undertake in order to be competitive to prior Fellowships and current Investigator grants, they cannot be creative. |
| 350 | Researchers are rewarded for some specific things, such as number of publications, publications in high impact journals, publications with many citations, grant funding. Competition means not only performing at a high standard but actually beating most of your colleagues --- if 10% of grants are funded, you need to beat 90% of your colleagues. This creates intense pressure to improve target metrics in any way possible, including sacrificing quality. Competition also means that you have to focus on meeting current metrics, not just focusing on good quality research. Most metrics are related to quality research, but they are not the same as quality research and often reward only specific aspects of quality research, creating perverse incentives to maximize only the quality that is 'assessed' or part of formal research metrics used in promotion and grants, rather than doing everything possible to improve research quality. |

| # | Comment |
|-----|---|
| 351 | Researchers are pressured to produce quick results so they change the focus of their research (and sometime even entire career direction) to something that is either cheap to do, quick to produce, or currently in a high funded 'buzz' area. Other areas of research don't get the slow, well thought out research because it will either take too long (and therefore drop their publication rate per year), or cost too much (and therefore the risk vs benefit is too high for small research groups). |
| 352 | Researchers are now much more focused on the publication and journal than on the research itself and its actual contribution to the field. |
| 353 | Researchers are not thinking about the long term benefit of the research rather competition for short term gain. |
| 354 | Researchers are not assessed by institutions or other bodies in a way that incentivises responsible research and this negatively impacts on quality |
| 355 | Researchers are giving up because of the competitive environment. |
| 356 | Researchers are compared without consideration of competing workloads. Little value is placed on the workload of teaching and the impact this has on publishing and grant applications. Grants should be made available for part time researchers ie those with a 40:40:20 academic position. |
| 357 | Researchers are aware of the competitive nature and success rates of securing research funding, and therefore must participate in and produce high quality to achieve this success. This then has a flow on effect for career trajectory. |
| 358 | Researcher focusing on outcompeting and not on the quality of the work nor impact (knowledge or otherwise) or its translation potential |
| 359 | Researcher are spending considerable amounts of time applying for funding. These applications take up a lot of time and effort and take researchers away from actually doing the research. For example to write an NHRMC project grant application takes the principal investigator probably 3 months of work. This is a waste of researchers time, when the chances of getting funded are less than 10 %. |
| 360 | Research should be for society and not the funders- the way research structure works, we are researching to tick boxes for our funding agencies and not our communities. |
| 361 | Research questions to be answered must be seen to be important to researchers and funding bodies. |
| 362 | Research quality is undermined by the competition as the majority of 'research' time is now dedicated to securing funding for the following year. As this work is generally undertaken by the senior PI this detracts from the time they could spend overseeing research, training upcoming researchers and ensuring high quality research is being conducted. The unfortunate reality with the NHMRC system that has been created with the on-going funding cuts is with limited time ensuring funding is available to continue any research the following year is a greater priority than any of the other activities a researcher should be doing. |
| 363 | Research is exclusively dependent on funding which in turn is dependent on the number & not necessarily the quality of publications. Unhealthy and unsustainable competition negatively impacts this cycle whereby reproducibility of research findings are not given utmost attention or importance. Its all about 'selling' the story rather than making fundamental discoveries and reporting the study!! |
| 364 | Research is a collaborative process that builds on, and contributes to, the work of others. Competition is not compatible with ensuring that the maximum benefit of any particular field of research can be applied to 'the betterment of the human condition'. |
| 365 | Research has become 'gamified' it is all about maximising numbers of publications, numbers of citations and improving various indices. This becomes more important to many than the big picture about trying to improve health. For instance, meta-analysis is being increasingly performed even when it adds nothing to understanding a research question. People cite meta-analysis preferentially to the original papers. Meta-analysis becomes a fantastic way of stealing citations from those who actually did the research. It is all about numbers. |
| 366 | Research has always been competitive. It leads to faster progress. |
| 367 | reducing time available for research by need to apply for highly competitive grants |
| 368 | Reduces collaboration by putting an additional, complex barrier in place |

| # | Comment |
|-----|---|
| 369 | Reduced funding has increased competition resulting in high quality researchers leaving the NHMRC system to those that are more likely to publish false or misleading data. Hence this survey. |
| 370 | Raises the bar. People need to be focussed on doing research. |
| 371 | Raises the bar, medical researchers in particular seem to enjoy some competition |
| 372 | Race to publish first |
| 373 | race to publish first |
| 374 | Quite bluntly, there are a lot of PhD's being produced by Universities, and the number of higher academic jobs is quite slim. There does need to be a pressure point in which highly productive scientists producing good quality research are recognised for promotion. On a separate note, I believe that University systems need to seriously think about WHY they are promoting PhD's to so many students, given the jobs market in Australia does not provide a large pool of job placements outside academia. There does need to be a focus on this, however I don't think this is the survey for it. I have brought this issue up with the University, but I think they make too much money for each PhD completion to change their model. |
| 375 | Quantity of research is prioritized over quality. |
| 376 | quantity is rewarded over quality |
| 377 | Quantity is considered higher than quality |
| 378 | Quantitative KPIs are extremely onerous - nearly impossible to achieve. They impact researchers' health and well-being and encourage corner-cutting and poor practice, |
| 379 | Quality takes time and competition reduces the time available to complete any given study. |
| 380 | Quality research is a choice made during research, not while competing for funding/publications |
| 381 | Quality is increasingly more important - it used to be quantity but that is changing - slowly |
| 382 | Qualify my response to say that competition 'may' have a negative effect if researchers compete against one another in the same field and cannot put aside egos to collaborate. A better outcome may occur if experts collaborated. |
| 383 | Pushes researchers to think collaboratively rather than in a silo fashion to ensure better planned research and outcomes |
| 384 | Pushes researchers to be critical thinkers and innovators. |
| 385 | push to hard |
| 386 | Push people to achieve better outcomes. |
| 387 | Publishing before the full story is understood... leads to part information and hype that cannot be ultimately delivered on |
| 388 | Publish or perish. The lack of funding is placing increasing pressure on having "high impact" research outputs and invariably it leads to poor habits |
| 389 | Publish or perish. As soon as there is a glimmer of some new finding it has to be published, rather than trying to develop the new finding further. This means lots more smaller impact papers, rather than building a story for a higher impact journal. |
| 390 | publish or perish mindset is providing negative impact on the quality of science |
| 391 | Publish or perish mentality and link to funding has created a culture of quality issues in the system |
| 392 | Publish or perish encourages rushing to print. |
| 393 | Publish or perish culture and rewarding of people who publish lots of papers although they are not of the best quality is detrimental. Grant assessment is now much about numbers and less about quality. |
| 394 | Publish or perish and politicisation of funding has seen a shift to doing research in the interests of funding bodies rather than genuine basic and applied research. The need to get any money in the door sees researchers having to sell their talents to the highest bidder in ontologically and epistemologically demeaning ways, which is what consultants are for. |
| 395 | Publications need to be of high quality to get into the best journals. |
| 396 | Publications are more highly valued than everything except income |

| # | Comment |
|-----|---|
| 397 | Providing enough pilot data to apply for grants does often mean extreme time pressure and perhaps corners will be cut to be able to provide pilot data |
| 398 | Provides incentive to be creative and intuitive...however, the competition for funding puts unnecessary pressure on researchers |
| 399 | Proposals need to be very high quality to be funded |
| 400 | Promotes an environment where people are less likely to share information about pre-published data, 'bad' data, or specific tricks related to techniques in an attempt to stop others from gaining an edge. This in turn will reduce overall productivity. Also, a highly competitive environment is highly stressful, which can lead to more accidental or deliberate cutting of corners in order to stay competitive. Or people may release data/papers that aren't accurate to stay competitive which makes the jobs of other researchers more difficult (and will waste money). |
| 401 | Pressures to publish positive findings mean people are more likely to cut corners, it's human nature. Competition in this space makes people want to 'win' rather than focus on what the research/results mean for society |
| 402 | Pressures people to fudge or fabricate data, and to publish sexy findings rather than accurate findings. |
| 403 | Pressure to spin research to obtain a good story, better journal etc |
| 404 | Pressure to publish to get or retain academic roles puts pressure on researchers to conduct research in tighter timeframes than perhaps necessary, and to try to pre-empt the work of other researchers |
| 405 | Pressure to publish seems like a major reason people cut corners. |
| 406 | Pressure to publish quickly and in advance of others doing similar work means that experiments can be rushed and not planned well |
| 407 | Pressure to publish quantity rather than quality |
| 408 | Pressure to publish means rushed research |
| 409 | Pressure to publish is meaning people are publishing in low impact journals or cutting and dicing data in post hoc analyses. |
| 410 | Pressure to publish is leading to reduced quality of research papers. Although I don't experience it from researchers in my immediate group, reading through literature from Australia/internationally, I think the standard could definitely be improved. Also, I have heard stories of colleagues getting papers rejected unfairly, possibly because the peer reviewer has a grudge/conflict of interest that they aren't declaring. |
| 411 | Pressure to publish in high-profile journal, regardless of whether the findings are true or not. Sensationalism in high-profile journals, lack of reproducibility. |
| 412 | pressure to publish and short term funding means people work on research questions that are not the most significant |
| 413 | Pressure to publish and gain funding leads to cutting corners Same pressures lead researchers to focus on 'hot topics' to get published/funding Attitudes lead to the belief that only papers from big journals make an impact when most Nobel prizes originate from standard publications Competition fuels biases in peer review (e.g. reviewers constantly trying to find what is wrong with a research work not what is good about it) |
| 414 | Pressure to publish and gain funding incentivises rapid and therefore necessarily poorer quality research. |
| 415 | Pressure to publish and exaggerate results |
| 416 | Pressure to produce research frequently can impact negatively., however competition for research funds means only the very strongest proposals are likely to succeed. |
| 417 | Pressure to produce a positive result; or spin a result as positive. |
| 418 | Pressure to produce a certain amount of recognizable output redirects the focus of researchers towards topics/ideas/options that are more likely to produce output as opposed to what is needed. |
| 419 | Pressure to obtain funding may lead to bias in review of manuscripts considered for publication (positive bias — if the reported results support the line of research used/proposed in reviewer's funding applications; negative bias — if the reported results question the line of research used/proposed in reviewer's funding applications) |

| # | Comment |
|-----|---|
| 420 | Pressure to meet the ever-rising standards with fewer resources, and more time spent writing grants, means that people has less time to spend perfecting their research prior to publishing. |
| 421 | pressure to improve research quality should be beneficial |
| 422 | Pressure to conduct high quality research leads to improved design and reporting. |
| 423 | Pressure to come up with novel and 'breakthrough' findings, and the recognition that high impact journals prefer novel findings, means that people are less like to do replication studies. Far more importantly, the competition for funding since 2014 is beyond ridiculous. All the ECRs I know are leaving the country or planning to do so. I'm encouraging my many students to look for opportunities overseas as soon as they finish, which is a disaster for our research group; however, there is simply no funding and no hope anymore. Without funding, medical research in Australia is moribund. |
| 424 | Pressure on researchers to produce work fast that appears to have impact is high, and therefore there is a rush to publish, and less time to be sure that what is being produced is correct. |
| 425 | Pressure on researchers to do things that they may not ordinarily do |
| 426 | pressure of publishing a large amount of research within a short time frame must compromise quality |
| 427 | Pressure is high, job security is low, which is a very unhealthy setting for high quality, high integrity research. |
| 428 | Pressure for high quantity of publications necessary for funding hampers quality of research output. |
| 429 | Pressure can lead to researchers cutting corners. |
| 430 | Pressure can lead to people cutting corners |
| 431 | Pressure |
| 432 | premature publication, poorly reproducible outcomes, fragmentation of data |
| 433 | Potentially a challenge helps to bring out the best in people and strive for more |
| 434 | Potential for promoting good quality research, however flip side is potential for preparing research applications to target grants |
| 435 | Positive outcome publication bias and overstated results are widespread. Well-considered null or negative findings are of great importance and need to be supported. |
| 436 | Positive in that standards need to be raised and negative in that good research is collaborative. |
| 437 | Positive in that looking for new ways of doing things; negative in that reproducibility research rarely seems to be funded |
| 438 | Poorly thought out and designed proposals are put forward to the committee by researchers with little support or experience in research and in their field of research. There needs to be fewer research outputs and more larger projects with multiple researchers working towards useful and high quality research. Too many small projects with no or little impact. |
| 439 | Please refer to my question on Page 1. High quality research is linked to the ability to take risk. All of the pressures listed above, prevent researchers from taking risks and to pursue the highest quality research. |
| 440 | Placement in competition is often tied back to metrics that encourage quantity rather than quality of work. Limited resources (which also drives competition) also leads to work being rushed. |
| 441 | Perhaps competition means that the researcher is more likely to try to get it right. I also can see that it may 'rush' research and compromise quality as well. |
| 442 | People want to publish in high quality journals, so they are motivated to conduct strong research. We need lots of preliminary data to get grants, so we are motivated to do strong research. |
| 443 | People want to keep their jobs. |
| 444 | People want big papers in big journals and some prioritise that over quality |
| 445 | People typically do not have the expertise to interpret their or others' research without careful consideration, and this is sacrificed in most to get things off their desks. |
| 446 | People strive to do better |
| 447 | People spend so much time applying for grants and being aware of their author position on a paper , on a grant , senior people may inappropriately take more prominent positions on publications etc |

| # | Comment |
|-----|--|
| 448 | people rush to publish in lower level publications - the number of publications seems to count rather than the quality of publications |
| 449 | People rush publications, this may led to errors in the interpretation of the data. The data should at least be accurately reported. |
| 450 | People need to follow the trend and need to publish in good/top journals |
| 451 | People must strive for excellence |
| 452 | People might compromise the research quality or even do fake research under the pressure of gaining grants and promotion. |
| 453 | People make up data, cut corners, exaggerate findings in the press |
| 454 | People get more hung up about their reputation than about the point of doing their research, like people's health |
| 455 | people find a formula that works to get funding, rinse and repeat, rather than pursuing important and novel things that may fail or may lead to game changers |
| 456 | People don't care about importance of research/ just whatever it takes for a high impact paper |
| 457 | People don't have time to do deep research, just thinking about publishing papers, applying for grants. |
| 458 | People cut corners, they compromise their health and family relationships so they can devote huge chunks of time to writing research applications that most are unlikely to succeed in obtaining. |
| 459 | People cut corners and produce substandard submissions but this is picked up in the HREC. The elephant in the room for a lot of clinical trials in hospitals is the payment for enrolment that the sites receive. Often these are commensurate with the work done but often the sums are disproportionate and I believe this influences decisions to participate in trials (ie funds other activities, support research staff, builds empires etc). This information is not currently disclosed to participants - the NEAF asks about financial conflicts but payments to institutions is not considered relevant. I believe this is wrong and I suspect that some subjects would think twice if they knew the people supervising their trial were getting \$10 or 20 thousand per subject. This information should be disclosed in the NEAF so at least the HREC is aware of the financial incentives being offered to participate in trials. |
| 460 | People cut corners |
| 461 | people cut corners |
| 462 | people cut corners |
| 463 | People are willing to cut corners to get published |
| 464 | People are taking on too much |
| 465 | People are stressed, only the very best are successful in getting fellowship after fellowship, there are way too many of us around for the small number of good positions - people are more concerned with getting their papers into the top journals to secure more funding and often their jobs, which has inadvertent but profound consequences on research quality. Most people I know spend about 3 months a year applying for funding, are expected to product >10 publications in good journals, teach and do their admin. If grants were less competitive and jobs more secure, people would be less stressed out by them and could focus more attention on their research and its quality. |
| 466 | people are rushing and cutting corners, make data up to advance 'stories' and increase the novelty of their research, people are less likely to collaborate |
| 467 | People are running the risk of quantity over quality. |
| 468 | People are publishing data before it is ready to be published. Researchers are going to the media before studies are sufficiently developed. |
| 469 | People are pressured to cut corners and produce low quality science that looks and sounds good but isn't necessarily robust in order to keep their jobs and gain funding. |
| 470 | People are forced to spend more time seeking - and often not getting - highly competitive research grants than actually doing research. Also, casualisation means that jobs are so insecure that it seems difficult to grow a coherent research career, especially for ECRs. |

| # | Comment |
|-----|---|
| 471 | People are focussing on topics that are 'in' for top journals rather than on the most pressing / relevant research |
| 472 | People are focused on delivering higher quality proposals and papers in order to get funding and re-funding. However, getting funding is getting so very difficult that good quality studies that could be done, are not. Furthermore, I think negatively, to try and have high impact papers because of large patient recruitment, poor, and overly general, inclusion/exclusion criteria selections are made |
| 473 | People are aware they are more likely to be scrutinised due to competition, which I think has the potential to both hinder high quality research by encouraging poor research behaviour, but could also be positive in that people feel the need to do the best quality they can given others will be reviewing it more carefully |
| 474 | Peer review processes in Australia are so poor that other proxies such as publication record are overweighted, which means funding is associated with publication rather than good ideas. |
| 475 | Peer review is now often used to find reasons to reject or delay research publication or funding. Researchers and reviewers are looking for their own competitive advantage |
| 476 | Peer group pressure is an important factor for lifting standards in a cohort |
| 477 | Overall, there is probably an effect on merit, but the intense competition at every level comes at a significant cost. |
| 478 | overall, competition drives innovation. it can be a very positive thing. of coursed, it also drives poor practice and even fabrication, but I suspect these are part of human nature. |
| 479 | Overall, competition drives better quality of outputs. As it is currently I see this as positive, but am very worried it will be coming negative. This is because as the limited money pools to the top in research (and the MRFF and current NHMRC funding practices are to a large extent fueling inadequacies), we can expect that those in power will stifle others to remain in power. The funding rates need to be higher to keep groups doing good work, but who aren't political powerhouses that get the big money, viable and continuing to do their research. |
| 480 | Overall there seems to be 'throughput' research culture, where much peer recognition and therefore winning grants, relies on the total research income and total publications in past 5 / 10 years. So researchers are stressing about getting grants to keep their team alive (income for salaries) and keeping the continuity of the team (keeping the good staff). Researchers are frequently trying to apply for funds for projects they think they will be successful. The need for the research for the community it therefore secondary, or non-existent, consideration. While this does appear on grants as criteria, it is generally poorly considered by researchers and reviewers. |
| 481 | Overall I think it means the best of the best stay in academia |
| 482 | Overall competition is healthy it encourages innovation and motivation for timely results. |
| 483 | Over-emphasis on output metrics often detracts from a more comprehensive assessment of the quality and impact of research. While NHMRC has been seeking to redress this balance in its track record assessments, many academic institutions lag behind this process, and I suspect that this competing culture does infiltrate peer review processes |
| 484 | Over statement of results |
| 485 | Our area of research is under-represented in Australia and values collaboration, competition may be considered against other research disciplines for funding, but there are few negative effects of competition within our discipline. |
| 486 | Only high quality proposals get funding |
| 487 | one needs some stress (but not too much) to perform at a high level |
| 488 | One has to make sure the best idea is tested to possibly gain best funding and publishing opportunity |
| 489 | On the one hand, it has a positive effect of ensuring your funding applications are of very high quality which increases the chance that the research will also be high quality, but some unscrupulous researchers fabricate results to make their applications look good. Also, the short cuts you then have to make to actually get the research done due to insufficient funding and time often undermine the final outcome. |

| # | Comment |
|-----|--|
| 490 | On the one hand, competition in applying the principles of high quality research drives improvement in quality and timeliness. On the other hand, the same competition drives researchers to take short cuts and publish inconclusive underpowered research. |
| 491 | often only studies that match the requirements of a grant are put forward, rather than consideration for what is needed or is important. also quick studies to get runs on the board |
| 492 | Often groups are trying to be the first at something without any clinical benefit to patients |
| 493 | Of course in some contexts the effect is negative. However, competition can lead to positive effects including the creating of committed teams. |
| 494 | Nothing to add |
| 495 | Not for my group, but if very high competition exists, then researchers may be tempted to cut corners or manufacture data to get the best publication to help their career, and thus further grant funding. Grant funding - especially ACG funding is ridiculously hard to obtain for high quality research. Only massive groups that have the man power (and perhaps less supervisory oversight) can achieve this, bringing in to question how good their data actually is. |
| 496 | Not enough money from NHMRC to fund research and it is taken up by a cabal who rewview each others' proposals, plus interference from the Minister of Health who gives it our to his favouirite cause du jour. |
| 497 | Not enough funding from the NHMRC. Lacking support to young researchers. |
| 498 | Not all publication is positive |
| 499 | No evidence to contrary |
| 500 | nil |
| 501 | Negative effect; researchers might be tempted to cut corners Positive effect; drives high quality important research. These cancel each other out. |
| 502 | Need to have good quality work and publications for career advancement and funding. |
| 503 | Na |
| 504 | na |
| 505 | My research group relies on soft money to continue (including my own position) - this determines what research you focus on, how much time you can give to additional analysis and publications once the work is (supposedly) finished and makes you also looking for the next bit of funding, the next big grant - instead of dwelling on what data you already have, what further insights existing data could give you. |
| 506 | My institution seems to use animals in research when humans should be used because of funding - it's cheaper to do an animal study. The institution seems driven by what the client wants rather than what good science looks like and what animal projects are truly justified with benefits to animals, humans or the environment. Their justification seems to be 'we've got funding' and this will be good for the client. |
| 507 | my assumption is that only the better applications get through a grant review process and ultimately they produce higher quality research |
| 508 | Multiple publications versus single publication |
| 509 | Mostly that (a) refereed journals vary in the esteem in which they are regarded in relation to grant and funding application success, appointments, and promotions, and (b) this esteem is based, at least in part, on the peer-judged quality of the research |
| 510 | Mostly positive effect, but the competitiveness of funding application often lead to a compromise in quality of research. |
| 511 | Most researchers tend to be high achievers, ambitious, perfectionists in some way or another. Elements of competition can be beneficial to push individuals to strive, learn the value of success and hard work, become resilient etc. In contrast, I think competition in a research domain can facilitate a hostile undercurrent > results from vulnerability, pressure, fear of failure and many other detrimental circumstances. |
| 512 | Most researchers strive to do high quality research. Competition forces researchers who have a strong research integrity, to assess their work more critically, and strive to do better. |

| # | Comment |
|-----|--|
| 513 | Most researchers are ethical, motivated and want to do the right thing. There is some sloppy research, and rarely deliberate unethical actions. |
| 514 | Most of the time success in publishing high quality journals is directly related to the quality of the research |
| 515 | More researchers are prepared to publish results that have not been validated as reproducible. |
| 516 | More pressure to succeed and obtain external funds puts pressure on researchers which impacts on their work:life balance and it becomes a vicious cycle. |
| 517 | More likely to cut corners |
| 518 | More complete stories, with better controls and more rigorous analysis are published in leading journals. |
| 519 | Money is so tight and trying to get one step ahead of the next person might be the difference between keeping your job and losing it |
| 520 | Might lead people to cut corners, not spend enough time perfecting the research design/methodology and clearly outlining the statistical plan for the research |
| 521 | Metrics used for competitive jobs and funding do not reward high quality research but favor rapid splashy high volume work |
| 522 | Media reports on fraud. Grants are awarded for journal prestige (and popularity of the research) rather than the quality of research. |
| 523 | May mean researchers are not doing the best research or their best ideas, rather trying to compete with others. |
| 524 | Many worthwhile projects don't get supported because the field is so competitive. This has a negative impact on the researchers and their work. |
| 525 | Many talented people are leaving Australia and/or research careers for more stable jobs in less brutally competitive environments. The people who succeed in the current system are those who can write the most compelling grants or most successfully exploit PhD students and junior staff, not those doing the best or most important research. |
| 526 | Many researchers are concentrating on gaining recognition for their research, on applying for funding, and on building their CV (eg with more publications rather than research of more importance). If this time was spent on attempting to produce high quality research, then more high quality research would be produced. |
| 527 | Many people try to publish as much as possible and are always in a rush, this leads to poorly designed experiments and cutting corners |
| 528 | Many journals and reviewers do not require replication, randomisation, blindings, suitable statistical design etc., and these are not sufficiently recognised in the field when it comes to funding applications and recognition of scientific quality, with journal prestige being favoured. All of the additional experiments and procedures that are important for rigour reduce output, giving a competitive disadvantage. |
| 529 | Many important projects go unfunded due to competition |
| 530 | Many excellent researchers leaving the field due to inability to obtain consistent funding. |
| 531 | Many employers/institutions would look at the number of published papers and not their quality. For instance, a researcher who cares about high-quality publication would spend more time to get reliable results, while at the same others would publish several smaller papers with poor quality. Essentially, people with a higher number of publications would benefit from getting a job/promotion/recognition/etc. |
| 532 | Many Australian researchers rely on NHMRC funding - there is simply not enough of that to reward all those who deserve to be rewarded. The awards process is an opaque, nepotistic, poorly managed mess. The result is a systems where almost everyone knows that they are simply entering a poorly funded lottery. That is very stressful if an institute demands grants successes for continued employment. |
| 533 | Makes you strive for doing better and novel projects and producing strong outputs |
| 534 | Makes researchers keener to produce high quality work, enhance reputation |
| 535 | Makes it less likely that researchers with share ideas or resources with peers outside (and sometimes even inside) of one's group, least these ideas or resources give other researchers/groups an advantage when applying for funding or trying to publish research results |
| 536 | maintain standards |

| # | Comment |
|-----|--|
| 537 | m |
| 538 | Losing sight of the reason for completing the research. Quantifiable outputs are now more important. |
| 539 | Limits opportunities |
| 540 | Limits collaborative work practices |
| 541 | Limited time and resources means colleagues feel pressure to publish before reliability is determined. If anything, because those famous journals value 'surprising' results, often once-off surprising findings that cannot be replicated in the lab is pushed to be published. I feel that this is not as bad in people who use rigorous behavioural assessment (it's difficult to change a whole organism's behaviour) but I have colleagues and friends in more pure biology department that they know the data was driven by where the cells were placed in the fridge, 'special' buffer used, one person doing western blot for the whole study etc. More biology-driven research really needs proof of replication. I don't feel that my field (behavioural neuroscience/mental health in animals and humans) has a reproducibility crisis, but I definitely have seen statistics from cancer/immunology/infectious diseases, reproducibility as low as 1-2% between labs. Molecular data can be so easily changed depending on lab condition. When I fail to replicate published findings, it's typically molecular data, qPCR or western blot. We have negative and positive controls, whereas the published data don't. Pure biology really require more monitoring, and funding is disproportionately allocated to them, as cancer/immunology/infectious diseases are historically more established and their 'unique' and surprising findings can be easily published in Nature, Cell, Science, compared to something like neuroscience or cognition. Competition means many feels pressured to publish unreliable findings to secure their future. I know so many researchers with those publications with tenured position and unlimited funding when they start their career, never to be heard again because they cannot replicate themselves. |
| 542 | limited time and budget. Urgency to get positive results published |
| 543 | Limited resources affect the scope of research that can be conducted. The pressure to publish earlier incremental studies detracts from more extensive studies that would naturally find there way into high impact journals. I do not believe corners are cut but aspirations are lower in this case, this often leads to more limited career prospects and the loss of perfectly good researchers fro the system before they can make their breakthrough study/publication. |
| 544 | Limited resource, increased competition and pressure to succeed |
| 545 | limited funds and unequal distribution between large well established groups and consortiums versus individual researchers in niche field or with small teams |
| 546 | Limited funding should be used for collaborative research. |
| 547 | Limited funding and publish or perish culture in the research sector in general directly threatens the livelihood of researchers. When caught between this predicament and the thought of providing for family, it can lead to inethical conduct. |
| 548 | Limited funding - time pressures on grants. Journal publication relies on positive results/proof of hypothesis. Researchers reluctant or unable to publish null or void results due to impact on career. Undoubtedly leads to duplication of similar studies/increase in animals, \$ and time. |
| 549 | Limitations to federal funding (& thus competitiveness in NHMRC funding schemes) is having a catastrophic impact on the mental well being and future of researchers throughout this country. |
| 550 | Level of competition gives rise to unethical behaviour, particularly towards junior researchers |
| 551 | less time, stricter deadlines, making people cut corners too much |
| 552 | Less time to do really good long term research |
| 553 | Less resources to go round |
| 554 | Less money brought in by grants relates to fewer expensive experiments, even though they may be fundamental to the project. |
| 555 | Leads to pressure to do studies quickly, not properly |
| 556 | Leads people to rush to publish things that they haven't validated. Puts pressure on staff/students to produce the 'right' result. |
| 557 | Leads people to cut corners. |

| # | Comment |
|-----|---|
| 558 | Leading to more irreproducible research |
| 559 | Largely only high quality researchers can survive |
| 560 | Large amounts of time are spent developing multiple grant applications each year that are largely unsuccessful. This detracts time from being focused on 'quality' not 'quantity' |
| 561 | Lack of transparency, pressure to publish quickly, pressure on researchers to fulfill a particular 'lab hypothesis' etc. |
| 562 | Lack of team cooperation and sharing of experiences. |
| 563 | Lack of salary leads to high pressure to get funding and publish, |
| 564 | lack of negative results studies |
| 565 | lack of funding reduces what studies you can do |
| 566 | KPIs for researchers seems to be more about publication number now instead of research quality. This is seen in the latest's Investigator grant outcomes. Therefore researchers are just trying to publish lots of papers (may compromise on quality due to volume) to ensure funding for the future instead of spending the time conducting the best quality research which can take years. |
| 567 | Knowledge that more than one group is operating in a specific area drives continued activity in that area and maintains pressure to complete experiments and get results |
| 568 | Keeps them on their toes |
| 569 | Keeps people on their toes |
| 570 | Keeping your job to pay your mortgage and feed your kids depends on you getting a grant. Getting a grant depends on you publishing in the flashiest journals you can. If things in the lab aren't going as planned then of course some people will cut corners to get those papers. It's a simple equation... you don't need to spend \$50,000 on an independently run survey to tell you this. The publish or perish model was a noble idea that has dramatically increased publication output but it has also created perverse incentives that diminish the reliability of the scientific literature. |
| 571 | Its good to be pushed to do your best |
| 572 | Its a fine balance but some competition is important |
| 573 | its a driver of activity. however I am very against duplication of effort and usually seek to collaborate and pool resource/brains. |
| 574 | It's not just competition it is competition coupled with a. Economic rationalist culture that pervade research institutes and universities. Few - if any positions - are sufficiently stable to allow the true enterprise of academic pursuit |
| 575 | It's the unusual results that get the attention and are more likely to be published in the big journals. I think many of these unusual results are mistakes that have not been adequately checked. Researchers don't do enough internal checking because they get carried away with an exciting result. |
| 576 | it's like sport - you're as good as the opponent you beat |
| 577 | It's having a positive effect for many - forcing researchers to strive for better quality - although in some cases it may spread researchers too thin to take the time to maximise some aspects of quality or oversight. |
| 578 | It's a waste of time to have people competing on the same research topic, better to be working together. Secondly, the high competition for funding means more time wasted on applying for unsuccessful grants. |
| 579 | It's a motivating factor |
| 580 | It would be great if competition drove people to work harder and do better research but in my experience that is not what happens. Competition drives people to cut corners and play the game- misrepresent findings and overstate their importance. Research that aims to discover things that are of benefit to society will be high quality. Currently research is done largely for career progression, power and money |
| 581 | It works against the principles of sharing resources and discoveries in a timely manner. I do not feel that anyone owns a discovery that the tax payers have paid for, but the highly competitive nature of our 'industry' of biomedical research demands otherwise. Cooperation is not overtly rewarded. |
| 582 | It will stimulate some to do better work and others to cut corners. |
| 583 | It wastes so much time and resources. It also chases people away from academia. |

| # | Comment |
|-----|---|
| 584 | It takes more time to be thorough and rigorous, than to be sloppy and the 'first' to do/publish. The competition for great numbers of publications and in more prestigious outlets means that less time is spent on testing the many possibilities that might refute the theory. Thus, the impetus to publish reduces time and effort spent on achieving high quality research. |
| 585 | it stifles collaboration |
| 586 | It ruins research culture, collaboration and co-design |
| 587 | It rewards the wrong aspect of research |
| 588 | It reduces collaboration and mentorship of ECRs/MCRs |
| 589 | It provides additional stimulus for discovery. |
| 590 | It promotes individuals over team work |
| 591 | it motivate people to go beyond their comfort zone |
| 592 | It might lead to some researchers cutting corners to publish as quickly as possible. |
| 593 | It means that we do not collaborate to the extent to which is sensible and desirable. |
| 594 | it means that people are more focussed on the metrics than the science and impact. Also, the stress of competition creates an orthodoxy which favours the stale, male pale leaders. The deep cuts to fundings and competition is leading to many promising people burning out or leading the field. |
| 595 | It makes us focus on things that are external to the science. |
| 596 | It makes scientists and students accountable for what they have accomplished. I you have worked for 4 or 5 years in an area and you have zero publications, this is a problem and indicates either that the project was poorly conceived or that the scientist/student is not performing well. |
| 597 | It makes people work in silos-encouraging cross university and research group collaboration would be preferable but there are pressures for each to publish as first author |
| 598 | It makes one's research questions more rigorous, and hence more likely to be answerable |
| 599 | It makes it difficult to focus on the whole purpose of research (the ability to discover in order to help others). Often researchers are so focused on the number of papers you have or where the next lot of funding will come from that it makes it difficult to stay focused on why we do (or at least why we should do) research in the first place. |
| 600 | It leaves the funding bodies to decide who gets grants which then decides what kind of research is undertaken. Funding bodies don't necessarily have the expertise to decide this. |
| 601 | It leads to researchers being less willing to share ideas and progress. Therefore working more in silos or in competition and not synergising efforts but duplicating efforts potentially in the same fields. This is a shame as we could potentially do more as a collective whole rather than 'fight' over funding. |
| 602 | It keeps an academic or researcher at the edge all the time. |
| 603 | It is very discouraging that there is very good quality work that is not funded and maybe has challenges being published (def to a lower degree). But there is also a lot of not high quality grants and publications that flood reviewers, funding agencies, and journals that create more burden in the whole system. |
| 604 | It is very difficult to get adequate funding. We are all spending a disproportionate amount of research time writing grants that are unsuccessful. That time could be som much better spent doing high quality research instead of trying to get funding to do high quality research. |
| 605 | It is true - an emphasis on outcomes, relevance and rigorous methodology leads to higher quality research. |
| 606 | It is so hard to obtain funding so some researchers will not share new ideas and can not afford to be generous with their own resources. More collaborative grants would help as well as smaller grants for young researchers. |
| 607 | It is resulting in pedestrian research so that it gets published rather than striving for innovation |

| # | Comment |
|-----|---|
| 608 | It is pushing researchers towards unethical behaviour and increasing the undue stress. In my opinion every researchers if not unduly pushed always aspire to publish high quality research, but in the current system with less than 10-15% grant success rates and every academic accolade being judged based on publications their impact and citations, everyone is feeling the stress to by any means try and publish more and more papers with 'high impact' - considered the prime measure of 'research quality'. It is particularly felt by early career academics who wants to develop original new ideas despite being in a small lab and not able to publish 8-10 papers every year just because they are not in a large lab or otherwise bringing a new expertise in a lab which also significant impact their number of pubications |
| 609 | It is not high quality research that seems to be attracting funding - rather number of publications. I have seem rapid career progression of academics (e.g. NHMRC, MRFF funding) who produce large amounts of publications, often of questionable quality (e.g. project applications with flawed designs and non-validated outcome measures; slicing one analysis into 3-4 papers, often with many self-citations). I do not wish to compromise my research quality - but I'm aware I am not competitive against people who do. |
| 610 | It is likely having both positive and negative effects, depending on the individual. I find the competition to be a good stimulus to be productive and forward-thinking. Others, I know, feel the stress of it and it can compromise the quality of their work. |
| 611 | It is leading to misallocation of effort to meet metrics that are recognised, but not necessarily indicative of underlying value. (eg, obtaining research funding over performing/reporting research). |
| 612 | It is important to have competition to help drive motivation and it helps ro get the best out of you. At the same time it can lead to stress and be depressing when you consistently loose or get knocked back. |
| 613 | It is forcing researchers to spend too much time applying for funding, with very low success rates, rather than actually performing good quality research. |
| 614 | It is forcing people to compromise on research integrity |
| 615 | It is encouraging researchers to cut corners to enable them to have 'the edge' over others. The competetion is not based on how good their research is, just based on their outputs. |
| 616 | It is distracting researchers from the overarching (in my opinion) goal of research and that is to gain knowledge and inform future research. |
| 617 | it is clear from my editing and reviewer roles that much research is being poorly done, is fabricated and experimental systems pushed to give the desired result. |
| 618 | It is affecting mental heath of researchers, particularly of those whose position is grant funded, but it also affects researchers with more secure positions. The pressure to publish and, more so, to gain funding is tempting some researchers to cut corners, but it is also negatively impacting on those who refuse to renounce to their integrity and rigorous approach. Researchers are more exposed to discourage and mental breakdowns and this leads to mistakes and delays in the achievement of the desired goals. It also forces some researchers to abandon more ambitious and innovative ideas in favor of 'safer' projects that are more likely to be funded. |
| 619 | It is 'researcher eat researcher'.... and all about the names with track records put on the applications. There is little oppportunity for mentoring or supporting others - at least at my institution. IT&R is really teaching wiht littel research. There are dedicated positions for researchers but you need to be in a position where you don't need continuous work. So it is all about beating the other person not supporting each other. |
| 620 | It inspired many more people to try harder and improve their output than it does cause a small percentage to be unethical. The isolated cases of poor ethics are creating a distorted perception of a very honest cohort of people |
| 621 | It increases motivation to do better and higher-impact work. |
| 622 | It impacts on collaboration and quality team work |
| 623 | It helps to make the research group to do better than the other so they can secure more fund for further research. |
| 624 | It has encouraged researchers to aim o publish in the higher impact journals. |

| # | Comment |
|-----|---|
| 625 | It has destroyed collegiality. It has led to abuse of junior researchers. It has demoralised academics and trashed national scientific capability. |
| 626 | It has both positive effects and negative effects, but the negatives are now outweighing the positive |
| 627 | It has both positive and negative effects but without competition discoveries and translational progress would be slower. There can be no doubt about that and so in an ideal situation, or at least a better situation than Australia is in, competition is definitely a net positive. The issue is not competition, there is competition and meritorious award for medical research in all major developed countries. The issue in Australia is the level of competition has become ridiculous because the level of funding being invested in the system/innovation (mainly from the government but also commercial) is far too low. This means there are too many researchers competing for too small a pie, so too much talent and too many potentially great projects get wasted. This level of competition has become a net negative. For example, funding rates in the US range from 20-30% at the national level without taking into account commercial entities, this is an appropriate level of competition for innovation. The rates are below 10% in Australia, which means 90% is wasted, clearly this level of competition is negative. |
| 628 | It has a positive effect as competition is always a good incentive. However, the stresses of obtaining sufficient funding to support the high quality research is a major drawback of the current funding arrangements in Australia. |
| 629 | It has a beneficial effect on rigour and standards. However too much competition and incessant grant writing is damaging |
| 630 | it forces the researcher to be innovative and systematic in their research, thereby obtaining the publications required for funding, promotion, attracting students |
| 631 | It forces people to slice a nice impactful story into a multitude of fragmented stories for the purpose of showing research output. Quantity is favoured over quality. Yet an article in Cell, NEJM and Nature can take up to 5 years to come together with a multitude of supplementary figures and multiple rounds of review. No room for groundbreaking discoveries anymore, only for evidence of regular output. Competition for funding means more time spent in writing more grants in even more competitive schemes overseas and less time dedicated to designing robust experiments and supervising properly students. Mental health issues, lack of attention. Excellent younger researchers who have the ability to produce high quality research giving up Science because the success rate for the entry level investigator grant is 7.3% and publishing in high impact journal is no longer a currency for securing funding, in particular when doing basic research. In short, brain drain, smart people move where talent is truly valued. |
| 632 | It forces best practices (as they will be peer reviewed) and timely conduct of research |
| 633 | It encourages researchers to do their best. It is more difficult for low quality research to attract funding or get published. |
| 634 | It encourages reflection which is helpful when thinking about your research and it's impact |
| 635 | It encourages isolationist behaviour to keep an edge, while research is better done when open and collaborative. |
| 636 | It drives a culture where people are more likely to overstate their findings, rush to publish, fail to recognise or support publication of contradictory results by colleagues. |
| 637 | it culls the poor quality research. |
| 638 | It creates incentives that result in poor compliance with or short cutting policies and procedures. |
| 639 | It creates high levels of stress to remain in research. Some high quality researchers will leave research altogether because to continue to operate under high stress is not feasible or realistic. it makes students wonder why they have chose to complete a PhD in the first place and essentially work under very high pressure for less than minimum wage for many years when there are so few career prospects in academia. |
| 640 | It creates a 'bunker' mentality among researchers. |
| 641 | It can improve the quality of work and reduce the number of poor quality work |
| 642 | It can have both positive and negative effects. |

| # | Comment |
|-----|--|
| 643 | It can have both positive and negative effect. It depends on the individual researcher. Some thrive on pressure other buckle under pressure. It's really an individual response to pressure. Personally, I have no problem with pressure but I do not think is a useful motivational 'tool'. For me, the best research is done in a supportive, interactive and collaborative environment rather than a highly competitive one. |
| 644 | It can force researcher to compromise the quality of their research. Unfortunately, in my field, it's quantity of publications over quality of publications. |
| 645 | It can be positive or negative. Our research is very niche and often hard to attract funds as it doesn't fit into most competitive funding research paradigms. We are largely translational and often have to look outside traditional funding sources. Not being funded is often demoralizing and it is hard for us to compete with biomedical and basic research. |
| 646 | It can be a motivating aspect to some people's research. |
| 647 | it adds an 'edge' and strengthens aspirations, but can have negatives too |
| 648 | Insufficient funding and the need to constantly be submitting the next grant = limited time to focus on actually doing the things you've been funded for. |
| 649 | Insufficient funding and resources. Poor success rates for grants and fellowships, leading to time wasted in writing applications, insufficient funding to do work, and poor morale. |
| 650 | Innovative and relevant research is produced. |
| 651 | Inevitably hyper-competition leads to a rush to publish at the expense of quality. |
| 652 | Increasing numbers of scienc papers con ok |
| 653 | Increasing number of stories emerging about fraud etc Competition is still favouring quantity over quality in publications - which favours smaller, less important papers and studies Pressure for citations is favouring promotion/media rather tahtn focsuing on quality work |
| 654 | Increases stress and pressure to publish; perceived need to publish in 'top' journals may encourage some to cut corners; writing unsuccessful grant proposals consumes an inordinate amount of time and energy. |
| 655 | Increases quality of studies as poorly designed conducted work does not get funded or published; stimulates learning and development if mentoring supports and guides junior researcher being subjected to competition |
| 656 | Increases output and motivation |
| 657 | Increased rate of falsifying data due to high academic pressures |
| 658 | increased peer review requirements lift quality |
| 659 | Increased funding costs, increased competition, and a smaller slice of the funding pie. All (whether intentionally, or more likely unintentionally) force researchers to cut corners when performing research. Researchers generally want to do well controlled research, but unconscious bias is very hard to stamp out and convince researchers is a problem. A full study with all appropriate controls is also much more costly (often double) than doing it the way most others do it, so the problem persists. |
| 660 | Incentivises people to publish research which may not be of highest possible quality. |
| 661 | Incentive to do well. |
| 662 | Inadequate funding causes competition and too much competition prevents collaborations. Collaborative research offers a means to have ideas and experiments validated by others external to your immediate group thereby reducing reproducibility issues and forming a better consensus hypothesis. Competition creates an environment where the race to finish may compromise the research design and quality, and waste the limited funds of the 2nd place holder being now in a position where their work is no longer novel and so under the current environment, unworthy of publication despite it having merit as an independent validation or challenge. |
| 663 | In the race to be first, you have to build with sticks and straw, rather than brick. |
| 664 | In the area I am in, Aboriginal and Torres Strait Isalnder health, the majority of research is undertaken in a Western Biomedical methodology and approach. This reinforces stereotypes and does little to assist communities. It does not produce high quality research to the benefit of communities. |

| # | Comment |
|-----|---|
| 665 | In the absence of stable funding, there is a constant pressure to achieve high-impact factor publications to be competitive for grants (which are required to maintain a career) and this pressure, combined with the constant underfunding of research, strongly encourages cutting corners and publication of spectacular but maybe not reproducible results. |
| 666 | In Question 53, competition across a number of categories were identified. Whilst competing for discoveries is likely a positive for research quality, the overall net effect of competition for funding, publication and recognition drives individuals to cut corners and make claims that over-reach their data. The negative effect of this competition is driven, in large measure, by the scarcity of external resources for which individuals compete. In my opinion, this drives extreme self-interest in processes such as peer-review (something I have directly observed within forums such as NHMRC review panels) and this has a significant negative effect on research quality. I like that the NHMRC is studying this issue, I can only hope the organisation will have some capacity for self-reflection and the potential for negative impact that it has itself. |
| 667 | in particular funding. Who is making the funding decisions? there is no transparency and clearly nepotism exists. not only the amount of funding has decreased, but so has the transparency and equitability of the system, and the gender imbalance is embarrassing. |
| 668 | In our system right now quantity of journal papers is the principle metric used to judge a scientist's productivity. As grant assessment lacks expert peer review, the saying 'they can count better than they can read' may just be true. |
| 669 | In order to produce high quality research, individual researchers must be competitive enough to be successful for funding by producing evidence of being an expert/leader or already achieved recognition in the field. In order to obtain the 'evidence' to be competitive enough for funding, researchers must spend a large portion of time to achieving recognition, applying for promotions and applying for funding. It appears that less time can be spent directly on the management/governing of high quality research. This vicious pressure creates a negative environment, uncertainty about career prospects and focuses on quantity of publications and not quality. 'Not enough time for quality' |
| 670 | In my setting I think there are both good and bad effects of competition. The good is that it does drive people to do research that is original and to the best of their ability, but for some people I also think it is bad in that they feel compelled to cut corners. To be honest I think this is human nature. For example not all people who work in finance are bad but some are - I think it depends a bit on the culture of the organisation and how the leaders of those organisations or departments act - as this becomes an example to those who work or train in those settings. If you work in an institution or train in a setting where your senior staff value high quality research then I think you value that too but if your senior staff are just focused on getting money whatever the cost then I think individuals may feel compelled to cut corners or behave unethically. |
| 671 | in my experience the research findings are the most important thing, the career and the rest of it are secondary |
| 672 | In most other fields of endeavour competition is considered good - why should this be different in research? |
| 673 | In most cases, I think the competitive research environment encourages high quality and quantity of research output. |
| 674 | In general positive, sometimes negative |
| 675 | In Australia, funding outcomes can be based on 'who you know' and not necessarily quality - ie boy's club. |
| 676 | Improving quality is required to be more competitive |
| 677 | Improves quality |
| 678 | improve one's knowledge significantly to produce such a high quality research. |
| 679 | Impedes collaboration. Sometimes the 'most strategic' person has more success than the person with the best idea. Competition rather than collaboration makes me want to leave my job as a researcher Having livelihood depend on soft money makes me want to leave my job as a researcher |

| # | Comment |
|-----|---|
| 680 | If you wan to complete you need to have excellent research ideas, sound hypotheses and well presented and executed data to support your findings and ideas. From this comes good publications, which in turn can lead to success in funding. Competition ensures we all work at our best at all times. However, there needs to be a reasonable chance that hard and smart work will pay off in terms on publication and funding, and at the moment I think there is so much pressure on getting funded with limited funds available that the competition has become more fierce and less collegial. |
| 681 | If you don't fit the imagined ideal researcher you might as well give up. We can't be all things to everyone. Some of us are introverts and prefer to do good work in the background. I don't want the spotlight but am punished for this. |
| 682 | If there was no competition many research would do nothing We have a lot of dead wood in many hospitals and universities still |
| 683 | If there is no competition, there is no drive to improve output, efficiency and productivity. |
| 684 | If the work is funded, and supported by the insttution, competition should not affect research quality |
| 685 | If the researchers are pressured to publish certain amount of papers each year, the quality of the paper might go down. |
| 686 | If the area is highly competitive, the pressure is always on to get it out there first. You may benefit in the short term by doing this, but be haunted in the mid to long term if the research isn't as good as it should be and was published at the time because it was a 'hot' highly competitive field. Whilst people can perform research fast, this is usually with groups that consistent and consolidated funding for good periods of time. Salary gaps and low funding rates lead to low researcher retention and a 'hamster wheel' of training researchers and then having to see them go. |
| 687 | If people are constantly worried about their jobs/careers, of course they will look at ways to produce more with less and push that further. The smaller the pool of funding, the more that even fair and honest researchers will be pushed towards cutting corners. The current environment is favouring career development of those who do more with less. |
| 688 | If peer review processes are rigious and QC processes are tighly in place, competition should have no role. Perhaps researchers should get a licence to operate much like other industries. |
| 689 | If everything was published there would be a lot of nonsense piublished |
| 690 | I'm not sure that it is competition, but it is the need to have more and more outputs to move forward in research via grants and for career advancement |
| 691 | I'm finding that some areas of research are being 'repeated' or 'extended' from earlier research proposals. Similarly, some research projects seem to verve on 'wishful thinking'. This does not, however, necessarily mean there is a negative effect on producing quality research; it might be a case of some students finding it difficult coming up with an exclusively original topic. |
| 692 | I would like to say 50/50 and that I think this probably depends on the team/research topic. From my experience often individuals are included on grant applications/publications solely because of their track record and a desire for the work to be considered more prestigious. Unfortunately, I don't always feels that this results in better outcomes. |
| 693 | I work in a translational and practitioner field where research does not come naturally and many struggle with developing a researcher identity |
| 694 | I work in a highly competitive environment within a [small] team. The pressure and competition to obtain external funding and overflow of this to pressures in publishing quickly have contributed to some research students cutting corners and adopting processes to increase recruitment rates that near on coercion. |
| 695 | I understand the need to 'evaluate' researchers on their 'productivity' and how good they are at attracting funding. However, science is by nature a process that takes time, especially if good quality science, with reproducibility, sufficient sample size, and good research practices are to be implemented. Competition is one of the ugliest things in this world, and particularly for fields like research where sharing resources and data would give a chance to everyone and accelerate discoveries. |
| 696 | I think when it comes to publication in top journals (eg Cell, Nature, Science) competitive pressure can lead to some groups rushing into print to remain at the top of their field. However, in other instances competition in research is a good thing, so that overall they probably even out. |

| # | Comment |
|-----|--|
| 697 | I think we're creating a very sick and toxic system to try and work in. We have confused track record considerations for 'who has done the most', which translates generally into 'who has sacrificed the most to overwork the most'. Conceptions of scientific quality are so narrow that people are channelling their research interests into particular disciplines and approaches to increase the chance of getting funded rather than what might make a good contribution to knowledge. This is leaving massive gaps in the landscape of health research I feel - particularly around the social determinants of health, and policy considerations. |
| 698 | I think we need to have some level of competition for sure as that drives the whole process forward. But at the moment there is just far too much pressure on funding largely because of the incredibly poor state of the NHMRC funding scheme. Unless this is fixed soon we won't have a research base in this country and we won't have a problem with data reproducibility as there will be nobody left to produce data. |
| 699 | I think there is pressure to publish regardless of quality - so there is a focus on quantity, and some of what is published, shouldn't be. |
| 700 | I think there are both positive and negative effects of competition in research. Due to competition greater rigor is needed with funding applications, writing up protocols (which then should be adhered to) and the peer review processes. |
| 701 | I think the pressure tempts people to publish only data that they know will be well received, and the may at times be rushed. |
| 702 | I think the positive and negative effects are balanced out |
| 703 | I think the current poor funding support provided by the NHMRC has debilitated biomedical research quality in Australia and thus increased the competition and reduced the quality of the outputs in terms of the ability to use high cost cutting edge techniques and large numbers of samples. |
| 704 | I think that, generally, some competition is good for improving quality. However, with the very low success rates for external grant funding and lack of availability of stable jobs, being a very good researcher alone is often not enough anymore to be successful. This leads to a culture where the ones who can sell themselves best prevail. These are not necessarily the best researchers. |
| 705 | I think that we need more quality research conducted in Australia and competition is always a good motivator to get people going in this regard |
| 706 | I think that the promotion of your work / publication and fighting to publish in a high-ranking journal can often lead to delays in dissemination, and in focusing on getting research \$ not conducting research. NOTE- this is not about my uni, but more about my experience within my area of research / NHMRC panel discussions / conferences. |
| 707 | I think that the competition is unfair. Funding is heavily biased to senior researchers with established teams and TRs as well as political connections. This promotes business as usual research to keep buddies going The loss of researchers conducting innovative/cutting edge research to other industries or OS OR The misappropriation of innovative/cutting edge research by established senior researchers |
| 708 | I think that the big impact is on the broader institution's policies - not so much at the researcher level |
| 709 | I think that researchers feel pressure to go for sexy or trendy outcomes rather than the more rigorous and reproducible results, so that they can secure funding and opportunities. |
| 710 | I think that it is important to have competition in research, as healthy competition will encourage high quality research. But I believe there is unhealthy competition in obtaining research funding that has a negative effect on research quality. Research has to be designed to have the best chance of being funded rather than be the highest quality. |
| 711 | I think that it helps but the competition does not allow a lot of very good work to proceed |
| 712 | I think some degree of competition does focus applicants on putting together better research proposals and also places reasonable pressure on them to complete studies and publish the work |
| 713 | I think some competition (especially in terms of research funding) facilitates top quality researchers coming to the 'surface' |
| 714 | I think pressures for limited funding and positions are the main drivers of rushed research |

| # | Comment |
|-----|--|
| 715 | I think people lose sight of the reason they are doing research .Ethical progress can only occur if they constantly can justify what they are doing .Competition and focus on their careers or status clouds this vision . |
| 716 | I think it's different in different fields - I think it's harder to get funding so researchers fail more and have to take more time applying/competing and that detracts from the research they have - I think the impact on quality is on time available/workload/competing priorities - rather than competition |
| 717 | I think it has a poor effect on the person's mental health |
| 718 | i think it goes both ways. competition can push you to do things better than others, but can also mean you sometimes do things more quickly to expedite a final outcome, meaning they are not done as well as possible. |
| 719 | I think it encourages you to think innovatively and build on the research knowledge that exists, and at least in my case, work collaboratively with productive groups. |
| 720 | I think it effects from several perspectives. e.g. competitive proposal/tender costings do not support high quality research and do promote cost cutting practices that are detrimental to good quality research. Using research staff with less experiences e.g. students but not having the time or funding to supervise them adequately. |
| 721 | I think it can have both positive and negative effects. Some competition is good, but too much is detrimental as I see research as a collaborative work. |
| 722 | i think it can be both positive and negative. The low success rates in funding applications and the uncertainty of future funding can put some excellent researchers off but in general I think the competition means that funded research is generally of a high quality |
| 723 | I think it affects research in both positive and negative ways with a more positive effect on more senior researchers and more negative on junior ones |
| 724 | I think it actually has both - depending - but you did not give that option. I think that there is too much competition for short term funds that do not cover the costs and then people are on fixed term contracts (not me, I am lucky to be on a continuing contract) - but the life in academic research is SO much of a treadmill chasing \$\$\$ that there is not enough time to write up all the research papers - so data is wasted - |
| 725 | I think if resources are limited and this requires people to be more competitive, they will try to do things faster, with less resources. |
| 726 | I think high competition for grants has meant that less traditionally elite but extremely important kinds of research (e.g. qualitative) are not supported by grant bodies. |
| 727 | I think fraud is the major problem with research at the moment. It is occurring at all levels (students, post-docs, lab heads) and is driven by competition for recognition. The problem of fraud cannot be solved by better training. It can be addressed by less pressure to publish, get grants etc, and it can be addressed by enabling equal publication of data that reproduces the findings. My simple solution: require journals e.g. Nature to publish any follow-up study that disputes the findings and to publish one follow-up study that validates the findings. Space is not an issue now, if these are simply on-line. Give the reproducers and non validators reasonable credit for this in grant applications. |
| 728 | I think competition when combined with the control of having work published and subject to peer review provides a balance which drives a better outcome. Either in the absence of the other would run the risk of lowering the quality, instead being reliant on positive internal drivers to drive research forward, ensure timely outcomes along with a quality output that would withstand scrutiny. |
| 729 | I think competition might drive 'safer' research (less novel, innovative) but I don't think it effects study quality. High quality studies get funded. |
| 730 | I think competition makes you work and think just that little bit harder to publish original findings before competitors. |
| 731 | I think competition is not only an incentive to good research but also useful as comparison with any research to be undertaken |
| 732 | I think competition is motivating for many people. |

| # | Comment |
|-----|--|
| 733 | I think competition is important it can bring about significant good if it is managed well and is not allowed to be rampant. It is part of human nature to be competitive and it keeps me on my toes |
| 734 | I think collaboration is more effective than competition in public health research. |
| 735 | I think career researchers are pressured to always be looking for their next publication. This means they may intentionally write a paper with limited results or conduct research that has 'easy' results rather than that which is meaningful and purposeful. |
| 736 | I think a little competition can motivate researchers to produce good research |
| 737 | I serves as an incentive to achieve |
| 738 | I see my more senior colleagues having to spend so much time applying for funding. They are exhausted and it takes them away from progressing publications. It also means there is no time for me, a very junior researcher, to be mentored and appropriately 'carried along' in learning how to write publications. So in a [couple of] years of working as a Research Assistant I have [less than 3] first-authored peer-reviewed publications and second-author publications [combined]. That's it! I see some of my colleagues who are equally junior with many more publications than me because they aren't expected to lead the publications themselves. It takes me a lot of time to do this and feel confident in my abilities. Seems like nobody has time to mentor me because everyone is too busy seeking funding. My main supervisor has taken on more work at a very senior level (because this work helps [them] attract more funding), so [they] don't actually have time to supervise me. |
| 739 | I see an increasing trend for publications to appear with the minimum unit required for publication. 3-4 articles are published, often on the same set of studies but divided into many substudies in order to increase number of resultant first author publications. I am not convinced that grant assessors adequately take into consideration the amount of work required to produce some manuscripts, and still use a numerical count rather than consideration of the quality and effort put into the work. This approach drives minimum publishable unit studies to increase publication count. |
| 740 | I often see over interpretation of data |
| 741 | I know several people who would never publish a retraction or correction if an error was discovered in their work for fear of impact on their standing, and I know of several who will not publish findings contrary to their hypotheses for similar reasons. |
| 742 | I know of colleagues who have 'massaged' data or cut controls from experiments to get data to fit a narrative that will enable publication in a good journal or get that critical piece of preliminary data to strengthen a grant application. |
| 743 | I indicated above the problem of research funding linked to publications, and this aspect of competition can be a negative factor to the quality of research. There have been recent examples of researchers who have manipulated their data to produce more papers |
| 744 | I heard about some cases in which the researchers compromised the quality of research due to the publication and funding competition. |
| 745 | I haven't seen evidence to the contrary |
| 746 | I have witnessed a significant change in the benchmark for track records at various career levels since returning to Australia and being actively involved in the peer review system (from both sides). The expectation and pressure to perform, and what constitutes a successful track record particularly for early career researchers (who almost certainly have to show that they can successfully acquire a grant before being competitive for a fellowship or major category grant) is insanity. This is above and beyond the expectation of multiple (excellent!) papers from a PhD alongside leadership roles etc. The quality of our research will improve if we remove these barriers and demonstrate (lead by example) that good research is rewarded without needing to be a committee member etc etc etc. |
| 747 | I have spoken to multiple people within and external to my organisation, people who are competitive at getting grants say that writing the grant often has little to do with the actual science that will take place. These are highly influential researchers in Australia (and overseas) competing for limited funding, if the most successful of these people realise that competitive is so fierce for funding that you have to write a grant in just the correct way, often not bearing any resemblance to the actual science that will take place what hope is there for rest of us? |

| # | Comment |
|-----|---|
| 748 | I have seen multiple researchers working on similar research and while they collaborate quite well, they are also competing against each other for research dollars. This has the effect of researchers wasting a lot of time putting grant applications in, rather than focussing wholly on their research. This is why I believe it has a negative effect. |
| 749 | I have seen many mid and senior level researchers spend a lot of time on grant applications rather than actual research, and this is a commonly heard complaint. I recently attended a conference where 4 different groups were developing/had developed the same infrastructure to monitor and treat a certain condition, each team was working completely independently on something very expensive and which took years to develop. One team had approached another to request collaboration but was refused, I see this as a result of the competitive nature of research. |
| 750 | I have observed colleagues from other institutions publishing quick results that may not be the most rigorous in order to publish first. The first to publish a finding will be rewarded with higher impact publications. |
| 751 | I have observed and been the target of some unethical behaviours. eg: this is one of my 'favourite' excuses not to include me in a publication despite having contributed sufficient that an appeal deemed I should have been on a paper 'it was a small article and therefore had a limit to the number of authors' |
| 752 | I have had the experience of my PhD supervisor leaving me out of discussion regarding grants and publications that are the direct result of my research |
| 753 | I feel like the highly competitive nature of funding means that more experienced researchers are more likely to be more funding. This means that less experienced researchers, who might have great ideas for high quality research, can get funding or positions to actually do it. |
| 754 | I don't think you can publish bad quality research easily - so in my experience this makes pressure to do good research rather than any research. But I can see that for others this might tempt to go the other way, and may lead to less internal replication of data etc. |
| 755 | I don't think that it's the competition that leads to more/less qualitative research. I think that it's the pressure put on individuals within institutions that force some people to produce research of lesser quality. However, in the end, it comes down to the researcher's personality and character. Some people will walk on corpses to progress in their career regardless of whether pressure has been applied or not |
| 756 | I don't mean no effect, I mean both negative and positive effects. Competition can drive people to achieve, and try out new things and strive to excel. Competition can also lead people to cut corners, adopt wishful thinking about results, or fabricate data. |
| 757 | I believe the research should not be a competition. However, in recent times it has become a competition and therefore affecting the quality of researchers life, the quality of the outcome, etc. |
| 758 | I believe that researchers need to increase publications and gain grants and therefore researchers are looking for translation before there is evidence for |
| 759 | I believe positive competition can build an exciting research environment. Unfortunately negative competition can have a stultifying effect and lead to inappropriate behaviours |
| 760 | I am sitting on the fence with this because I feel the expectation of competition is a known quantity to researchers when we enter this career. |
| 761 | I am not seeing the research quality reduced but I am seeing colleagues continually burnt out emotionally to meet the demands of the job. |
| 762 | I am applying this comment only to part b) applying for funding. I don't think that the other areas are negatively impacted by competition. Applying for funding is extremely competitive, requires great personal sacrifice and ambition and has an extremely low success rate. This means that even when successful with funding, it feels like colleagues think you won the lottery ie random luck rather than actually being good at what you do. This has been detrimental to my experience this year with the new funding rounds and the public shaming / criticism of clinician scientists for being successful with Investigator Award applications. We are all scientists and should all be valued for the different contributions that we make. |

| # | Comment |
|-----|---|
| 763 | I accept there will always be a rotten 0.1% of researchers who are unethical/bullies/cheats etc. Then there is another group that will cut corners if stressed enough (say 10% - I don't know how big this number is). I think the pendulum has swung for many years now to the 'too little funding' available, combined with a great deal of pressure for peer recognition in particular, and that is leading to a hyper competitive group with high levels of anxiety and stress which, to me, is a hotbed for shifting more of the 10% to actually start to do slightly bad things (me included probably). I hear the argument that the sector is too bloated with poor quality researchers. I disagree, I think it's more to do with poor quality direction of research in a straight jacket of a research frame (NHMRC). I don't think the new systems will lead to more ethical/reproducible work, in fact, I'd argue that particularly for the MRFF scheme it will lead to more irreproducible unethical behaviour as business type timelines are encouraged (meet goals) which we, as scientists are not used to working with. It is a totally different mindset and will require retraining. Fitting square pegs into round holes = inadvertent misbehaviour as people struggle to satisfy grants that they don't know how to satisfy. |
| 764 | Human nature |
| 765 | Huge amount of time is wasted on competing for very limited research funding. the new NHMRC system, which appears not to have been piloted, has had a severe detrimental impact of the mental health and motivation of many researchers at all levels. |
| 766 | How can an individual remain competitive when others are willing to cut corners and compromise research integrity to get ahead? |
| 767 | Hopefully only the better quality research gets funded and published |
| 768 | Hinders collaboration and sharing of knowledge and resources |
| 769 | Highly competitive nature of positions, grants and publications all with low success rates means survival could depend on compromising research quality/integrity |
| 770 | Highly competitive environment tempts scientists to cut corners and falsify results. |
| 771 | Highly competitive research funding is diminishing innovation |
| 772 | higher quality research increases the competitive capacity. |
| 773 | Higher norms and expectations |
| 774 | High quality research takes time to conduct, whereas competition pushes people like me to constantly switch to the latest trendy topics which are perceived to be fundable etc. |
| 775 | High quality research takes time and sufficient resourcing. Time to achieve an output is often not recognised and sufficient resourcing is often out of reach for many researchers (success rates too low). |
| 776 | High quality research takes time and a lot of effort. Knowing that one year you will not be able to get funding due to a high level of competition and so keep working on your project is turning away researchers from academics to industry. As such, many scientists of mid and senior level of expertise, which are highly valuable, are turning away...And then when new students are coming in, such as myself, there are no post-docs with the deep understanding of the project, and you have to study from publications, whose results, unfortunately, are not always reproducible, placing you with your project at the end of the PhD with no publication. As a result, (again, due to a high competition), you are not able to find a post-doc position due to lack of publication - a vicious combination of a high competition and bad luck... |
| 777 | High quality research requires teamwork, the competition in research is reducing the desire and ability to work well with others The stress associated with the constant competition and pressure significantly reduces my productivity |
| 778 | High quality research must be competitive |
| 779 | High quality research is required to publish in the best journals, which is what most researchers aim to do |
| 780 | High quality research is published in good journals. |
| 781 | High quality research is paramount regardless of competition. |
| 782 | High quality research is not affected by competition |
| 783 | High quality research has to be novel and robust. Some believe it is perfectly ok to take others peoples novel hard earned data as they believe they can do a better job. They publish it without attention to detail. |
| 784 | High proportion time is spent on competitive grant applications with a low success rate (|

| # | Comment |
|-----|--|
| 785 | High pressure to publish and get grants leads people to cut corners |
| 786 | High levels of competition can lead to reluctance to collaborate. |
| 787 | High level of competitiveness may lead to cutting corners and even fraud, which would have a negative effect on the quality of research |
| 788 | High impact publications=currency for access to grant funding, more high impact publications, peer recognition, power and prestige i.e. strong incentives to get these publications at all costs. However, high impact publications do not often turn into value adding, translation to societal benefit e.g. product development. In part this is a lack of reproducibility and in part incentives. Translation and product development are undervalued while high-impact publications are over-valued in Australian peer-review. Thus there is little incentive to change even though there is a huge disconnect in the Global Innovation Index in the outputs of Australian science. |
| 789 | High impact publications are often biased towards 'trendy' research fields, not high quality research, leading to a lot of poor quality research that is just based on buzzwords |
| 790 | High impact publications are necessary for continued grant funding and this requires high quality research outputs. The competition for the increasingly scarce research funding promotes high quality research, although this must at some point tip over to drive some to cut corners. |
| 791 | High demand on research time to apply for grants with low success rate. Time would be better spent on writing papers and research. |
| 792 | High competition requires people to meet increasingly unachievable standards/targets...therefore quality of research has to give way in order for people to be competitive |
| 793 | High competition makes enormous pressure on generating high-quality paper and research. |
| 794 | help to allocate limited research funding to the high quality research project or team |
| 795 | Healthy competition is almost always positive! |
| 796 | healthy competition in research is a good thing and keeps the researchers accountable as tax payers' money is used to fund the research |
| 797 | having reviewed grant applications it seems that there is a huge emphasis on number of publications and there are groups that work to ensure that their members publish a lot to ensure ongoing funding. It is very difficult to assess quality across the different fields we are asked to assess so quantity becomes an important metric. There is insufficient research funding and the incentives are perverse. It seems to me that the system is broken. We are no longer about producing the best research, we are about promoting ourselves as the best researchers so we can continue to be funded. I have recently moved from a research only position to a teaching and research position so that I have less pressure to be a performer and can instead devote my time to doing more meaningful things. |
| 798 | Has led people to fabricate results. Makes people publish only key large findings that they can get into a prestigious journal. |
| 799 | Groups geared to improve outcomes may squash novel ideas from those on the 'out'. Some areas are inherently less 'sexy' eg incontinence, although the social burden is high. This is reflected in funding. Similarly, chronic diseases receive less funding and 'import' than those high profile ones. Research in the less 'sexy' areas is thus being squashed in the current setting. There is no correlation between the burden and cost of disease and the funding of research in those areas. |
| 800 | Greater chance of achieving results beneficial to the community. |
| 801 | Great research comes from individual/team ideas that require time and effort to fail, refine and ultimately support a hypothesis with rigorous data collection and analysis. To me great science is based on Kuhn's "paradigm shift" not collections of little, incremental studies. Because of the need to publish and the absolute need for a result or primary data for a grant. Which often means data is tweaked/spun/ignores/messages to fit your hypothesis for funding. There is no space for failure in terms of career trajectory nor funding. |
| 802 | grants are so hard to get that people feel huge pressure to publish. This leads some people to not being as rigorous in their research...even if they dont mean to. |

| # | Comment |
|-----|---|
| 803 | Grant success rates continue to plummet, funding is being cut, and as a result competitiveness increases. This can only have an overall negative impact on research as people can lose sight of why they are doing the work they're doing and fall prey to the pressures they are under. |
| 804 | good work is no longer accepted as valid. Only exceptional work is enough to get funded. This will have significant impacts on generation of fundamental knowledge gains. |
| 805 | Good science takes time to get right and to undertake. Science is complex. The pressure for high outputs reduces time to think, to construct, to undertake and evaluate. The concept of high outputs and impact factors is a management construct not a scientist one. Metrics for assessment to validate someone's existence, rather than quality of the job. Add to this the expectations around teaching, supervision, mentoring, outreach, publicity, and academic management, then scientists are doing more than one job. The expectations are unrealistic, and I am senior. I feel for our ECRs. The pressures are enormous in jobs that they have no guranteed income for. Now they even have to be supported by someone else for 6 years or more thanks to the change to NHMRC funding rules. We are facing a loss of senior staff thanks to clamping down on senior fellowships (and in the current round a MAJOR equity issue - seriously look at that) and the loss of a new generation if we are not careful |
| 806 | Good researchers don't do the best research they can because they feel pressure to publish in order to get funding and keep their jobs. It is easier and safer to publish three mediocre papers rather than strive for one groundbreaking paper. Because we are not safe in our jobs, striving is akin to gambling. Groceries, mortgages and school fees dictate that the rational course is to aim for survival rather than strive for the exceptional. |
| 807 | Good research is not funded because of significant competition for funding dollars. Research proposals being assessed by individuals lacking the necessary expertise. |
| 808 | Good experiments require proper planning and adequate time. The pressure to publish may result in researchers deliberately cut corners and also under report their results. |
| 809 | Going through a high-quality, peer-review process can have a positive effect and contribute to high-quality research. However, excessive competition, and excessively low grant success rates are counter-productive, and do not lead to high quality research. |
| 810 | Given the size of the Australian research community, and the post-2008 trajectory of public spending, the competition for funds for basic nonclinical research and salary support has greatly intensified. It's all very well shifting funds towards work with the possibility of shorter term clinical application (eg MRFF), but in reality some of this will be of lesser scientific quality. Kenneth Arrow's arguments on the shortcomings of research run by private enterprise (high uninsurable risk and uncertainty, free-rider problems later on - cf big pharma shutting down expensive programs when they don't immediately offer a profit, orphan diseases) are still valid, I think - it is not so much of an option in Australia, and my colleagues who have moved to companies have been in the US. |
| 811 | Given that peoples careers depend on sustained funding, and the ability to secure funding is based on all of the above (Q53) some groups may try and publish excessively or spin messages. The difficulties faced publishing negative studies highlight this. I conducted two RCTs with the same gold-standard methodology, the same control and blinding (just different interventions). One RCT had a positive finding and was published in a prestigious Journal. The other had no finding (a negative paper) and was published in a tier 2 journal. In saying that, knowing that to publish in a top journal is very competitive, when I develop a study I ensure I use all available gold-standard methods, ensure quality control of measures and to conduct to CONSORT guidelines to give my work the best possible change of favorable peer review- so the competition makes me think very hard about what novel and important research needs to be done and then how to make sure I conduct a scientifically robust study. |
| 812 | give or take, competition encourages researchers to put forward and try new ideas |
| 813 | Generally sharpen each others edges |

| # | Comment |
|-----|---|
| 814 | Funding uncertainty and decreasing funding rates with NHMRC and ARC schemes are creating considerable stress and anxiety within the workforce. It is particularly hard for early and mid career researchers. I was lucky enough to get a postdoc straight from my PhD - but these days ECR need to be several years post PhD to have built up sufficient track record to be competitive for NHMRC/ARC. We will lose outstanding young researchers because of this. SO much time is now wasted preparing grant submissions which have a very low rate of funding success - this time is time not spent doing productive quality research. It is having adverse mental health impact on PhD students now and most likely on research staff as well. |
| 815 | Funding sources uses publication as a measure of success. |
| 816 | Funding schemes seem to reward a lack of risk taking so we just incrementally adjust a previous project and re-apply whether or not its a true advance in our knowledge or not. Getting the grant ist he end goal rather than the actual resaerch. |
| 817 | Funding scarce and getting more scarce, care and attention to detail is the first thing to go. |
| 818 | Funding pressure - more people leaving the field, fewer people to perform high quality research. |
| 819 | Funding opportunities are limited, with less money it is expected to produce high quality research |
| 820 | Funding is becoming random because it is so under-supplied. |
| 821 | Funding competition has a negative impact on research - the other aspects, like discoveries and publication competition have a positive impact on research. Without extreme funding pressure, researchers would happily satisfy Reviewer 3 by adding extra data into their research paper, improving the quality of the paper/research. Researchers would also have extra time to identify new research streams, increasing discovery. |
| 822 | Funding availability rarely provides for all fundable research applications. |
| 823 | Funding and lack of positive feedback for hard work are demoralising the research workforce and staff are leaving in droves. There are negative psychological and health effects for individual researchers. |
| 824 | full timers work 7 days a week part timers are only compensated as if they work 5 days so how can we compete? ever thought of having a round of funding for part timers? single mums? |
| 825 | forms silos of research that is not conducive to collaboration or sharing of information and knowledge. Increases pressure to cut corners. |
| 826 | Forces people to be rigorous and ambitious |
| 827 | For me its more about the stress than any issues with cutting corners. I dont have time to sit and think and read and dream up the most creative stuff because I spend 5 moths a year writing grants (full time! for real!). If i could control my future and have more stability without constantly writing grants I would like that, but there isnt enough money for everyone, so if you want to reduce the stress to me, you have to do that without reducing my competitive advantage, and I dont know how to do that. |
| 828 | For junior researchers the small chance of success with national fellowships reduces the chance for collaboration and reinforces isolation in research groups/ |
| 829 | Focusing on competition is reducing the quality and innovativeness of research. Important fundamental research is not being conducted because it doesn't attract funding. |
| 830 | Focus shifts from betterment of society to betterment of the individual |
| 831 | focus on volume and low risk/ow innovation, simple, technological - a pump it out culture which NHMRC promotes |
| 832 | Focus on self promotion not true purpose of research |
| 833 | Focus on publications rather than on conducting research that matches community's cultures, values and needs. |
| 834 | Focus is always on the next thing, not the current thing. |
| 835 | Focus has shifted from high quality research to an annual cycle dominated by the uncertainties of a research system that is currently not delivering |
| 836 | Five people from the same team compete for one internal grant. |

| # | Comment |
|-----|--|
| 837 | Fierce competition means that those with exceptional track records continue to pull ahead due to reputation and connections rather than merit of their ideas and research alone, and others in the field for less time or have less prior funding continue to fall behind, regardless of the impact their research may have. Inequality is widening. |
| 838 | Fast scholarship is leading to less rigorous scientific processes. |
| 839 | Extreme competition, just like in sports, leads to cheating in order to gain advantage. |
| 840 | Extreme competition leads to stress and over work leading to poor quality output |
| 841 | Extreme competition in the absence of job security and adequate research funding can decrease quality, and force survivalist and careerist approaches. |
| 842 | Extreme competition can have a negative effect on the quality of research because some researchers can feel tempted to cut corners in order to get a promotion or a grant. |
| 843 | erosion of standards, promotion of psychopathic behavior by researchers and managers, lack of long term vision and projects, promotion of superficial results, over-statement and over generalization of results, lack of collaboration |
| 844 | ensuring high quality research is funded |
| 845 | Ensures that completed work is completed |
| 846 | ensures high quality of work |
| 847 | Enormous amount of time wasted competing for limited resources |
| 848 | Encourages silos and restricted information flow |
| 849 | Encourages researchers to produce high quality work |
| 850 | Encourages people to try their best |
| 851 | Encourages people to do better |
| 852 | Encourages people to cut corners or misrepresent data to seem more prestigious |
| 853 | Encourages cutting corners and discourages collaboration |
| 854 | Encourages bad behaviour, reduces collaboration because everyone in direct competition for tiny funding sources, waste endless time going for grants and not actually doing research (most of which will be futile), time pressure on maintaining rapid high number of publications means development of papers and then review of papers is compromised, many good ideas and important areas for research are discarded because everyone knows the priority areas for research so everyone aims for those instead of potentially following innovative ideas- too risky for career and salary. Also low salaries and lack of funding mean smart people leave research in droves or go overseas where researchers are more valued, therefore brain drain leads to reduction in quality of research. |
| 855 | Emphasis on quantity of papers. Nhmrc very much to blame for this. |
| 856 | emphasis is on beating the competition, instead of performing the best possible study and discovering something. |
| 857 | Each year I assess the graduate students of our department, I get a good cross section of what is happening across our department. It is clear that students are forced to go for the big bang without doing the careful solid background studies. This is because the supervisors need the results to get grants. |
| 858 | Dwindling research grants available has put great pressure on researchers to be competitive and are the cause of much anxiety and Stress and often leads to mental health issues. Where a few years ago it was common for up to 15% of grants to be successful now it is down to 7% and many researchers are finding Career opportunities drying up and they find they are unemployed at 50 years of age and all that great experience and the dedication they have given has been for nothing. |
| 859 | Due to the stress and negative work environments |
| 860 | Due to the pressure of publishing |
| 861 | Drives you to innovate and think differently of your research question and methods utilised |
| 862 | Drives researchers to perform highest quality research in order to remain competitive. The system works well unless corrupted by dishonest individuals. This problem can only be solved through individual integrity and institutional scrutiny of research performance |

| # | Comment |
|-----|--|
| 863 | Drives people to produce good quality research |
| 864 | Drives better quality research to gain publication in higher class journals |
| 865 | Drives a range of aberrant behaviors/compromises |
| 866 | Don't think it affects quality, but pressures researchers |
| 867 | Development of research studies are influenced by the potential personal value gained from the study - the sexiness of a funding application or likelihood it would lead to a job promotion. This is not unbiased research, and it dissuades important research from happening. |
| 868 | Determines to fund |
| 869 | Despite researchers having years of experience and education including titles such as doctor of philosophy, many journals boast rejection rates of 80%, competitive funding agencies similarly publish funding less than half or less than a quarter of all applications. Either this means that supposedly intelligent people are unable to produce applications and papers of sufficient quality, which is a terrible conclusion to make, or the system is set up to make people spend a lot of effort that does not lead anywhere. A paper that is not published does not help the researcher and it does not help society. In many cases a lot of effort was spent on this paper, and, effort was spent by researchers to evaluate this paper. Most likely, the paper will be submitted elsewhere in an attempt to recuperate the researchers' effort but that does nothing to save the reviewers effort. I do not claim that every research paper is good or that every proposal needs funding. However, success rates below 75% only make sense if it is believed that a substantial proportion of researchers is extremely bad at their job. And if that is true then we have a serious issue in our education. |
| 870 | Despite competition generally being associated with better research, the metrics currently used exacerbate inherent problems within academia |
| 871 | Desperation is driving overstatements about research findings, the establishment of research bandwagons, and a rise in unethical behaviour as witnessed by retractions. |
| 872 | desire to publish in high impact journals is a negative influence and often leads to tenuous conclusions (this is also a pressure from journal editors which should not be discounted as a driver of poor practises); competition for funding is becoming prohibitive to frontier research and promotes conservative research; excessive expectation of translation is slowly destroying fundamental research upon which all translation is based. |
| 873 | Depth of thought and consideration of how the research matters in the real world are compromised. The consolatory aspects of research are often neglected and cookie cutter systematic reviews and RCTs or similar are the result. Stabs in the dark without finding out the real questions that matter to end users. |
| 874 | Data may be submitted earlier without more complete experimental analysis. This is often done as the number of publications rather than their quality and repeatability is considered important. |
| 875 | cutting corners to achieve outcomes quickly |
| 876 | Cutting corners - changing research designs so that the research is easier and quicker to do which means it is less robust or useful |
| 877 | Cutting corners |
| 878 | Cut corners; work in silos; savage competition and lack of mutual respect and integrity. |
| 879 | Currently there is too much competition, which is having a negative impact on collaboration. A lot of research can be improved with collaboration and insights from others. |
| 880 | Current funding system in Australia would ask for a researcher to secure their own salary by applying for grants in the whole research career, even for senior researchers. Without a guarantee of a future career, many peers leave academia at the end. |
| 881 | Current Australian funding levels are inadequate to sustain existing scientific research. Driving scientists to write more and more grants and do less focussed research. Also, most scientists are non-tenured. |
| 882 | Creating a lot of stress, leading to poor behaviour in research |
| 883 | Creates an unproductive atmosphere and motives (extrinsic rather than intrinsic). |
| 884 | Corners are occasionally cut in experimental design and replication. Unfavorable findings are overlooked or concealed. Interpretations is embellished. Scientists, by necessity, become self-promoters instead of interested in robustness and accuracy. |

| # | Comment |
|-----|---|
| 885 | Corners are more likely to be cut. |
| 886 | Constant pressure and competition causes people to cut corners and pursue research that will work and have high impact - rather than research to answer the right questions. |
| 887 | Considerable time is invested in grant applications (usually the researchers' 'spare' time), which takes time away from 'doing' research. We are always chasing money; it is hard to plan long-term research. Job security is non-existent - you have to move from project to project which results in loss of corporate knowledge and the need to get up to speed in new areas very quickly (while still being expected to perform good quality research using new methods in an area you are not familiar with). People are so time poor that they are often reluctant to share knowledge and expertise, especially senior researchers. You believe you are working with 'experts' but they are too busy to share their knowledge or to properly supervise the research as they are all desperately chasing the research money. |
| 888 | compromise - people are publishing rubbish and they know, but with funding its another paper 'ticked' |
| 889 | Complex research requires team work, and patience (ability to stay working on a project for a long period). In a competitive, insecure environment, it is difficult to achieve the stability needed. A frequent consequence is that papers must be published before they are fully matured, and they wind up in lower echelon journals, with less impact. |
| 890 | Competitive pressure at a lower level encourages not just personal research but also enable a senior researcher to facilitate and collaborate with other researchers |
| 891 | Competitiveness and low success rates of grant schemes makes it difficult for some high quality research to proceed. |
| 892 | Competitive pressure may lead the researcher to publish their research outcome urgently, which may not have been carefully validated. |
| 893 | Competitive environments cause people to behave in counter productive ways. The amount of bullying, undermining and abusive behaviour in some research areas is absolutely shocking. |
| 894 | Competition was always present, does not have a net positive or negative effect. |
| 895 | Competition to publish quantity and not quality papers. |
| 896 | Competition stimulates performance, up to a point. |
| 897 | Competition simply leads to greater innovation |
| 898 | Competition shouldn't compromise quality, but unfortunately this is the case in research. The research funding system is inequitable, thus competition is unfairly skewed. This starts with unrealistic competitive funding schemes that benefits the already-funded and privileged, thereby increasing funding inequalities and applying pressure to those down the ladder. If everyone is publishing 'new and exciting data' in order to gain a competitive edge when it comes to funding, there is a lot of potential for over-interpretation of results. To generate high quality research requires funding not just those with data, but also those in discovery and with negative results. Competition isn't wholly negative, but there needs to be accountability in terms of responsible research. |
| 899 | Competition push researchers to constantly produce a high-quality outcome, in order to remain competitive. |
| 900 | competition provides incentive to improve. |
| 901 | Competition provides a set of criteria for differentiating between the performance of researchers and differentiation is important to inform promotion decisions etc. Granting decisions however should be based more on research quality and importance of the question and less on personal track record, particularly for younger and career-interrupted scientists. |
| 902 | Competition motivates greater work effort. |
| 903 | Competition means your eyes are on your peers, not on the road. Forcing researchers into competition reduces the cognition available for actually doing good research. It also disadvantages anyone from an underrepresented group due to stereotype threat and implicit bias. |

| # | Comment |
|-----|--|
| 904 | Competition means that researchers don't just research whatever comes into their head but rather need to justify why it's important/has impact to gain funding. I see many papers published everyday that look like a complete waste of time. You wouldn't pay someone to repeatedly dig a hole only to fill it in again and again. |
| 905 | Competition means more and more output is required to 'stay in the game', and studies that are thorough take longer and therefore reduce an individuals ability to be competitive. |
| 906 | Competition may be essential to ensure that the best research is funded, but failure (especially when fundable projects are not funded due to lack of funding) can lead to very negative consequences for researchers - including anxiety, depression, self-harm and talented scientists (especially women) giving up on a research career. |
| 907 | Competition makes you aware that your work will be reviewed by people who you may wish to work for/wit etc. It is therefore important to produce high-quality work which reflects the way I conduct my research, and reflect this in the papers and reports that I produce. |
| 908 | Competition leads some researchers to cut corners and produce poor quality or invalid research. |
| 909 | Competition leads researchers to ensure that studies are more complete and that appropriate controls and sample sizes are included so that papers will be published in influential journals. The competition here is for space in the journals, which may reject up to 90% of all submissions for quality and interest reasons. Thus, competition between peers and competitors is acted out by competition for journal space, which in turn became competition for ideas and quality of experimental data. Competition for priority can be counterproductive, leading to cutting corners to increase speed of production, but this is the role of quality refereeing. |
| 910 | Competition leads people to cut corners and promotes a culture that attracts narcissists and sociopaths— this ultimately affects the quality of research. |
| 911 | Competition leads me to think 'outside the box' and be more innovative. Without competition, my research would not be that stimulating and I would lose interest. However, this also makes funding application a lot harder. |
| 912 | Competition is the opposite of collaboration. Science would be much more productive if scientists worked in a system that rewarded collegiality rather than hoarding information for the sake of a competitive edge. |
| 913 | Competition is the enemy of collaboration, leading to wasted time, money, and duplication of effort |
| 914 | competition is ok if directed |
| 915 | Competition is not present in our enviroment |
| 916 | Competition is not neccesarly a bad thing and as humans we live in a competitive society - this is no different for researchers. There are limited resources and the suppliers of those resources want to get the best value out of their expenditure. There isn't however enough slack in the system to develop excellence in a non-competitive envirnment - which is where I think that some individual researchers catch themselves out because they cut corners. |
| 917 | Competition is needed to bring out the best in researchers. |
| 918 | Competition is leading to data dredging |
| 919 | Competition is good to an extent because it makes you work towards undertaking more meaningful research. It can be bad however when it comes to competitive funding as difficulty in obtaining funds limits your ability to undertake and progress your research. |
| 920 | Competition is good |
| 921 | Competition is good Poor quality articles and research should. Be published |
| 922 | Competition is fine but at the moment, with the NHMRC, the odds of getting prestigious funding are too long. This means a lot of time wasted applying for things that will never be funded. There is an opportunity cost to research quality in that. You already know this surely! |
| 923 | Competition is fierce for research jobs, funding and resources. Corners will be cut in order for researchers to continue to get results and justify their ongoing employment, next grant etc. |
| 924 | Competition is driving a higher threshold in what is regarded as being quality assurance |

| # | Comment |
|-----|--|
| 925 | Competition is causing researchers to spread resources thinly taking away from time spent researching well |
| 926 | Competition is at right angles to research quality and impact |
| 927 | Competition is an important element of research, but should not be the dominant motivation for doing research, which should be driven by desire to discover new things and to better society. By turning science into a career rather than a calling, the push to climb to the top in Australia and access very large salaries and prestigious high profile positions on offer has perverted the field and attracted many of the wrong type of competitive people to the top of the science establishment from where they now exercise control making it harder for those with better motives and research integrity to succeed. |
| 928 | Competition is always good to bring out the best in people |
| 929 | Competition is a process of selection for excellent research. |
| 930 | Competition is a powerful motivator. The tricky part is to make success rates (for funding, promotion, jobs etc) low enough to drive competition but not too low so as to create insecurity and hopelessness. |
| 931 | Competition is a powerful motivator to take action. Conducting research requires that action be taken. The question of action quality exists at a higher level of analysis. I don't have a feeling that competition is contributing to ethical compromises. |
| 932 | Competition is a positive force as long as poorly constructed research proposals that flow from such pressure can be identified and not be supported; this is the role of funding review processes |
| 933 | Competition is a positive effect only if the competition is fair, not relate to any discrimination, such as age, race, title/seniority.... |
| 934 | Competition is a good pressure to have to ensure your research practices are sound, your hypothesis is tested thoroughly. Without these your research will not be published in the high ranking journals. Without the publications in high rankings journals there is no funding to support your work. |
| 935 | Competition is a big motivator to get the job done in a timely fashion |
| 936 | Competition induces time constraints, which doesn't result in the most thorough or incisive science being published. And if you are not the first to publish on a topic, because you were doing the more thorough science, then you have a much harder time in getting published. |
| 937 | Competition increases the standards for number of publications such that the assessment of quality isn't really possible |
| 938 | Competition incentivises bad behaviour such as free dissemination or discussion of research projects and results, particularly prior to funding applications or manuscript publication. Reproducibility and efficiency of research can only be improved by reducing barriers to communication and discussion between scientists. |
| 939 | Competition in the form that weeds out bad research practices and science in proposals is a good thing and absolutely necessary but what we see now is competition for decent funding of projects is extreme with adequate funding extremely hard to find so research is done on a very tight budget, with overworked and stressed researchers and technical staff, little access to new equipment and techniques, reduced access to conferences and professional development opportunities. This is especially the case in regional universities where local professional networks outside of the institution don't exist. |
| 940 | Competition in research may force you to publish in rush without much detail to be considered. |
| 941 | Competition in research is so high for funding now, that it is very tempting for senior and junior researchers alike to cut corners or to be subjective about which data is included in their research publications. |
| 942 | Competition in research helps in focusing on relevant and important questions or problems |
| 943 | Competition in providing the latest, most promising or disruptive discovery is essential to scientific research. However competitive metrics on the quantity of outputs have a negative impact on the quality of the peer-review system, for manuscripts and for grants. |

| # | Comment |
|-----|--|
| 944 | Competition in anything is good for improving standards. With research, so long as detrimental shortcuts are not being made to be the first to find the answers, the competition should have a positive effect. Sometimes though I guess, this is not always the case and important details can be missed in the race to the end result! |
| 945 | Competition improves standards through comparison with others in your field |
| 946 | Competition improves productivity; however it also increases deliberate fraud or deliberate misrepresentation. Overall, I'd say the benefit from productivity probably outweighs the negative aspects, but not by much. |
| 947 | Competition has positive and negative effects. If there was no competition, then there'd certainly be a lot less research at a much more leisurely pace. But competition can lead to rushed findings, and also the usual self-aggrandisement and grabbing of kudos. |
| 948 | Competition has increased and with more people involved in research, there is a greater likelihood of fraudulent activity. |
| 949 | Competition generally sharpens thinking |
| 950 | Competition generally acts as an incentive to perform better and excel |
| 951 | Competition for the little research funding available means that everyone in the current system has a conflict of interest, particularly in Investigator grants where competition is fierce -- there is a perception that to assess someone else's grant application favorably actually reduces the likelihood of your own being funded, particularly in small fields where perhaps only one or two specialists from that field might be expected to gain investigator funding in any given round. This leads to unfairness in the way grants are assessed. Conflict isn't assessed sufficiently in that only positive conflicts (like collaboration and co-publishing) are considered. Negative conflicts (such as where two researchers may be in active competition in an area of research) are not assessed. Even journals give you the option to exclude reviewers due to the likelihood of such competitive conflict. There is no system for that in the NHMRC system. |
| 952 | Competition for jobs puts pressure on almost all researchers to complete research too quickly without sufficient care |
| 953 | Competition for funding support tends to ensure a greater attention to detail. Competition amongst peers can be beneficial to stimulate attention to quality. |
| 954 | Competition for funding shifts the emphasis to growth of track records. They need to concentrate on quality publications not quantity. |
| 955 | Competition for funding is intense. When obtained, funding time frames are short, and ongoing funding requires constant production of publications/outputs which demonstrate a positive outcome. Some research may be suited to this model, a lot of research is not. |
| 956 | Competition for funding is having a negative effect on research. |
| 957 | Competition for funding helps ensure that much low-quality research does not get undertaken |
| 958 | Competition for funding forces researchers to fit their research into the current funding priorities rather than their field of expertise |
| 959 | Competition for funding can have a negative effect on research quality as there is increasing pressure to publish in order to improve track record |
| 960 | competition for funding with peer review encourages good research |
| 961 | Competition exerts significant time pressure which in turn then leads to short sighted research biased to finding results in order to meet publication biases and thereby secure research funding. There is little support for longer term studies (especially longitudinal research) through funding agencies - therefore academic institutions do not support longer term research. The system is geared to output productivity - not quality science |
| 962 | Competition ensures that only the best research applications get funded and only the most important research findings become published. |
| 963 | competition enhances the rigor of research |
| 964 | Competition encourages spin, and spin will destroy science. |

| # | Comment |
|-----|---|
| 965 | Competition e.g. for resources focuses researcher on 'winning' ideas and enables good ideas to be strongly promoted. Overall it is positive, however, it can also have the reverse impact that those who are able to develop the relationships and those who have the existing resources are often able to promote their research more effectively and thus obtain more resources. |
| 966 | Competition drives researchers to improve their skills. Everyone should not always win a prize otherwise it becomes devalued. |
| 967 | Competition drives research in areas with a high clinical and public health impact. There are certainly some adverse effects, such as pressure to produce positive results, but the impact of these pressures are outweighed by the overall benefit of a competitive research process and can be minimized. If not for competition, how else would the limited resources in research be distributed to the most relevant topics and most effective researchers? |
| 968 | Competition drives me to ensure I produce quality research that can compete with other research for funding/publication etc. |
| 969 | Competition drives innovation. My only concern is that overly excessive competition sees the loss of good ideas and good people |
| 970 | Competition drives innovation. However, at the same it thwarts progress in an efficient manner. |
| 971 | competition drives improvement |
| 972 | Competition drives further research. |
| 973 | competition drives excellence |
| 974 | competition drives ambition to be creative, rigorous and effective in research efforts - and collaborative |
| 975 | Competition discourages collaboration and encourages bad practises |
| 976 | Competition comes from Indigenous researchers having to compete with non-Indigenous researchers. |
| 977 | Competition can, in some circumstances, accelerate innovation |
| 978 | Competition can reinforce silo mentality and hinder sharing. There is also 'gaming' e.g. gift authorship or gift investigators - often at the expense of emerging researchers. |
| 979 | Competition can hamper collaboration. There may be more immediate benefit to focus on lower-priority Qs that are quicker/simpler to answer (and generate output) than big/harder Qs. |
| 980 | Competition can bring out the worst in people and make them do things to gain an advantage, even if it is not with the highest of integrity. |
| 981 | Competition can be healthy, but having ones career depend on pumping out papers or producing that next big 'breakthrough' is not. Pressure to publish may result in questionable research practices, such as premature publishing, p-hacking or simply taking shortcuts. |
| 982 | competition can be about ego and ego distracts from quality |
| 983 | COmpetition beingd focus and drives extra performance |
| 984 | Competition and moderate pressure keep you work hard and push your limit by yourself, and encourage you to improve the quality of your research. |
| 985 | Competition alters the focus of research from making discoveries in robust and reproducible way onto maintaining employment and keeping food on the table. If competition for funding, employment and publication was lower, researchers would have the freedom to produce better quality research, and to take more risks in making novel breakthroughs rather than sticking with safe bets. |
| 986 | competition to publish, to get grants leads to researchers manipulating data to get results they want, falsifying records, claiming authorship on papers which they not had sufficient input into to warrant authorship. Using other people's results as the basis for their gran applications, without suitable acknowledgement |

| # | Comment |
|------|---|
| 987 | Competing for funding is acute for a researchers survival and promotion which is becoming worse with untenable low NHMRC success rates due to lack of investment in the MREA. This puts pressure on researchers to cut corners, to be selective with data they report to ensure the most compelling story is presented with the greatest chance of being publishing in a so called high impact factor journal. Even though journal IF is not supposed to be considered in peer review, it still is considered and this is despite the fact that at least 50% of findings in the top tier journal are wrong. |
| 988 | Competetion does not allow researchers to openly discuss findings with each if they are in a similar area |
| 989 | Commonly it increases stress levels instead of increasing or improving productivity |
| 990 | Collaboration is the most effective way to achieve high quality work. The emphasis on working within your own institution in order to maximise funding kept in house actively prevents experts from collaborating. If researchers don't collaborate, there is no way their work can be reproduced using precisely the implemented methods. |
| 991 | Collaboration is discouraged. Even though there are calls to do multidisciplinary research it is hard to get funded and published. There are far more quality researchers than funding available so resources spent in training and knowledge acquisition are wasted. |
| 992 | Collaboration is a greater drive of research quality than competition. If patient care is improved by multidisciplinary and collegial care, why shouldn't medical research be held to the same expectation and responsibility. Competition can also result in a pyramid scheme whereby those who have had a few successes will start to build momentum at the exclusion of other researchers. While this can be a positive outcome, that one individual is currently not held accountable for the outcomes of their increasing grant success. There is a researchers in our department who have conducted the same trial several times using external funding, while never publishing the negative results of the first two trials. These consumed an exorbitant amount of resources that are now wasted. |
| 993 | Clever people are often competitive and this can enhance the quality of their work. Because of my role, I want the health of babies and children to improve and some of our results have demonstrated a nationwide improvement in child health. That is also due to a competitive streak. Unfortunately some very worthwhile research is difficult to fund because of NHMRC narrow funding criteria. We often resort to philanthropy for that research. |
| 994 | challenges researchers to perform and produce high quality work and outputs |
| 995 | Certain people can become possessive and will not share ideas or help each other because they seem themselves as being in competition with each other. A more open, collegial way of working would be more beneficial to all researchers and research in general. I should say this definitely does not apply to all researchers, but some. I also think that it leads people to cut corners or data mine by putting pressure on people to produce results. |
| 996 | can reduce effective collaboration as induces competition rather than a collaboration between institutions |
| 997 | By putting pressure on speed of research which can compromise quality. |
| 998 | Brilliant young scientists are leaving the industry because of the competition pressures for 'high impact' papers and fellowships/grant success straight out of their PhD's. |
| 999 | biased / unfair peer review of grant submissions by non-experts; funding goes to high profile 'buddies' (e.g. leadership level 3 Investigator grants funded at 47% compared to 7-13% for all other levels). |
| 1000 | Best quality grants lead to best research. The issue is the challenge on the number of grants and the peer review process. I get inundated with grants to review. If I can I do, but ultimately it is equivalent to a tax on my academic time, i.e. I don't get recognition for this. |
| 1001 | Best come first |
| 1002 | Being in a competitive environment drives you to be better. |
| 1003 | becomes more about ego than research with real-world impact |
| 1004 | Because you hear stories from conferences or press about researchers/academics who have been fraudulent. |

| # | Comment |
|------|---|
| 1005 | Because you have so much pressure to publish high quantities of papers. I'm regularly told that I don't have enough papers to be competitive for grants so I think 'how can I pump out more papers'? And inevitably it means carving your research up into smaller bits and publishing student projects which you know are ok but not great in order to try and meet the metrics the 'system' requires. |
| 1006 | Because without the competition nothing would be done as well or as quickly. Of course there is some downside from the competition, and that is what we must work to eliminate or manage. |
| 1007 | Because winning the competition becomes central - and the pursuit of knowledge to further our understanding/improve health becomes secondary. |
| 1008 | Because when not all that matters is measurable, and not all that is measurable matters, perverse incentives take hold and competition for too-scare resources based on flawed metrics has a negative rather than positive impact on research quality. |
| 1009 | Because were there is no competition there is the potential for laziness, 'gatekeeping', and conservatism. |
| 1010 | Because we spend all the time competing in an environment in which we can't get enough funding/resources to conduct high quality research. |
| 1011 | Because we need enough peace of mind to think and be creative. It is not about number of papers but quality of research and the way research outputs are measured put large pressure on everyone. |
| 1012 | Because too much time and energy is spent on competing, e.g. for super-competitive grant schemes (were even outstanding researchers regularly miss out), and, even for NHMRC funding schemes, number of publications still seems to feature very prominently as a positive criterion for an applicant. |
| 1013 | Because there has to be a mechanism to weed out the lazy and poor which is very common in science |
| 1014 | because there are only so many hours in the day. I can spend that time doing good quality research or I can spend it fighting with my peers/ the institution - but not both. There was a training course that wanted more participants sue to the low uptake When I went to enroll it is a competitive process - I don't have time to compete with no one for internal training that may be helpful one day - like What the hell!! Personally I am leaving academia because of the culture, I can make more money, with greater flexibility, greater output and more respect by working in industry - why would I stay. |
| 1015 | Because there are both positive effects from competition and negative effects. Researchers need time to think and great discoveries need time to develop. Competition often results in incremental work being the safe bet. |
| 1016 | because the same professors keep winning. and the same white men keep winning. |
| 1017 | Because the pool of funding available in Australia is not even capped to inflation over the last 10 years, and we have more and more researchers vying for the same inadequate resources. The divide between the "haves" and the "have nots" in research is becoming greater. The Australian government increasingly being involved in handing out large resources to effectively non-peer reviewed recipients (e.g. via MRFF) with a very narrow focus ("priority areas") is exacerbating these problems substantially. |
| 1018 | because the motivation to conduct, complete and publish research is focused on the impact and quality of the journal. papers are currency for obtaining career progression and grant funding. This is a reasonable thing. however, it also means people chase impact of the journal rather than on the impact a finding may have in their relevant field. |
| 1019 | Because the intense competition to gain research funding turns collaborators against each other, and leads to inappropriate behaviour in grant review panels. |
| 1020 | Because the impression is that we all need to get the breakthrough out first. In addition, for funding applications, if you are not known in your field by the established researchers, it is very rare to get funded - particularly due to the low national funding rates. Money always seems to go to those who already have funding, because their names are known in the field rather than new worthwhile projects from new and emerging researchers. |
| 1021 | Because the funding success rates are constantly decreasing and so the pressure s enormous to have a high impact paper to maximise chances for funding. |

| # | Comment |
|------|--|
| 1022 | Because the drivers are all wrong. Scientists/researchers need to be driven by curiosity. They need to ask a good question and then be satisfied with the outcome. However, everyone wants to find a positive result. This is very destructive. Similarly, everyone talks about collaboration but it does not exist. All the NHMRC teams of people are not real. CIA is doing everything and everyone else is there to pad out the research record of the team. |
| 1023 | Because the competition incentivises quantity, not quality. |
| 1024 | Because researchers may rush results or feel pressured to only publish positive results |
| 1025 | Because researchers are not given time to contemplate their research without fearing the lack of publication |
| 1026 | Because research is not about competition and should not be treated as such. It should be about transparency, data sharing and collaboration. |
| 1027 | Because pressure motivates hard work and innovation to an extent that probably offsets the negative aspects |
| 1028 | Because people don't think the competition is fair or objective. The stress and job insecurity brings out the worst in people, they are less willing to share knowledge or resources. |
| 1029 | because people compromise on quality and just seek significant results |
| 1030 | Because people are more tempted to forge their results in order to get funding |
| 1031 | Because of the pressure to publish too much. Despite the fact that in principle the ERA is about quality it does not drive quality as effectively as it could because it includes all output, and that somehow encourages everyone, including weak researchers, to be part of it by publishing. If the ERA concentrated on a selection of outputs there would be more incentive to focus on quality. |
| 1032 | Because of the constant competition, people have to publish papers all the time. While each individual paper is ethically rigorous, much better science could be produced if people were able to think more deeply or take risks or innovate. Instead, we are all forced to think of science as discrete papers and need a certain rate. The phrase for it is 'salami-slicing'. Lots of small, pointless papers that build people's CVs and in turn they get more grants, etc. etc. |
| 1033 | because its the public or perish principle, as well as meeting the metrics associated with university, promotional and position KPI's |
| 1034 | Because it sometimes impacts on collaboration and therefore reduces the chance of high quality research at the expense of an individuals promotion/recognition |
| 1035 | Because it pushes researchers to constantly improve their ideas and publication reports. For example, in clinical trials where I work, it pushes us to use rigorous stats in planning the trial, and rigorous reporting standards. |
| 1036 | Because it places too much pressure on academics, causing stress, anxiety and burn-out. And because it leads to a focus on short-term immediate discoveries, not innovative long-term research which may fail and fail again but then lead to something groundbreaking. There is too much pressure to publish, and quickly for grant success, sustaining a career, and for promotion. This leads to a vicious cycle of splitting papers into many, people self-citing, doing poor quality research that is high impact etc, all for recognition. |
| 1037 | Because it makes researchers strive harder to produce good quality research. |
| 1038 | Because it is true |
| 1039 | Because it is said - i.e. researchers complain that HREC processes asking about research merit - justification for study, aims and methodology - and also satisfying issues of justice and respect are too onerous and more 'difficult' than at other institutions, and that our processes make people less competitive internationally. |
| 1040 | Because it is now a matter of survival and not about the enjoyable process of producing high-quality research |
| 1041 | Because it induces people to rush with their data in order to publish. That's why USA for example is a leader in publications, they have huge resources that generate tons of data (not necessary useful) and pin-point a few to publish as many articles as possible. |
| 1042 | Because it compromises the quality at expenses of quantity. |

| # | Comment |
|------|--|
| 1043 | Because incentives (e.g., financial, promotion, recognition, etc) other than the production of objective information (i.e., rigorous upholding of the scientific method) are being valued highly and often instead of science, which is very unscientific. |
| 1044 | Because in the end quality wins. |
| 1045 | because it helps to ensure quality and avoid sloppiness (so long as it is. not unreasonable) |
| 1046 | Because I think competition cuts against cooperation in research -- especially if the 'prize' is medical drug or treatment patents/commercialisation, but also securing grants or contracts. I feel/suspect that this leads to unnecessary use of animals. Collaboration across the whole Australian medical research sector might ensure better research outcomes as well as reduce the use of animals in research. |
| 1047 | Because I believe it has different outcomes depending on the research environment and the inclusive nature of the research team/institution |
| 1048 | Because funding bodies like the NHMRC are not funding as much, or making up new funding methods that select against certain groups (i.e Clinical vs basic research) causing a significant increase in the level of stress, and therefore mental illness in researchers. In essence, this extreme competition is forcing very good people out of science and creating a void in Australian research. |
| 1049 | Because extreme competition may cause some people to cut corners/commit fraud. This is particularly strong in researchers that are very succesful (hyperproductive, publish only in high impact journals, have very large groups/budget etc) |
| 1050 | Because competition is for grants and publications, not for quality. This rewards busy work, especially conceptually thin work based very closely on existing work but justified on the grounds of practical improvements in healthcare etc. Small teams can be very productive, especially when they have a shared goal or vision, but the large teams of high-track-record researchers needed to win grants don't necessarily share underlying ideas or values. The result is lots of papers saying very little, with huge numbers of co-authors, many of whom have barely read all the papers their names are on. |
| 1051 | Because competition forces people to improve the quality of their output |
| 1052 | Because competition creates an environment where researchers are not helpful. they will help people who can advance their career but not those they think wont. |
| 1053 | Because competition assists in the completion of high quality research. |
| 1054 | Because competition affects the speed/rate at which researchers feel they need to perform. And this has an impact on how well you perform your experiments or work in general. |
| 1055 | Because certain types of research tend to be funded preferentially. Given this many of the research proposals I review for NHMRC are of scientifically very high quality and have high internal validity but inclusions / exclusion criteria mean that many have poor external validity (i.e. mot of the people you see in clinical practice are excluded because they are too complex) - this then adds to the reproducibility crisis in that we cant replicate results because real patients don't look like the ones in the RCTs |
| 1056 | Because at the end of the day if you do not publish you will not get funded, a job, or a promotion. There is also a big disconnect between what the funding agencies want from their researchers and what universities want, which places the researcher in a difficult position when they are trying to decide, for example, on whether to publish a lot of smaller studies or one very large one. |
| 1057 | Because as we've just seen only 8-10% of researchers get an NHMRC grant - so they have to focus solely on doing stuff that benefits their applications to survive (e.g., pumping out papers) not on producing the highest quality research possible. |
| 1058 | Because a low quality view is that quantity is desirable and likely to be rewarded with grant success. The tremendous increase in people doing research means that many supervisors have had poor research training and supervision themselves. Poor standards of peer review and rather vague ideas about research quality put out by funding agencies are also detrimental. For example currently there is no real instruction about peer review and what constitutes research quality provided by funding agencies. |
| 1059 | Because 'winning' is placed ahead of integrity. |
| 1060 | becasue loss of income is a strong motivator of survival behavior |
| 1061 | Basic science starts being ignored to chase impact |

| # | Comment |
|------|---|
| 1062 | Based on observation and overhead conversations: it leads to inclusion or exclusion of authors inappropriately, on grants and publications, in order to gain an advantage; it leads to hasty research and not taking adequate time to prepare or document research. |
| 1063 | assuming the system of review and research practice (including funding/support) is ideal, then high quality research will win out over low quality |
| 1064 | Aside from a few very well funded areas of research, others are fighting to find money and survive. This means groups that previously collaborated are now in competition with each other, work is more secretive. |
| 1065 | As there is no core funding for set up or support projects are dictated by funding. Therefore funding applications have to be topical and to some extent political. Similarly costs have to be tailored to the cheapest options (often cutting corners). There are also too many grant applications resulting in a waste of academic and reviewers time. These need to be massively culled. Core funding should be supplied to networks then distributed locally. Clear streams of research established and enabled then facilitate new researchers. This will cut funding applicaitons and improve quality as well as returns |
| 1066 | As there is limited research funding applicants can become despondent with the low success rate. |
| 1067 | As the competition is to high, and grant awards are now low, good research is being delayed or missed, and good researchers give up |
| 1068 | As per my previous answers. Careful, rigorous research takes more time and often does not produce the sort of exciting 'findings' that get high-impact publications, grant funding and recognition. If you do your research more slowly and carefully and do not make inflated claims about your findings, you have trouble getting published, you have trouble getting funding, and you will not get promoted. You may also lose your job. So the researchers who are willing to play this game are disproportionately rewarded, while others languish by the wayside. Eventually they all start playing the game themselves, or leave for a different career. |
| 1069 | As I explained about, competition has meant that the quantity of publications is given priority over quality. The 'publish or perish' mentality does not encourage thoughtful work or self-critical awareness. |
| 1070 | As grant processes are so competitive, and reliant on track record, the pressure to publish in high quality journals is increased, as is the temptaing to 'polish' research findings. |
| 1071 | As described above, this kind of pressure can lead to 'cut corners'. Research as an exciting and curious environment is getting replaced by a business system where we can't study a path or hypothesis if this is too risky or too far from a direct big picture application. |
| 1072 | As competitiveness increases, expectations become higher and procedures refined to be better. However it is not necessarily a positive effect on the researcher themselves, and the concurrent challenges of growing administration can end up undermining the positives. |
| 1073 | As before, there is insufficient time to reflect on what is already known and come up with better solutions to problems. Essentially anything that is new or innovative takes time to develop. There is no money to pay for that time. It is all about bringing money in to cover our salaries - so it makes sense to go for low risk easy options that will get funded, rather than things with a long lead-in/development time. Innovative ideas are only good ideas when they work, and the problem is you don't know whether they are going to work. So in a funding poor environment, they can also be a career limiting pursuit. |
| 1074 | As as researcher (particularly for ECRs) it is expected and vital to have many peer-reviewed publications in order to win a fellowship. These publications are not low quality but the unrelenting request for quantity prevents researchers to have the time to spend on writing the really important, cool papers, and conducting studies that are more time consuming. In my experience, you don't produce low quality research but the pressure on quantity of grants and publications takes away the time for curiosity, come up with cool new research projects and write better quality publication and grants. A researchers curiosity, love to dig deep into a research topic and method to learn really brings out the wonderful research projects and papers this world benefits from. |
| 1075 | As an ECR I feel pressured to have as many publications as possible. I try to only publish in high-quality journals, but my colleague who publishes in low-mid quality journals has more publications than me, and I feel that she is more highly regarded than I am. |
| 1076 | As a lay person it appears to me that there is a systemic issue with collaboration. |

| # | Comment |
|------|---|
| 1077 | Articles are rushed and negative reports are not given the attention they deserve because they are not competitive. |
| 1078 | ARC and NHMRC funding rates are at an all-time low. This is especially problematic for biomedical scientists, who are being squeezed out of both funding systems, especially the NHMRC, where they are the best fit but are being treated as second class citizens due to not being 'translational' enough. |
| 1079 | Appropriate competition keeps everyone focused. |
| 1080 | applies unnecessary pressure that already exists and is avoidable |
| 1081 | Any research that does not have a high likelihood of being impactful is overlooked because it is unlikely to be published in prestigious journals, so it is considered as a 'waste of time'. |
| 1082 | An excessive stressor in the research community owing to the lack of research funding available. |
| 1083 | Although there may be downsides to the competition it does generally engender people to try harder I think. |
| 1084 | Although there are downsides to this, which you have listed above, overall this pressure makes people work harder and makes them endeavour to put high quality data out for publication. We are all too aware that publication of falsified data results in the end of careers, therefore I think the majority of the community does adhere to the rules and also at the same time strives to beat competitors to publication to earn recognition and grants. |
| 1085 | Although some argue that people write grants to get the funding to generate outputs to get more funding (rather than answer a major question). I do think that overall the competitiveness does build rigor and quality - transparency is a major factor in this. |
| 1086 | Although significant time and resources are given over to competing, especially for funding, the act of competition constantly means that we study our work from an external viewpoint and give greater thought to rigorous design of useful experimentation. The removal of competition would result in a higher volume of lower quality research and less efficient deployment of research funds. This is not to say that the balance of competition is optimal, it is not a 'yes/no' question but a question of degree. I think it likely that the degree of competition could be reduce by a quarter or a third (especially in research funding terms) with little loss of quality but with asignificant lift in productivity due to less time lost in competing. |
| 1087 | Although competition is good in theory (competition should mean that one has to produce high quality research in order to stay ahead), however, when there is too much competition for limited research funding, then instead of producing high quality research, there is too much drive to produce research that chases the money. |
| 1088 | Although competition in research is supposed to be a positive thing, it has become to have a negative impact. This is because researchers are expected to publish too many articles. |
| 1089 | Although competition drives work ethic it tends to come at the expense of rigour, with an impetus to get work published |
| 1090 | All the lies and cheating I witness |
| 1091 | All researchers try very hard to make innovative and important research findings, that will have high impact on human health or health services in one way or another. |
| 1092 | Again, everyone is competing to secure a job for the next year or some money to be able to do the research. The aim is to succeed in this, not to have high-quality research. Some research ideas are very good and may even have an influence on clinical practice. but they won't get fund because other ideas look more interesting or are the top fashion of the era, or maybe even will cost less money. |
| 1093 | Added pressure Research direction dictated by funding priorities and pressures |
| 1094 | Academic staff are seeking reward (via competition) to produce. I feel the 'publish or perish' mentality does not promote quality research work and scientific investigation for the addition of knowledge. |
| 1095 | A problem at my university is that funding for research is poor, but pressure to publish is high. As such there are a large number of small pilot trials and systematic reviews with minimal impact. Time could be better spent on more rigorous and ambitious research. |

| # | Comment |
|------|---|
| 1096 | A positive result, or the appearance of a positive result, is more likely to get the high impact paper and the funding. This is more important to researchers than giving the full comprehensive transparent picture of all the data that may water down the effect of that apparent positive result. Yet, that transparency and comprehensive data set would represent the higher quality research practice. |
| 1097 | A lot of unfunded quality work goes into producing very high quality fundable applications that is then wasted. This leads to disillusionment and withdrawal from good research work. It also encourages box-ticking and second-guessing of funder's priorities rather than best science. |
| 1098 | A lot of time is wasted trying to pre-emptively address reviewers comments before submission, and then afterwards to address their comments, while the manuscript rarely changes substantially from its original form. |
| 1099 | A lot of time is wasted on applying for funding, which takes time away from undertaking high-quality research |
| 1100 | A lot of time is spent in applying for funding, and this means I have not written up some aspects of completed studies. |
| 1101 | A lot of time is spent applying for funding with such low success rates that it takes away time from high quality research. The amount of publically available data is fabulous, but it means there is pressure to publish quickly and before others which could cause errors in analyses. |
| 1102 | A lot of high impact papers are may 'quality' in terms of experimental approaches but not necessarily in terms of innovation/creativity. Its more of industrialising and funding recent trends than actually pushing boundaries |
| 1103 | A highly competitive environment, means people are under pressure to keep their jobs - we have families, mortgages etc - some people may not respond to these pressures with integrity, and compromises are made. |
| 1104 | A healthy dose of competition is the force that is driving the research efforts forward; however, hinging performance reviews, career advancement and asset acquisition on the amount of external funding won over is an unhealthy habit that puts extra pressure on researchers, especially pronounced on early career researchers. |
| 1105 | A healthy degree of competition would mean that several teams would work on a similar field: one specific team would be able to cross-check results from another one, bringing the reproducibility and quality of the research to a high degree. |
| 1106 | A competitive environment in general provides stimulus for higher-quality projects to obtain funding. In turn, higher quality projects are more likely to achieve their objectives. |
| 1107 | A certain level of competition is healthy and necessary, but excessive competition undermines the fundamental collegial nature of research and the necessary focus on the 'greater good'. |
| 1108 | 1. the time taken to apply for funding and publishing detracts from the ability to conduct research and 2. the psychological impact of the stress of this makes staff feel worthless and anxious about not having a job. |
| 1109 | 1. Limiting the scope of research to what is funded and not what is important to consumers; 2. What is funded depends on less in the population and problem and more on the grant application "story or sell" and people are now paying grant writers to do this for them - this over inflates the essence of some topics and requires funding that is not accessible to most researchers; 3. I can see people in my department getting repeat funding for approaches that are known not to work, but sound novel and interesting on applications; 4. We know that applications that include requests for gadgets / equipment and Telehealth are much more likely to be funded even though we know they are less effective and less sustainable in clinical practice than clinician delivered assessment or intervention - they just found "sexier" in applications. Disappointing. |
| 1110 | 1. It sometimes influences researchers to choose the easily funded topic instead of the hard but worthwhile topic 2. It reduces productive collaboration particularly between institutions, sometimes |
| 1111 | 1. It encourages researchers to pursue fashionable topics rather than unfashionable but novel and important ones 2. Research is oriented toward, and indeed often designed for, getting grant funding and publications rather than important discoveries and outcomes per se 3. Conversely, good and original can be stopped of never started due to lack of funding |

| # | Comment |
|------|---|
| 1112 | 1. Collaboration is discouraged meaning possible colleagues hide opportunities from each other 2. Researchers feel time pressure to get research done and published |
| 1113 | 'Publish or perish' is forcing researchers to publish research faster than they can realistically manage - inevitably, quality suffers |
| 1114 | . |
| 1115 | ? |
| 1116 | ,akes people more accountable, transparency and honesty is imperative to a successful project |

Actions

q60.8\$. Which of the following actions by funders do you think has the largest potential to improve research quality? (Other)

No. of Comments

112

| # | Comment |
|----|--|
| 1 | Creating and independent office for scientific integrity |
| 2 | Penalties for research misconduct have been weak at the funding agency level |
| 3 | making curation of reagents and use of appropriate statistics a component of the grant review process, ie adding it to the scoring matrix |
| 4 | Assess the output of researchers based on the funding they received. Prevent fraudulent scientists from being funded. |
| 5 | Compulsory verifiable evidence of research quality (e.g. record audit outcomes) provided midway and at the end of grant funding |
| 6 | creating a less competitive environment so that people aren't desperate |
| 7 | Stop using high impact factor papers as the only KPI |
| 8 | Actually holding panels to the marking criteria. standardisation between panels - each panel scores differently. |
| 9 | have regular contact with researchers out in the field and co-create the research design that benefits the funders most |
| 10 | Higher grant success rates (at least 30%). |
| 11 | Making the peer review process more transparent and providing high level feedback |
| 12 | transparency in review panels and their decisions; all put in public domain |
| 13 | I think that accountability needs to be factored in to research funding submissions. SO what was achieved with the last research funding that was awarded, did it meet the aims as set out etc etc. This is missing from schemes. |
| 14 | Training in research methodology |
| 15 | provide a national committee for research integrity and have appropriate consequences for falsifying data. at the moment there is often no adverse outcome for those publishing incorrect data from poorly controlled experiments |
| 16 | BLIND PEER REVIEW. Stop setting up panels that award funding to the same old groups, this has nothing to do with quality. |
| 17 | Grant review systems should develop better descriptors that focus on quality of the data and should have better structures to deal with fraudulent research including penalizing those found to be guilty of misconduct.. |
| 18 | The funders should give detailed feedback and NIH style processes with the same assessors be adopted |
| 19 | Making sure that the people who sit on panels have strong knowledge of the topics and methods typically used in the science being evaluated. |
| 20 | Mentoring rather than increasing bureaucratic justifications on grant application is the best approach |
| 21 | stop counting citations. Quality is a stochastic function of quantity and all citation measures are simply measures of quantity. just take the top 5 papers from an applicant for a grant or promotion. not even the NHMRC, who said they would do this for their grants, has done this. they still include all papers over a time period and a more biased by citations now than ever before. |
| 22 | Support other types of research - clinical case studies, case series - these can be published in high impact journals too and there is no power analysis relevant for these. |
| 23 | Ensure the research is original and the idea worth pursuing. Check researcher output and hold them accountable. |

| # | Comment |
|----|---|
| 24 | Despite |
| 25 | Stop placing so much importance on publication records and grants dollars. Most profesors do not leave their offices. That doesnt mean they are out there help others it means they lock themselves away with a laptop and somehow this is seen as a success. |
| 26 | Provision of full salaries for awardees |
| 27 | The NHMRC needs to focus entirely on improving the fidelity and integrity of it review process so that the best grants get funded. |
| 28 | More support for blue skies research and ideas research |
| 29 | ensuring budgets are sufficient for high quality research including capacity to record methods and data in sufficiency and accessible detail for reproduction |
| 30 | Peer review of grants by experts in the field. Reduction of wasted research effort through EOI processes rather than full applications. |
| 31 | Track record is pushed to be based on 'quality' not 'quantity' - but everyone assess 'quality' as impact factor of the journal. It has to reflect the contribution the author made, is it really quality if the author is 5th in a 30 author team for 5 NAture publications? IS it quality if you read the paper and realise that critical data are missing and the findings are not supported by claims? This huge push for 'quality' has really ruined track record and feasibility assessment. Citations are better metric in a way because it often reflects who could replicate the findings. Stop this silly 'quality' assessment which people just interpret as impact factor of the journal!! |
| 32 | Support of biostatistics as a core research discipline |
| 33 | Make the MRFF less political |
| 34 | The new NHMRC funding system will cripple research for a decade. It seems designed to reduce researcher numbers by making it impossible to achieve funding unless you are exceptional. Exceptional thinkers are often poor implementers and we appear to be culling the excellent to support the exceptional. Incredibly short sighted. |
| 35 | Publishing of negative outcomes or feasibility studies that did not work |
| 36 | Changing or reviewing the way track records are assesed for grant funding |
| 37 | having a transparent system of review by experts in the relevant fields |
| 38 | monitoring of research quality |
| 39 | remove the bias in peer review. |
| 40 | There are guidelines on how to conduct research with Aboriginal and Torres Strait Islander communities. However, as a researcher in this field, there is little done to hold researchers to account, when a disadvantaged population is potentially being put a risk. There is a need to do more to follow up to ensure that researchers are meeting the requirements set in ethics approvals and funding applications. |
| 41 | Create an interactive research grant process with key quality requirements prior to funding |
| 42 | Base assessment of fellowships on actual reading of their published papers, rather than their application |
| 43 | Including consumers in development and writing of research projects |
| 44 | panel members match the discipline. The current system has people who review grants well outside their discipline. This cannot possibly facilitate judgements about quality or work towards supporting quality. Giving researchers and reviewers endless checklists will not help this fundamental problem |
| 45 | We just need more money to reduce competition |
| 46 | Provide tenure for Australia's scientists - employ them as teaching academics, and if they are good at research, reduce teaching loads. |
| 47 | Expert reviewers and members of Panels have integrity and are competent to judge research - this simply is often not the case - the peer review system is about being judged by one's competitors and is highly open to abuse. Also integrity of research is not admissible - which seems outrageous - and gives the signal that research integrity is of no concern |
| 48 | Follow up to make sure research even DO the research. |
| 49 | Mandatory requirements for data governance |

| # | Comment |
|----|---|
| 50 | Ensuring that any grant application is truthful and rigorous |
| 51 | Discourage emphasis on short-term outcomes; discourage emphasis on 'sexiness' of topic; place less emphasise on who a junior researcher works under ('pedigree'). |
| 52 | Requiring research institutions to establish quality systems that apply to research facilities and studies undertaken in those facilities |
| 53 | Monitor outcomes from awarded grants and assess the delivery of realistic high quality work. |
| 54 | Improved transparency, processes, feedback |
| 55 | research panel members can be corrupt & self-serving for many years without risk of exposure - check for conflicts please |
| 56 | For Aboriginal Health there needs a greater balance of Indigenous training, peer reviewing and support |
| 57 | promote diversity in research and not just research that focusses on adult conditions |
| 58 | Reducing time barriers |
| 59 | An Independent Office of Research Integrity would have the largest potential to improve research quality. Secondly, governance to ensure peer review panels are not motivated by self-interest, but by research quality |
| 60 | Help to enable time-poor researchers to achieve quality without sacrificing output |
| 61 | Job security |
| 62 | promoting funding for best practice projects taking full realistic costs and collaboration into account and thus reducing the individual branding needs for researchers |
| 63 | Not judging on individual metrics!!!! |
| 64 | ensuring work published from support actually applied appropriate design proposed in applications. |
| 65 | Less time consuming applications for applicants and reviewers (so they can read applications properly and therefore assess fairly) |
| 66 | Note what researchers write in an application and what they actually do are not always identical (for many reasons). |
| 67 | Assign content experts to review grants rather than people who have no clue about the field, This is he most ridiculous part of the NHMRC system and clearly undermines quality science |
| 68 | Getting the appropriate expertise to assess research quality and making the panel review process transparent |
| 69 | Ensuring panels have both clinical and epidemiological expertise |
| 70 | conduct rigorous investigations when allegations of research misconduct are raised against a scientist that is funded by this agency (e.g. the NHMRC) and use their power to punish misconduct, such as stip funding labs in which misconduct is confirmed. This currently NOT done by the NHMRC. I am aware of several proven cases of scientific fraud that were brought to the head of the NHMRC, yet no action was taken. This undermines the quality of research in Australia and the reputation of research in Australia. |
| 71 | support multi-disciplinary teams |
| 72 | Auditing of records, outcomes etc |
| 73 | Ensure these stop the privileging of only certain types of applications e.g. RCTs |
| 74 | Development of clinical trial units to run clinical trials: You need professionals who are experts in the design and conduct of clinical trials to oversee and run the trials. Then they will offer high quality returns |
| 75 | unbiased review; allow block of specific reviewers; feld of research should not be judged down as not favoured by the high impact journals |
| 76 | Changing the way track record is assessed, quality over quantity |
| 77 | The problem is there will be a pay-off between enforcing mechanisms to improve quality of some and the forcing of others already generating quality to waste time dealing with admin issues generated as a consequence of funder requirements. The overall outcome will be loss of quality output, since the main problem is fraud, which cannot be fixed by training.. |
| 78 | Rewarding research quality in the assessment of grant proposals and track record. |

| # | Comment |
|-----|--|
| 79 | Don't have counts of publications as indices of quality. |
| 80 | Support in the form of tenure for staff at the research assistant level without the push to do a Ph.D. unnecessarily. |
| 81 | Encourage good research practices - upfront allocation of authorship in publication plan; agreement of workload amongst CIs etc |
| 82 | Assessment of researchers and accreditation of institutions to promote responsible research |
| 83 | I think it is really important for funding bodies to ensure that ALL research results are published -- positive and negative -- with sufficient information about the research context to ensure that the research is useful going forward. This is especially true when animals are used in studies where the hypotheses are not proved. If these results aren't reported, someone else will use more animals towards the same result. Also funders have the ability to ensure that research proposals using animals for medical research to benefit humans include BOTH male and female research animals in the study design. Female biology is not an optional extra in research design. It is vital to know if results have significant differences depending on the sex of the research animal. |
| 84 | Increase MREA so that success rates for grants are not less than 20%, |
| 85 | Being aware that not even excellent research will produce the results wanted by funders |
| 86 | Build high quality metrics of research quality into the funding assessment/scoring. |
| 87 | Ensuring transparency on funded research. |
| 88 | Revising metrics for success away from number and rank of publications to quality of the work |
| 89 | I think it's up to the individual to be responsible for themselves. |
| 90 | By allowing research to be publicised even if it makes them look bad |
| 91 | External audits of research groups by independent experts. Safe whistle blower environments. |
| 92 | Advocating for greater research funding ability and more equitable distribution of funding to reduce huge job insecurity and funding pressure on researchers. High quality research takes time and investment. |
| 93 | Emphasis on quality of the project. Less emphasis on track record and publications. being fully independent from government. Support funding for reproducing studies - often this is seen as unoriginal and not funded. |
| 94 | Involving consumers |
| 95 | Providing sufficient time and human resources of rigorous evaluation of all sorts of research. |
| 96 | Reach an agreement on what constitutes quality--citations, for example? |
| 97 | NHMRC is giving far too much money to individual labs. There are extremely large labs that are funded through NHMRC and ARC, and the pool of money to go around is diminishing fast. This makes researchers publish more instead of better research |
| 98 | greater transparency and feedback on grant applications, both successful and unsuccessful |
| 99 | Creating job security to reduce pressure to publish |
| 100 | To monitor how large research grants are spent, that the research is carried out as per the grant application |
| 101 | Ensuring appropriate statistical and methodological review of all proposals |
| 102 | Engaging R&D commercial enterprise interests to develop supportive research technology & equipment |
| 103 | Supporting ideas over primary data |
| 104 | Affirmative policies to ensure increased C&C empowering co-design & co-delivrry of research |
| 105 | Ensuring the methods and results in projects are reported in full in publications and reports, including details of any adverse events eg animal deaths, infections, failures, repeats due to failures, model development etc it's very hard to repeat the results of an experiment when you're not given all the instructions |
| 106 | Requiring open publishing practices e.g. data sharing, publishing openly (preprint servers, open access journals) |

| # | Comment |
|-----|--|
| 107 | The peer review process could use some improvement. Many panel reviewers are biased towards their own field of research or someone prominent in the field that they know. While the senior researchers provide expertise, early career researchers can be more open to new ideas and updated about the latest methods and more willing to give other young researchers a chance. |
| 108 | Reduce the huge implicit bias in outcomes assessment on high-impact publications, publication number. Focus more on impact of research. Even though Investigator grant scheme includes impact, weighting for publication is higher, indicating this is what Australia most cares about. And this is what Australia will continue to get. |
| 109 | De-emphasise importance of top-tier publications in assessing grants |
| 110 | Restructuring the Australian funding processes to stop the excessive wastage of time of researchers that could be used to improve their research quality |
| 111 | Training and education for PIs on how to be better managers |
| 112 | reasonable budgets and timelines. Only ever getting a proportion of the grant applied for inevitably results in lower quality, under-resourced, or rushed research |

q61.8\$. Which of the following actions by academic / research institutions do you think has the largest potential to improve research quality? (Other)

No. of Comments

82

| # | Comment |
|----|---|
| 1 | firmer misconduct policies |
| 2 | requirements to establish the need for the research |
| 3 | providing job security so people are under less pressure to deliver so quickly |
| 4 | Reduce bureaucratic burden |
| 5 | Giving researchers time to do their research. |
| 6 | recognising that quality of research is determined by the end-user |
| 7 | Improving ethics and governance processes |
| 8 | Provide the environment and support for research to be completed to the highest level |
| 9 | Better training and mentoring for junior staff as onboarding on new research projects; practical and relevant support. |
| 10 | none of your options encourage within-university collaboration to aid researchers to improve research quality. All of your options seem to be pushing it all back to reserachers. I do more research admin than actual research |
| 11 | Providing rsearcheres with an environment that is secure (particularly full-time researchers that are responsible for their own salaries) |
| 12 | Addressing complaints about research misconduct in a timely and appropriate manner even where they are likely to lose revenue |
| 13 | Training in research methodology |
| 14 | Have proper reviews of those with ????, don't protect the high flyers. Fix the problem |
| 15 | align incentives (promotion, job security) with the desired outcome (research quality) |
| 16 | Implement salary support programs and tenure system. |
| 17 | As above in question 60. Universities should have better strategies for dealing with misconduct. Also more resources are needed with statistical design. |
| 18 | This is not possible. good research is an individuals ethical responsibiliy |
| 19 | More career stability/structure for researchers |

| # | Comment |
|----|---|
| 20 | Electronic laboratory notebooks are emerging as more reliable searchable sources when integrity/quality is being questioned |
| 21 | Gauge research by its interest to clinicians |
| 22 | see long answer to 60: Top 5 papers only. |
| 23 | Better enforcement of DORA. Reviewers still informally assess researchers based on the IF of journals they publish in. |
| 24 | Less pressure to publish |
| 25 | more man power - supervisors are too thinly spread to provide appropriate guidance on this topic |
| 26 | Not using "high impact" research as a performance measure |
| 27 | assisting with funding for open access publications |
| 28 | I think the training needs to start at school level and there is a need to explain research quality including limits of research quality and interpretation (and limits to the interpretation) to the public much much better. The concept of uncertainty is fundamental to research and a strength of science which needs to be trained broadly (particularly in an age where social media can distribute mis-information so readily and efficiently). |
| 29 | Our Uni leaders would not know how to judge 'high quality' research. Also look at how much time is allocated to conducting and writing up papers in Uni workload models - that drives behaviour negatively |
| 30 | Again, concentrate on ethics and not governance. A shiny ethics policy and governance framework never made anyone behave ethically. |
| 31 | Again, longer and more stable contracts so the pressure to produce quickly/high impact is reduced. |
| 32 | Focus on research quality over quantity |
| 33 | job security |
| 34 | stable jobs |
| 35 | Strive towards financial stability for research and teaching staff. De-emphasise individual success in favour of collaborative research. Counting first-author research papers is not a team exercise and rewards the person with most authority regardless of contribution. |
| 36 | a comment about open access, other than who is going to pay for publication costs at \$5000+ a paper? of closer to 8000-10000 if you publish in nature. My comment is if you want that and you want universities to play a role then you will need some guidelines around quality of OA journals that don't revolve around IF. There are a lot of predatory OA journals out there and it is a minefield for juniors |
| 37 | Handing over investigations of poor research quality and potential misconduct to an independent external agency, to ensure transparent and fair investigations. |
| 38 | Calling out the cheats. |
| 39 | consequences for research fraud. safe processes for students and junior staff to report concerning behaviour of supervisors |
| 40 | Implement policies and procedures for confidentially and anonymously reporting workplace bullying and harassment, sexual harassment and unethical conduct - such as the Ethos and Vanderbilt systems that are being used in some Australian hospitals |
| 41 | Culture, culture, culture, culture, culture, culture. |
| 42 | Research institutions establish quality systems that apply to research facilities and studies undertaken in those facilities |
| 43 | Inspiring and promoting high quality research, not rewarding it post publication |
| 44 | provide a career path - we are an endangered species |
| 45 | recognise the research that actually matters to the public not just to the researchers |
| 46 | Good governance to ensure researchers can comply with the code |
| 47 | Prescriptive bureaucracies underpinning audits and compliance have a place, but MUST NOT be a major time imposition undermining research. |
| 48 | Not basing reward on individual performance |
| 49 | My institution has made web-based data storage in LabArchives compulsory for new PhD students |

| # | Comment |
|----|---|
| 50 | Have in place rigorous procedures to investigate allegations of scientific fraud and act on the outcomes of such investigations. This is NOT done by the NHMRC - quite the contrary, allegations are being ignored even in cases when papers had to be retracted because of proven fraud. This is a terrible endtgment on the NHMRC. |
| 51 | In cases where accusations are made the institution cannot act as investigator and judge. |
| 52 | Performance reviews for research should be based on outcomes (relative to opportunity) - rather than metrics such as paper count & amount of research funding attained |
| 53 | Anonymous reporting of inappropriate behaviour. I left my last institution due to bullying behaviour by a senior NHMRC-funded researcher who the director of the researcher institute would not manage because they were bringing in funding and publishing in the lancet. There should be avenues for external investigation where NHMRC funded researchers have complaints filed against them. |
| 54 | Develop alternative productivity metrics/reward the teams not just the leaders |
| 55 | Contribute to stopping the publish or perish / win research income or lose your job mantras |
| 56 | Development of clinical trial units to run clinical trials: You need professionals who are experts in the design and conduct of clinical trials to oversee and run the trials. Then they will offer high quality returns |
| 57 | remove the bias to traditional academic measures of performance; commercial outcome is equally important to tyrasnlational research as publication in Nature, Cell etc |
| 58 | Do not reward researchers for the NUMBER of papers thy publish |
| 59 | 1. Double bind peer review. 2. A national Office or Ombudsman for Research Integrity |
| 60 | Valuing quality over quantity |
| 61 | More technical support for data storage, data sharing, and financial support for open publishing |
| 62 | Assessment of researchers to promote responsible research |
| 63 | In addition to all of the above, given the international research context, it is vital that institutions acknowledge different cultural approaches to research using animals and ensure that researchers coming to Australia from different research cultures fully understand the significance of animal ethics codes, including the potential damage to their careers if they fail to fully engage in ethical practices in relation to animals. I also think that research institutions need to appropriately resource research that explores alternatives to using animals and support within large laboratories for animal welfare. In some cases the PI may not be able to devote sufficient time and oversight to ensure that the day-to-day work meets the highest standards. Finally, while it is important for students to be able to learn about research using animals (especially to learn whether they have the fortitude to undertake this work) it is important for institutions to invest in learning practices that do not involve live animals. |
| 64 | Providing the support infrastructure to researchers to do the above. |
| 65 | All research should summarised in a short plain language document (a la the Conversation) and published on the research institution website for anybody to access.research |
| 66 | Stop being driven by 'client needs' |
| 67 | Write SOPs |
| 68 | A financial safety net in the form of long term contracts not based on grant funding. |
| 69 | Supporting staff wellbeing. Recognition that high quality research takes time and resources. Job security and short term contracts are not conducive to high quality research. |
| 70 | Not investigating their own research integrity issues. That is a conflict of interest and they are invested in protecting their institution |
| 71 | Minimising time spent on promotion dossiers, teaching, service etc. |
| 72 | More tenured positions, or substantial overhaul of promotions and success criteria |
| 73 | Supporting researchers working in non-traditional (for Australia) research environments eg. Hospitals. MORE ACCESS TO STATISTICAL SUPPORT! |
| 74 | Rethinking publishing for the sake of it. |
| 75 | Increasing the -time available- to spend on research. |
| 76 | Employ senior staff who can demonstrate research quality |

| # | Comment |
|----|---|
| 77 | Generating more opportunities for C&C empowering research |
| 78 | Changing the metrics to quality rather than quantity and journal impact factor in researcher KPIs |
| 79 | Separating high quality research (reproducible, etc) from high impact research (top-tier publications) in rhetoric/training. |
| 80 | Reduce the administrative burdens on academic staff to allow more time for research |
| 81 | Institutions often leave labs in little bubbles. Institutions should have better oversight. A lab head often considers themselves the boss of a small business, and often behaves like a bad one. Institutes should be more involved in management and data output. |
| 82 | Reducing the pressure for grant and publication success |

q62.11\$. Which of the following actions by researchers do you think has the largest potential to improve research quality? (Other)

No. of Comments

69

| # | Comment |
|----|--|
| 1 | these options apply mainly to quantitative research - would have been good to have some that relate to qual research |
| 2 | Presenting and posting preprints to get critical feedback |
| 3 | Ensuring a culture within their research group that supports open and honest reporting of findings |
| 4 | Translation / collaboration with industry |
| 5 | a lot of the above are expected norms of epidemiological research so it is hard to pick when all are standard. there is a responsibility to reduce research waste - why would i reproduce others work? wasted effort. instead I synthesise all known work and examine outliers |
| 6 | Lab work should follow consort guidelines eg for any work with controls..... |
| 7 | Accepting that almost all research is interpretive and thus context is important. Learn to write compelling impact statements and narratives. |
| 8 | Training of students and ECR by experienced scientists in lab meetings etc. |
| 9 | Consult a mathematical modeller, not just a statistician |
| 10 | Understanding of whether the research has the ability to be translated to patient outcomes and aligns with a TPP for that patient group or treatment |
| 11 | Note that replication will not attract external funding--as it is not original |
| 12 | You know, we do all of this already. |
| 13 | Stop people endlessly doing research that replicates studies done dozens of times |
| 14 | Being independent of the 'system' and always doing what is 'right' |
| 15 | Select and support only the highest calibre researchers |
| 16 | Recognition for reporting negative results |
| 17 | consider that all of these are related to specific types of research not qualitative and other research formats |
| 18 | This is only considering experimental designs |
| 19 | Every project is different and even sometimes the border between discovery and hypothesis driven research/expt gets blurry. But these are all potential useful actions that should be considered though may not be needed. I ticked all since they all have value. |
| 20 | Insisting on rigour and mentoring PhDs and postdocs |
| 21 | Difficulty with some items given this researcher not working in experimental space; funders and research institutes would do well to consider quality over quantity - emphasis remains on number of publications, top tier journals |
| 22 | Statement on intra-lab replication. |

| # | Comment |
|----|---|
| 23 | Internal review of data and analysis throughout the project and again prior to publication |
| 24 | Internal replication before publishing. |
| 25 | Involving consumers in research design |
| 26 | Cultivation of values such as respect, integrity, self-compassion, teamwork - and for institutions to reward this. |
| 27 | working with clinicians and policy makers to ensure research is applicable, useful and contributes to improvements |
| 28 | Most researchers have no moral compass. Fixing that first would be useful. |
| 29 | work in teams |
| 30 | Theoretical coherence of the hypotheses driving the study. |
| 31 | Researchers comply with the requirements of the quality system that applies to the research facilities and the studies that they conduct within those research facilities |
| 32 | Funding research which repeats a previous finding (currently not considered competitively novel or innovative) |
| 33 | reporting negative results |
| 34 | resisting despection, and having permission to be wrong and have time to revise an idea |
| 35 | Upholding Aboriginal ethics and delivery research based on consultation, collaboration and community need. |
| 36 | involve the public in their research |
| 37 | Economic analysis, clear methods for data cleaning, evidence of translation of research |
| 38 | Holding each other accountable. |
| 39 | Quality control procedures require adequate time |
| 40 | Training of what good science is, not what it done by presumed exemplars |
| 41 | Software systems - the 'methods' section in biomedical papers is clearly inadequate! |
| 42 | A lab culture that values good scientific practice. The ability to repeat expereiments across researchers. |
| 43 | Demand authorities listen to concerns and workplace stressors |
| 44 | These are all important, but as professionals we must also Create a norm of valuing high quality research in our environments |
| 45 | NB these elements may not always apply to all types of research |
| 46 | More awareness of other disciplines / approaches to research, broader conceptions of what is quality research |
| 47 | training in research methodology and access to professional clinical trial units |
| 48 | Translation of the principles of The Australian Code into practice |
| 49 | I think often researchers know what would be higher quality research, but cut some corners because the time investment is not valued by the broader community and can cost individuals through lower apparent productivity and research metrics, leading to less funding, difficulty with promotion, etc. |
| 50 | Including lay people in the research to provide a different view |
| 51 | There is a lot of bullshit going into power calculations, I am not sure you could describe them as a critical research design element with more rigorous checking of the calculations done |
| 52 | Learn about the assumptions underpinning your research and discuss in reporting. |
| 53 | motivating research |
| 54 | some of these things aren't so relevant to my discipline (social epidemiology) but they all sound important |
| 55 | decrease the costs, more money=more mice=more replication. Continually trying to do more with less leaves holes |
| 56 | good mentoring!!!! |
| 57 | Being accountable for reporting outcomes to funders before the next grant application. |
| 58 | give up if you are regionally or rurally based because no-one supports you |
| 59 | Better training in mathematics and in particular statistical methods. |

| # | Comment |
|----|--|
| 60 | Using online platforms such as protocols.io |
| 61 | correct time frame for project |
| 62 | Continuing education in statistics and methods from *statisticians* (not biologists training biologists) |
| 63 | Sharing of raw data following publication |
| 64 | Experimental design |
| 65 | More emphasis on C&Cs and less on 'experts'. Make research about those it is meant to serve, not the 'siloes of self interest' in universities and health institutions |
| 66 | Reporting failures, negative results, adverse events (other than exclusions) although journals and their word limits make this difficult (Force journals to require the full reporting of methods in full even if they're available in a separate document to the publication) |
| 67 | Nothing researchers can do in a meaningful way. The established system has placed far too great an emphasis on rapid top-tier publication output, and this drives eventual research quality far more than any other factor |
| 68 | See comments for 60 and 61 |
| 69 | Publishing negative results |

About you

q72.5\$. What type of institution are you primarily associated with? (Other)

No. of Comments

32

| # | Comment |
|----|---|
| 1 | University, hospital & research institute |
| 2 | NGO - public health based |
| 3 | Hospital and Vocational Training Provider in research |
| 4 | Pathology service |
| 5 | non-government organisation |
| 6 | Joint hospital/University position |
| 7 | Public Health Unit |
| 8 | Both research institute and university |
| 9 | Not for profit that conducts some research |
| 10 | [Organisation Name] |
| 11 | Cat d not associated with any |
| 12 | [Medical Service Name] |
| 13 | Have been previously associated with secondary schools |
| 14 | Secondary School |
| 15 | [Institute Name] |
| 16 | Wildlife |
| 17 | government agency |
| 18 | Retired |
| 19 | Retired but previously employed at [Institute Name] for 20 years. |
| 20 | [Society Name] |
| 21 | Research Institute and university |
| 22 | School Education |
| 23 | Hospital/University |
| 24 | a university hospital and a federal government department |
| 25 | Equally with University and Research Institute |
| 26 | retired with health background |
| 27 | school |
| 28 | [Education Program Name] |
| 29 | [Vocational Provider Name] |
| 30 | Family and community services organisation |
| 31 | Lay person from back grounds of assessing injury claims (motor vehicle acc victims etc) |
| 32 | Community health |