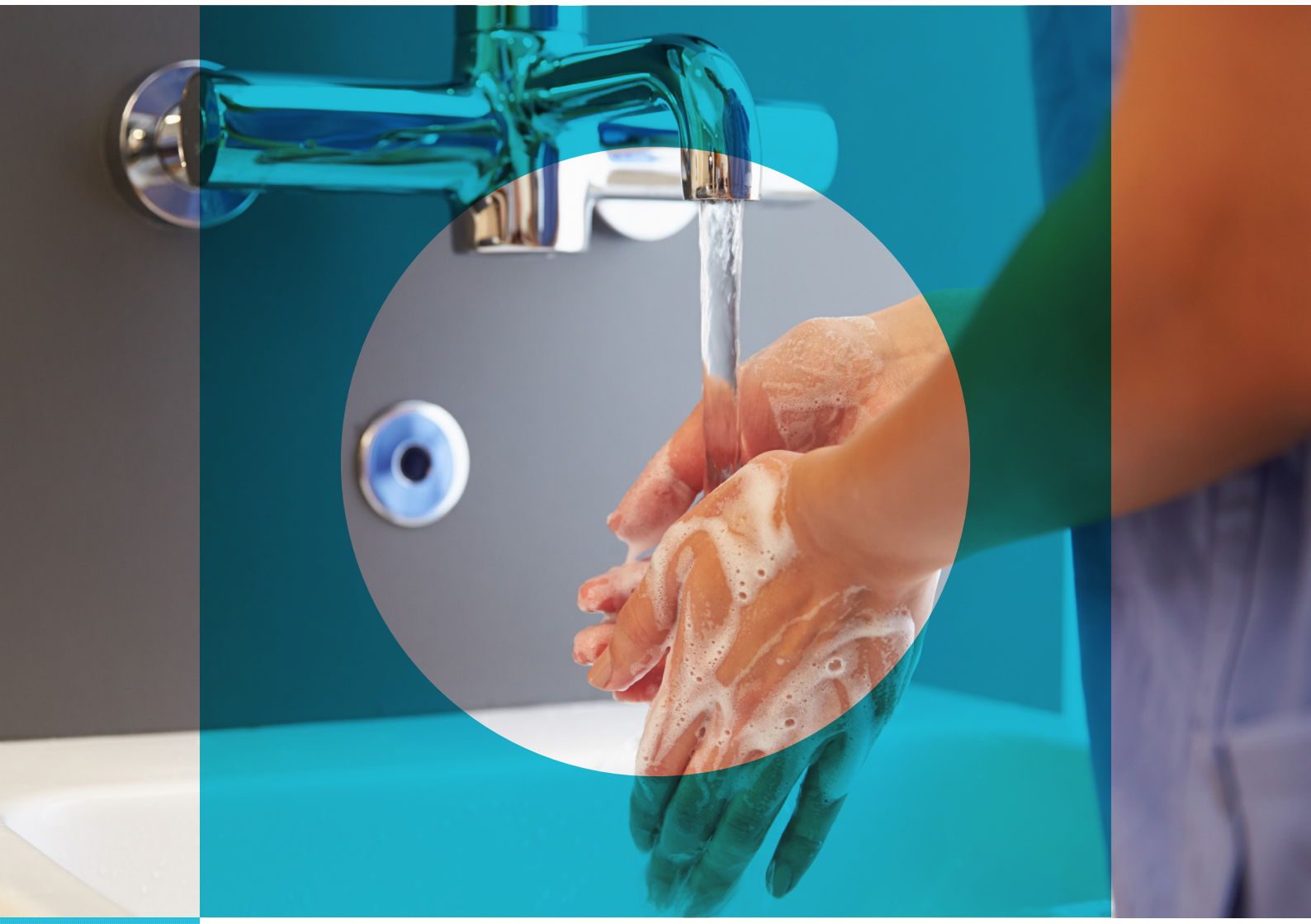
Australian Government
National Health and Medical Research Council
Australian Commission on Safety and Quality in Health Care

Clinical Educators Guide

Australian Guidelines for the Prevention and Control of Infection in Healthcare



NHMRC

AUSTRALIAN COMMISSION ON SAFETY AND QUALITY IN HEALTH CARE

The Clinical Educators Guide has been adapted based on the Australian Guidelines for the Prevention and Control of Infection in Healthcare (2019) (the Guidelines). For further information and specific references please refer to the Guideline.

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Introduction

This Guide has been developed to provide strategies for clinical educators and supervisors to assist healthcare workers integrate a risk management approach into their daily tasks and duties that involve infection control.

This Guide should be used in conjunction with the Australian Guidelines for the Prevention and Control of Infection in Healthcare (2019) and its key recommendations, practice statements and statutory requirements, as well as the healthcare facility's infection control program.

All advice provided within the Guidelines has an accompanying title that is underpinned by varying levels of scientific evidence used to support it. The Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach provides the evidence to decision framework, which determines the structure, title and final wording of each piece of advice as follows:

- *Strong Recommendation:* confident that the desirable effects of adherence to a recommendation outweigh the undesirable effects. Overall the recommendation is based on high quality evidence and is strongly recommended for implementation.
- *Weak/Conditional Recommendation:* concludes that the desirable effects of adherence to a recommendation probably outweigh the undesirable effects. Overall, the recommendation is based on supportive evidence and a strong theoretical rationale and is recommended for implementation.
- *Practice Statement:* set for areas which are not covered by a systematic review of the evidence, but where the provision of clinical guidance is deemed important. The development of practice statements is primarily based on best practice as advised by expert consensus and aligned with the GRADE approach where available evidence and judgements are considered together however, a strength is not assigned.
- *Statutory Requirement:* this advice reflects a practice statement or recommendation. The terminology 'statutory requirement' is used to further indicate where there is also a mandated requirement/s by the Commonwealth or the States/Territories, which must be considered when implementing the advice at the local level. It is important to note that statutory requirements vary across states and territories, and in their applicability to health service delivery sectors and settings.

This Guide aims to ensure healthcare workers:

- are aware of the issue of healthcare-associated infections (HAI) in Australia
- understand the chain of infection
- know the different modes of transmission of infection in healthcare
- are aware of standard and transmission-based precautions and the role of these in the prevention of transmission of infection
- have a basic understanding of a risk management approach to infection prevention and control
- are able to identify potential risk for transmission of infection in the delivery of healthcare and decide what measures they should implement.

Australian Guidelines for the Prevention and Control of Infection in Healthcare

The Guidelines provide a nationally accepted approach to infection prevention and control, focusing on core principles and priority areas for action. They provide a basis for healthcare workers and healthcare facilities to develop detailed protocols and processes for infection prevention and control specific to local settings.

This approach is underpinned by a risk-management framework to ensure the basic principles of infection prevention and control can be applied to a wide range of healthcare facilities including hospitals, day procedure units, office-based practice, long-term care facilities, remote area health services, home and community nursing and emergency services. It is recognised that the level of risk may differ according to the different types of facility and therefore some recommendations should be justified by risk assessment. When implementing these recommendations all healthcare facilities need to consider the risk of transmission of infection and implement according to their specific setting and circumstances.

The evidence base for the Guidelines addresses the highest level of risk of infection transmission in the healthcare setting, and has predominantly been drawn from the acute-care setting. The recommendations should be read in the context of the evidence base and the advice on the practical application of the recommendations.

Healthcare-associated infection in Australia

Effective infection prevention and control is central in providing high quality healthcare for patients and a safe working environment for those that work in healthcare settings.

Healthcare-associated infection is preventable

HAIs are infections acquired as a direct or indirect result of healthcare. In Australian acute healthcare facilities, there are around 165,000 HAIs each year[1]. This makes HAIs the most common complication affecting patients in hospital. HAIs can occur in any healthcare setting, including office-based practices (e.g. general practice clinics, dental clinics, community health facilities), the settings in which paramedics work and long-term care facilities.

These infections are caused by infectious agents such as bacteria and viruses. They are potentially preventable adverse events rather than unpredictable complications. Any person working in or entering a healthcare facility is at risk of transmitting infection or being infected.

Effective infection prevention and control strategies can significantly reduce the incidence of HAI.

1 Mitchell BG, Shaban RZ, MacBeth D, Wood C-J, Russo PL : The burden of healthcare-associated infection in Australian hospitals: A systematic review of the literature. Infection, Disease & Health 2017;

Infection prevention and control is everyone's business

Understanding the modes of transmission of infectious agents and knowing how and when to apply the basic principles of infection prevention and control is critical to the success of an infection control program. This responsibility applies to everybody working in and visiting a healthcare facility, including administrators, staff, patients and carers.

Transmission of infection in healthcare

Infectious agents can exist in the natural and built environment, as well as in and on the body. Not all microorganisms are infectious agents, as some do not cause infection, (e.g. 'good' bacteria present in the body's normal flora). Parasites, prions and several classes of microorganism—including bacteria, viruses, fungi and protozoa—can be involved in either colonisation or infection, depending on the susceptibility of the host:

- With colonisation, there is a sustained presence of replicating infectious agents on or in the body, without causing infection or disease
- With infection, invasion of infectious agents into the body results in an immune response, with or without symptomatic disease.

Transmission of infectious agents within a healthcare setting requires all of the following elements:

- causative agent (pathogen)
- reservoir
- portal of exit
- means of transmission
- portal of entry
- a susceptible host.

This is called the chain of infection (Figure 1). Interruption of this cycle is a strategy to limit the spread of infection.

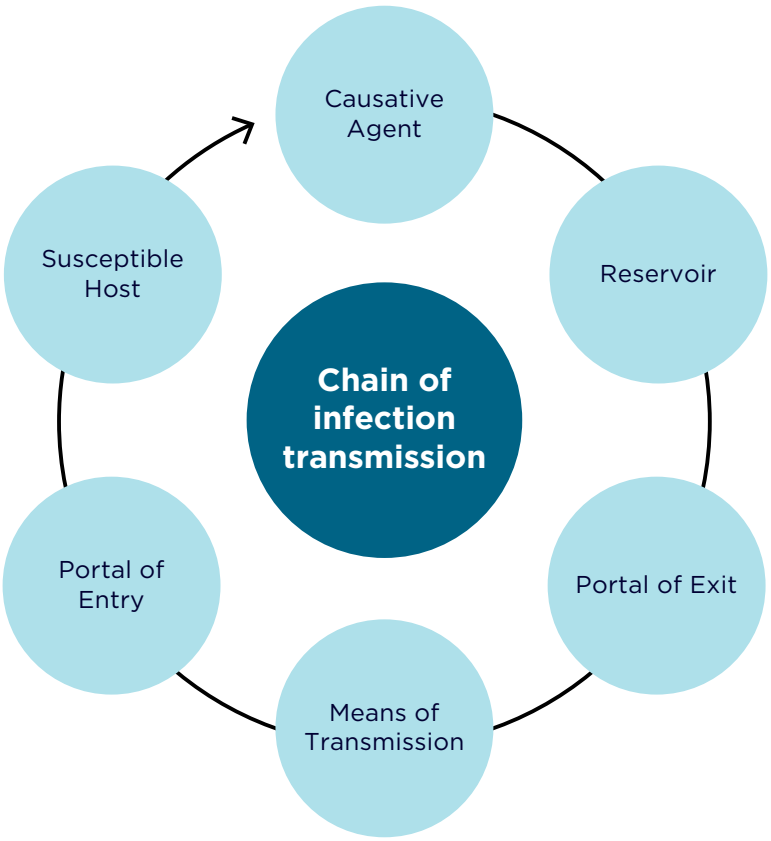

Figure 1. Chain of Infection Transmission

Routes of transmission

In healthcare settings, infectious agents can be transmitted via:

- contact
- droplet
- airborne modes.

Contact transmission

Contact is the most common mode of transmission, and usually involves transmission by touch or via contact with blood or body substances. Contact may be direct or indirect.

- Direct transmission occurs when infectious agents are transferred from one person to another. This can occur via physical contact (hands touching), injections or ingestion. For example, a patient's blood entering a healthcare worker's body through an unprotected cut in the skin.
- Indirect transmission involves the transfer of an infectious agent through a contaminated intermediate object (equipment or environment) or person—for example, a healthcare worker's hands transmitting infectious agents after touching an infected body site on one patient and not performing proper hand hygiene before touching another patient, or a healthcare worker coming into contact with fomites (e.g. bedding) or faeces and then touching a patient without performing hand hygiene.

Droplet transmission

Droplet transmission can occur when an infected person coughs, sneezes or talks, and during certain procedures. Droplets are infectious particles larger than 5 microns in size. Respiratory droplets transmit infection when they travel directly from the respiratory tract of the infected person to susceptible mucosal surfaces (nasal, conjunctival or oral) of another person, generally over short distances. Droplet distribution is limited by the force of expulsion and gravity and is usually no more than 1 metre.

Airborne transmission

Airborne transmission may occur via particles containing infectious agents that remain infective over time and distance. Small-particle aerosols (often smaller than 5 microns) are created during breathing, talking, coughing or sneezing and secondarily by evaporation of larger droplets in conditions of low humidity. Aerosols containing infectious agents can be dispersed over long distances by air currents (e.g. ventilation or air conditioning systems) and inhaled by susceptible individuals who have not had any contact with the infectious person. These small particles suspended in the air are referred to as droplet nuclei and can transmit infection into small airways of the respiratory tract.

Figure 2 illustrates the different routes of transmission and their more specific subgroups.

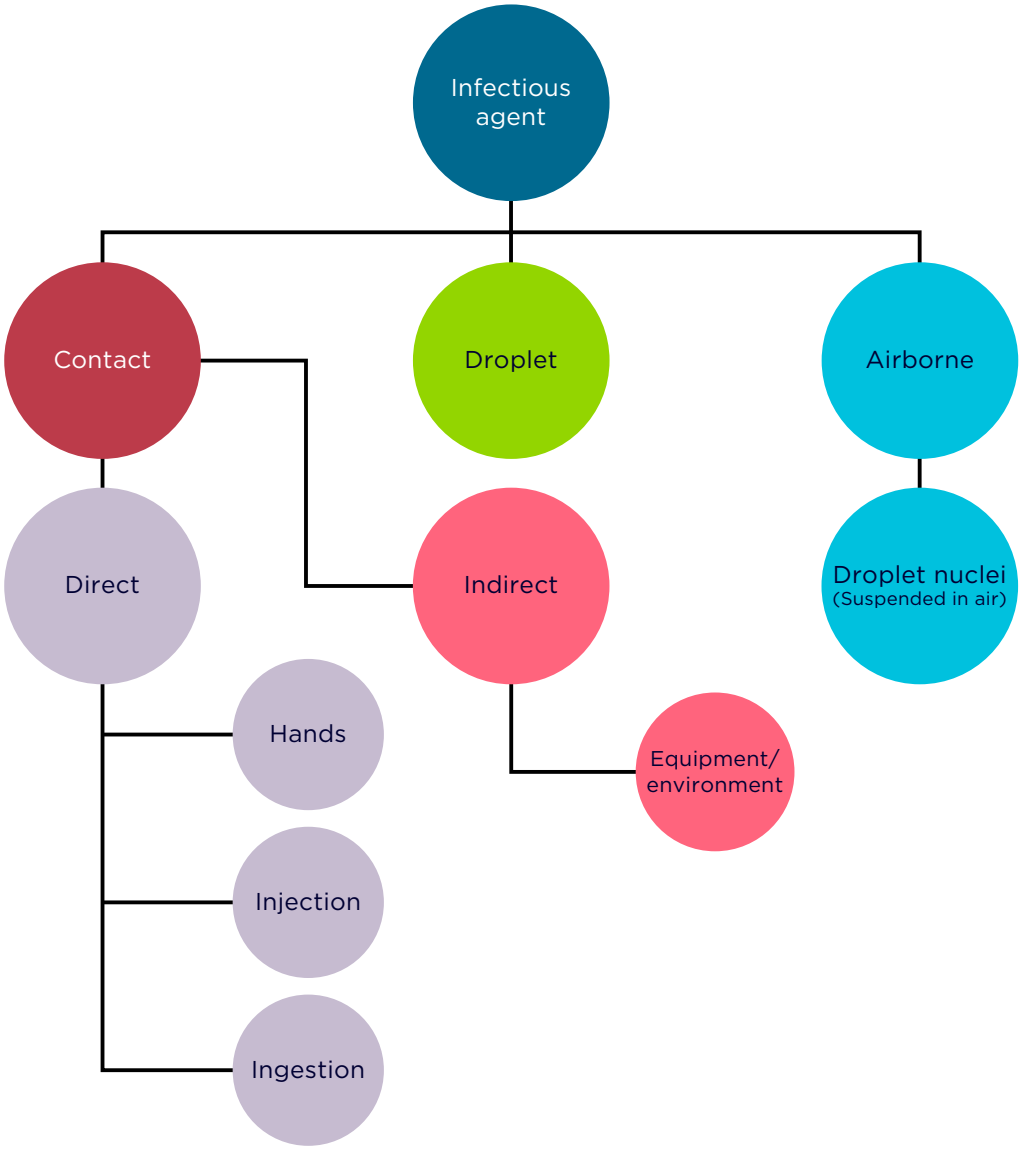

Figure 2. Transmission of infectious agents

Standard and transmission-based precautions

Standard precautions

Standard precautions refer to those work practices that are applied during all instances of patient care, regardless of a perceived or confirmed infectious status. Implementing standard precautions as a first-line approach to infection prevention and control in healthcare facilities minimises the risk of transmission of infectious agents from person to person, even in high-risk situations.

How standard precautions are implemented:

- hand hygiene, as consistent with the 5 Moments for Hand Hygiene
- the use of appropriate personal protective equipment (PPE)
- the safe use and disposal of sharps
- routine environmental cleaning
- reprocessing of reusable medical equipment and instruments
- respiratory hygiene and cough etiquette
- aseptic technique
- waste management
- appropriate handling of linen.

Transmission-based precautions

Any infection prevention and control strategy should be based on the use of standard precautions as a minimum level of control. Transmission-based precautions are recommended as additional work practices in situations where standard precautions alone may be insufficient to prevent transmission.

Transmission-based precautions should be tailored to the particular infectious agent involved and its mode of transmission. This may involve a combination of practices.

Types of transmission-based precautions:

- **Contact precautions** are used when there is known or suspected risk of direct or indirect contact transmission of infectious agents that are not effectively contained by standard precautions alone.
- **Droplet precautions** are used for patients known or suspected to be infected with agents transmitted over short distances by large respiratory droplets.
- **Airborne precautions** are used for patients known or suspected to be infected with agents transmitted person-to-person by the airborne route.

Strategies for implementing transmission-based precautions:

- continued implementation of standard precautions
- dynamic risk assessment in the pre-admission setting to anticipate and communicate the potential need for transmission-based precautions on patient arrival

- if patient has a suspected or confirmed infection, allocate a single room inclusive of bathroom facilities and a door that can be closed (isolation)
- if the above strategy is not possible then place patients colonised or infected with the same infectious agent in a room together (cohorting)
- wearing specific personal protective equipment
- providing patient-dedicated equipment
- using sodium hypochlorite, or an appropriate Therapeutic Goods Administration-listed hospital-grade disinfectant (with specific claims), daily on frequently touched surfaces and on general surfaces when visibly soiled or immediately after a spillage
- using specific air handling techniques
- restricting the movement of both patients and healthcare workers.

Overview of risk management in infection prevention and control

In the context of infection prevention and control in healthcare facilities, 'risk' is defined as the possibility of microorganism colonisation or infection in patients or healthcare workers arising from activities within a healthcare facility.

Risk management is the basis for preventing and reducing harms arising from HAI.

Infection control is a health and safety issue, which means that all those working in the healthcare facility — managers, healthcare workers and support staff — are responsible for providing a safe environment for patients and other staff.

A successful approach to risk management occurs on many levels within a healthcare facility:

- *Facility wide*—for example, providing support for effective risk management through an organisational risk-management policy, staff training, follow-up of outcomes, monitoring, reporting and enabling access to information systems that can be used to inform risk assessment.
- *Ward or department based*—for example, embedding risk management into all policies so that risks are considered in every situation.
- *Individual*—for example, considering the risks involved in carrying out a specific procedure and questioning the necessity of the procedure as part of clinical decision-making, attending education sessions (e.g. hand hygiene or respirator fit testing).

As healthcare facilities differ greatly in their day-to-day function, it is not possible to provide a one size fits all approach to risk management. Even within a single setting (e.g. primary care), increasingly complex care is delivered by a range of health professionals with diverse qualifications and training. All healthcare facilities need to be able to determine the risks in their own context and select the appropriate course of action. It is necessary for facilities to regularly conduct infection prevention risk assessments within their facility and ensure that all staff understand their responsibility in managing these risks. In addition, healthcare facilities should develop detailed protocols and processes for infection prevention and control specific to local settings.

In most cases it is not necessary to undertake a complete risk assessment when performing routine tasks, but it is essential for healthcare workers to be able to identify and analyse the potential risks of transmission.

Figure 3 below shows a risk management approach in the context of the chain of infection to ensure exposure to sources of infection is minimised for both the patient and healthcare worker.

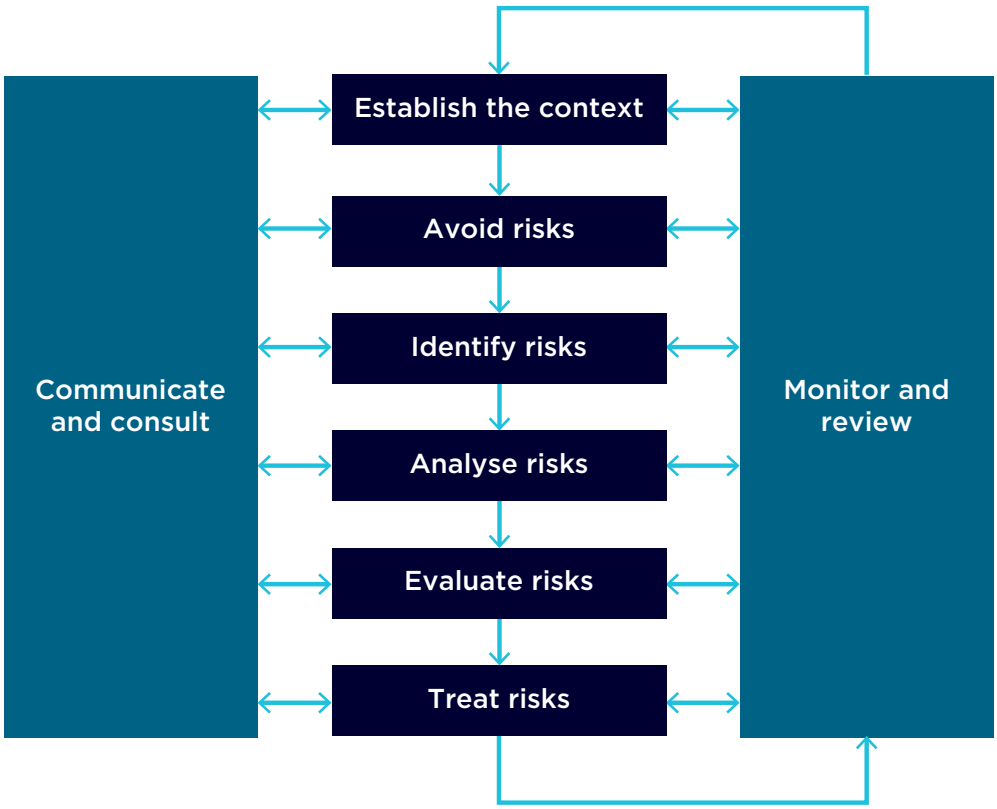

Figure 3. The risk management flowchart

Risk identification in the clinical context

The following section demonstrates the decision-making steps behind identification, assessment and treatment of potential risks of transmission of infection during the delivery of care. Tables 1 and 2 provide clinical examples to illustrate this approach. This is based on the content in the *2019 Australian Guidelines for Prevention and Control of Infection in Healthcare.*

1. Establish the context

Identify the basic parameters in which risk must be managed e.g. type of health facility, extent of and support for the facility's infection prevention and control program.

2. Avoid risks

The best way to manage a risk is to avoid it. It is valuable to consider the following before performing a procedure:

- Is the planned task/intervention necessary?
- Are there alternative procedures that could eliminate or minimise any potential exposure of the patient or yourself and others to infectious agents?
- For example:
  - Is it necessary to change the dressing today?
  - Does the patient still require an intravascular device, or can it be removed?

3. Identify risks

When approaching a clinical task or duty it is useful to consider the risks of HAI transmission in terms of when/where/why and how they can occur. For example:

What potential agents are involved? i.e. the source

- How are they transmitted? i.e. mode of transmission direct and indirect
- Who is at risk of infection? i.e. patient, healthcare worker or the patient care area?

Table 2 provides prompts to assist in identifying the risks for HAI transmission and for considering what controls can be taken to interrupt the chain of infection.

4. Analyse risk

The identified risks associated with the task/duty need to be analysed. This can be achieved by considering:

- How can transmission happen? i.e. what are the aspects of the duty/procedure that can transmit infection?
- What existing controls are in place to minimise the risk? i.e. are there sets of procedures or protocols in place that minimise the risk of transmission?
- What is the likelihood of transmission?
- What is the likelihood of associated morbidity or mortality associated with HAI?
- What is the likelihood of increased length of hospitalisation?
- What factors increase or decrease the risk?

5. Evaluate risk

The next stage requires assessment of whether the level of risk is acceptable or not. Factors that influence this decision are:

- Is the risk so low that it is not considered a problem?
  - i.e. taking the blood pressure of a healthy individual is considered to have a low risk of transmission of infection
- Does the need to perform the task/duties outweigh the possible risk of HAI transmission?
  - e.g. delaying transfer to radiology due to infection may lead to further patient deterioration
- What can be done to reduce or eliminate the risk?
  - e.g. develop a prioritised list of actions to break the chain of infection
- Can extra steps be taken to minimise or mitigate the risk?
  - e.g. using an aseptic technique to dress a wound or wearing gloves and gowns when contacting a patient suspected to have MRSA
- Would this risk be acceptable/not acceptable in a different clinical setting?
  - i.e. are there special considerations required given the clinical environment, such as ICU versus outpatients, that will affect the actions taken to break the chain of infection?

6. Treat the risk

At this step, all the information gathered from the analysis and evaluation on the risk of HAI transmission is brought together to consider what actions should be taken. In order to make this decision, consider how the level of risk will be affected by the proposed mitigation strategies.

The choice in the course of action can include:

- *Avoiding the risk:* choosing an alternate lower risk procedure or task.
- *Reducing the risk:* can the likelihood be reduced through preventative measures, and existing systems and controls i.e. are there policies and procedures in place to guide the best way to perform the required task and minimise the risk?
- *Transferring the risk:* getting another individual or team to assist/perform the task who are better equipped or have more experience in undertaking the task.
- *Retaining the risk and managing it:* strategies include using PPE (see Table 1) and safety engineered devices.

The following questions assist in deciding what strategy should be adopted:

- What can be done to address the risk? i.e. from my analysis and evaluation will the treatment of the risk lower the level of risk sufficiently?
- Who is responsible? e.g. some aspects of the risk mitigation strategy will involve other members of the HCF team

Monitoring and review is an essential component of the risk-management process. This ensures that:

- new risks are identified
- analysis of risk is verified against real data, if possible
- risk treatment is implemented effectively.

Thinking exercise

How would you put into practice the following scenarios to minimise the risk of infection?

Scenario 1: a child with chickenpox in an antenatal clinic waiting room

Scenario 2: a patient with MRSA sharing a room with three patients without MRSA

In each scenario, consider:

- who is at risk
- what is the risk
- why is it a risk
- what steps are needed to treat the risk.

Organisational support

For infection prevention and control to be effective at the clinical level, much organisational support is required. This includes embedding infection control into governance and management structures, initiating procedures (e.g. immunisation programs) to ensure that healthcare workers are protected, instituting processes for surveillance that feed into the overall quality control program, implementing systems for ongoing staff education and training, and incorporating infection control into planning for facility design and maintenance.

Organisational support should aim to ensure that clinical work practices provide patient centred care—this is not only essential from a safety and quality perspective, but out of consideration for patient preferences. This may require consultation with patients and relevant consumer groups in the development of healthcare services.

Table 1: Summary of Personal Protective Equipment Requirements

Procedure	Hand hygiene	Gloves	Sterile gloves	Surgical mask	Eye protection	Gown
Activities of daily living (e.g. washing, toilet)	✓	-	-	-	-	-
Routine observations (e.g. blood pressure measurement)	✓	-	-	-	-	-
General medical examination	✓	✓ For contact with broken skin/ rash/ mucous membrane	-	✓ If splash risk likely	✓ If splash risk likely	✓ If splash risk likely

Procedure	Hand hygiene	Gloves	Sterile gloves	Surgical mask	Eye protection	Gown
Wound examination/ dressing	✓	✓ For contact with body substances	✓ For direct contact with wound	✓ For wound irrigation if splash likely	✓ For wound irrigation if splash likely	✓ For grossly infected wounds
Blood glucose and haemoglobin monitoring	✓	✓	-	-	-	-
Vaginal delivery	✓	-	✓	-	✓	✓
Intravenous cannula insertion	✓	✓	-	-	✓ If splash risk likely	-
Intravascular access device insertion	✓	-	✓	✓	✓	✓ Where max. barrier precautions are used
Intravascular access device care	✓	-	✓	-	✓	-
Surgical aseptic technique procedure e.g. lumbar puncture	✓	-	✓	✓	✓	✓
Insertion of urinary catheter	✓	-	✓	✓ If exposure risk likely	✓ If exposure risk likely	✓ If exposure risk likely
Urinary catheter care	✓	✓	-	-	✓ When emptying drainage bag	✓ If exposure risk likely
Suctioning: endotracheal tube, tracheostomy	✓	-	✓ Dominant hand (open suction system)	✓	✓	✓ If exposure risk likely
Major dental procedures	✓	-	✓	✓	✓	✓
Routine intra-oral dental procedures	✓	✓	-	✓	✓	✓ If exposure risk likely

Table 2: Decision Making on Risk Management

Clinical Tasks	Identify the Risk				Treat the Risk
Does the activity involve……	**Who is at risk?**	**What is the potential source of the infectious agent?**	**How is it transmitted?**		**What can I do to break the chain of infection? (see also Table 1)**
Direct physical contact with: Intact skin	Patient Healthcare worker	Contaminated Healthcare workers' hands Medical devices/ equipment Patient care area	Direct and indirect contact transmission	Analysis of Risk – determine the level of risk, i.e. the likelihood and consequence? Evaluation of Risk – is the level of risk acceptable? What else can be done?	• Standard precautions • Perform hand hygiene • Clean surfaces with appropriate solution before and after use
Direct physical contact with: Broken skin / wounds	Patient Healthcare worker Patient care area	Healthcare workers' hands Medical devices/ equipment Blood or body substances	Direct and indirect contact transmission		• Standard precautions • Perform hand hygiene • Appropriate use of PPE e.g. gloves, gown , eye protection • Clean surfaces with appropriate solution before and after use • Aseptic technique
Performing procedures that penetrate: mucous membranes skin	Patient	Healthcare workers' hands Poor technique Contaminated equipment	Contact		• Standard precautions • Perform hand hygiene • Appropriate use of PPE e.g. gloves, gown , eye protection • Clean surfaces with appropriate solution before and after use • Aseptic technique • Employ correct technique • Single use equipment • Has the device be appropriately reprocessed? • Note: Instruments used on critical sites are required to be sterile. Semi-critical instruments require high-level disinfection.

Clinical Tasks	Identify the Risk				Treat the Risk
Does the activity involve.....	**Who is at risk?**	**What is the potential source of the infectious agent?**	**How is it transmitted?**		**What can I do to break the chain of infection? (see also Table 1)**
Handling of sharp and potentially contaminated objects	Healthcare worker through needle stick injury	Blood Body substances	Contact		• Standard precautions • Correct use and disposal of single use sharps at point of care where possible • Correct transport of reusable sharps • Correct technique and training
Procedures relating to the respiratory system i.e. suctioning, nebuliser	Healthcare worker Patient care area	Mucosal secretions, including droplets from coughs and sneezes Aerosols created by the procedures	Airborne (such as TB and measles) Droplet (such as influenza) Indirect contact via contamination of patient care area by droplets		• Airborne precautions require the use of a P2 respirator • Droplet precautions require the use of a surgical mask • Protective eyewear is required if there is the potential for splashes and spray to the eyes • Negative pressure room if available OR patient placement to enable appropriate air handling • Teach patient respiratory hygiene, cough etiquette
Physical contact with clinical waste e.g. dressings	Healthcare worker Patient care area	Blood and body substances	Contact		• Standard precautions • Appropriate use of PPE e.g. gloves, gown, eye protection • Appropriate disposal of clinical waste according to hospital policy
Physical contact with human waste or contaminated laundry, clothing, or equipment e.g. handling of soiled linen, or assisting with toileting	Healthcare worker Patient care area	Blood and body substances	Contact		• Standard precautions • Appropriate use of PPE e.g. gloves, gown , eye protection

Analysis of Risk – determine the level of risk, i.e. the likelihood and consequence?

Evaluation of Risk – is the level of risk acceptable? What else can be done?

Clinical Tasks	Identify the Risk				Treat the Risk
Does the activity involve.....	**Who is at risk?**	**What is the potential source of the infectious agent?**	**How is it transmitted?**		**What can I do to break the chain of infection? (see also Table 1)**
Activities that create sprays or dust e.g. cleaning activities such as spraying, sweeping	Patient Healthcare worker Patient care area	Aerosols generated through cleaning process	Airborne	Analysis of Risk – determine the level of risk, i.e. the likelihood and consequence? Evaluation of Risk – is the level of risk acceptable? What else can be done?	• Standards precautions • Training on correct technique and equipment e.g. damp dusting verses dry dusting, cleaning after patients have left the area • Appropriate use of PPE e.g. gloves, gown , eye protection
Provision of care in a shared clinical environment	Patient Healthcare worker Patient care area	Contaminated patient care area	Indirect contact		• Standard precautions • Perform hand hygiene • Clean surfaces with appropriate solution before and after use • Dedicated patient equipment or cleaned shared patient equipment • Single patient use equipment

Summary of Recommendations

This summary of recommendations and practice statements is taken from the NHMRC Australian Guidelines for the Prevention and Control of Infection in Healthcare.

Hand Hygiene		Guideline Reference
1. Recommendation	It is recommended that routine hand hygiene is performed: • before touching a patient • before a procedure • after a procedure or body substance exposure risk • after touching a patient • after touching a patient's surroundings. Hand hygiene must also be performed before putting on gloves and after the removal of gloves.	3.1.1
2. Practice Statement	It is good practice for patients to perform hand hygiene and be educated about the benefits of hand hygiene for infection prevention and control. Patients should be involved in hand hygiene and offered the opportunity to clean their hands when appropriate, including before meals and after using the toilet, commode or bedpan/urinal. Patient preferences for hand hygiene products may differ, and they should be provided with the option of alcohol-based hand rubs, hand wipes or access to hand wash basins, based on any specific needs.	3.1.1
3. Recommendation	It is recommended that alcohol-based hand rubs that contain between 60% and 80% v/v ethanol or equivalent should be used for all routine hand hygiene practices.	3.1.1
4. Statutory Requirement	It is good practice that alcohol-based hand rubs that meet the requirements of European Standard EN 1500 are used for all routine hand hygiene practices. Note: This advice aligns with mandatory requirements as set by Australia's Therapeutic Goods Administration regarding testing standards for bactericidal effect (Therapeutic Goods Act 1989).	3.1.1
5. Recommendation	It is recommended that soap and water should be used for hand hygiene when hands are visibly soiled.	3.1.1
6. Recommendation	It is suggested that hand hygiene is performed in the presence of known or suspected Clostridioides difficile and non-enveloped viruses such as norovirus as follows: • If gloves have not been worn, if gloves have been breached or if there is visible contamination of the hands despite glove use, use soap and water to facilitate the mechanical removal of spores. After washing, hands should be dried thoroughly with a single-use towel. • If gloves have been worn, a lower density of contamination of the hands would be expected and alcohol-based hand rub remains the agent of choice for hand hygiene.	3.1.1

Handling of Sharps		Guideline Reference
7. Statutory Requirement	It is good practice to follow safe sharp handling practices including: • not passing sharps directly from hand to hand • keep handling to a minimum • not recapping, bending or breaking needles after use. Note: This advice reflects best practice as advised by expert consensus and available evidence. Healthcare workers must also consider relevant state or territory legislation that controls the management of clinical and related waste (including sharps) and Commonwealth workplace health and safety legislation (Work Health and Safety Act 2011).	3.1.2
8. Practice Statement	It is good practice to dispose of single-use sharps immediately into an approved sharps container at the point-of-use. The person who has used the single-use sharp must be responsible for its immediate safe disposal. Sharps containers must not be filled above the mark that indicates the maximum fill level.	3.1.2

Routine management of the physical environment (cleaning and disinfecting)		Guideline Reference
9. Practice Statement	It is good practice to routinely clean surfaces as follows: Clean frequently touched surfaces with detergent solution at least daily, when visibly soiled and after every known contamination. Clean general surfaces and fittings when visibly soiled and immediately after spillage.	3.1.3
10. Practice Statement	It is good practice for shared clinical equipment to be cleaned with a detergent solution between patient uses, and disinfected where indicated. Exceptions to this should be justified by risk assessment.	3.1.3
11. Practice Statement	It is good practice that surface barriers are used to protect clinical surfaces (including equipment) that are: • touched frequently with gloved hands during the delivery of patient care • likely to become contaminated with blood or body substances • difficult to clean Exceptions to this should be justified by risk assessment. Equipment should be appropriately cleaned between patients or uses, regardless of whether a surface barrier has been used.	3.1.3

Routine management of the physical environment (cleaning and disinfecting)		Guideline Reference
12. Recommendation	It is suggested that site decontamination should occur after spills of blood or other potentially infectious materials. Spills of blood or other potentially infectious materials should be promptly cleaned as follows: • wear gloves and other personal protective equipment appropriate to the task • confine and contain spill, clean visible matter with disposable absorbent material and discard the used cleaning materials in the appropriate waste container • clean the spill area with a cloth or paper towels using detergent solution. Use of Therapeutic Goods Administration-listed hospital-grade disinfectants with specific claims or a chlorine-based product such as sodium hypochlorite should be based on assessment of risk of transmission of infectious agents from that spill (see Section 3.1.3). The decision to use disinfectants should be dependent upon the compatibility of the disinfectant with the materials where the spill occurred.	3.1.3
13. Practice Statement	It is good practice to use a chlorine-based product such as sodium hypochlorite or a Therapeutic Goods Administration-listed hospital-grade disinfectant with specific claims in addition to standard cleaning practices to effectively manage norovirus specific outbreaks.	3.1.3

Emerging disinfection methods		Guideline Reference
14. Recommendation	It is suggested that sodium hypochlorite disinfection be used as an adjunct to standard cleaning in healthcare facilities. The use of sodium hypochlorite disinfection in addition to a detergent solution is suggested for terminal cleans of rooms of patients known or suspected to have C. difficile associated disease or multi-drug resistant organisms. The use of sodium hypochlorite disinfection in addition to detergent solution is suggested to terminate outbreaks of C. difficile.	3.1.3.1
15. Recommendation	The effectiveness of hydrogen peroxide vapour disinfection as an adjunct to routine cleaning in healthcare facilities is yet to be established. Therefore routine use is not suggested in healthcare facilities. Hydrogen peroxide vapour may be considered in high-risk settings and during outbreaks when other disinfection options have been exhausted.	3.1.3.1
16. Recommendation	The effectiveness of ultra-violet light disinfection as an adjunct to routine terminal cleaning in healthcare facilities is yet to be established. Therefore routine use is not suggested in healthcare facilities. Ultra-violet light disinfection may be considered in high-risk settings and during outbreaks when other disinfection options have been exhausted.	3.1.3.1

Emerging disinfection methods		Guideline Reference
17. Recommendation	The effectiveness of ultra-violet light disinfection in combination with sodium hypochlorite for terminal cleaning in healthcare facilities is yet to be established. Therefore routine use is not suggested in healthcare facilities. Ultra-violet light disinfection in combination with sodium hypochlorite may be considered in high-risk settings and during outbreaks when other disinfection options have been exhausted.	3.1.3.1
18. Recommendation	The effectiveness of surfaces, fittings or furnishing containing materials with antimicrobial properties in healthcare facilities is yet to be established. Therefore routine use is not suggested in healthcare facilities.	3.1.3.1

Aseptic Technique		Guideline Reference
19. Recommendation	It is suggested that sterile gloves are used for aseptic procedures and contact with sterile sites.	3.1.6

Contact precautions		Guideline Reference
20. Recommendation	It is suggested that contact precautions, in addition to standard precautions, are implemented in the presence of known or suspected infectious agents that are spread by direct or indirect contact with the patient or the patient's environment.	3.2.2
21. Recommendation	It is suggested that appropriate hand hygiene be undertaken and personal protective equipment worn to prevent contact transmission. It is suggested that when working with patients who require contact precautions, healthcare workers should: • perform hand hygiene • put on gloves and gown upon entry to the patient-care area • if performing multiple tasks whilst in the patient-care area, apply the principles of standard precautions and remove gloves, perform hand hygiene and apply clean gloves between tasks when required to minimise risk of infection transmission • ensure that clothing and skin do not contact potentially contaminated environmental surfaces • remove gown and gloves and perform hand hygiene before leaving the patient-care area.	3.2.2
22. Recommendation	It is suggested that patient-dedicated equipment or single-use patient-care equipment be used for patients on contact precautions. If common use of equipment for multiple patients is unavoidable, clean the equipment and allow it to dry before use on another patient.	3.2.2

Droplet precautions		Guideline Reference
23. Recommendation	It is suggested that droplet precautions, in addition to standard precautions, are implemented for patients known or suspected to be infected with agents transmitted by respiratory droplets that are generated by a patient when coughing, sneezing or talking.	3.2.3
24. Recommendation	It is suggested that a surgical mask should be worn when entering a patient-care environment to prevent droplet transmission.	3.2.3
25. Practice Statement	It is good practice to place patients who require droplet precautions in a single-patient room.	3.2.3

Airborne precautions		Guideline Reference
26. Recommendation	It is recommended that airborne precautions, in addition to standard precautions, are implemented in the presence of known or suspected infectious agents that are transmitted person-to-person by the airborne route.	3.2.4
27. Recommendation	It is suggested that a correctly fitted P2 respirator is worn when entering the patient-care area when an airborne-transmissible infectious agent is known or suspected to be present.	3.2.4
28. Practice Statement	It is good practice to place patients on airborne precautions in a negative pressure room (Class N/Type 5) with bathroom facilities or in a room from which air does not circulate to other areas. Exceptions to this should be justified by risk assessment.	3.2.4

Personal protective equipment		Guideline Reference
29. Recommendation	It is suggested that clean aprons/gowns should: • be appropriate to the task being undertaken • be worn for a single procedure or episode of patient care where contamination with body substances is likely. The used apron/gown should be removed in the area where the episode of patient care takes place.	3.3
30. Recommendation	It is suggested that face and eye protection should be worn during procedures that generate splashes or sprays of blood and body substances into the face and eyes.	3.3
31. Recommendation	It is suggested that single-use, fit for purpose gloves are worn for: • each invasive procedure • contact with sterile sites and non-intact skin or mucous membranes • activity that has been assessed as carrying a risk of exposure to blood and body substances. Hand hygiene should be performed prior to donning gloves and after gloves are removed. Gloves must be changed between patients and after every episode of individual care.	3.3

Management of multi-resistant organisms		Guideline Reference
32. Recommendation	It is suggested that contact precautions be considered for all patients colonised or infected with a multi-resistant organism (MRO) where there is anticipated patient and/or environmental contact, including: • performing hand hygiene and putting on gloves and gowns before entering the patient-care area • using patient-dedicated or single-use non-critical patient-care equipment • using a single-patient room or, if unavailable, cohorting patients with the same strain of MRO in designated patient-care areas (upon approval from the healthcare facility's Infection Control Team) • ensuring consistent cleaning and disinfection of surfaces in close proximity to the patient and those likely to be touched by the patient and healthcare workers.	3.4.1
33. Practice Statement	It is good practice for healthcare facilities to maintain a surveillance system to record the presence of all multi-resistant organisms.	3.4.1

Outbreak investigation and management		Guideline Reference
34. Practice Statement	It is good practice for all outbreaks, however minor, to be investigated promptly and thoroughly and the outcomes of the investigations documented.	3.4.2
35. Practice Statement	It is good practice to consider the use of early bay closures to control known or suspected norovirus outbreaks rather than ward/unit closures. Rather than closing an entire ward or unit to manage an outbreak of norovirus in a healthcare facility, it may be more efficient to control an outbreak through cohorting symptomatic patients in bays. If taken, this approach needs to be implemented promptly and early (within three days of the first case becoming ill) in combination with adequate infection control strategies.	3.4.2.1

Invasive medical devices		Guideline Reference
36. Practice Statement	It is good practice for healthcare facilities to develop, implement and review processes to address the insertion, use and maintenance, and removal of invasive medical devices. These processes should be centred on the principles of only using devices if they are deemed essential, and removing them as soon as no longer needed. Healthcare facilities should undertake a risk assessment to assist with determining appropriate procedures and timing for the removal of invasive medical devices and for the surveillance and management of invasive medical devices.	3.5.2

Clinical governance		Guideline Reference
37. Practice Statement	It is good practice for healthcare facilities to have effective clinical handover processes in place that includes infection risks. Healthcare facilities should develop and implement a structured system for clinical handover, including documented policies and protocols.	4.1.1

Risk management		Guideline Reference
38. Practice Statement	It is good practice to use chlorhexidine in appropriate situations and only when clinically indicated. Healthcare workers should consider the appropriateness of using chlorhexidine in every clinical situation, as discussed in these Guidelines. Chlorhexidine-containing products, devices or solutions must never be used on or around patients with known chlorhexidine sensitivity.	4.1.4
39. Practice Statement	It is good practice to include chlorhexidine in a healthcare facility's chemical register. Any adverse reactions to chlorhexidine should be maintained in an organisational risk register and reported to the Therapeutic Goods Administration.	**4.1.4**

Health status screening and immunisation		Guideline Reference
40. Statutory Requirement	It is recommended that all healthcare workers to be vaccinated in accordance with the recommendations for healthcare workers in the Australian Immunisation Handbook. Note: The advice reflects recommended practice supported by strong evidence. Healthcare facilities must also consider relevant state, territory and/or Commonwealth legislation regarding mandatory vaccination programs for healthcare workers.	4.2.1

Exclusion periods for healthcare workers with acute infections		Guideline Reference
41. Practice Statement	It is good practice for healthcare workers and visitors to adhere to norovirus exclusion periods. Healthcare workers should not be at work from symptom onset until 48 hours after symptom resolution. On returning to the healthcare facility, healthcare workers should adhere to appropriate hand hygiene practices.	4.2.2

Education and Training		Guideline Reference
42. Practice Statement	It is good practice for infection control professionals to partake in ongoing professional development in order to gain the necessary expertise to fulfil their role. Infection prevention and control staff at all levels should be supported to access formal and informal education and training relevant to their role.	4.3

Glossary

Term	Meaning
Aerosols	Microscopic particles < 5 µm in size that are the residue of evaporated droplets and are produced when a person coughs, sneezes, shouts, or sings. These particles can remain suspended in the air for prolonged periods of time and can be carried on normal air currents in a room or beyond, to adjacent spaces or areas receiving exhaust air.
Airborne precautions	A set of practices used for patients known or suspected to be infected with agents transmitted person-to- person by the airborne route.
Alcohol-based hand rub	A TGA-listed alcohol-containing preparation designed for reducing the number of viable micro-organisms on the hands without the use or aid of running water, and which is listed on the ARTG as a medicinal product.
Antibiotic	A substance that kills or inhibits the growth of bacteria, fungi or parasites.
Antimicrobial	A chemical substance that inhibits or destroys bacteria, viruses or fungi, and can be safely administered to humans and animals.
Aseptic technique	An aseptic technique aims to prevent microorganisms on hands, surfaces and equipment from being introduced to susceptible sites. Therefore, unlike sterile techniques, aseptic techniques can be achieved in typical ward and home settings.
Bay	Refers to a room or area within a general ward in a healthcare facility that generally accommodates up to six patients.
Best practice	When the diagnosis, treatment or care provided is based on the best available evidence, which is used to achieve the best possible outcomes for patients.
Catheter	A thin, flexible, hollow tube used to add or remove fluids from the body.
Chlorhexidine	A biguanide compound used as an antiseptic agent with topical antibacterial activity.
Cleaning Process	Removing dirt and germs from surfaces. The most effective way to do this is by rubbing or scrubbing the surface with warm water and detergent, followed by rinsing and drying. When MROs are suspected or known to be present, the cleaning process should include the use of a detergent solution followed by the use of a disinfectant so that surfaces are cleaned and disinfected.
Clinical governance	An integrated component of corporate governance of health service organisations. It ensures that everyone—from frontline clinicians to managers and members of governing bodies, such as boards—is accountable to patients and the community for assuring the delivery of safe, effective and high-quality services. Clinical governance systems provide confidence to the community and the healthcare organisation that systems are in place to deliver safe and high quality health care.
Clinical handover	The transfer of professional responsibility and accountability for some or all aspects of care for a patient, or group of patients, to another person or professional group on a temporary or permanent basis.
Clinical waste	Waste material that consists wholly or partly of human or animal tissue, blood or body substances, excretions, drugs or other pharmaceutical products, swabs/dressings, syringes, needles or other sharp instruments.
Clinician	A healthcare provider, trained as a health professional, including registered and nonregistered practitioners. Clinicians may provide care within a health service organisation as an employee, a contractor or a credentialed healthcare provider, or under other working arrangements. They include nurses, midwives, medical practitioners, allied health practitioners, technicians, scientists and other clinicians who provide health care, and students who provide health care under supervision.

Term	Meaning
Clostridioides (*Clostridium difficile*)	A disease of the large intestine caused by toxins produced by the spore forming bacterium Clostridioides difficile. Note: Reclassified in 2016 as Clostridioides difficile (see Lawson PA, Citron DM, Tyrrell KL, Finegold SM. Reclassification of Clostridium difficile as Clostridioides difficile (Hall and O'Toole 1935) Prévot 1938. Anaerobe. 2016).
Cohorting	Placing patients who are infected with the same pathogen together in the same room (mostly after consultation with an infection control expert).
Colonisation	The sustained presence of replicating infectious agents on or in the body without causing infection or disease.
Contact	The touching of any patient or their immediate surroundings or performing any procedure.
Contact Precautions	A set of practices used to prevent transmission of infectious agents that are spread by direct or indirect contact with the patient or the patient's environment.
Decontamination	Use of topical and/or systemic antibiotics and/or other measures to eradicate MRO's from colonised persons.
Detergent Solution	A detergent product which is intended to be used in the cleaning of surfaces or other medical devices diluted with water as per manufacturer's instructions.
Disinfectant	A substance: a) that is recommended by its manufacturer for application to an inanimate object to kill micro-organisms b) that is not represented by the manufacturer to be suitable for internal use.
Disinfection	Reduction of the number of viable microorganisms (by physical or chemical means) on a product to a level previously specified as appropriate for its intended further handling or use.
Droplet precautions	A set of practices used for patients known or suspected to be infected with agents transmitted by respiratory droplets.
Droplets	Small particles of moisture generated when a person coughs or sneezes, or when water is converted to a fine mist by an aerator or shower head. These particles, intermediate in size between drops and droplet nuclei, can contain infectious microorganisms and tend to quickly settle from the air such that risk of disease transmission is usually limited to persons in close proximity (e.g. at least 1 metre) to the droplet source.
Environment	The physical surroundings in which health care is delivered, including the building, fixtures, fittings, and services such as air and water supply. Environment can also include other patients, consumers, visitors and the workforce.
Environmental cleaning	See cleaning process.
Fit test	A method of ensuring that a respirator is fitted correctly and suitable for use by a specific individual.
Fomite	Any inanimate object or substance capable of carrying infectious organisms (such as germs or parasites) and hence transferring them from one individual to another.
Hand Hygiene	A general term applying to processes aiming to reduce the number of microorganisms on hands. This includes: application of a waterless antimicrobial agent (e.g. alcohol-based hand rub) to the surface of the hands; and use of soap/solution (plain or antimicrobial) and water (if hands are visibly soiled), followed by patting dry with single-use towels.
Health care	The prevention, treatment and management of illness and injury, and the preservation of mental and physical wellbeing through the services offered by clinicians, such as medical, nursing and allied health professionals.

Term	Meaning
Healthcare facility	Any facility that delivers healthcare services. Healthcare facilities could be: hospitals, general practice clinics, dentistry practices, other community-based office practices, day surgery centres, emergency services, domiciliary nursing services, long-term care facilities, aged care facilities, indigenous medical services, alternative health provider facilities and other community service facilities, such as needle exchanges.
Healthcare workers	All people delivering healthcare services, including students and trainees, who have contact with patients or with blood or body substances.
Healthcare-associated infections	Infections acquired in healthcare facilities ('nosocomial' infections) and infections that occur as a result of healthcare interventions ('iatrogenic' infections), and which may manifest after people leave the healthcare facility.
High level disinfection	Minimum treatment recommended for reprocessing instruments and devices that cannot be sterilised for use in semi-critical sites.
Hospital-grade disinfectant with specific claims	A TGA-listed disinfectant with specific claims that is suitable for general purpose disinfection of hard surfaces, and purposes not involving instruments or surfaces likely to come into contact with broken skin. Refer to TGA Order 104 (Standard for Disinfectants) for further information. These are therapeutic goods that are included in the part of the ARTG for goods known as Listed goods.
Host	The host is a person who is susceptible to a disease due to a lack of immunity or physical resistance to overcome invasion by a pathogenic microorganism. Age, health status and nutritional status and immunity influence susceptibility.
Hypochlorite	A chlorine-based disinfectant.
Incidence	The number of new events (e.g. cases of disease) occurring in a population over defined period of time.
Infection control professional	A healthcare worker who can provide expert infection prevention consultancy and is primarily responsible for designing, coordinating, implementing and undertaking ongoing evaluation of the facility's infection prevention and control program/s and policies. They are also responsible for equipment and product evaluation.
Infectious agent	An infectious agent (also called a pathogen or germ) is a biological agent that causes disease or illness to its host. Most infectious agents are microorganisms (such as bacteria, viruses, fungi and protozoa), parasites and prions.
Invasive medical device	Devices which in whole or part enter the body through an orifice or through any surface of the body. This includes penetrating skin, mucous membranes, organs or internal cavities of the body. Examples include surgical instruments, implantable devices, dental equipment, intravascular devices, medical and therapeutic devices.
Long-term care facilities	A range of residential and outpatient facilities designed to meet the bio-psychosocial needs of persons with sustained self-care deficits.
Medical device	A device that is intended for use with humans and used in therapeutic processes, being entered onto the Australian Register of Therapeutic Goods (ARTG).
Methicillin-resistant Staphylococcus aureus (MRSA)	Strains of Staphylococcus aureus that are resistant to many of the antibiotics commonly used to treat infections. Epidemic strains also have a capacity to spread easily from person-to-person.
Microorganism	Most infectious agents are microorganisms. These exist naturally everywhere in the environment and not all cause infection e.g. 'good' bacteria present in the body's normal flora. Parasites, prions and several classes of microorganism—including bacteria, viruses, fungi and protozoa—can be involved in either colonisation or infection, depending on the susceptibility of the host.

Term	Meaning
Multi-Resistant Organism (MROs)	In general, bacteria that are resistant to one or more classes of antimicrobial agents and are usually resistant to all but one or two commercially available antimicrobial agents.
Negative pressure room (also referred to as Class N – negative pressure and/or Type 5 – respiratory isolation)	A single-occupancy patient-care room used to isolate persons with a suspected or confirmed airborne infectious disease. Environmental factors are controlled in negative pressure rooms to minimise the transmission of infectious agents that are usually transmitted from person-to-person by droplet nuclei associated with coughing or aerosolisation of contaminated fluids. The air handling system operates at a lower pressure with respect to adjacent areas such as the anteroom and corridor and is exhausted to the outside.
P2 respirator	A particulate filter personal respiratory protection device or P2 respirator is a close fitting mask worn for airborne precautions, which is capable of filtering 0.3µm particles. A P2 respirator must comply with Standard AS/NZS 1716: 2012.
Outcome	The status of an individual, group of people or population that is wholly or partially attributable to an action, agent or circumstance.
Patient	A person who is receiving care in a health service organisation.
Patient contact	Involves touching the patient and their immediate surroundings, or performing any procedure on the patient.
Patient-care area	The room or area in which patient care takes place.
Personal protective equipment (PPE)	A variety of barriers used alone or in combination to protect mucous membranes, skin, and clothing from contact with infectious agents. PPE includes gloves, masks, respirators, protective eyewear, face shields, and gowns.
Practice Statement	Set for areas which are not covered by a systematic review of the evidence, but where the provision of clinical guidance is deemed important. The development of practice statements is primarily based on best practice as advised by expert consensus and aligned with the GRADE approach where available evidence and judgements are considered together however a strength is not assigned.
Procedure	An act of care for a patient where there is a risk of direct introduction of a pathogen to the patient.
Respiratory hygiene and cough etiquette	A combination of measures designed to minimise the transmission of respiratory pathogens via droplet or airborne routes in healthcare settings.
Risk	The chance of something happening that will have a negative impact. Risk is measured by the consequences of an event and its likelihood.
Risk Assessment	Assessment, analysis and management of risks. It involves recognising which events may lead to harm in the future, and minimising their likelihood and consequences.
Risk management	The design and implementation of a program to identify and avoid or minimise risks to patients, employees, volunteers, visitors and the organisation.
Routine	Performed as part of usual practice (as opposed to the use of additional measures in specific circumstances e.g. where invasive procedures are conducted or in the event of an outbreak).
Screening	A process of identifying patients who are at risk, or already have a disease or injury. Screening requires enough knowledge to make a clinical judgement.
Sharps	Instruments used in delivering healthcare that can inflict a penetrating injury, e.g. needles, lancets and scalpels.
Single-use	Single-use means the medical device is intended to be used on an individual patient during a single procedure and then discarded. It is not intended to be reprocessed and used on another patient. Some single-use devices are marketed as non-sterile which require processing to make them sterile and ready for use. The manufacturer of the device will include appropriate processing instructions to make it ready for use.
Single-use devices	Single-use devices are medical devices that are labelled by the original manufacturer as ‘single use’ and are only.

Term	Meaning
Specific Claims	The term 'specific claims' covers virucidal, sporicidal, tuberculocidal, fungicidal or other biocidal activity. Except where claims of activity against fungi (yeast and mould) for excluded products are concerned, these claims mean a product is regulated as a listed Other Therapeutic Good on the ARTG.
Standard precautions	Work practices that constitute the first-line approach to infection prevention and control in the healthcare environment. These are recommended for the treatment and care of all patients.
Statutory Requirement	This advice reflects a practice statement or recommendation. The terminology 'statutory requirement' is used to further indicate where there is also a mandated requirement/s by the Commonwealth or the States/ Territories, which must be considered when implementing the advice at the local level. It is important to note that statutory requirements vary across states and territories, and in their applicability to health service delivery sectors and settings.
Sterile	Free from all living microorganisms; usually described as a probability (e.g. the probability of a surviving microorganism being 1 in 1 million).
Strain	A strain is a genetic variant or subtype of a micro-organism (e.g. a virus, bacterium or fungus). Some strains may be more dangerous or difficult to treat than others.
Strong recommendation	Confident that the desirable effects of adherence to a recommendation outweigh the undesirable effects. Overall the recommendation is based on high quality evidence and is strongly recommended for implementation.
Surface barrier	Barriers (e.g. clear plastic wrap, bags, sheets, tubing or other materials impervious to moisture) designed to help prevent contamination of surfaces and equipment.
Surgical masks	Loose-fitting, single-use items that cover the nose and mouth. These include products labelled as dental, medical procedure, isolation and laser masks.
Surveillance	Disease surveillance is an epidemiological practice by which the spread of disease is monitored in order to establish patterns of progression. The main role of disease surveillance is to predict, observe and minimise the harm caused by outbreak, epidemic and pandemic situations, as well as increase knowledge as to what factors might contribute to such circumstances.
Terminal Clean	Cleaning process required after patient(s) has vacated the room, either through room transfer or discharge.
TGA-Listed	Must comply with Therapeutic Goods Order No. 104 (TGO 104 – Standard for Disinfectants). Pre-market evaluation will be conducted on new ingredients and/or new specific claims.
Transmission-based precautions (formerly additional precautions)	Extra work practices in situations where standard precautions alone may be insufficient to prevent infection (e.g. for patients known or suspected to be infected or colonised with infectious agents that may not be contained with standard precautions alone).
Ultra-violet light	Light in the UV-C wavelength range (200 to 270 nanometers) that has microbiocidal properties against multiple pathogens, including C. difficile and other healthcare associated pathogens.
Ward	A healthcare unit which consists of a group of inpatient beds (generally 10 – 40 beds) designed for a particular type of service or care.

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