

MoodGYM: Case Study

Depression is a leading cause of disability worldwide¹ and is a major mental health issue in Australia. NHMRC-funded mental health researchers at The Australian National University (ANU) developed MoodGYM, an interactive, automated, online program designed to prevent or reduce symptoms of depression. This evidence-based, self-help program has helped over one million people worldwide manage their mental health.



Origin

In any one year, one million Australians experience depression², while one in seven Australians experience it in their lifetime.³ Although effective treatments and preventive interventions exist, only a minority of people access them, often because they are not available at a time, place or in the form that they are needed. In addition, many people are reluctant to seek help due to stigma and because they prefer to manage the condition themselves.

During the mid-1990s, Professors Helen Christensen and Kathleen Griffiths were becoming increasingly aware of these barriers to access through their work as authors of NHMRC's 1997 *Depression in Young People: Clinical practice guidelines* and through Griffiths' experience as Executive Editor of the Department of Health and Aged Care's 1999 *Mental Health Promotion and Prevention National Action Plan*.

At a time when public access to the internet was growing rapidly, they wanted to ensure treatment and preventive interventions for depression were more accessible. They realised that an online automated self-help program could:

- be accessible at any time of the day or night, regardless of the user's geographical location
- help users learn how to manage their own symptoms
- be cost-effective, helping many people at once
- provide assistance anonymously thereby reducing stigma as a barrier
- be the subject of a systematic program of research.

Together with other staff at the Centre for Mental Health Research (CMHR) and ANU, they began work to develop and evaluate this program.

Grants and Investment

From 1975-2001, NHMRC provided a series of grants to the research unit that became the CMHR. NHMRC also provided support for the capability development of several CMHR and associated researchers, including Helen Christensen, Kathleen Griffiths, Anthony Jorm, Ian Hickie, Andrew MacKinnon and Alison Calear. Collectively, these researchers received the following NHMRC funding:

- 16 Project Grants (PGs)
- 14 Research Fellowships (RFs)
- 5 Centres of Research Excellence (CREs)
- 2 Targeted Calls for Research (TCRs)
- 2 Investigator Grants (IGs)
- 1 Program Grant
- 1 Early Career Fellowship (ECF)
- 1 Career Development Fellowship (CDF).

MoodGYM funding

- Government**
- ACT Department of Health and Community Care (DHCC): 2000
 - Commonwealth Department of Health (DoH): 2003, 2004, 2007, 2008-2021
 - Australian Research Council (ARC) Linkage Project Grant: 2006.

Other funding

- Australia: Vincent Fairfax Family Foundation (2005), Lifeline (2006), Our Wellness Foundation (2009), Beyond Blue (2011)
- Britain: The Multiple Sclerosis Society (2007), Capita, UK (2010)
- Germany: Allgemeine Ortskrankenkasse (2013)
- Norway: Research Council of Norway (2007), Regional Health Authorities (2009).

Collaborations

Collaborative research was made possible by ANU's development of an online interface that enabled researchers around the world to implement online trials and download data. The interface also enabled MoodGYM to be translated into other languages - Norwegian (University of Tromsø), Dutch (Molemann Mental Health), Chinese (Beijing Suicide Research and Prevention Centre), German (University of Leipzig) and Finnish (City of Joensuu).

National

- Lifeline Australia
- Brain & Mind Centre, The University of Sydney,
- Central Sydney Division of General Practice.

International

- Canada: St Michael's Hospital, Centre for Addiction and Mental Health
- Germany: University of Leipzig, University Medical Centre Hamburg-Eppendorf
- Netherlands: Vrije Universiteit, Molemann Mental Health
- Norway: University of Tromsø
- UK: Universities of Warwick, Oxford and Sheffield
- USA: Harvard Medical School

ANU also facilitated trials in the USA, UK and Canada.

MoodGYM is based on Cognitive Behavioural Therapy (CBT), a psychological therapy known to be effective for depression when delivered face to-face. CBT is based on the concept that it is not events that are responsible for our feelings but rather our thoughts and responses to these events. By identifying and challenging unhelpful thoughts and modifying our behaviours it is possible to improve our mood. The multi-media MoodGYM program provides training in CBT using five modules, interactive exercises and automated user feedback.

Research/Translation

In 2001, Christensen and Griffiths launched MoodGYM and in 2004 they established ANU's e-mental health research and development group (e-hub). MoodGYM has been the subject of many research trials in a range of settings over the past two decades. Results from the first randomised controlled trial (RCT) published in 2004 showed: the program could reduce depressive symptoms;³ this positive effect was maintained over 12 months;⁴ the program was associated with a reduction in personal stigma;⁵ and that it was cost-effective relative to conventional treatment.⁶

Research in 30 high schools in urban and rural Australia found MoodGYM was effective in preventing anxiety in boys and girls and depression in boys.⁷ Other trials in Australia and overseas found:

- decreased depression, anxiety and alcohol misuse and improved quality of life of Lifeline callers with depression who used MoodGYM^{8,9}
- a preventive effect of MoodGYM among depressed Norwegian university students^{10,11}
- positive outcomes for the use of MoodGYM as an adjunct to general practice¹²
- improved wellbeing among visitors to a UK national health portal.¹³

Translation activities included:

- informing government about/promoting the development of e-mental health (EMH) policy
- engaging with potential providers to undertake real-world research
- distributing promotional material to schools and GPs through media interviews and other channels
- providing resources to GPs and others, partnering (until 2016) with the government-funded eMental Health in Practice (eMHPrac) initiative.

Health Outcomes and Impact

MoodGYM has provided an evidence-based, alternative model for the delivery of depression treatment and prevention services. DoH funded ANU to deliver MoodGYM as a free service to the Australian public (2008-2021). Between 2004 and 2010, MoodGYM won 8 awards for innovative service.

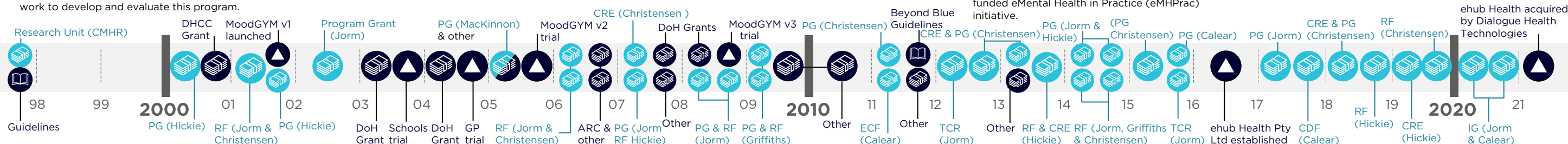
- Over 1.3 million users have registered with MoodGYM worldwide.
- Users range in age from adolescence up to 75 years and older, with 23% from rural or remote areas and two-thirds being women (depression is twice as common in women).
- Data collected have shown that spontaneous visitors who use the program demonstrate a significant reduction in depressive symptoms.

Impact on practice and service

- In 2021, in Australia, 40% of MoodGYM users were referred to the program by a health professional.
- A 2014 survey showed that two-thirds of allied health professionals and 56% of GPs surveyed were aware of MoodGYM.
- A 2011 published study reported that MoodGYM was one of the 3 health websites recommended most frequently by psychiatrists.
- MoodGYM has been recommended or mentioned as an option in clinical practice guidelines (2011 Beyond Blue; 2015, 2020 RANZCP).

Commercialisation

In October 2016, two e-hub staff members established a spin-off company (ehub Health Pty Ltd) to deliver MoodGYM. ehub Health was acquired in 2021 by the Canadian telehealth company Dialogue Health Technologies.



Prof Helen Christensen AO

Professor Helen Christensen was formerly a Director of CMHR (2005-2012). She is Scientia Professor of Mental Health at UNSW Sydney and Board Director of Black Dog Institute. She was the Director and Chief Scientist at the Black Dog Institute from 2011-2021. She is also an ANU Emeritus Professor and Public Policy Fellow, a former NHMRC John Cade Research Fellow, a Fellow of the Australian Academy of Social Sciences and an Inaugural Fellow of the Australian Academy of Health and Medical Sciences. In 2019, she was made an Officer of the Order of Australia (AO) for distinguished service to medical research through the development of on-line mental health treatment programs. She has been an investigator on 11 MoodGYM trials.

Prof Kathleen Griffiths

ANU Emeritus Professor Kathy Griffiths was formerly a Director of CMHR (2012-2016). She was also the Founding Director of CMHR's Consumer Research Unit which facilitated the active engagement and leadership of consumers in mental health research. An ANU Public Policy Fellow, her work is focused on improving the lives of people with mental health problems. Griffiths pioneered research, development and dissemination of internet interventions to prevent and manage mental disorders. To date, she has been an investigator on 17 MoodGYM trials.

Key ANU researchers

Professor Anthony Jorm was an investigator on the original RCT of MoodGYM. Formerly a Director of CMHR (2001-2004) he is now a University of Melbourne Emeritus Professor.

Professor Andrew Mackinnon was involved in 5 trials of MoodGYM. Previously at CMHR, he is now Professorial Fellow at the Centre for Mental Health at the University of Melbourne.

Professor Richard O'Kearney was an investigator on 3 trials of MoodGYM in schools. He is currently based at the ANU Research School of Psychology.

Professor Allison Calear undertook a trial of MoodGYM in schools and is now a Professor at CMHR.

Dr Louise Farrer undertook a trial of MoodGYM with Lifeline and is now a Research Fellow at CMHR.

Dr Kylie Bennett studied community users of MoodGYM and has been an investigator on 6 MoodGYM trials. Bennett is the Managing Director of ehub Health.

Dr Ben Healey led and published an RCT on MoodGYM as part of his undergraduate medical studies.

Other key researchers

Professor Ian Hickie, Co-Director, Health and Policy at The University of Sydney's Brain and Mind Centre and currently an NHMRC Senior Principal Research Fellow, was an inaugural NHMRC Australian Fellow at the time he was an investigator on the trial of MoodGYM in general practice.

Professor John Powell (UK) was Professor of Public Health at Warwick University and Clinical Director for the UK's NHS Choices when he led a trial of MoodGYM on the NHS website. He is now Professor of Digital Health Care at Oxford University and Consultant Clinical Advisor at the National Institute for Health Care Excellence, UK.

Professors Martin Elsenmann, Knut Waterloo and Nils Kolstrup from the University of Tromsø led trials of MoodGYM in Norway including among university students (ME, KW), school students (ME, KW) and general practice (NK). PhD students: **Dr Ove Lintvedt** (now a researcher at the University of Tromsø) initiated the Norwegian collaboration and undertook the first Norwegian RCT; **Dr Ragnhild Heifødt** (now an Associate Professor at the University of Tromsø) undertook a trial in general practice; and **Associate Professor Kjersti Lillevoll** undertook a trial in high schools.



Australian Government
National Health and
Medical Research Council



References

This case study was developed in partnership with The Australian National University.

The information and images from which impact case studies are produced may be obtained from a number of sources including our case study partner, NHMRC's internal records and publicly available materials.

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Partner/s



Australian
National
University

List of NHMRC Grants

Professor Helen Christensen

- Research Fellowship (RF): 2001, 2006, 2009, 2014, 2019
- Project Grant (PG): 2009, 2011, 2013, 2014, 2015, 2018
- Centre of Research Excellence (CRE): 2007, 2012, 2018

Professor Kathleen Griffiths

- RF: 2009, 2014
- PG: 2008

Professor Anthony Jorm

- RF: 2001, 2006, 2009, 2014
- Program Grant: 2002
- PG: 2007, 2008, 2014, 2017
- Targeted Call for Research (TCR): 2012, 2015
- Investigator Grant (IG): 2020

Professor Ian Hickie

- PG: 2000, 2001, 2014
- RF: 2007, 2013, 2018
- CRE: 2013, 2019

Professor Alison Calear

- Early Career Fellowship (ECF): 2011
- PG: 2015
- Career Development Fellowship (CDF): 2017
- IG: 2020

Professor Andrew MacKinnon

- PG: 2005