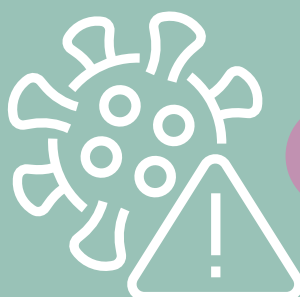




Community Infection Prevention and Control Manual



A practical guide to implementing Standard
and Transmission-Based Precautions in
Community Health and Social Care Settings

Version	Date	Changes from previous version	Author
1	31 March 2022	Original Document	HSE Community Operations Infection Prevention and Control Nursing Service
2	July 2026	- Updated content to align with DOH (2023) National Clinical Guideline no. 30: Infection Prevention and Control - Amendments to layout and content as advised by key stakeholders - Edited to comply with return to normal post pandemic service delivery - Signposting to additional tools / resources developed in the interim period since the original document was published	AMRIC

Introduction

Since it was first published in 2022, the HSE Infection Prevention and Control (IPC) Manual for community health and social care services has become a key reference and guidance document for all those working outside of the acute care setting. Several important factors in the interim period have been considered in the review of this manual. The first was the ending of the COVID-19 pandemic and the return to normal service delivery. Secondly, the publication of the Department of Health (2023) National Clinical Guideline No. 30, Infection Prevention and Control (IPC) has provided an overarching evidence base for the development of IPC and antimicrobial stewardship (AMS) resources at national level in Ireland. Finally, in partnership with HSE Centres of Nursing and Midwifery Education, over one thousand IPC link practitioners have been trained across community health and social care services. These link practitioners are role models and champions for infection prevention and control / antimicrobial stewardship within their service, and work in partnership with specialist community IPC / AMS teams. IPC link practitioner training and engagement is ongoing. Feedback from link practitioners, services and community IPC / AMS teams helped inform the review of this manual, ensuring it's content remains relevant and applicable to all settings outside of acute hospitals.

This manual provides practical guidance to health and care workers on how best to implement standard and transmission-based precautions within their unique setting. It aims to support services to critically analyse the IPC risks posed in their environment, whilst also considering the vulnerability of service users to the risk of infection. The manual provides readers with a rationale for why different IPC measures are recommended in different circumstances. It also signposts all grades of health and care workers, outside of the acute hospital setting, to IPC / AMS resources available to them such as accessing additional education, resource tools and signage. In addition to ensuring all content aligns with the Department of Health (2023) National Clinical Guideline No. 30, IPC, the revised manual incorporates any additional changes in evidence, practice, guidance and updated tools and resources related to IPC from other sources as relevant.

List of Abbreviations and Acronyms Used in this Document

ABHR	Alcohol-Based Hand Rub
ADON	Assistant Director of Nursing
AGP	Aerosol Generating Procedure
AMRIC	Antimicrobial Resistance and Infection Control
AMR	Antimicrobial Resistance
AMS	Antimicrobial Stewardship
CAUTI	Catheter-Associated Urinary Tract Infection
CSU	Catheter Specimen of Urine
FFP2	Filtering Face Piece
HCAI	Healthcare Associated Infection
HIQA	Health Information Quality Authority
HCW	Health and Care Worker
HPSC	Health Protection Surveillance Centre
HSE	Health Service Executive
IPC	Infection Prevention and Control
IPCN	Infection Prevention and Control Nurse
IV	Intravenous
MDRO	Multi-Drug Resistant Organism
PCRA	Point of Care Risk Assessment
PPE	Personal Protective Equipment
PPM	Parts Per Million
UTI	Urinary Tract Infection
WHO	World Health Organisation

Terminology Used in this Document

For consistency, the term 'Service User' is used throughout this document and encompasses all those who utilise community health and social care services regardless of the setting where the care is delivered, or the type of care received. The term encompasses other descriptors used across services, for example, patient, service user or client.

The term 'community' in this document includes those areas where health and social care services are provided outside of the acute hospital sector. This includes but is not limited to the following HSE services, primary care, older persons, mental health, home care and disability.

As new services develop in the community as part of integrated programmes of care decisions regarding how IPC measures should be applied may need to be agreed in partnership with IPC colleagues in acute hospitals / those providing clinical oversight and governance of these services.

Although the focus and scope of this manual is HSE governed services, it may be used and is applicable to other community health and social care services, such as private nursing homes and home support agencies, Section 38 and Section 39 agencies that deliver health and social care services.

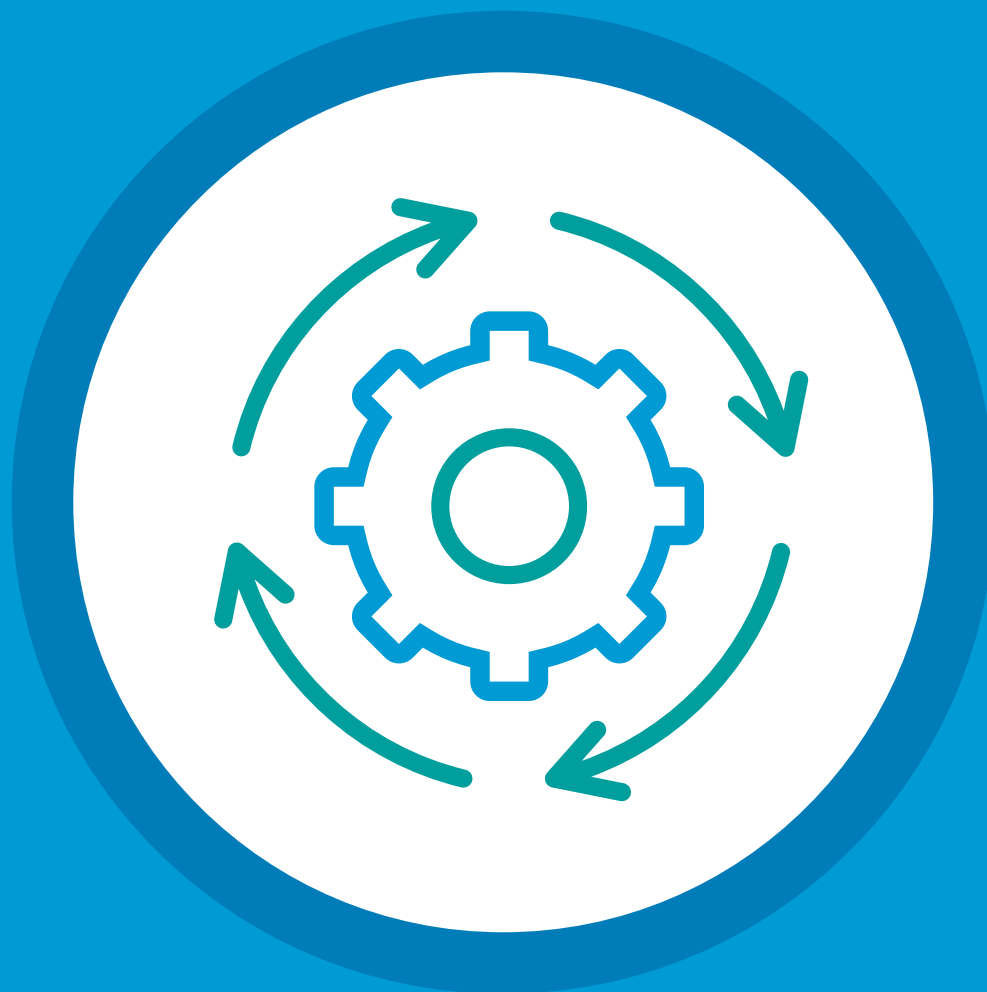
A health and care worker is anyone who works in a healthcare or social care setting, including healthcare and care students on clinical placement, frontline healthcare and care workers and other healthcare or care workers not in direct patient contact.

These settings include, but are not limited to, state-funded and private organisations providing services in the following areas: disability, older persons and working age adult care settings, nursing homes, acute and non-acute hospitals, community hospitals, mental health, social inclusion, palliative care, chronic illness, primary care (GP, dental, pharmacies, physiotherapy clinics), health and well-being, hospice, rehabilitation, home care, paramedics, and community services (e.g. youth, substance abuse, suicide prevention, community development).

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Chapter 1

Overview

1. Overview

Over the past number of years, community infection prevention and control and antimicrobial stewardship (IPC / AMS) teams have been resourced across the HSE to implement Ireland's national action plans for Antimicrobial Resistance.^{1,2} One action undertaken by the HSE national community IPC / AMS team was to develop an IPC manual for community services. This manual helps these teams to apply the fundamental concepts of standard and transmission-based precautions and to guide them in how to implement these precautions within their unique settings, taking a service user centred approach. The outcome of this was the first version of the Community Infection Prevention and Control manual which has been widely used across community health and social care settings since its publication in 2022.

There have been several significant changes since this manual was first published. Firstly, the World Health Organisation declaration of the end of COVID-19 as a global health emergency and a return to normal service delivery, and secondly the publication of the Department of Health (2023) [National Clinical Guideline No. 30, IPC](#).³

This manual compliments but does not replace the Department of Health (2023) National Clinical Guideline No. 30, IPC,³ nor any pathogen specific guidance developed by the Health Protection Surveillance Centre.

The purpose of this manual is to provide health and social care staff with an easy-to-use reference guide to support them to identify and manage IPC risks within their unique care environment. It aims to assist decision making regarding implementation of standard and transmission-based precautions to protect staff and service users, using the Department of Health (2023) National Clinical Guideline No. 30, IPC³ as the evidence base for the content herein. In addition to the publication of this guideline, over the past number of years, many additional resources have been developed by the national Antimicrobial Resistance and Infection Control (AMRIC) team to support staff to deliver safe care. These include e-learning programmes, poster resources and patient information leaflets. Signposting to these resources has been included within this document.

At time of writing, the HSE is undergoing a significant period of reform as part of the implementation of Sláintecare.⁴ Community services are expanding with the establishment of integrated pathways of care, resulting in certain clinical tasks and services, traditionally delivered within an acute hospital setting, now being undertaken outside of these settings. This manual aims to support those staff working in new services to identify IPC risks within their settings, factoring in the needs of their service users, the infrastructure within which their service operates and the skill-mix of staff working within services.

Scope of this Document

Staff from community health and social care services may use this manual as a guide to implementing standard and transmission-based precautions as appropriate to their setting, the people they serve and the services that they deliver.

Dental / orthodontic services are outside the scope of this manual but may refer to sections of it as appropriate. HSE dental and orthodontic services should follow the HSE (2024) National Guideline for Infection Prevention and Control in HSE Dental and Orthodontic Services, 2nd Edition.⁵

Pathogen specific advice is outside of the scope of this manual. Services should refer to the Health Protection Surveillance Centre website www.hpsc.ie for relevant guidance.

Neither the Department of Health (2023) National Clinical Guideline No. 30, IPC,³ nor this manual, replace professional judgment on cases or circumstances, whereby the clinician or healthcare professional decides that individual guideline recommendations are not appropriate in the circumstances presented. It may also happen that an individual service user declines a recommendation as a course of action in their care or treatment plan. In these circumstances, the decision not to follow a recommendation should be appropriately recorded in the service users' healthcare record, or elsewhere if the issue is not related to a specific service user.

Audit and Compliance

In 2024 the national Community IPC / AMS Team in partnership with HSE Community IPC Nurses developed a nationally standardised suite of IPC audit tools and checklists. IPC nurses are using these tools across community settings to measure adherence to IPC standards and to assist services to implement quality improvements to improve service user and staff safety. Advice given in this manual aligns with the standards referenced in the national suite of IPC audit tools. Further information on community IPC audit tools is available from Community IPC / AMS teams.

Responsibility for Updating and Communication

Responsibility for updating this manual currently rests with the national AMRIC team.

IPC Educational Resources for Health and Care Workers

Health and care workers of all grades should be supported to access formal and informal IPC education and training relevant to their role.³

The national Antimicrobial Resistance and Infection Control (AMRIC) team has developed a suite of infection prevention and control and antimicrobial stewardship educational modules which are available for all staff, across all settings, on the HSeLanD virtual platform. To access these modules:

- log into HSeLanD <https://www.hseland.ie>
- click 'Hubs and Resources' tab
- locate 'AMRIC' hub
- click 'View the hub'
- click 'Modules'
- click 'View Modules' to enrol and complete.

Users who have not accessed HSeLanD previously will be required to set up an account on <https://www.hseland.ie> to access these modules.

It is recommended that relevant modules be completed as part of induction of new staff. Modules should be repeated where required, for example, where a staff member identifies a knowledge gap, moves to a new area or undertakes a new role. If a manager would like further advice on the relevant modules different staff grades should complete, they can contact their local IPC / AMS team for advice. Signposting to relevant modules is also provided in this manual as appropriate to topic being discussed.

HSeLanD AMRIC Hand Hygiene training is mandatory for all HSE staff and staff in HSE funded services to complete on induction and thereafter every two years. Managers must ensure that the staff whom they manage complete this training and that records are maintained of training that has been completed.

National Regulations and Standards

The Health Information and Quality Authority (HIQA) and the Mental Health Commission are the regulatory bodies who monitor the safety and quality of health and social care in Ireland. All registered providers must demonstrate compliance with HIQA (2018) National Standards for Infection Prevention and Control in Community settings.⁶ HIQA have developed some useful tools to support services, available on the website www.hiqa.ie

Structure of this Document

This manual is presented in five chapters that establish content, explain the chain of infection / how infections spread and gives practical guidance on how to implement standard and transmission-based precautions. The manual also provides an overview of antimicrobial resistance and multi-drug resistant organisms (MDROs). It gives practical information on how to care for people colonised with MDROs in the community and signposts to further information about antimicrobial stewardship.



Chapter 2

Fundamental Principles of Infection Prevention and Control

The following HSeLanD AMRIC modules are recommended to be completed by staff to enhance their knowledge about this section of the manual:

- Basics of Infection Prevention and Control.
- IPC Risk Assessment.
- Healthcare-Associated Infections (HCAI): An Overview for Managers (for managerial grades).

2. Fundamental Principles of Infection Prevention and Control

Healthcare associated infections (HCAs) are infections that can develop either as a direct result of healthcare interventions such as medical or surgical treatment, or from being in contact with a healthcare setting. The term HCAs includes any infection acquired as a direct result of treatment in any health or social care setting or as a result of healthcare delivery in the community.⁷

To prevent HCAs, it is important to understand how infections occur in health and social care settings, and then to put in place targeted IPC precautions to prevent them. If effectively implemented this approach provides high-level protection to service users, health and care workers, and other people who are exposed to healthcare settings, for example, visitors, contractors etc.

While the specific risks associated with HCAI differ, for example, because of the physical environment in which a health or social care service is delivered, or the vulnerability of the service users receiving care, basic IPC principles and precautions apply.

Effective IPC is central to providing high quality healthcare for people who use healthcare services and a safe working environment for those that work in healthcare settings.³

Understanding Infection – Introducing Microorganisms

Microorganisms exist naturally everywhere in the environment. Most microorganisms do not cause infection in otherwise healthy people, for example, 'good' bacteria such as the normal flora in the gut. Infection refers to the invasion of body tissue by a microorganism. When a microorganism causes an infection it is known as a pathogen. Pathogens are commonly called germs or bugs. For example, norovirus is a pathogen that causes the infection commonly called 'Winter-Vomiting Bug'.

Microorganisms such as bacteria, viruses and fungi are responsible for most healthcare associated infections. Common examples in health and social care settings include people with urinary tract infection (bacterial infection), influenza (viral infection) and outbreaks of norovirus (viral infection). For an infection to spread from one person to another six elements are required, this is referred to as the 'Chain of Infection' which will be described in more detail later in this chapter.

Microorganisms, including bacteria, viruses, fungi, can contaminate surfaces, equipment and health and care workers hands. They can be involved in causing either colonisation or infection, depending on the susceptibility of the person exposed to them (the host). A person's risk of acquiring an infection (host susceptibility) may be increased for several reasons, for example, impaired immunity, age (the very old and very young), pre-disposing medical conditions (such as diabetes mellitus), clinical interventions (such as surgery) and so on.

Contamination, Colonisation and Infection – What is the Difference?

The terms contamination, colonisation and infection are used to describe different stages involving microorganisms. It is important to have a clear understanding of the difference between these terms to effectively identify IPC risks within a service, and to ensure appropriate decision making relating to the planning and delivery of safe care. These terms are further described next.

Contamination	Often referred to as surface microorganisms. A piece of equipment or the hands of health and care workers (HCWs) can be described as 'contaminated'. Contamination causes no harm, however, if a piece of equipment (for example, a commode) contaminated with a microorganism is shared with another person there is a risk of that microorganism spreading to that person. This is the reason IPC practices such as hand hygiene, cleaning, decontamination of shared equipment, not re-using needles and hand hygiene become such critical factors in protecting service users and staff.
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Colonisation	Colonisation occurs where microorganisms establish (grow / multiply) on areas of a person's body (such as skin, mucous membranes) but are not causing any infection at that time. For example, a service user with a chronic leg ulcer may have bacteria (such as <i>Pseudomonas</i>) colonising their wound but not have a wound infection. A service user with an indwelling urinary catheter may have bacteria (such as <i>Escherichia coli</i> / <i>E. coli</i>) in their bladder but not have an infection, meaning they are colonised with <i>E. coli</i> bacteria. A wound swab result from a service user with a leg ulcer, or a urine sample from a service user with an indwelling urinary catheter, may indicate the presence of bacteria. It is not appropriate to prescribe treatment for these service users unless they are displaying clinical signs of infection. Prescribing antibiotics for service users who are colonised but not infected can lead to antibiotics causing harm, or becoming ineffective, otherwise known as antimicrobial resistance and is covered in more detail in Chapter 5.
Infection	Infection occurs where infectious microorganisms invade the body causing an immune response. Infection can be symptomatic (person displays physical signs and symptoms of infection) or asymptomatic (person displays no signs or symptoms of infection). The signs and symptoms of infection will vary depending on the site of the infection, and the individual response of the person infected. An overview of the signs and symptoms of infection is included below. People vary in their response to exposure to an infectious microorganism, some may have mild symptoms whilst others may become severely ill. It is important that all services consider the unique vulnerabilities of both their service users and staff when considering the risk of infection within their population.

Identifying Infections – Signs and Symptoms

It is essential that all staff working within health and social care services are aware of the common signs and symptoms of infection in a service user or themselves. Any suspected infection should be promptly reported, so that any measures to manage the infection can be put in place, including additional infection prevention and control practices to reduce the opportunity for the infection to spread. All staff should be aware of who they should report this information to. Staff should also be aware of the signs and symptoms of sepsis, and what measures should be taken when sepsis is suspected.

The signs and symptoms of infection can vary between individuals, with consideration of several factors, such as, the microorganism, the body system it affects and the general health of the service user. Staff should use clinical assessment tools available to them to assist with their clinical judgement, for example, a Bristol Stool Form Scale, fluid balance record, vital signs, case definitions and decision aids.

Common Signs and Symptoms of Infection

People with infection may experience signs and symptoms based on the part of the body affected⁸ such as:

- fever (this is sometimes the only sign of an infection)
- chills and sweats
- change in cough or a new cough
- sore throat or new mouth sore
- shortness of breath
- nasal congestion
- stiff neck
- burning or pain with urination
- unusual vaginal discharge or irritation
- increased urination
- redness, soreness, or swelling in any area, including surgical wounds and ports
- diarrhoea
- vomiting
- pain in the abdomen or rectum
- new onset of pain.

It must be remembered, however, that some or all these signs may be absent (asymptomatic infection). This can cause an IPC risk in a service as a staff member or service user may have no obvious signs of infection (asymptomatic) but there is still a potential for spread of infection to others. For example, older people with COVID-19 infection do not always present with typical signs and symptoms of respiratory tract infection.

The Health Protection Surveillance Centre (HPSC) provides information on common signs and symptoms of infections caused by diseases and conditions under Health Topics A-Z available at: <https://www.hpsc.ie/a-z/>

Further information, including HSE community antibiotic prescribing guidelines for treatment of community infections, is available on the www.antibioticprescribing.ie.

Diagnosing Infection

Diagnosing infection is performed through an evaluation of clinical signs and symptoms, a history of potential exposure to an infectious agent, and laboratory confirmed diagnosis. There should be a pathway in place in all services for prompt medical review of service users suspected of having an infection.

All services should have a protocol in place for the collection, storage and transportation of laboratory specimens. Services should contact their local laboratory to ensure they comply with any local guidance or processes determined by that laboratory.

Services should consider if their staff are trained to take specimens correctly, and if not, what measures they need to take either to ensure this training is provided, or to identify who will take specimens should they be required. Further information on how to correctly take specimens to confirm infection is available in Appendix 1.

What is Sepsis?

Full information on the identification, management and care of people with suspected or confirmed sepsis is outside of the scope of this manual. This section is for information only and signposts to resources available relating to sepsis.

Sepsis is life-threatening organ dysfunction caused by a dysregulated host response to infection.⁹

Sepsis is the body's extreme response to an infection. It is a life-threatening medical emergency that requires acute management and care. Sepsis develops when an infection triggers a chain reaction throughout the body. Infections that lead to sepsis most often start in the lungs, urinary tract, skin, or gastrointestinal tract. Without timely treatment, sepsis can rapidly lead to tissue damage, organ failure, and death.

People at risk:

Some people are more likely to get an infection that could lead to sepsis.

This includes:

- babies under age 1
- people over age 75
- people who are frail
- people with a weak immune system
- people who are having chemotherapy or radiotherapy treatment
- women who have just given birth or have recently been pregnant – including if you had a miscarriage or abortion
- people who have recently had surgery
- people who recently had a serious illness
- people who have chronic kidney, heart, liver or lung disease
- people who take medicine that affects the immune system
- people who have a bacterial infection which is resistant to antibiotics, such as MRSA.

What are the Signs and Symptoms of Sepsis?

A person with sepsis might have one or more of the following signs or symptoms:

- high body temperature (38 °C or above)
- low body temperature (below 36 °C)
- chills and shivering
- a fast heartbeat
- problems with or changes to breathing
- feeling or acting differently from normal
- vomiting
- a headache
- feeling unwell.

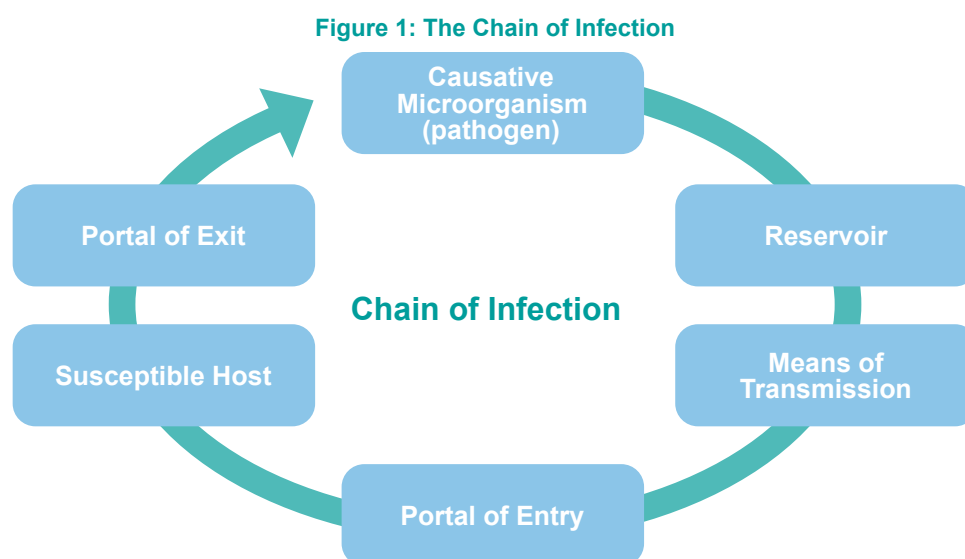
Source – <https://www2.hse.ie/conditions/sepsis/>

More information about sepsis, its management, guidance and the National Clinical Programme for Sepsis is available on the HSE website.

How Infections Spread – Introducing the Chain of Infection

For an infectious microorganism to spread, or transmit, from one person to another it must go through a process called the 'Chain of Infection'. The Chain of Infection has six elements. Once health and care workers (HCWs) are aware of how a particular microorganism can potentially spread, the chain of infection diagram will provide them with an easy to follow and logical visual aid to support them in identifying measures they can take to reduce the chance of that infection spreading (Figure 1).

The fundamental goal of infection prevention and control is to break this chain, thus preventing the microorganism from spreading by implementing key infection prevention and control practices known as standard and transmission-based precautions. The implementation of standard and transmission-based precautions is discussed in detail in Chapters 3 and 4 of this manual.



Source: DOH (2023) National Clinical Guideline No. 30, IPC

Causative Agent

The microorganism causing the infection. For example, in health and social care settings people commonly experience infections caused by bacteria such as *Escherichia coli* (*E. Coli*), Methicillin Resistant *Staphylococcus Aureus* (MRSA), *Clostridioides difficile* (*C. diff*) and viruses such as Influenza (flu), Norovirus (winter vomiting bug) and SARS-CoV-2 (COVID-19).

Reservoir

This is where the microorganism causing the infection resides in the body. For example, respiratory infections such as the common cold (Rhinovirus) will have a reservoir in the nose / mouth / lungs (respiratory tract) of an infectious person; *Pseudomonas* bacteria may have a reservoir in a wound.

Means of Transmission

This is how the microorganism spreads (transmits). In health and social care there are multiple ways a microorganism can transmit; these are described as direct or indirect transmission. For example, direct transmission could be a person infected with influenza coughing directly into the face of another individual. Indirect transmission could be by way of the contaminated hands of a HCW, through the sharing of contaminated equipment (such as a commode that hasn't been cleaned properly), or through poorly ventilated areas. In health and social care, the main means of transmission are considered contact (including blood borne), and the air (droplet and airborne transmission). In some cases, the same microorganism may be transmitted by more than one route, for example, respiratory viruses such as SARS-CoV-2 may spread by contact and droplet routes. Microorganisms can also spread through common routes (such as *Legionella* bacteria through poorly maintained water systems) and vectors (such as malaria through mosquito bites), however, in this manual the focus is on contact, droplet and airborne routes of transmission predominantly.

Portal of Entry

This is how the microorganism enters the body of another person (a new host). For example, a person could inhale droplets of influenza virus through close contact with an infected person who is coughing. Another example could be through eating food contaminated with a bacteria such as *Salmonella*, through a cut or break in the skin or through a break in the skin through a needle stick injury.

Susceptible Host

Everyone is susceptible to infection, however, the risk of becoming unwell depends on multiple factors; age, general health, any other conditions such as diabetes mellitus, immunisation status, medical interventions, and previous exposure to a microorganism.

Portal of Exit

This is how the infectious microorganism exits the body and will depend on the reservoir site. For example, the reservoir for influenza virus is the respiratory tract, therefore its portal of exit will be by way of respiratory secretions (coughing / sneezing). The reservoir for *C. difficile* is the bowel, its portal of exit will be bowel secretions (diarrhoea).



Consider the Chain of Infection in relation to infections you are familiar with

Knowing how the chain works consider how outbreaks may have occurred in your setting.

How to 'Break the Chain'?

The fundamental goal of effective IPC is to prevent healthcare associated infection (HCAI). Where infections do occur the goal of IPC is to prevent onward transmission of the infection to protect other service users, HCWs and all those potentially exposed to acquiring the infection by breaking the chain of infection. This is achieved by implementing key control measures which include reducing a person's susceptibility to infection (for example, through effective immunisation programmes such as the seasonal influenza vaccination campaign), and interrupting transmission through reducing exposure to the microorganism (standard and transmission-based precautions).

Successful IPC involves implementing work practices that reduce the risk of transmission of microorganisms through a two-tiered approach³ including:

- routinely implementing basic IPC strategies to minimise risk to both people who use healthcare services and HCWs, such as hand hygiene, respiratory hygiene, appropriate use of personal protective equipment, cleaning and safe handling and disposal of sharps (standard precautions)
- effectively managing microorganisms where standard precautions may not be sufficient on their own – these specific interventions control infection by interrupting the mode of transmission (transmission-based precautions).

Detailed information on the implementation of standard and transmission-based precautions in practice is provided in Chapters 3 and 4.

Taking a Risk Management Approach to IPC

Effective infection prevention and control is central to providing high quality health and social care for service users and a safe working environment for those who work in these services. IPC risk assessment is everyone's business. It should be incorporated into daily practice and involves two key considerations:

- understanding the way particular microorganisms are transmitted
- using this knowledge to identify key IPC principles to prevent this transmission from occurring.

Successful approaches for preventing and reducing harm arising from a HCAI involve using a risk management framework to manage 'human' and 'system' factors associated with the transmission of infectious microorganisms. Within health and social care services it is important that there is cooperation between everyone in the organisation to promote a risk management approach. This includes management, health and care workers, support staff and those using the service as appropriate to their ability to engage.

The essence of IPC risk management is to evaluate the risks posed at local level and what measures to be taken to reduce any risks. The principal risk for health and social care services in relation to IPC is the possibility that microorganisms can colonise or infect people using the service, or HCWs who carry out work activities in that service. Different types and levels of IPC risk exist within different settings, depending on infrastructure, service user profile and type of care delivered.

Full information on risk management processes is outside the scope of this document, however, useful examples of the application of IPC risk management are available in the DOH (2023) National Clinical Guideline No. 30, IPC.³

In summary, the risk management process involves:

Risk Event

Risks should be described in terms of a 'risk event'. For example, the theoretical risk of a pandemic became a reality with the arrival of COVID-19; a theoretical cyber threat became a reality with the cyber-attack on the HSE's information technology systems in 2021.

Cause

Whereas the risk event defines the scope of the response, identifying the potential causes of the risk determines the response plan. The obvious cause isn't always the root cause.

Impact

Identifying the potential impact of the risk event can inform what actions need to be in place to ensure that if the event occurred, the negative impact is minimised, or if it can't be minimised that the most effective response is in place. IPC risk management is a constant process within an organisation.

Health and social care services should constantly monitor and review their IPC risks, and ensure they are actively putting controls in place to mitigate these risks, in order to protect service users, staff and visitors and ensure continuity of service delivery.



Consider how an IPC Risk Management approach can be applied locally:

- What factors need to be considered?
- Is additional help needed to support decision making, for example from the local IPC Nursing team?

Additional Resources Available to Support IPC Risk Assessment

In addition to the previously mentioned HSeLanD modules the national AMRIC team have developed resources to support staff to undertake IPC risk assessment in practice. The AMRIC Point of Care Risk Assessment (PCRA) tool (see Appendix 2) and accompanying user guide¹⁰ is a helpful resource to support decision making in practice. It is recommended that this tool be displayed in health and social care settings (see Appendix 2).

Practical examples of IPC risk assessment methodology in practice can be found in the DOH (2023) National Clinical Guideline no. 30, IPC.³

The HSE Enterprise Risk Management Policy and Procedures 2023¹¹ and supporting tools¹² provide additional information on risk management in the healthcare system in Ireland.



Chapter 3

Standard Precautions

The HSeLanD module 'AMRIC Standard and Transmission Based Precautions' is recommended for staff to enhance their knowledge about this chapter of the manual. Additional HSeLanD modules relevant to individual elements of standard precautions are signposted throughout this section.

3. Standard Precautions

3.1 What are Standard Precautions?

Standard precautions are a group of routine infection prevention and control practices that should be used for all service users at all times regardless of suspected, confirmed or presumed infectious status, in any setting in which health and social care is delivered. Standard precautions should be used in the handling of blood (including dried blood), all other body fluids / substances, secretions, excretions (excluding sweat), non-intact skin and mucous membranes.

When standard precautions are consistently implemented, the risk of spread of infection to health and care workers (HCWs) and service users is minimised.

It is essential that standard precautions are always applied. This is because³:

- People may be placed at risk of infection from others who carry infectious microorganisms.
- People may be infectious before signs or symptoms of disease are recognised or detected, or before laboratory test results are available.
- People may be at risk from infectious microorganisms present in the surrounding environment including environmental surfaces or equipment.
- There may be an increased risk of transmission associated with specific procedures and practices.

IPC practices that constitute standard precautions are listed in Table 1

Table 1: Standard Precautions

Standard Precautions
• hand hygiene according to the World Health Organisation (WHO) 5 Moments for Hand hygiene • respiratory hygiene and cough etiquette • safe injection practices including safe use and disposal of sharps • aseptic technique • management of service user care equipment (single-use devices and reprocessing of reusable medical equipment and instruments) • environmental hygiene • safe handling and disposal of waste • management of laundry and linen • use of appropriate personal protective equipment (PPE).

Source: DOH (2023) National Clinical Guideline no. 30, IPC

Each individual element of standard precautions will now be presented, along with guidance as to how the precaution should be applied in community health and social care settings.

3.2 Standard Precautions – Hand Hygiene

Hand hygiene is the single most important procedure for preventing infection.³ The World Health Organisation developed the 5 Moments for Hand Hygiene campaign in 2009 as part of their 'SAVE LIVES: Clean your Hands' initiative. The overarching aim of this worldwide initiative was to support healthcare workers to improve hand hygiene in health care and thus support the prevention of often life-threatening healthcare associated infection. The central core of 'SAVE LIVES: Clean Your Hands' is that all healthcare workers should clean their hands at the right time and in the right way.

The 5 Moments for Hand Hygiene approach defines the key moments when healthcare workers should perform hand hygiene and is relevant in all settings where care is delivered, for example, residential care, primary care clinics and home support services. This evidence-based, field-tested, user-centred approach was designed to be easy to learn, logical, and applicable in a wide range of settings. Figure 2 provides a graphic overview of the 5 Moments for Hand Hygiene and the situations where each moment applies and examples of situations of when and why these should be applied in a residential care facility.

Figure 2: The 5 Moments for Hand Hygiene



Adapted from the WHO Alliance for Patient Safety 2006

1	BEFORE RESIDENT CONTACT	WHEN? Clean your hands before touching a resident when approaching him/her. WHY? To protect the resident against harmful germs carried on your hands.
2	BEFORE A CLEAN/ASEPTIC PROCEDURE	WHEN? Clean your hands immediately before any clean/aseptic procedure. WHY? To protect the resident against harmful germs, including the resident's own, from entering his/her body.
3	AFTER BODY FLUID EXPOSURE RISK	WHEN? Clean your hands immediately after an exposure risk to body fluids (and after glove removal). WHY? To protect yourself and the healthcare environment from harmful resident germs.
4	AFTER RESIDENT CONTACT	WHEN? Clean your hands after touching a resident and her/his immediate surroundings, when leaving the resident's side. WHY? To protect yourself and the healthcare environment from harmful resident germs.
5	AFTER CONTACT WITH RESIDENT SURROUNDINGS	WHEN? Clean your hands after touching any object or furniture in the resident's immediate surroundings when leaving—even if the resident has not been touched. WHY? To protect yourself and the healthcare environment from harmful resident germs.

Source: <https://www.infectionpreventioncontrol.co.uk/wp-content/uploads/2021/04/Your-5-moments-for-hand-hygiene-Care-Home-September-2020.pdf>

In addition to the 5 Moments for Hand Hygiene, hand hygiene should be performed in a range of other situations³ outlined below:

Before	After
- starting or leaving work - eating or handling of food or drinks - using computer keyboards, tablets or mobile devices in a clinical area - putting on gloves.	- hands become visibly soiled - eating or handling of food or drinks - using a computer keyboard, tablet or mobile devices in a clinical area - removing gloves - visiting the toilet - handling laundry / equipment / waste - blowing / wiping / touching nose and mouth.

How to Perform Hand Hygiene

- The use of alcohol-based hand rub (ABHR) is considered the gold standard to decontaminate health and care workers hands when visibly clean.
- Use ABHRs that contain between 60% and 80% v / v ethanol or equivalent for all routine hand hygiene practices.
- Hand washing with soap and water is required to clean hands that are visibly soiled.
- In the presence of known or suspected *Clostridioides difficile* infection and viruses such as norovirus hand hygiene must be performed as follows:³
 - if gloves are worn and appear intact on removal, then ABHR remains the agent of choice for hand hygiene
 - 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 paper hand towel.
- HCWs should perform hand hygiene using the recommended techniques and duration.

See Appendix 3 for recommended ABHR technique, and Appendix 4 for recommended hand washing technique.

Being Hand Hygiene Ready

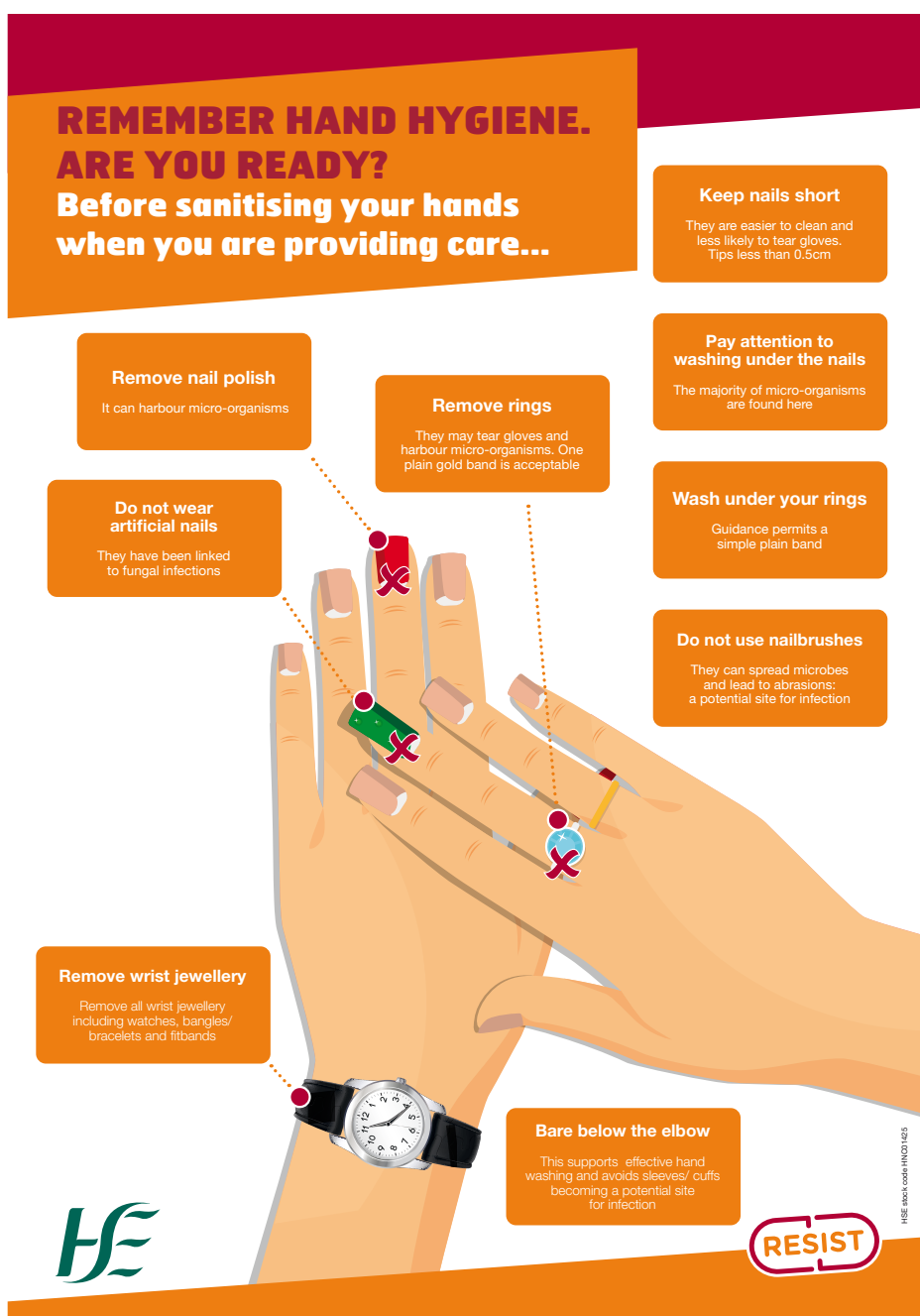
All HCWs should consider whether they are hand hygiene ready when they present to work. There are several things HCWs can do to reduce the risk of spreading infections by way of their hands. The national AMRIC team have produced a poster entitled 'Remember Hand Hygiene. Are You Ready?' (shown in Figure 3) available at <https://www.healthpromotion.ie>. The poster can be downloaded or print copies can be ordered and displayed in services to prompt all HCWs, regardless of their grade, to self-assess whether they are 'hand hygiene ready' prior to delivering care to service users. Managers and staff can use this poster as a prompt to determine if they are hand hygiene ready at opportune moments throughout the day, for example, at the start of each shift.

The following should be considered before starting work in any health and social care setting:

- all cuts and abrasions on the hands of HCWs should be covered with a waterproof dressing
- hand and wrist jewellery should not be worn while on duty (except for one plain metal band)
- wrist jewellery should not be worn, this includes wrist watches, fitness bracelets and fitness trackers such as activity trackers
- nails should be kept clean and short. Nail polish / acrylic / gel, nail art or false nails should not be worn by HCWs while on duty

- HCWs should wear short-sleeved clothing when delivering service user care as this ensures their hands can be decontaminated effectively. This concept is widely referred to as 'bare below the elbows'. Some staff members may wish to cover their forearms. In this case, the minimum requirement is that the forearm is bare for about 5 to 10 centimetres above the wrist when working in service user care areas to ensure that clothing does not interfere with performance of hand hygiene. For this reason, the expression "bare above the wrists" may be preferred.
- hand hygiene also includes caring for the hands to maintain intact skin whereby regular use of hand lotion is recommended
- the use of nail brushes, cloth towels or bar soap is not recommended for HCWs while on duty
- electric hand dryers are not recommended for use in clinical areas.

Figure 3: AMRIC Resource Poster – Remember Hand Hygiene. Are You Ready?



Source: <https://www.healthpromotion.ie/products/hcw-staff-hand-hygiene-poster>

Community IPC nurses are frequently asked by both managers and staff why health and care workers should have short, clean, varnish free fingernails. Some of the evidence for why this is recommended is provided below:³

- The type and length of fingernails can have an impact on the effectiveness of hand hygiene
- Artificial or false nails have been associated with higher levels of infectious microorganisms, especially gram-negative bacilli and yeasts, compared to natural nails.

Fingernails should therefore be kept short (the length of the finger pad) and clean, and artificial fingernails should not be worn.

Nail polish / varnish should not be used; particularly as chipped nail polish may support the growth of microorganisms on the fingernail.

Hand Hygiene Equipment and Supplies

Each health and social care setting should have adequate hand hygiene facilities including designated clinical hand wash basins, wall mounted soap dispensers (with disposable soap cartridges) and paper hand towel dispensers, foot pedal-operated waste bins and ABHR dispensers. Antibacterial soap is generally not required in community settings, if considered essential please discuss with local IPC team.

Clinical hand wash basins should conform to Health Building Note (HBN) 00-10 Part C Sanitary Assemblies or equivalent standards.¹³ Hand wash basins for health and care workers should be dedicated to that purpose only and be clearly identifiable as to their purpose.

Selection of liquid soaps should be within the context of three important factors: efficacy, skin health, and aesthetics (skin feel). If HCWs do not like a product, they are less likely to use it, so aesthetic and skin feel considerations should not be minimised.

ABHRs must meet EN 1500 standards.¹⁴ In addition, in view of the burden of norovirus outbreaks in the Irish healthcare settings, products should also comply with EN14476.³ ABHR is available in various containers and can be made available in wall-mounted dispensers or carried by staff in smaller sized bottles. These portable bottles can be clipped to uniforms or clothing (avoid being placed in pockets). Bottles and containers should not be topped up. A local risk assessment should be undertaken to determine if there are any safety issues regarding the placement of ABHR dispensers in health or social care facilities. Avoid placing ABHR dispensers next to soap dispensers at hand washing basins. It is not advisable to place ABHR dispensers within reach of small children or service users with alcohol dependency risk assess placement. ABHR is highly flammable and should not be placed close to ignition sources. Refer to manufacturer's guidelines for appropriate storage requirements.

Hand Hygiene for Service Users

Service users should be educated on the benefits of, and techniques involved in hand hygiene.

HCWs should assist those service users unable to perform hand hygiene independently, especially after using the toilet and before meals. Access to hand wash basins / soap / clean towels should be provided as a primary method of hand cleaning for service users. ABHR or hand wipes may also be used.

Hand Hygiene for Staff Providing Care in a Service Users' Home

Hand hygiene facilities in the home support setting vary widely, therefore:

- HCWs who visit service user's homes must have a supply of alcohol-based hand rub to use in the course of their work.
- If appropriate and following discussion with service users regarding the importance of hand hygiene, HCWs who visit homes may request that they are provided with liquid soap and disposable paper towels to facilitate hand hygiene in the home. This will not always be appropriate and staff who are concerned about their ability to perform hand hygiene should discuss this with their line manager.
- The local IPC team can support managers to undertake IPC risk assessments relevant to the setting.

Hand Hygiene Training Requirements for Staff

Completion of the HSeLand 'AMRIC Hand Hygiene' module is mandatory for all HSE staff at induction and every two years thereafter.

The following hand hygiene training approaches are recommended:³

- face to face learning theory and practical from an infection prevention and control nurse (IPCN) or other trained hand hygiene trainer
- blended approach theory online e-learning module and practical learning from a hand hygiene trainer or an IPCN.

3.3 Standard Precautions – Respiratory Hygiene and Cough Etiquette

The HSeLand module 'AMRIC Respiratory Hygiene and Cough Etiquette' is recommended for staff to enhance their knowledge about this section of the manual

Good respiratory hygiene and cough etiquette will prevent the potential transmission of respiratory viruses and should be performed by all HCWs and service users at all times. Covering sneezes and coughs prevents infected persons from dispersing respiratory secretions into the air. Hands must be cleaned after coughing, sneezing, using tissues, after contact with respiratory secretions or objects contaminated by these secretions. The following practices are recommended:

- Cover the nose with disposable single use tissues when coughing, sneezing, wiping and blowing noses.
- Use tissues to contain respiratory secretions.
- Dispose of tissues in the nearest waste receptacle or bin after use.
- If no tissues are available, cough or sneeze into the inner elbow rather than the hand.
- Perform hand hygiene after contact with respiratory secretions and contaminated or potentially contaminated objects or materials.
- Keep contaminated hands away from the mouth, eyes and nose.

In health and social care facilities, service users with symptoms of respiratory infection should sit at least one metre away from others and wear a surgical mask if they can tolerate this. If available and compatible with service user care, health and social care facilities should place people with symptoms of respiratory tract infection in a separate area whilst awaiting care. Considering community settings, this advice should be considered as part of an IPC risk assessment in scenarios where groups of people are gathered, for example, waiting rooms in primary care settings. It is important to note that some service users cannot tolerate wearing a mask therefore access to care cannot be declined on the basis that a person is not able to wear a mask.

In residential care facilities service users with symptoms of respiratory infections should be supported to maintain good respiratory and cough hygiene, for example, by ensuring they are provided with disposable tissues, waste receptacles and hand hygiene facilities. Services should follow the most up to date acute respiratory tract infection guidance for specific information on the management of cases and outbreaks of infections in residential care settings, available at www.hpsc.ie

HCWs with respiratory tract infection should not attend for work and should remain at home. Occupational health advice is outside of the scope of this manual, however, there is some guidance relating to staff exclusion periods as relevant to illness available at www.hpsc.ie and in the DOH (2023) National Clinical Guideline no. 30, IPC.³

Respiratory hygiene posters and resources are also available at: www.hpsc.ie

Immunisation

The HSeLanD National Immunisation Office module ‘Pneumococcal Polysaccharide Vaccine (PPV23)’ and ‘The Flu and COVID-19 vaccines for Healthcare Workers – protect yourself, protect others’ is recommended for staff to enhance their knowledge about this section of the manual

To reduce the risk of spreading respiratory infection, all HCWs and service users should be offered and encouraged to avail of vaccination as appropriate. Specific recommendations relating to vaccinations are included in the National Immunisation Advisory Committee Immunisation Guidelines for Ireland.¹⁵

3.4 Standard Precautions – Safe Injection Practices, Safe Use and Disposal of Sharps

Safe Injection Practices

Unsafe injection practices and the incorrect use of multi-dose vials can and has resulted in the spread of cases and outbreaks of viral infection such as Human Immunodeficiency Virus (HIV), Hepatitis B, Hepatitis C and bacterial infection due to *Streptococcus pyogenes*.

Single-dose Medication Vials

- The most effective way to avoid cross infection by way of injection of medication is by using single dose vials or ampoules and single-use sterile injecting equipment.
- Single-dose vials or ampoules or prefilled syringes should be used in preference to multi-dose vials where these are available.

Multi-dose Vials

- A multi-dose vial is one that contains more than one dose of medication, for example, an insulin vial.
- Multi-dose insulin vials should be designated to a single service user. They should be labelled with the name of the service user and the date the vial was opened, and stored according to manufacturers instructions. The vial should be discarded within the manufacturers recommended timeframe, or when the service user has been discharged or the requirement for insulin has ended.
- Pre-filled insulin pens are single service user use only and must never be shared with multiple service users.

Multi-dose Vials for Use on More Than One Service User

Multi-dose vials should not be used for more than one service user*. When single dose vials or ampoules are not available, the following precautions should be taken:

- Restrict the vial to single service user use whenever possible.
- Establish a separate secure area designated for the preparation / placement of these medications away from any work area.
- Comply with manufacturers recommendations and adhere to instructions for refrigeration, storage, and use within a specified time / expiry date.
- Prepare to administer the injection in a physically separate clean controlled environment with minimal risk of distraction.
- Use a new sterile needle and syringe to draw up the required dose from the vial or ampoule on every occasion, using an aseptic technique.
- Use a sterile needle to draw up all the contents of the vial into individual syringes before administering to service users.
- Where possible, only have the current service users' medication in the immediate working environment.
- Dispose of residual material and equipment in an area that is separate from the area used to prepare medications for administration.

- Discard any open vials / ampoules at the end of each procedure.
- Discard product if sterility or integrity is compromised or questionable.

* In exceptional circumstances multi-dose vials may be the only way to deliver vaccines or drugs to a large proportion of the population in a timely fashion. An example of this was during the COVID-19 pandemic when there may have been delays in accessing single dose vaccines.



Consider the IPC Risk associated with administering injections

Consider what measures can be taken to protect service users when administering medication

Safe Use and Disposal of Sharps

Eliminating workplace hazards and risk is a fundamental principle of health and safety legislation. In Ireland there is specific legislation in relation to the prevention of sharps injuries in healthcare. It is the responsibility of all health and care workers to be familiar with, and comply with, health and safety legislation that controls the management of sharps and healthcare risk waste (including sharps) and healthcare non-risk waste as well as workplace health and safety.

Further information and resources developed by the HSE relating to the safe use of sharps is available on the HSE website.

In addition the Health and Safety Authority have produced guidance which is available at: <https://www.hsa.ie/eng>

This section should be read in association with the HSE policy on the management of sharps and prevention of sharp injuries (available on the HSE website).

Sharps injuries can occur in any healthcare setting, including non-hospital settings such as in home care and residential care facilities (RCFs). Sharps injuries most often occur:

- during a clinical procedure
- after the procedure and before disposal
- after the procedure.

The hierarchy of controls method is a well-recognised approach used to prevent sharps injuries. This involves:

- Firstly eliminating and reducing the use of needles and other sharps where possible.
- Next, isolating the hazard by protecting an otherwise exposed sharp, through the use of an engineering control.

When these strategies are not available, or will not provide total protection, the focus shifts to work practice controls and personal protective equipment (PPE).

There are many possible mechanisms of sharps injury. Hollow bore needles are of particular concern, especially those used for blood collection or intravascular catheter insertion as they are likely to contain residual blood and are associated with an increased risk of blood borne virus transmission. Non-hollow bore sharps such as glass vials and suture needles have also been involved in sharps incidents.

Table 2 outlines examples of hollow and non-hollow bore sharps:

Table 2: Examples of Hollow and Non-Hollow Bore Sharps

Hollow bore sharps	Non-hollow bore sharps
- disposable needles - steel winged (butterfly) needles - multi sample blood collection needles - intravenous catheter stylets - arterial blood collection syringe needles - aspiration needles - injector pen needles - broken capillary tubes	- glass vials - dental probes - scalpel blades - suture needles - retractors - skin or bone hooks - sharp electrosurgical tips

Safety Engineered Devices to Prevent Sharps Injury

The use of devices with safety engineered protective features (for example, safety or retractable devices) has been mandated in all European Union member countries.¹⁶ A broad range of devices have been designed with built in safety features that reduce the risk of injury involving sharps. Examples include devices such as needles with guards, sliding sheaths, shields, blunted tips or retracting needles, blunt suture needles and surgical blades with protective covers.

Safety engineered devices to prevent sharps injury should be used where these are available. Implementation of safety engineered devices must be accompanied by appropriate training and education for HCWs in the use of the new technology to achieve successful reduction in sharps injury rates.

Needleless Devices

Needleless devices (for example, connectors, vascular access devices, access ports) provide an easy access point for intravascular infusion connections. Needleless devices do not use needles for procedures such as the collection or withdrawal of body substances or administering medication or fluids after initial venous or arterial access is established.

Clinical staff should be trained to use needleless devices safely as unfamiliarity with the use of these complex devices, together with inadequate skin disinfection procedures, may contribute to increased bloodstream infection rates. Services should identify who is best placed to provide this training as relevant to the staff members' role.

There are a wide range of health and social care settings in the community that have varying use of sharps. It is recommended that services develop protocols in relation to the sharps they use, ensuring service user safety, IPC and Health and Safety are considered. Local IPC teams can support and advise as appropriate.

The following infection prevention precautions are recommended when using needleless devices:

- Needleless components should be changed at least as frequently as the administration set using aseptic technique.
- Caps should be changed no more frequently than every three days or according to manufacturer's recommendations.
- All components of the system should be compatible to minimise leaks and breaks.
- Access ports should be wiped with an appropriate antiseptic and allowed to dry before use.
- Only sterile devices should be used to access ports.

Disinfection of needleless connectors with chlorhexidine / alcohol or povidone-iodine has been shown to significantly reduce external contamination.³

Retractable Devices

The use of retractable safety devices on sharps has been associated with a significant reduction in needle-stick injury in healthcare settings.³ However, their direct impact is difficult to determine because their introduction is often accompanied by other interventions such as training and education, overarching hospital policies and other technologies that could also cause a reduction in needle-stick injuries.

Retractable technology is only one example of the broad range of safety-engineered medical devices that have been designed and produced to assist in reducing the risk of occupational exposure to blood borne pathogens in healthcare. Implementation of safety-engineered devices must be accompanied by appropriate training and education for health and care workers in the use of the new technology.

Table 3 summarises processes for the appropriate use of devices:

Table 3: Summary of Processes for Appropriate Use of Devices (1)

At all times an aseptic technique should be employed:

Device	Process
Injection Equipment	Avoid contamination of the needle.
Single-Use Items (such as needles, cannulae, syringes)	- Do not use the same needle, cannula or syringe for more than one person or to access a medication or solution that might be used for a subsequent service user. - Do not administer medications from a single syringe to multiple persons, even if the needle or cannula on the syringe is changed.
Single Service User Items	Use single-service user items for one person only and dispose of them appropriately.
Single-Use Medications	- Only use single-dose vials when administering drugs, therapeutic agents and vaccines to multiple people other than in the most exceptional circumstances (for example, in pandemic). - Do not administer medications from single dose vials or ampoules to multiple people or combine leftover contents for later use.
Multi-Dose Vials	Multi-dose vials should not be used except where intended solely for the exclusive use of an individual person (for example, insulin) other than in exceptional circumstances as above.
Fluid Infusions and Administration Sets* (such as intravenous fluid bags, tubing and connectors)	- Use for one person only and dispose of appropriately after use. - Do not use bags or bottles of intravenous solution as a common source of supply for multiple people. - Consider syringes or needles / cannula as contaminated once they have been used to enter or connect to a person's intravenous infusion bag or administration set. - Use closed intravenous delivery devices as standard practice. - Use premixed intravenous bags of medication wherever possible, in order to reduce the risk of contamination during mixing, dilution or preparation. - Avoid disconnection of administration sets, if possible, to minimise the potential of contamination of intravenous lines. - These should be changed on a regular basis, depending on their use.

* Further guidance and resources to support staff who provide care to people requiring intravenous therapy is available in HSE (2024) HSE AMRIC Prevention of Intravascular Catheter Related Infections V2.0 2026.¹⁷

Safe Handling of Sharps

All HCWs should take precautions to prevent injuries caused by needles, scalpels and other sharp instruments or devices during procedures, when cleaning used instruments, during disposal of used needles and when handling sharp instruments after procedures. Standard measures to avoid sharps injuries include handling sharps in a way that prevents injury to the user and to others who may encounter the device during or after a procedure.

Safe handling of sharps measures includes the following:

- Where possible always use sharps safety devices.
- Don't pass sharps directly from hand to hand.
- Keep handling to a minimum.
- Don't recap (unless unavoidable), bend or break needles.
- Use instruments, rather than fingers, to grasp needles, retract tissue, and load / unload needles and scalpels.
- Give verbal announcements when passing sharps.
- Avoid hand to hand passage of sharp instruments by using an intravenous tray with integrated sharps container or neutral zone*.
- Use round tipped scalpel blades instead of pointed sharp tipped blades.
- Take special care when removing needles from insulin pens.

* A neutral zone is a designated space or device (for example, an IV tray with integrated sharps container) that is used only for the placement and retrieval of sharps. The purpose is to facilitate avoiding hand-to-hand transfer of sharps. The neutral zone should be agreed by the healthcare team before a procedure.

Where appropriate HCWs should explain to service users the risks to staff and others involved in the use and disposal of sharps and the measures taken to reduce these. Services that provide care in the home (for example, public health nursing, community intervention teams, palliative care, mental health teams) who use sharps as part of their function should undertake an occupational health risk assessment and ensure protocols are in place to protect staff.

Reducing the Risk of Sharps Injury

- Explain to people who use health and social care services the risks to HCWs, and others involved in the use and disposal of sharps and the measures taken to reduce these.
- Become familiar with facility protocols on handling and disposal of sharps and relevant legislation.
- Use the appropriate product for the situation and use it as directed – safety devices should be considered where appropriate to minimise risk of injury.
- Avoid using needles where safe and effective alternatives are available.
- Before using any sharp medical device such as a needle or scalpel, always plan for their safe handling and immediate disposal at the point of use.
- Ensure all used sharps are disposed of properly and that puncture resistant sharps containers are located at the point of use.
- Ensure vaccination against Hepatitis B virus is offered to relevant staff, and immune response has been checked – refer to occupational health service for further advice.
- All staff who come into contact with sharps as part of their role should attend education sessions or professional development sessions on handling sharps, as well as those on new safety devices and how to use them as appropriate (on induction and as determined by managers based on occupational risk assessment). Consider who is best placed to provide this training as this will need to be identified at the local level.

Safe Disposal of Used Sharps

- The person who has used a disposable sharp instrument or equipment is responsible for its immediate safe disposal after use.
- People who use sharps in their own care (such as people with diabetes mellitus) should have immediate access to a suitable sharps container at or close to the point of use. Advice should be given on the safe management of this container in the home by the person dispensing it to the service user (for example, public health nurse, Community Nurse, general practitioner, local pharmacy) and where the container can be brought for disposal following use.
- Dispose of sharps immediately after use into a sharps waste container that is clearly labelled, puncture and leak proof, and conforms to ISO 23907 2019.
- Locate the sharps container at the point of use. If this is not possible locate the container as close as practical to the point of use.
- Reusable sharps (such as surgical instruments) requiring transport to a reprocessing area must be placed in a puncture resistant lidded container. Transportation procedures should be undertaken in line with legislation and national guidance.
- Sharps containers must not be filled above the mark that indicates the maximum fill level, ensuring that the temporary closure mechanism is engaged in between sharp container use.
- Sharps containers must be appropriately placed so that they are at a safe accessible height for the HCW but out of reach of children and vulnerable adults to prevent hands and fingers entering the container. This is especially important to reiterate to service users in the home setting, and to ensure that they are aware of the importance of engaging the temporary closure mechanism and have been shown how to do this.
- Sharps containers should be placed in a secure position or mounted on the wall to prevent tipping (approximately 1.3 metres minimum off the ground). Placement of wall mounted units should be away from general waste bins to minimise the risk of incorrect disposal.
- There are numerous safety devices available that assist with safe removal and disposal of sharps (for example, scalpel blade removers). Where these are in use there should be a local procedure in place to outline their appropriate use, and staff should be trained to use them as intended.

Managing a Sharps Injury

Report any needle stick or sharps-related injuries promptly in accordance with HSE or institutional policy and ensure that you receive prompt follow up care by the occupational health department or emergency department as per local policy.

Guidance for the Emergency Management of Injuries and Post-exposure Prophylaxis is available at <https://www.hpsc.ie/a-z/emi/>

Sharps injuries must be reported as per the HSE National Incident Management Framework.¹⁸

3.5 Standard Precautions – Aseptic Technique

The HSeLanD module ‘AMRIC Aseptic Technique’ is recommended for staff to enhance their knowledge about this section of the manual

Aseptic technique protects service users during invasive clinical procedures by employing a variety of infection prevention and control (IPC) measures that minimise the presence of pathogenic microorganisms. Aseptic technique is a skilled clinical IPC practice. Where clinicians identify that they require training / refreshers in aseptic technique they should inform their managers who are responsible for sourcing appropriate training as relevant to the role.

Aseptic technique is used to prevent contamination of key parts (for example, the part of an intravenous catheter that will be within the vein) and key sites (the place where the catheter will be introduced into the vein) by microorganisms.

When aseptic technique is performed asepsis is ensured by:

- using sterilised equipment
- hand hygiene
- identifying and protecting key parts and key sites
- cleaning and disinfecting key sites
- use of a non-touch technique
- use of sterile equipment
- disinfecting key parts prior to use (scrub the hub).

Definitions Associated with Aseptic Technique:

Key Site	An area of skin or similar area that is penetrated, for example, by a catheter, and is therefore a potential entry point for microorganisms.
Key Part	A sterile part of an item of equipment used when performing an aseptic procedure, for example, needles and syringe tips.

In community health and social care settings the most common procedures undertaken which require an aseptic technique are insertion of a urinary catheter, wound dressing and venepuncture. Other activities undertaken by some services include care of service users with high-risk invasive medical devices, for example, central venous access devices.

Aseptic Technique in Community Environments

Some community environments challenge the ability of clinicians to undertake aseptic technique effectively. This can be due to environmental challenges (for example, undertaking procedures in a service users' home) or due to behaviours that challenge (for example, in some disability, older persons or mental health services).

In addition to these challenges, with the current move to earlier discharge home from acute hospitals, and more complex integrated care being delivered within the community setting, some clinical staff may be presented with a request to undertake an aseptic procedure they have not undertaken for a long time. In this case it is essential that clinicians identify this to their manager and seek refresher training as appropriate.



All clinicians should consider their competence in relation to undertaking aseptic technique.
If unsure talk with manager and request additional support and training

Aseptic Technique in Practice

While the principles of aseptic technique remain constant for all clinical procedures, the degree of aseptic technique required will depend on:³

- the technical difficulty of the procedure
- the clinician's competence in that procedure
- the clinical assessment of the service user and environment (for example, behavioural compliance issues, domiciliary conditions)
- assessment of whether procedures can be performed without touching key parts and key sites directly.

Answers to the following questions should be considered in a clinical assessment prior to undertaking aseptic technique in community environments:

- Do you feel competent to undertake this skill? Have you maintained your competency with the most up to date evidence-based practice? If not, do not attempt the procedure, and discuss with manager.
- Have you access to adequate sterile supplies? Do you have spare supplies should something happen mid-procedure (for example, the service user moves, and the sterile field is disturbed)? Always have a complete spare set of essential supplies available to you, but do not overstock.
- Do you have the co-operation of the service user? For successful aseptic technique in a conscious service user there is a requirement for both the clinician and the service user to understand the importance of protecting the sterile field and maintaining the integrity of the procedure. If you feel this may be difficult to do, can you ask a colleague to assist you? They can distract / provide comfort to the service user whilst you focus on the aseptic technique.
- Do you have time to undertake the procedure? Aseptic technique requires focus and time and should not be rushed.
- Where will you store your supplies? Where is the best place to undertake the procedure? Does the service user need to be in bed (for example, for urinary catheterisation), and if so, do you need assistance to help them into a suitable position and place? In a home environment this may involve liaising with home support services when planning your visit.
- Do you have a sturdy environment to set up your sterile field on? In a home situation this could be a bedside table, a chair or a coffee table. Can that surface be cleaned prior to opening your sterile field? A clean tray dedicated solely for the purpose of supporting a sturdy environment may be helpful. If opening the sterile field onto the service users' bed, ensure it is not on their legs or it could be displaced easily if they move suddenly. Consider the size of the field to maximise the aseptic field – what size is the sterile drape for example?
- How will you decontaminate your hands before and after the procedure? Do you have ABHR available at the point of care?
- Where will the waste be disposed of?

3.6 Standard Precautions – Management of Service User Care Equipment

This section relates to single use devices and reprocessing of reusable service user medical equipment and instruments.

What is the risk?

Any infectious microorganism introduced into the body can cause infection in vulnerable service users.

In all health and social care settings, reusable medical devices should be handled in a manner that minimises the risk of service user, HCW and environmental contact with potentially infectious material.

Principles of reprocessing reusable medical devices include:

- Before purchase, health and social care facilities should ensure that manufacturers reprocessing instructions are provided and can be followed by the facility, in an appropriately controlled environment, with appropriate storage facilities.
- Reusable medical devices and service user care equipment used in the clinical environment must be reprocessed according to their intended use and manufacturer's recommendations. A copy of the manufacturer's instructions and recommendations should be retained on site to be referred to as required.

Table 4 provides a description of each classification of service user equipment:

Table 4: Classification of Service User Equipment

Classification	Symbol	Description
Single-Use		Equipment that is used once on a single person then discarded. Single-use medical devices should never be reused / reprocessed for reuse. Exceptions to this should only be considered in an emergency. This exception should be based on a risk assessment.
Single Patient Use		Equipment that can be reused on the same person and may require decontamination in between uses such as a reusable nebuliser mask – always decontaminate in line with manufacturer's instructions.*
Shared / Communal Equipment		Equipment that is reused or shared amongst more than one service user, for example, blood pressure monitor.
Reusable Invasive Medical Devices (RIMDs)		Used once then decontaminated, for example, surgical equipment. The decontamination process is a combination of procedures that include transportation, cleaning, disinfection and / or sterilisation used to render a reusable invasive medical device safe for further episodes of use. Refer to the section on reusable medical devices for more information.

* HPSC (2009) National Guidelines for the Control of Legionellosis in Ireland outline processes in relation to the re-use of single person use nebuliser equipment. Please refer to these guidelines for further information as relevant to your setting.¹⁹

Reprocessing Medical Equipment

Any medical device (instruments and equipment) that is to be reused requires reprocessing – cleaning, disinfection and / or sterilisation. These terms are further described below.

Cleaning

A process that physically removes contamination but does not necessarily destroy microorganisms. Cleaning removes germs and the organic material on which they thrive. Cleaning is a prerequisite for equipment decontamination to ensure effective disinfection. Cleaning is normally carried out using detergent, water and physical action (scrubbing).

Disinfection

A process that reduces the number of viable microorganisms to a level that they are unlikely to be a danger to health, but which may not necessarily inactivate some agents such as certain viruses and bacterial spores. Disinfection is carried out using either thermal (moist or dry heat) or chemical means. Items must be cleaned before being disinfected.

Sterilisation

A process that destroys all microorganisms on the surface of an instrument or device, to prevent transmission of infection associated with the use of that item.

The minimum level of reprocessing required for reusable medical equipment depends on the individual situation and manufacturer's instructions (that is the body site and the way in which the instrument will be used).

Services must consider how an item will be reprocessed before purchasing it, and whether the facility has the necessary requirements to undertake the process fully. Documented processes should be in place for decontamination of medical equipment. Refer to HSE Standards for Decontamination for more information.

In general, in the community setting cleaning is sufficient for most service user care items, however, an IPC risk assessment must be undertaken for all shared devices used, for example, blood pressure cuffs.

The approach to disinfection and sterilisation of service user care items and equipment devised by Spaulding over 45 years ago has been retained and refined and is still successfully used by IPC professionals and others when planning methods for disinfection or sterilisation.³ The Spaulding classification is an internationally adopted framework for disinfection and sterilisation of medical devices whereby instruments and items for service user care are categorised into critical, semi-critical and non-critical according to the degree of risk for infection involved in use of the items, as outlined in Table 5.

Table 5: Categories of Items for Service User Care³

Category	Description
Critical	These items confer a high risk for infection if they are contaminated with any microorganism and must be sterile at the time of use. This includes any objects that enter sterile tissue or the vascular system, because any microbial contamination could cause infection.
Semi-Critical	These items come into contact with mucous membranes or non-intact skin and should be single use or sterilised after each use. If this is not possible, high-level disinfection is the minimum level of reprocessing that is acceptable.
Non-Critical	These items come into contact with intact skin but not mucous membranes. Thorough cleaning is sufficient for most noncritical items after each individual use, although either intermediate or low-level disinfection may be appropriate in specific circumstances.

Most medical equipment used in community health and social care settings falls into the non-critical category. Although cleaning will be sufficient in most cases there may be situations where disinfection is also required. If unsure discuss with local IPC team.

General Criteria for Reprocessing and Storage of Equipment and Instruments in Community Health and Social Care Settings

How items are reprocessed (cleaned, disinfected, sterilised) is based on the level of risk. The general criteria for reprocessing and storing service user equipment and instruments is outlined in Tables 6a, 6b and 6c

Table 6a: Service User Equipment Level of Risk – Critical

Level of Risk	Critical – entry or penetration into sterile tissue, cavity or bloodstream
Process	Clean thoroughly as soon as possible after using. Sterilise after cleaning by steam under pressure. If heat or moisture sensitive sterilise through an automated low temperature chemical sterilant system, other liquid chemical sterilant or ethylene oxide sterilisation. Ensure critical items are sterilised between each service user use.
Examples	Invasive surgical and dental equipment for example, surgical or oral instruments, arthroscopes, laparoscopes, rigid and flexible bronchoscopes, heat stable scopes, implants and ultrasound probes used in sterile body cavities.

Storage	Sterility must be maintained. Packaged items must go through a drying cycle and then be checked to ensure drying has taken place before use or storage. The integrity of the wrap must be maintained. Wraps act as an effective bio-barrier during storage. Unpackaged sterile items must be used immediately (without contamination and transfer from steriliser to site of use) or re-sterilised. All endoscopic instruments (except those in sterile packaging) should be stored in a suitable controlled environment storage cabinet.
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Table 6b: Service User Equipment Level of Risk – Semi-Critical

Level of Risk	Semi critical – contact with intact mucous membranes or non-intact skin
Process	Clean thoroughly as soon as possible after using. Steam sterilisation is preferable. If the equipment will not tolerate steam use a high-level chemical or thermal sterilant or medical device disinfectant.
Examples	Respiratory therapy and anaesthesia equipment, some endoscopes, vaginal speculae, laryngoscope blades, cystoscopes, anorectal manometers, catheters, diaphragm fitting rings. Transoesophageal, echocardiogram, transrectal and transvaginal ultrasound probes.
Storage	Store to prevent any environmental contamination. All endoscopic instruments (except those in sterile packaging) should be stored in suitable controlled environment storage cabinets or reprocessed within set time frames prior to use.

Table 6c: Service User Equipment Level of Risk – Non-Critical

This is the most common level of risk within the community setting:

Level of Risk	Non- critical – contact with intact skin
Process	Clean as necessary with detergent solution. If decontamination is necessary, disinfect with a compatible low or intermediate level disinfectant after cleaning.
Examples	Stethoscopes, sphygmomanometers / blood pressure monitors, blood pressure cuffs, non-invasive ultrasound probes, intravenous pumps and ventilators, non-invasive ultrasound probes (not used on contact with non-intact skin or mucous membranes), commodes, bedpans, and crutches. Computers, portable mobile devices and personal digital assistants used in service user care are classified as non-critical service user care items. It is important that these items are included in policies for cleaning non-critical items.
Storage	Store in a clean, dry place to prevent environmental contamination.

A list of common service user care items and their recommended decontamination methods are shown in Appendix 5.

Reusable Invasive Medical Devices (RIMDs)

To support best practice in the decontamination of reusable invasive medical devices, the HSE has developed a suite of standards and recommended practices for acute and primary care services available at: <https://www2.healthservice.hse.ie/organisation/qps-education/hse-standards-for-decontamination/>. Full guidance on decontamination of RIMDs is outside of the scope of this manual.

In an area where a local decontamination unit is not available a full risk assessment should be carried out to ensure reusable invasive medical devices are managed accordingly prior to transportation. As new services move into the community all relevant stakeholders should be involved to ensure processes for managing reusable invasive medical devices are robust and of the same standard as would apply in the acute setting. Stakeholders may include the clinician using the device, the acute hospital consultant who has clinical governance of the service, health and safety advisors, quality and risk personnel, central sterile services department managers, IPC acute and community teams and service managers.

Dental and orthodontic services should follow the HSE (2024) National Guideline for Infection Prevention and Control in HSE Dental and Orthodontic Services, 2nd Edition.⁵

All services should have a documented procedure in place outlining clear responsibilities of staff in the management / decontamination of service user equipment, the frequency of cleaning required and the products that should be used to clean specific items.

3.7 Standard Precautions – Environmental Hygiene

The HSeLanD modules ‘AMRIC Routine Management of the Physical Environment’ and ‘AMRIC Management of Blood and Body Substance Spills’ are recommended for staff to enhance their knowledge about this section of the manual

There is a body of clinical evidence derived from case reports and outbreak investigations suggesting an association between inadequate environmental hygiene and the transmission of infectious microorganisms in healthcare settings.³

Transmission of infectious microorganisms from the environment to service users may occur through direct contact with contaminated equipment or indirectly, for example, from hands that are in contact with contaminated equipment or the environment and then touch a person.



Consider three key questions in relation to environmental hygiene:

- What is the risk?
- How is the level of cleaning required to be decided?
- Who is responsible for each task?

Managing the Physical Environment – What is the Risk?

The immediate environment of a person with contact or droplet transmitted colonisation or infection is likely to be contaminated with infectious microorganisms in the intervals between environmental cleaning sessions.

It is good practice to clean surfaces routinely 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 spillages.
- Ensure that water drainage points in clinical hand wash basins and showers drain freely and completely and that surfaces are kept clean and dry.

The importance of general maintenance

General maintenance is essential to facilitate routine environmental cleaning. Surfaces that are cracked, chipped or otherwise damaged cannot be cleaned effectively. Similarly hand wash basins and shower trays that are not draining freely cannot be effectively cleaned. There should be a mechanism in place for all staff to promptly report any maintenance issues, and accountability to ensure these issues are addressed promptly.

How to decide the level of cleaning required?

Health and social care settings in the community cover a wide range of services and risk levels. For that reason, this manual cannot be prescriptive when determining the level of cleaning required. However, there is a general approach that can be recommended, and which will assist services to develop appropriate cleaning schedules for their local environment.

Before developing a cleaning schedule consider the following questions and how each applies to your local environment.

What is the IPC risk?

The method, thoroughness and frequency of cleaning, and the products and equipment used for different surfaces, are determined by a risk analysis. Identifying frequently touched surfaces, then coordinating an appropriate thorough cleaning strategy and schedule which can be delivered by the cleaning staff is an essential first step.

The IPC risk of contamination of the environment will be higher in certain situations, for example, during outbreaks of infectious disease, or in a situation where a service user has a known infection. In these situations, the frequency of cleaning may need to be increased, and in addition to cleaning with detergent, the environment may also need to be disinfected.

Is the environment easily cleanable?

The general environment should promote ease of cleaning. Cleaning / domestic staff are often hampered from doing their job effectively due to excess clutter and general untidiness of an area. Are stores put away, is service user equipment stored appropriately, is there a clean desk policy?

When ordering supplies and equipment consider the volume being ordered and avoid overstocking of an area that may hamper cleaning. Broken or damaged equipment should be stored appropriately whilst awaiting repair or removed from the area to prevent clutter. When purchasing equipment / furniture services should consider how these items can be cleaned, are they easy to clean, and whether they have suitable products available to clean them based on instructions provided.

What products / equipment will be required? Where will they be stored?

Cleaning can in general be divided into two components:

- Routine cleaning is the regular cleaning that is undertaken as part of a cleaning schedule at an agreed frequency based on the services general IPC risk. Every service should have a documented process in place for routine cleaning which is monitored frequently.
- Enhanced cleaning and disinfection are required when there is a particular IPC issue that requires transmission-based precautions to be implemented, for example, a service user who is infected with a multi-drug resistant organism, or during an outbreak of infection. Both situations will be discussed in more detail in Chapters 4 and 5 of the manual.

IPC teams can support services to identify their cleaning requirements when transmission-based precautions are required. As part of contingency planning, services should have plans they can put in place promptly should this situation arise, and additional cleaning requirements be identified at short notice.

Routine cleaning with detergent and water followed by rinsing and drying is the most useful method for removing microorganisms from surfaces. Detergents help to lift dirt and microorganisms so that they can be rinsed away with clean water. Mechanical cleaning (scrubbing the surface) physically reduces the number of microorganisms on the surface. Rinsing with clean water removes the loosened microorganisms and any detergent residue from the surface. Drying a cleaned surface makes it harder for microorganisms to survive or grow.

Damp mopping is preferable to dry mopping. Flat mops are recommended for effective cleaning, and these should be decontaminated in washing machines dedicated for this purpose.¹ Where a dedicated machine is not available for laundering mop heads a documented process should be in place for decontamination based on a local risk assessment and considering the resources available to staff (for example, access to industrial washing machines). At a minimum it is recommended that mop heads are laundered separately to all other linen and laundry. Manufacturers' laundering care instructions must be followed, with mop heads laundered at the highest temperature they can tolerate. Refer to manufacturers' instructions for recommended detergents to be used.

Cleaning cloths should be colour coded in line with the area of the environment / function for which they are intended. They should be set aside for laundering or disposal after each use. Disinfectants are usually only necessary if a surface, already cleaned with detergent and water, is suspected or known to have been contaminated by potentially infectious material including blood and other body fluids.

Most microorganisms do not survive for long on clean surfaces when exposed to air and light and routine cleaning with detergent and water is generally sufficient.

Disinfectants are used after routine cleaning or as a combined cleaning / disinfecting agent during an outbreak of infection, for example, during an outbreak of norovirus infection. When choosing an appropriate product, the following factors should be considered:

- the impact of cleaning and disinfection products on the wider environment
- cleaning products used on different surfaces should be determined by risk assessment
- initial mechanical cleaning with a suitable detergent followed by disinfection with a chlorine-based product such as sodium hypochlorite where indicated or another appropriate disinfectant
- the intended purpose of the product as per manufacturer's instructions
- that manufacturer's instructions can be complied with in the facility
- the suitability of the product for the type and size of the surface to be cleaned
- the practical application of using the product or technology with available resources including trained staff
- the effectiveness of the product against microorganisms including microbiological activity and contact time to kill microorganisms.

This manual does not provide information on specific named products used for cleaning or disinfection. The HSE has procurement contracts in place for products that have been rigorously reviewed and approved for use within health and social care settings.

Choosing a disinfectant when required

The use of the disinfectant sodium hypochlorite (commonly called bleach) is not necessary for routinely managing all spills, but it may be used in specific circumstances.

There is evidence supporting the use of sodium hypochlorite to inactivate various blood borne and gastrointestinal viruses and to disinfect rooms of people known or suspected to be infected with bacteria such as *C. difficile* or multi-drug resistant organisms (MDROs). The consideration of use of sodium hypochlorite should be based on risk assessment of the environment, the spill, the risk of transmission of microorganisms and the surface area and potential hazards with using the product. If a disinfectant is required, particularly for the implementation of transmission-based precautions, sodium hypochlorite or another appropriate disinfectant must be used. Choosing a disinfectant that is compatible with the surface material is integral to avoid damage to the surface.

The use of disinfectants for routine cleaning is not recommended. Only in situations where routine cleaning with detergent is not sufficient to minimise infectious microorganisms (for example, transmission-based precautions) and enhanced cleaning is required then a chlorine based disinfectant, such as sodium hypochlorite (bleach), sodium dichloroisocyanurate or other appropriate disinfectant is recommended with available chlorine at 1000 parts per million (ppm) for low risk body fluids or 10,000 parts per million (ppm) for high risk body fluids such as blood.

If a non-chlorine-based disinfectant is used it should be a product suitable for use in a healthcare environment with bactericidal (EN16615), sporicidal (17126) and virucidal (EN14476) activity as required and be CE marked.

Manufacturers' guidance and recommended product 'contact time' must be followed for all cleaning / disinfection solutions.

Considerations

It is important to rinse sodium hypochlorite from the surface after the recommended contact time in accordance with manufacturer's instructions. This will avoid damage being caused to the surface. Metallic surfaces must be rinsed immediately after the recommended contact time to prevent rust. Following rinsing surfaces should be allowed to air dry or be dried with disposable paper towels.

Sodium hypochlorite should never be mixed with other chemicals or used directly on urine spills. Always prepare solution in a well-ventilated room. If using tablets dissolve in tepid / lukewarm water. Correct dilution is essential as per manufacturer's instructions. Use a designated one litre plastic graduated jug / bottle and be aware of the period of stability of the diluent. Follow manufacturers' instructions for diluting and contact times.

How often is cleaning required?

It is good practice to clean surfaces routinely 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.

Cleaning schedules

All services should have a documented cleaning schedule that specify what needs to be cleaned, clear responsibilities of staff, roster of duties, the frequency and method of cleaning required and the products that should be used to clean specific areas.

Infection prevention and control is only one aspect of the overall skills, competence and knowledge required to undertake the cleaning role to a high standard. Job or task specific education and training for general and special cleaning of the physical environment should be provided to all cleaning staff, and the source of this training should be determined by service managers with responsibility for cleaning / housekeeping.

Legionella prevention

All services must ensure that they have processes in place to mitigate against the risk of legionella contamination of water systems. Developing a process will involve several stakeholders including facilities management / estates. One element of the process will include periodic flushing of unused water outlets. It is good practice to include this as part of routine cleaning schedules. Guidance on Legionella¹⁹ is available at www.hpsc.ie

Cleaners / Domestic Storerooms / Housekeeping Rooms

It is important that staff who perform cleaning / housekeeping duties in healthcare facilities have access to dedicated housekeeping rooms or secure stores.

Housekeeping rooms and stores should be maintained in accordance with good hygiene practices and should not be used for the storage of personal clothing or grooming supplies.

All housekeeping rooms and stores should have the following:³

- appropriate personal protective equipment available
- an appropriate water supply and a sink or floor drain
- chemical storage facilities
- suitable hand hygiene facilities.

Rooms should be appropriately designed, sized and well-ventilated with suitable lighting and locks fitted to all doors.

All cleaning equipment must be well maintained, clean and in good working order.

Cleaning equipment should be cleaned and dried between use and mop heads should be laundered daily in line with manufacturers' recommendations.

The UK National Health Service has produced several resources that may be helpful to guide laundry service providers.^{20,21}

Cleaning carts

Cleaning carts should:

- have separation between clean and soiled items
- never contain personal clothing or grooming supplies, food or beverages
- be thoroughly cleaned at the end of the day
- be stored clean and dry.

In facilities providing care for people who may be at particular risk from contact with or ingestion of cleaning products cleaning carts should be equipped with a locked compartment for storage of hazardous substances, each cart should be locked at all times when not attended.

Cleaning equipment and solutions

Part of a cleaning strategy is to minimise contamination of cleaning solutions and cleaning equipment. Proper procedures for appropriate management of mops, cloths and cleaning solutions should be followed:

- prepare cleaning solutions daily or as needed and replace with fresh solution frequently according to facility policy
- clean mops and cloths after use and allow to dry before reuse or use single-use mop heads and cloths.

When choosing cleaning solutions, HSE services should only source products that have been approved for use by the HSE Procurement Framework, as part of a National Tender Process.

Curtains

The following practice is recommended:

- Curtains should be able to withstand washing at the following temperatures – 65 °C for 10 minutes or 71 °C for 3 minutes or 80 °C for one minute.²²
- Curtains must be laundered when obviously soiled or used for a service user with a known or suspected communicable infection.
- In all other cases, curtains should be changed at least every six months ^{22,23} or sooner as per local unit policy.
- A curtain changing cleaning log should be maintained by services. Replace with laundered curtains or steam clean while in place.

Carpets

The use of carpet in service user care areas should be avoided.³ If carpets are used in specific settings such as family rooms adjacent to service user care areas, they should be vacuum cleaned daily with well-maintained equipment fitted with high efficiency particulate air (HEPA) filters to minimise dust dispersion. In the event of a spill of any potentially contaminated material, after the spill has been removed as much as possible the carpet should be cleaned, for example, by steam cleaning method. Vacuuming of carpet floor in a service users' room should be avoided during an outbreak and while the person is infectious. When the service user has recovered the carpet should be steam cleaned.

Who will do the cleaning? How will they be trained?

Services must identify who will carry out their routine cleaning, and how cleaning will be managed should there be a requirement for enhanced cleaning, for example, during an outbreak of infection. Cleaners / domestic staff are part of the wider health and social care team and should be inducted and trained in cleaning tasks relevant to their role, for example, safe storage and use of chemicals, health and safety precautions, standard and transmission-based precautions.

If cleaning is outsourced to a cleaning service provider, procedures should be documented including details of how the cleaning service will be undertaken.

Procedures must include the following:

- minimum cleaning frequencies and specifications of methods (cleaning service providers are required to provide cleaning services at whatever frequencies are deemed necessary to meet required standards)
- staffing: including rosters for full time / part time and relief staffing members as well as for management and supervisory positions
- equipment: including provision of consumable items (such as cleaning products) and facilities to be used to deliver cleaning
- management of the cleaning service: how the cleaning service will be managed and controlled at the service level, including specific details of the on-site management functions
- the risk of transmission of microorganism should be assessed and the cleaning schedule should be adjusted if a known infectious microorganism is present (for example, an outbreak of *C. difficile* requires surfaces and frequently touched surfaces to be cleaned more frequently and then disinfected with sodium hypochlorite)
- how staff will be trained to undertake their cleaning role.

Specialised environmental hygiene training programmes are recommended for cleaning staff working in health and social care to ensure they can undertake their role to a high standard. As part of that training a blended approach should be considered to develop skills and competence in cleaning, rather than an online component only. Consideration should also be given to ensure content is understood in cases where cleaning staff may not be proficient in English.

In services where multi-task attendants are employed and are required to support environmental hygiene they should also be provided with appropriate skills-based environmental hygiene training.

How can services ensure that cleaning is carried out effectively?

Health and social care facilities can use a variety of systems to ensure that cleaning standards are met. These include checklists, auditing tools, colour coding to reduce the chance of cross infection, cleaning manuals, model cleaning contracts and IPC guidance and monitoring strategies.

Auditing of cleaning can be performed through a variety of different methods including process testing and outcome testing. Audits of environmental cleanliness can also provide direction to the focus of required education programmes and motivate staff to strive for improvement in routine cleaning practices.

The basis of any environmental audit tool is the cleaning schedule, so it is a priority for all services to have this in place.

Management of Blood or Body Fluid Spillages

Prompt removal of spots and spills of blood and body substances followed by cleaning and disinfection of the area contaminated is a sound infection control practice and meets occupational health and safety requirements.

In circumstances where emergency procedures or urgent transport are underway spills should be attended to as soon as it is safe to do so.

Supplies required for dealing with a spill of blood or body fluids should be readily available in each clinical area and should include single use gloves, protective apron, surgical mask and eye protection, absorbent material (for example, disposable paper towels), health care risk waste bags and ties, detergent and disinfectant. All parts should be disposable to ensure that cross contamination does not occur.

A spill kit is a practical way to ensure that these supplies are readily available in one location to support prompt management of the spillage when required. Ensure all supplies within the spill kit are in date as appropriate.

Strategies for decontamination of spills of blood and other body substances (for example, vomit or urine) differ based on the setting in which they occur and the volume of the spill. HCWs can manage small spills by cleaning with detergent solution. Wipes impregnated with detergent solution may be a practical approach for small spills.

For spills containing large amounts of blood or other body substances contain and confine the spill as follows:

- Wear gloves and other personal protective equipment appropriate to the task.
- Confine and contain spill, clean visible matter with disposable absorbent material such as paper towels and discard the used cleaning materials in the appropriate waste container.
- Clean the spill area with a cloth, wipe or paper towels using detergent solution.
- The decision to use disinfectants should be dependent upon the compatibility of the disinfectant with the materials where the spill occurred.
- The requirement for disinfection should be based on assessment of risk of transmission.
- If disinfection is required a chlorine-based product such as sodium hypochlorite should normally be used.
- If a non-chlorine-based disinfectant is used it should be a product suitable for use in a health and social care environment.

If spillage of potentially contaminated material has occurred on soft furnishings, a detergent solution can be used to clean the area thoroughly.

Hypochlorite is generally not suitable for use on soft furnishings. The extent of further action required will depend on a risk assessment taking account of the extent and nature of the spillage and the associated risk of transmission of infectious microorganisms. If the risk cannot be managed otherwise it may be necessary to replace the covers on part or all of the item of furniture. Soft furnishings can also be wet vacuumed. Following cleaning of soft furnishings, they must be allowed to dry before re use. Because of the difficulty of cleaning and decontamination, soft furnishings should be avoided in settings where spillage of blood or body fluids is likely to occur.

Thorough cleaning using water and detergent and appropriate equipment (towels, mop, cloths) is indispensable to decontamination following a spill. The effectiveness of a disinfection process is dependent on the effectiveness of cleaning and cannot compensate for deficiencies in the cleaning process.

Perform disinfection using a chlorine-based product such as sodium dichloroisocyanurate (NaDCC), sodium hypochlorite or another appropriate disinfectant in addition to standard cleaning in specific circumstances as required based on institutional guidance or risk assessment. For routine use, a chlorine-based disinfectant should be used with available chlorine at 1000ppm. If a non-chlorine-based disinfectant is used it should be a product suitable for use in a health and social care environment with bactericidal (EN16615), sporicidal (17126) and virucidal (EN14476) activity as required and be CE marked.

When using sodium hypochlorite to disinfect hard surfaces the following is recommended:

- environmental surfaces should be clean and free of organic matter
- allow sufficient time to kill the microorganism (at least 10 minutes surface contact time for some organisms)
- a dilution of sodium hypochlorite or sodium dichloroisocyanurate (NaDCC) should be made up fresh just before use in accordance with the manufacturer's instructions to provide the required parts per million (ppm) of available chlorine such as 1000ppm for low-risk body fluids or 10,000ppm for high-risk body fluids such as blood.

Follow manufacturer's instructions when using disinfectants. Sodium hypochlorite combined with an acid or ammonia forms chlorine and chloramine gases (health and safety risk). Urine spills should be contained using absorbent material such as paper towels and the area cleaned with detergent before using disinfectant if required

- In general, for chlorine based disinfectant wet contact times of two minutes to 10 minutes are required depending on the microorganism.
- Wet contact time refers to the period during which the surface being disinfected should remain with the disinfectant solution.
- Guidance on contact times from the manufacturer of the disinfectant in use and from the manufacturer of the item being disinfected should be consulted and followed.

Table 7 outlines the steps to be followed when managing spills of blood or body fluids:

Table 7: Process for Managing Spills of Blood or Body Fluids

Volume of spill	Process
Spot Cleaning	• select appropriate personal protective equipment (as per PCRA) • wipe up spot immediately with a damp cloth tissue or paper towel or detergent wipe • discard contaminated materials • perform hand hygiene.
Small spills (up to 10 centimetres diameter)	• select appropriate PPE (as per PCRA) • wipe up spill immediately with absorbent material such as paper towels • place contaminated absorbent material into impervious container or plastic bag for disposal • clean the area with warm detergent solution using disposable cloth, wipe or sponge • wipe the area with sodium hypochlorite solution or wipe and allow to dry • perform hand hygiene.
Large spills (more than 10 centimetres diameter)	• select appropriate PPE (as per PCRA) • cover area of the spill with absorbent material such as paper towels and allow to absorb • remove the absorbent material with absorbed fluid and place in an impervious container or plastic bag for disposal • if necessary, the process of covering the area with absorbent material such as paper towels may be repeated to absorb remaining fluid • place all contaminated items into impervious container or plastic bag for disposal • discard contaminated materials • clean the area with detergent solution • wipe the area with sodium hypochlorite and allow to dry • perform hand hygiene.

3.8 Standard Precautions – Waste Management

Waste management in services involves multiple stakeholders including estates staff, infection prevention and control staff, health and safety staff and the staff of the unit working together to ensure all waste is segregated, handled and disposed of appropriately and in accordance with legislative requirements.

The HSE National Sustainability Office has produced several resources to support services to manage their waste correctly including posters suitable for display in health and social care settings. Refer to the HSE website for more information.

Guidelines in relation to waste management are also available at: <https://healthservice.hse.ie/staff/health-and-safety/dangerous-goods/>

Services should consider:

- the type of waste generated in their facility, and ensure staff have access to appropriate waste receptacles to enable easy segregation of the waste at point of care, for example, recycling bins, domestic waste bins and healthcare risk waste bins. The HSE have found that only 66% of waste in yellow bags is healthcare risk waste which is the most expensive waste to dispose of²⁴
- how waste is transported through the facility, and where it can be stored securely whilst awaiting collection
- where possible environmental considerations must be included in waste management.

All staff should be trained in waste management appropriate to their role.

Standard precautions in terms of waste management predominantly relates to the management of what is termed healthcare risk waste.

Healthcare risk waste is defined as:

- biological (recognisable anatomical waste)
- infectious
- chemical, toxic or pharmaceutical including cytotoxins
- sharps (for example, needles, scalpels, sharp broken materials)
- radioactive (refer to Radioactive Waste Directives).

Handling Waste – IPC Considerations

- Use standard precautions for handling waste. Undertaking a PCRA will assist with identifying the PPE required to protect against exposure to blood and body fluids during handling of waste.
- Perform hand hygiene following the procedure.
- Segregation should occur at the point of waste generation.
- Waste should be contained in the appropriate receptacle, identified by colour and label, and disposed of according to the facility waste management plan.
- Healthcare risk waste bin lids should be foot pedal operated and have a secure lid and be emptied when 2 / 3 full. All healthcare risk waste must be tagged and recorded for traceability.
- Staff should never attempt to push waste down into bin bags – by ensuring bags are emptied when 2 / 3 full this will ensure contents will not require manipulation in order to remove and tie off the bag safely.
- Services should have local protocols and procedures in place in relation to how waste is managed within their facility.
- Sinks and shower drains should never be used for disposal of blood or body fluids.
- Regardless of where waste is generated (for example, from isolation rooms versus routine service user care areas), the principles of determining whether it is to be treated as healthcare risk waste or general waste remain the same.

Healthcare Risk Waste Generated in a Service Users Home

Health and social care services are currently provided on a large scale in service users homes. These services are provided by several groups, for example, public health nurses, homecare providers, mental health services, community intervention teams, and palliative care services. Some of the interventions carried out result in the generation of waste.

Community IPC Teams receive many queries in relation to infectious (or potentially infectious) waste generated in the home, for example, in relation to wound dressings, incontinence wear and catheter bags generated through routine health and social care in the home. Please contact your local IPC team for if you would like support to undertake an IPC risk assessment relating to the management of this waste.

3.9 Standard Precautions – Management of Laundry and Linen

Every facility should have a policy on how to manage linen that includes collection, transport and storage of linen onsite. In addition, facilities should have a policy for how to manage service users' personal laundry.

Linen can be contaminated with infectious microorganisms when used by a service user with a suspected or known infection or when soiled with blood or body fluids. Linen can be decontaminated in the laundry process by a combination of heat, detergent, chemical / heat disinfection and mechanical action.

Categories of Linen²⁰

Linen can be categorised as follows:

Clean Linen	Linen washed / dried and ready to be re-issued to the service.
Used Linen	All used linen not contaminated by blood or body fluids.
Infectious linen	All linen used by a person known or suspected to be infectious. This includes linen that is contaminated with blood or other body fluids, for example, faeces, vomit and urine.

Safe Handling of Used or Infectious Linen

The following practices are recommended for safe handling of linen:

- Handle used linen carefully to avoid dispersing skin scales into the environment or onto staff clothing.
- Do not place used linen on the floor or any other surfaces, for example, a locker or tabletop.
- Do not re-handle used linen once bagged.
- Do not overfill laundry receptacles.
- Appropriate PPE should be used when handling used linen – undertaking a PCRA will assist with determining the appropriate personal protective equipment required.
- Ensure a laundry receptacle is available as close as possible to the point of use for immediate linen deposit.
- Infectious linen must be placed directly into an alginate stitched bag or water-soluble bag at the location of use, for example, in the service users' room / at the bedside.
- Used and infectious linen must be segregated into the appropriate colour coded laundry bag at the location of use.
- Used linen such as sheets must be laundered using a validated temperature disinfection stage, either within an industrial laundry facility or using a temperature validated semi-industrial washing machine.
- Hand hygiene should be performed after handling used linen.

- Used linen must not be rinsed or sorted in service user care areas or washed in domestic washing machines*
- Infectious linen or clothing should never be manually rinsed as this may cause splashing and contaminate the care worker / environment. This includes not soaking infectious linen, for example, in basins of water.

* Some community health and social care is provided in small community household units with a small number of service users, for example, low support homes in mental health / intellectual disability services. It is accepted that these settings are essentially fully social care, with an ethos of promotion of normal life skills and activities of daily living as part of the therapeutic care of the service users. For that reason, there may not be a service level agreement in place for laundry services. Used linen must be washed in washing machines that are appropriate to the purpose and setting and domestic washing machines are generally suitable for services based in community houses.³ However, services should have plans in place for how they will manage linen / laundry should an outbreak of infection occur or should a service user develop an infection.

Storage of Linen

Clean linen should be stored in a designated closed cupboard or in a room that is only used for the purpose of storing linen. Under no circumstances should clean linen be stored beside used linen. The storage area should be clean and dry and linen should be placed above floor level to prevent contamination by aerosols, dust, moisture and vermin.

If using linen trolleys in a facility, ensure the trolley is maintained and cleaned regularly. Clean linen should be kept covered (for example, in plastic wrapping / clean linen bag) until it is brought to point of use. Hand hygiene should always be performed prior to handling clean linen.

Used Linen / Laundry Bag Colour Coded System

Used linen should be placed directly into a laundry receptacle beside the bed / point of use. Used linen should never be carried in arms or thrown on floors. Colour coded systems may be helpful to support staff to segregate used linen from infectious linen. The laundry company may determine the colour coding to be followed. However, in general the following colour codes are used:

Red Laundry Bag – Infectious linen.

White laundry Bag – Used Linen.

Service Users Personal Clothing / the Use of Domestic-Type Machines

All facilities should have a process in place for managing service users' personal clothing. All service users should be provided with their own individual laundry basket for personal clothing made of a material that is able to tolerate cleaning / disinfection as required.

The following section has been adapted from the National Health Service Scotland:²⁰

Domestic type machines are those that would typically be used in a household / home setting. These machines have an average load capacity of around seven kilograms, are pre-programmed with a selection of wash settings / cycles and have longer wash cycles in comparison to semi-industrial washing machines.

Domestic type washing machines are not typically programmed with the temperature settings required for thermal disinfection (65 °C or 70 °C). The temperature regulation in these machines is less reliable than semi-industrial or industrial washing machines and they may not reach the set temperature, for example, a domestic-type machine set to 60 °C may only reach 56 °C.

Domestic-type machines may only be used for laundering personal items of clothing belonging to service users. Other types of used linen such as sheets must be reprocessed using a validated temperature disinfection stage, either within an industrial laundry facility or using a temperature validated semi-industrial washing machine.

A domestic-type laundry facility may be suitable for individuals laundering personal clothing, for example, adults in rehabilitation facilities or other residential care.

If using a domestic type washing machine to launder service users' personal items, the following is recommended:

- Use the highest temperature setting tolerated by the fabric (see care label).
- It is considered best practice to launder service users' personal items separately, which is not to mix items from multiple persons within a single load.
- Domestic-type machines must not be used for processing infectious linen or contaminated staff uniforms.
- It is particularly important that domestic-type machines are not overloaded as this will inhibit the distribution of heat and detergent / rinse solutions, compromising the wash process and potentially causing damage to the machine.
- Standard wash cycles should be used always, that is not 'quick wash' or 'eco' setting.
- Machines should achieve an EU Ecolabel performance rating of A. This relates to the machine's energy efficiency.

Cleaning of domestic type washing machines

Domestic type washing machines should be regularly cleaned to prevent the build-up of biofilms and odours:

- When not in use the washing machine door and detergent box should be left open to allow internal surfaces to dry.
- The rubber lining of the drum should be wiped clean at least weekly, paying attention to the folds of the lining to prevent build-up of soap scum and biofilm.
- The detergent box should be removed and cleaned at least weekly to remove residual detergent and prevent biofilm.
- Once a week, or every fifth cycle, run a high temperature (90°C) wash, or alternatively a chemical disinfectant on an empty cycle to disinfect the interior of the machine.
- Logged and auditable records of washing machine cleaning should be kept.

Source: National Guidance for Safe Management of Linen in NHS Scotland. Health and Care Environments. For laundry services / distribution HPS. Version 2.2. May 2018 page 15 of 17²⁰

3.10 Standard Precautions – Personal Protective Equipment (PPE)

The HSeLanD module 'AMRIC Personal Protective Equipment' is recommended for staff to enhance their knowledge about this section of the manual

Introduction

Personal Protective Equipment (PPE) is any device worn or held to protect a person when it is reasonably anticipated that they will come into contact with blood or bodily fluids, or from health and safety hazards. In terms of IPC, PPE refers to a variety of barriers, used alone or in combination, to protect mucous membranes, airways, skin and clothing from contact with infectious microorganisms.

Any infectious microorganism transmitted by the contact or droplet route can potentially be transmitted by contamination of HCWs hands, skin or clothing. Cross contamination can then occur between the HCW, and people cared for, between HCWs or between the HCW and the environment. Infectious microorganisms transmitted through droplets or aerosols can also come into contact with the mucous membranes of the HCW.

In relation to standard precautions, PPE selection is based on the potential exposure of the HCW to the blood or body fluids of the service user. Where there is a service user with a suspected or known infectious microorganisms the selection of PPE is discussed further in Chapter 4 of this manual.

Manager Responsibilities in Relation to PPE

The responsibilities of managers in relation to PPE include the following:

- ensuring a supply of appropriate PPE is available in the facility
- carrying out a risk assessment to ensure the correct type of PPE is provided
- ensuring PPE is sourced through a procurement process and meets specifications and has the appropriate CE mark
- organising training in the use of PPE where necessary
- ensuring there is a system in place to monitor appropriate wearing of PPE
- seeking medical / occupational health advice where an employee suffering from a medical condition is impacted when wearing PPE
- arranging fit-testing for staff where required (for example, for FFP2 respirator masks) as part of transmission-based precautions (advice should be sought from health and safety / occupational health departments).

Employee Responsibilities in Relation to PPE

The responsibilities of employees in relation to PPE include:

- participating in training on PPE, including donning (putting on) and doffing (taking off) skills
- undertaking a risk assessment to identify when PPE should be worn, not wearing PPE if it is not indicated. Refer to the HSE PCRA Tool to support decision making around which PPE is required
- using PPE in line with training provided, only as appropriate to the situation, and disposing of it into the appropriate waste stream following use
- performing hand hygiene at appropriate intervals – before donning and after doffing PPE
- reporting any PPE stock deficiencies or PPE defects immediately to manager
- ensuring PPE is stored and used in accordance with the manufacturer's instructions
- informing manager of any personal medical conditions that may be affected by using PPE. Referral to a medical / occupational health doctor may be required to undertake an assessment and ensure suitable PPE is provided
- not using PPE inappropriately or overusing PPE. Donning and doffing resources are available on www.hpssc.ie.

Staff Uniforms / Clothing:

Staff uniforms and scrubs are not PPE. However, uniforms can become contaminated therefore those in direct service user care should wear a clean uniform or scrubs for each shift. Uniforms should generally be washed at 60 °C / highest temperature as recommended on laundry care instructions.

For staff working in direct service user care who do not wear uniforms the same approach is recommended for personal clothing worn when undertaking their duties.

Point of Care Risk Assessment (PCRA)

As part of standard precautions, the IPC risk considered is potential exposure to blood and body fluids. Standard precautions apply to all situations and all service users, regardless of whether they have a known infection or not.

A PCRA is an integral part of standard practice that should be performed by every HCW before every service user interaction to allow them to accurately assess the risk of exposing themselves and / or others to infectious agents / transmissible microorganisms.¹⁰

The PCRA poster and explainer document supports the selection of appropriate actions and PPE in addition to any IPC recommendations already in place such as service user placement and occupational aspects, (including health and care worker vaccination) to further minimise any risk of exposure.

Resources to support PCRA can be accessed at: <https://www.hpsc.ie/az/microbiologyantimicrobialresistance/infectioncontrolandhai/posters/>

A copy of the HSE PCRA poster is available in Appendix 2.

Communicating with Service Users when PPE is Required

Personal Protective Equipment (PPE) can heighten service users' fears of isolation. Service users being cared for by health and social care staff in PPE can feel vulnerable and afraid. If the HCW hasn't previously met the service user, PPE can also pose a significant challenge to building rapport. In these circumstances, core communication skills, particularly those required to establish and maintain a supportive therapeutic relationship are particularly important. These skills need to be adapted to circumstances where opportunities to use touch, for example, are limited or prohibited.

The quality of service user experience with staff wearing PPE can be affected by:

- the inability to engage in usual nonverbal social behaviours, such as handshakes / fist bumps, leaning in, and facial cues
- the sense of disconnect and distraction created by the PPE and difficulty hearing what the service user or HCW is saying due to reduced speech clarity. This, combined with the loss of lip reading and visual cues, can make communication between staff and service users extremely difficult.

These barriers compound the existing obstacles to interpersonal interactions, such as cultural and language differences between service users and staff. Despite some barriers, demonstrating empathy is possible while wearing PPE.

The HSE National Healthcare Communications Programme have developed resources to support and provide guidance to HCWs relating to optimising communication strategies with service users in situations where PPE is required.²⁵

Refer to the HSE website for more information.

3.11 Implementing Standard Precautions in a Service Users Home

The implementation of standard precautions is relevant in all settings where health and social care is delivered, and this includes in service users' homes.

Hand Hygiene

The following practice is recommended:

- HCWs should perform hand hygiene as per the 5 Moments for Hand Hygiene.
- HCWs should ask service users, where appropriate, to provide them with access to a supply of disposable paper hand towels and liquid soap (in a dispenser) for use in their homes.
- HCWs should carry ABHR for use as required. ABHR can be used as an alternative to hand washing with liquid soap and water if the hands are visibly clean and free from dirt or organic matter. Hands that are visibly dirty should be washed with liquid soap and water.
- In situations where clean running water is not available an ABHR may be used to decontaminate the hands (if they are visibly clean). If the hands are soiled or visibly dirty, they should first be cleaned with skin cleansing wipes and dried prior to the use of the ABHR.
- Any cuts or abrasions on the hands of the HCW should be covered with a waterproof dressing.

Personal Protective Equipment

- HCWs should carry an appropriate supply of PPE in anticipation of exposure to blood and body fluids.
- PCRA¹⁰ will support HCWs to identify the PPE required for the task or procedure they are going to perform in the house.
- PPE should be carried in a clean work equipment case. Non-sterile gloves may be carried in small bags, for example, plastic 'sandwich' bags, if more convenient and brought into houses. Only the required supplies should be brought into the house. PPE should never be carried in pockets / handbags.
- PPE should never be worn outside of the home, for example, when entering the house or driving between service user homes.
- PPE should only be used for its purpose and disposed of at point of care. Hand hygiene should always be performed before putting on PPE (including gloves) and after removing PPE.
- Care should be taken to perform hand hygiene before removing items or returning clean items to the work case.
- The work case or bag should be cleaned regularly or if soiled.

Waste Disposal

Waste segregation and disposal should be carried out in accordance with waste management regulations.

Healthcare risk waste collection may be required in the home support setting. A risk assessment regarding home collection should be undertaken in partnership with the service manager and in consultation with other stakeholders as relevant (for example, HSE waste manager / infection prevention and control team / health and safety advisor).

Service users who require sharps containers in their homes must be educated in the correct storage and return of these containers by the person who gives them their sharps container. The HCW providing the sharps container must ensure the service user or their carer understands the importance of keeping sharps containers away from vulnerable people who may be in the home, for example, small children, and also how the service user or carer can safely fully lock the container and bring it to an agreed location for disposal. This may be a local pharmacy, primary care centre or the acute hospital as per local policy.

Equipment and Supplies

- Medical supplies and service user equipment should be stored in a dry area out of reach of children and pets and away from high traffic areas of the home.
- Equipment should be cleaned with detergent and water and dried thoroughly before it is transported into or out of the home, as per manufacturers' instructions (ensure electric equipment is plugged out prior to cleaning – refer to manufacturers instructions for safety precautions).
- All parts of the equipment should be dismantled, where possible, to allow physical removal of all particulate and biological matter.
- Supplies such as wound dressings and injection equipment should not be stockpiled in service users' homes. Only bring necessary supplies as needed to avoid waste.

IPC Education of Home Support Workers

The HSE Community IPC Nursing Service have developed a bespoke workshop for home support workers to provide them with knowledge and skills around infection prevention and control within the home support setting. For more information on how to access this programme please contact the local Community IPC / AMS team.



Chapter 4

Transmission-Based Precautions

The HSeLand modules – AMRIC Standard and Transmission Based Precautions, Outbreak Prevention and Management, Respiratory Hygiene and Cough Etiquette are recommended for staff to enhance their knowledge about this chapter of the manual

4. Transmission-Based Precautions

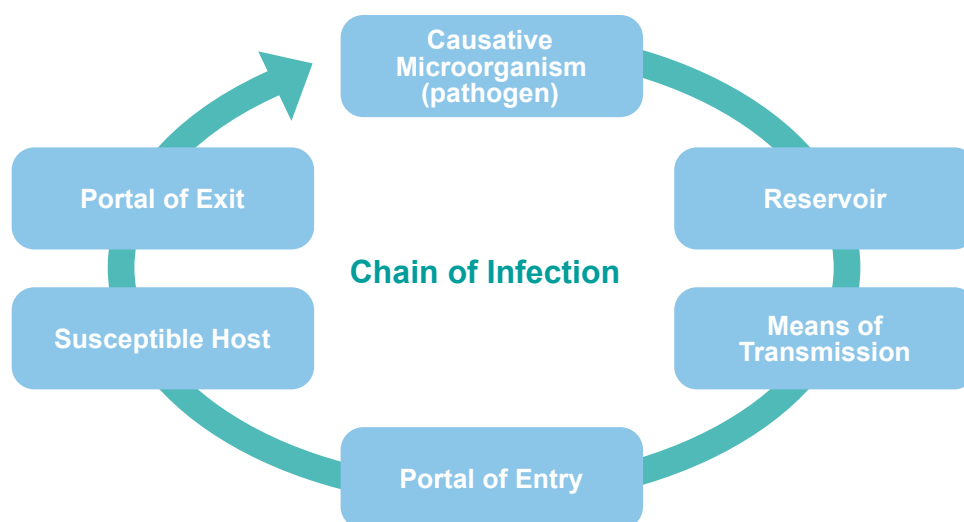
Any infection prevention and control strategy in health and social care facilities should be based on the use of standard precautions as a minimum level of control.

Transmission-based precautions (TBPs) are recommended as additional work practices in situations where standard precautions alone may be insufficient to prevent transmission of infection. This includes the use of transmission-based precautions in the event of an outbreak (for example, norovirus, influenza) to assist in containing the outbreak and preventing further infection.

Transmission-based precautions should be tailored to the infectious microorganism involved and its mode of transmission. This may involve a combination of practices. In all cases of transmissible infection or infectious disease refer to the most up to date guidance available on the Health Protection Surveillance Centre website – www.hpsc.ie.

The aim of transmission-based precautions is to reduce the opportunities for an infection to spread by breaking the chain of infection at the 'Means of Transmission' element of the chain (see Figure 1 for a reminder of the Chain of Infection).

Figure 1: The Chain of Infection³



Source: DOH (2023) National Clinical Guideline, No. 30, IPC

Transmission-based precautions should be applied to every service user suspected or confirmed to be infected with microorganisms transmitted by the contact, droplet or airborne routes.

Transmission-based precautions may also be required for service users who are colonised with potentially infectious microorganisms. The role of transmission-based precautions in caring for a person colonised with a multi-drug resistant organism (MDRO) is included in Chapter 5 of the manual.

Any infectious microorganism transmitted by the contact or droplet route can potentially be transmitted by contamination of HCWs hands, skin or clothing. Cross contamination can then occur between the HCW and other service users / workers, or between the HCWs and the environment they are working in (for example, a ward) and the equipment that they use (for example, commodes / computer keyboards). Infectious microorganisms transmitted through droplets or aerosols can also come into contact with the mucous membranes of the health and care worker.

Transmission-based precautions by their nature can impact quite severely on a service user, for example, isolation can have a profound psychosocial impact. For this reason, the decision to implement TBPs should take the whole person into consideration. Advice should be sought if there is a concern for the service users' wellbeing due to implementing TBPs. This consideration should form part of the IPC risk assessment.

Clear and appropriate communication with service users / carers is essential to reduce the risk of harm from instigating TBPs. The HSE has produced guidance for staff to support them to communicate effectively with service users when required to wear PPE.²⁵

When deciding whether to implement TBPs it is essential that you refer to appropriate and up to date information and recommendations³ in relation to the suspected or confirmed microorganism. Information about microorganisms and related conditions and diseases is available at www.hpsc.ie.

4.1 Strategies for Implementing Transmission-Based Precautions:

Health and care workers should perform an assessment of IPC risk when a person first presents to a service in any setting to anticipate and communicate the potential need for transmission-based precautions at every step of subsequent care:

- Allocating a single room inclusive of toilet and bathing facilities (ensuite) to any person with a suspected or confirmed infection that requires transmission-based precautions and closing the door (source isolation).
- Placing people colonised or infected with the same infectious microorganism in a room together (cohorting). For this purpose, 'the same infectious microorganism' means that there is no difference of clinical consequence between the microorganisms. In the community there may be various respiratory viruses circulating at the one time, for example, respiratory syncytial virus (RSV) / COVID-19 / Influenza. People affected may present with similar symptoms however, they should not be cohorted until there is laboratory confirmation that they all have the same infection. It is acceptable, for example, to cohort two people with confirmed RSV infection, but not one person with RSV and one person with COVID-19, even though clinical symptoms may be similar, as they may cross infect each other.
- Wearing specific personal protective equipment and removal after use (as per PCRA).¹⁰
- Providing dedicated service user equipment.
- Providing a clean environment and using sodium hypochlorite or other appropriate disinfectant as required.
- Using specific air handling techniques when required (these may not be readily available in the community).
- Restricting the movement of both people who use healthcare services and health and care workers in so far as possible consistent with meeting care needs.

Implementation of Transmission-Based Precautions

When a service user has a known or suspected infection there are three transmission routes (means of transmission) to be concerned about:

- contact
- droplet
- airborne.

4.2 Contact Precautions

Contact transmission can be direct (for example, when blood from an infected person comes into contact with a mucous membrane or break in the skin of another person) or indirect (for example, by way of shared equipment that has not been cleaned sufficiently such as commodes).

Direct and indirect contact transmission is responsible for the majority of spread of healthcare associated infections.

Contact precautions should be implemented when there is a risk of direct or indirect transmission of infectious microorganisms that are not effectively contained with standard precautions alone. Examples of these are influenza, norovirus, *Clostridioides difficile*, Meticillin resistant *Staphylococcus aureus* (MRSA), and skin infections, such as scabies.

There are five main contact precautions that should be applied in addition to standard precautions, these include:

- hand hygiene
- use of appropriate PPE
- special handling of equipment (including environment, waste and linen management)
- service user placement
- minimising service user movements between service user care areas.

How to Implement Contact Precautions in a Practical Way

Before implementing any precaution, it is essential to fully communicate the reason to the service user / carer / other staff to reduce anxiety and fear and encourage compliance with measures. The implementation of precautions will vary depending on the facility, and how the precautions may impact the service user affected. Table 8 offers practical advice on how to implement contact precautions along with the rationale for why this is recommended.

Table 8: Implementing Contact Precautions

IPC Precautions	How to do it?	Reason – Break the Chain of infection
Hand Hygiene	Refer to the 5 moments for hand hygiene in Chapter 3.	Microorganisms can spread easily to service users / environment / staff through contaminated hands. Hand hygiene compliance is likely to improve if staff / service users have good access to clinical hand wash basins / alcohol-based hand rub at point of care.
Use of Appropriate PPE	Additional PPE may be required in addition to those mentioned in standard precautions, for example, long sleeved gowns.	Wearing appropriate PPE when delivering care that is likely to involve contact helps to contain infectious microorganisms, especially those that have been implicated in transmission through contamination of the environment, for example, norovirus (winter vomiting bug). Appropriate PPE will also help contain microorganisms that transmit through direct contact, for example, blood and body fluid splashes. It is critical to put on (don) and remove (doff) PPE correctly. Refer to the PCRA ¹⁰ to determine the PPE that may be required.
Special Handling of Equipment	For service users with known or suspected infection on contact precautions consider all the equipment they require for optimum care. Equipment should be dedicated to that person alone for the duration of contact precautions, and not shared with any other service user – for example, commodes, blood pressure cuffs, wheelchairs, drip stands.	Reusable medical devices and equipment must be decontaminated in line with manufacturers' recommendations – cleaned, disinfected and / or sterilised. The minimum level of reprocessing required for reusable medical devices and equipment depends on the individual situation, that is the body site, the presence of infectious organisms, and the nature in which the device will be used.

IPC Precautions	How to do it?	Reason – Break the Chain of infection
Special Handling of Equipment (cont'd)	When contact precautions are discontinued all equipment used for and by the service user must be thoroughly cleaned and disinfected / disposed of as appropriate.	Dedicating equipment to the service user with known or suspected infection may reduce the risk of spreading the infection to another service user.
Service User Placement	Service users with a known or suspected infection should be cared for in a single room with ensuite bathroom. If this is not possible undertake an IPC risk assessment. Cohorting of service users with the same lab confirmed communicable infection may be required when the capacity to isolate service users in single rooms is limited. Explain to service user / carers / all staff the reason contact precautions are in place. Encourage service user to remain in their room for duration of the precautions. Keep all care records / supplies outside of room – only bring in what is required for the task being undertaken Ensure hand hygiene performed on entry and exit to room and prior to donning and after doffing PPE. Place healthcare risk waste bin at exit to ensure any used PPE / waste is discarded appropriately. Keep door closed only when safe to do so – consider impact on service user. Discrete signage may be placed at entrance to room to ensure all staff / visitors know contact precautions in place – see the website www.hpsc.ie for posters / information. Increase frequency of cleaning / disinfection – especially frequently touched surfaces.	Helps reduce contact between person with infection and other service users. Can reduce spread of gastrointestinal infections if bathroom is not shared. If an ensuite is not available ensure a dedicated commode / toilet is provided. If a service user requires a shower / bath a communal bathroom can be used, provided the area is fully cleaned and disinfected immediately after use / before next service user use. Signage will remind health and care workers / visitors to adhere to precautions. May facilitate greater frequency of cleaning as there is less impact on surrounding area / other service users. But Isolation can be very traumatic for service users – ensure the service user does not suffer harm because of isolation, for example, encourage frequent checks by staff, use alternative methods of communication (such as virtual) with family and friends. Do not unnecessarily prolong transmission based precautions – refer to the website www.hpsc.ie for guidance on recommended durations of contact precautions for specific infections. Whilst in the single isolation room, gloves may need to be removed, and hand hygiene performed to comply with the 5 moments for hand hygiene specifically before clean / aseptic procedures and after contact with blood / bodily fluids. If glove change is anticipated, bring a pair of new gloves with you on entry to the room.
Minimising Service User Movements Between Care Areas	Hand hygiene must be performed prior to moving the service user and appropriate PPE donned. See droplet precautions below for additional measures when the service user has a respiratory tract infection .	Limiting movement of the person on contact precautions may reduce the risk of contaminating the wider environment. Service users on contact precautions may be brought outside of their room, for example, for a walk, once an IPC risk assessment has been undertaken and all practical and appropriate measures have been put in place to prevent transmission of infection.

It is vital in community health and social care services to consider the service users' psychosocial care whilst on contact precautions. An IPC risk assessment must be undertaken to identify the best way to manage infection transmission risk within your service.

Some examples of IPC risk assessment in practice are available in the DOH (2023) National Clinical Guideline no. 30, IPC.³

4.3 Droplet Precautions

Some infectious microorganisms can be transmitted through the respiratory route, by coughing, sneezing or talking. Infectious particles may travel to another person either directly (from being in close contact with a person coughing / sneezing and inhaling their droplets) or indirectly (touching a surface where a person has coughed onto, then transferring the microorganism to eyes / nose / mouth by contaminated hands). In general, 'droplet' refers to microorganisms that are considered larger, therefore it is considered that they do not remain suspended in the air for long periods and are more likely to 'fall' onto surfaces and contaminate them.

Examples of infections that are spread by the droplet route are respiratory viral infections such as the common cold, COVID-19, influenza, and whooping cough. These viruses can reach the respiratory tract mucosa (eyes, nose and mouth) of a susceptible person in two ways:

1. Travelling directly through the air to the respiratory tract, or
2. Indirectly as a result of contamination of hands or other surfaces and subsequent transfer to the respiratory mucosa.

Learning from the Pandemic

The COVID-19 pandemic prompted extensive research and review of evidence regarding the physics of liquid particles generated from the respiratory tract and pathways of direct transmission of virus through the air. Liquid particles are generated from the respiratory tract when breathing, talking, singing, shouting or laughing.

Droplets are expected to land on surfaces or to fall out of the air on to surfaces, including respiratory mucosa, quickly and within a short distance of where they are generated. Transmission in this way is known as droplet transmission. Aerosols are expected to stay suspended in the air for an extended period and to travel throughout the air space within which they are generated. Transmission in this way is airborne transmission.

However, emerging research from the pandemic has shown that droplet and airborne categories are not discrete, and there may be some overlapping between the two categories. However, categorisation as droplet or airborne has a practical utility for concise communication with healthcare workers regarding the set of IPC precautions recommended for specific circumstances

For a susceptible person in shared air space with a person shedding an infectious organism through respiratory particles the risk of transmission through the air is very complex. Factors influencing the risk are likely to include the following:

- How much infectious organism is being shed by the infectious person?
- How infectious the organism is (infectious dose)?
- How long the susceptible person is in the shared air space?
- How close they are to the nose and mouth of the infectious person?
- Their orientation towards the infected person (are they directly facing the infectious person)?
- How forcefully the infectious person is scattering respiratory particles?
- What barriers (including masks) are in place that impede the particles?
- The degree to which air movement and ventilation keep the particles suspended and / or dilute the particles.

Recognising that droplet and airborne transmission are not discrete categories has practical implications in that it points to a general requirement for increased emphasis on capacity for adequate ventilation in healthcare facilities.³

In circumstances where transmission of infection through the air is identified as a risk, the following core components for risk reduction should be considered:

- vaccination of susceptible individuals against the infectious disease when an effective vaccine is available
- minimise the number of people who share air space with an infectious person by service user placement in a place that supports limiting the number of other people exposed (ideally closed room with controlled ventilation)
- in so far as consistent with good service user care, minimise the duration of exposure of those people who must enter the space where the service user is placed
- minimise the shedding of microorganisms by the infectious person (anti-infective agents where these are of proven benefit)
- minimise the scattering of microorganisms by the infectious person (respiratory hygiene and cough etiquette and wearing mask if tolerated)
- maintain as much distance as is reasonably practical while in the shared air space
- maintain ventilation (often natural, mechanical where required) as much as practical to dilute infectious particles
- use of appropriate personal protective equipment including an appropriate face mask.

The HSE AMRIC team have developed guiding principles for buildings to promote infection prevention and control that includes guidance on ventilation requirements in specific settings.²⁶

How to Implement Droplet Precautions

As with contact precautions, there are a number of key IPC practices to prevent the spread of infection through the droplet transmission route. These include:

- Standard precautions – including hand hygiene, respiratory hygiene and cough etiquette.
- Use of appropriate PPE.
- Special handling of equipment.
- Minimising service user movement.
- Service user placement.

When implementing droplet precautions consider the impact on the service user. For example, communication may be challenging when health and care workers are wearing surgical masks, loneliness may be experienced when service users are asked to remain in their rooms and not take part in social activities. Clear communication is required in all situations, with an accompanying risk assessment to ensure any precautions are considered in terms of their impact on the service user. Table 9 provides practical guidance on implementing droplet precautions along with the rationale for each precaution.

Table 9: Implementing Droplet Precautions

IPC Precaution	How to do it?	Reason – Break the Chain
Hand hygiene	Strict adherence to hand hygiene.	Prevents the spread of droplets through contaminated hands.
Respiratory / cough hygiene	Strict adherence to respiratory / cough hygiene.	Contains the transmission of organisms when the service user is in close contact with another person.
Use of appropriate PPE	Wearing a surgical mask in the service user care environment when a minimum distance from a person on droplet precautions cannot be maintained.* FFP2 mask for aerosol generating procedures. Always refer to PCRA ¹⁰ to support decision making regarding PPE required. Refer to safe use of masks poster and fit check FFP2 poster	Implement droplet precautions when caring for people known or suspected to be infected with microorganisms transmitted by respiratory droplets. This includes the use of appropriate PPE.
Handling of Equipment	Designate single service user use / disposable equipment and avoid sharing of equipment. Ensure all equipment is thoroughly cleaned and disinfected as per manufacturer's instructions.	To ensure equipment contaminated with droplets is not shared between service users.
Minimising Service User Movement	Ideally service users on droplet precautions should remain in their rooms. If they are required to move through the facility / to another facility for ongoing care, the service user should be asked to wear a surgical facemask.	Fully explain the rationale behind the wearing of the mask outside of the service user room – that is to contain any cough / sneezing secretions and protect those who come in close contact with the service user. If the service user cannot tolerate a surgical mask, they should be supported to follow respiratory / cough hygiene.
Service User Placement	Single rooms are recommended for service users requiring droplet precautions in residential care facilities. Where single rooms are unavailable cohorting may be advised. In an ambulatory care setting, it is recommended that a minimum distance of 1 metre is maintained between service users in the healthcare setting. This reduces the risk of contact and droplet transmission from people with unrecognised contact or droplet transmitted colonisation or infection.³	Where single rooms are unavailable or in short supply consider the following as part of your IPC risk assessment: • Prioritise those with excessive cough and sputum production. • Consider the person's ability to perform hand hygiene and follow respiratory / cough etiquette. • Place together in the same room service users who are infected with the same laboratory confirmed microorganism and are suitable roommates (this is referred to cohorting).

* This is the current recommendation for type of mask required at time of writing. All services should consult with the most up to date guidance on the website www.hpsc.ie and also any local decisions made by Departments of Public Health.

Aerosol Generating Procedures

Aerosol Generating Procedures (AGPs) are rarely undertaken in health and social care settings; however, they are not common in every setting. AGPs are associated with an increased risk of infection transmission from the respiratory tract.

Although there are some variations between the lists of defined AGPs the following generally feature consistently:

1. Endotracheal intubation and extubation
2. Cardio-pulmonary resuscitation (AGP risk is associated with airway management)
3. Open airway suctioning
4. Bronchoscopy (diagnostic or therapeutic)
5. Autopsy
6. Sputum induction (diagnostic or therapeutic).

Some procedures are cited by some agencies but are not cited by other agencies for example:

1. Non-invasive positive pressure ventilation for acute respiratory failure (CPAP, BiPAP).
2. High flow oxygen therapy.²⁷

If a service user on droplet precautions requires an AGP then droplet precautions should be increased to airborne precautions for at least the duration of the procedure. Consider also where the procedure is being undertaken, and how the area will be ventilated afterwards, ensuring all staff entering the area are wearing appropriate PPE. For further advice and support contact the local IPC team.

4.4 Airborne Precautions

Airborne precautions prevent transmission of microorganisms that remain infectious over time and distance when suspended in the air. These microorganisms may be inhaled by susceptible individuals who have not had face-to-face contact with (or been in the same room as) the infectious individual. Microorganisms associated with airborne precautions include measles, chicken pox and tuberculosis.

Airborne precautions are generally less common in community settings, however, there are indications that the influenza virus, SARS CoV-2 (the virus that causes COVID-19) and other respiratory viruses may sometimes be transmitted by the airborne route and in certain circumstances, for example, when performing aerosol generating procedures.

As part of an IPC risk assessment services should consider:

- What microorganism is suspected or has been confirmed in the service?
- How does the microorganism spread? Based on what is known about how it can transmit from one person to another what type of PPE will be required? Undertake a PCRA⁴ to support decision making and also refer to the most up to date guidance about the microorganism available at www.hpsc.ie.
- Training required depends on the level of risk and how complex the PPE is to use. This is particularly relevant in relation to the use of respirator masks (FFP2).
- When respirator masks are required based on PCRA,¹⁰ the wearer should undertake a fit check each time a respirator is worn to ensure there are no gaps between the mask and face for unfiltered air to enter.
- Within the HSE, health and safety advisors can provide information on where to source fit testing locally. community infection prevention and control nurses do not perform fit testing.

How to Implement Airborne Precautions

The key aspects of implementing airborne precautions relate to:

Standard Precautions

- special emphasis on cough / respiratory hygiene and hand hygiene.

Transmission-Based Precautions

- appropriate ventilation
- use of appropriate PPE, particularly correctly fitted FFP2 respirator masks
- minimising exposure of people who use health and social care services, visitors and HCWs to the infectious microorganism
- PPE should be available in a range of sizes to ensure the wearer has appropriately fitting PPE.

PPE should be easily accessible using dispensing units and should be located outside the room / bay of the service user. It is helpful to display posters as a prompt for staff in correct donning and doffing procedure. An ABHR dispenser should be located next to the PPE dispenser.

If staff are unfamiliar with PPE donning and doffing, a buddy system should be introduced to ensure the donning and doffing of PPE is correct. Posters showing the recommended procedures for donning and doffing PPE are available at: <https://www.hpsc.ie/a-z/respiratory/coronavirus/novelcoronavirus/guidance/infectionpreventionandcontrolguidance/ppe/>

All PPE with the exception of a mask, can be removed inside the service user's room. Masks should be removed outside the service users' room. Dispose of used mask into small bin placed outside the service users' room. Hand hygiene must be performed immediately after removing PPE.

HCWs who provide care in the home of a service user should have access to a full range of PPE as required.

Visitors

Community infection prevention and control teams are aware of the potential harm and loneliness that can occur when restrictions are placed on service user access to visits from their families and friends. For this reason, any discussions around visitor restrictions should be carefully considered taking a rights-based approach to decision making. Services should ensure the safety of any visitors accessing the site, for example, through provision of, and education around wearing of, PPE, support to perform hand hygiene, and ensuring adequate ventilation in the room where the visit takes place. All services should have a documented and agreed process in place to support visiting. HIQA (2025). Assessment-judgment framework for infection prevention and control and antimicrobial stewardship in designated centres for older people outlines requirements in respect of visiting. Refer to HIQA website www.hiqa.ie for more information. Table 10 outlines practical guidance on implementing airborne precautions.

Table 10: Implementing Airborne Precautions

IPC Precautions	How to Do it?	Reason – Break the Chain
Hand hygiene	Strict adherence to hand hygiene.	Prevents the spread of infection through contaminated hands.
Respiratory / cough hygiene	Strict adherence to respiratory / cough hygiene.	Contains the transmission of organisms when the service user is in close contact with another person.
Service User Placement / Appropriate Ventilation	Specialist isolation rooms with negative pressure ventilation are generally not available in community settings. For this reason, 'appropriate' ventilation is difficult to define, however, factors to consider are access to natural ventilation, access to single rooms with door closed, where this is not possible ensuring adequate spacing between service users, limiting the number of persons in close proximity – including assigning dedicated staff to the area.	It is good practice to minimise the number of healthcare workers, and the time healthcare workers are exposed within shared airspace with a person on airborne precautions. Consider service user safety and comfort when closing doors and opening windows.
Appropriate PPE	Fit tested FFP2 respirator masks are recommended for health and care workers as part of airborne precautions. HCWs must perform fit checks every time they put on an FFP2 respirator mask to ensure it is properly applied. No clinical activity should be undertaken until a satisfactory fit has been achieved. Fit checks ensure the respirator is sealed over the bridge of the nose and mouth and that there are no gaps between the respirator and face. Fit checks are different to fit tests. For instruction on how to do an FFP mask fit check refer to the poster resource on the website www.hpsc.ie.	The Health and Safety Authority indicate that where a risk assessment indicates that HCW need to use a close-fitting respirator mask for their protection that every effort should be made to comply with the requirement for fit testing of the worker, as far as is reasonably practicable. When fit testing of all staff is not immediately possible, then fit testing should be prioritised for those at greatest risk. Priority groups for fit testing include the following: • HCW most likely to be involved in performing AGPs, in particular endotracheal intubation. • HCW most likely to have the most frequent or prolonged exposure to airborne infection. Contact the local Health and Safety Advisor for more information.
Minimising Exposure	Reduce exposure to person on airborne precautions through limiting their contact with service users and staff but not in any way compromising the service user's care needs.	

4.5 Discontinuing Transmission-Based Precautions

Transmission-based precautions should only be in place for a specified period. This period is determined by the microorganism causing the infection / at the end of an outbreak / as directed by Public Health. A table outlining the recommended duration of precautions of common infections is provided in DOH (2023) National Clinical Guideline, no. 30, Vol. 2.³ This list is for guidance only. There may be a requirement for additional periods based on individual circumstances. For example, the duration of TBPs for COVID-19 is generally five days, however, extension beyond five days may be appropriate in some service users, for example, in people who are immunosuppressed, and should be based on clinical evaluation. Refer to current advice on www.hpsc.ie.

Terminal Cleaning Following Discontinuation of Transmission-Based Precautions

Terminal cleaning and disinfection is the thorough cleaning / disinfection of all surfaces including floors and reusable equipment either within the whole healthcare facility or within an individual ward / department / unit / room.

Terminal cleaning and disinfection is intended to ensure that pathogenic microorganisms are removed or inactivated to avoid the risk of transmission to subsequent users of health and social care services and staff working in these services.

Terminal cleaning and disinfection may be required in the following circumstances:

- following an outbreak or increased incidence of a communicable infection
- following discharge, transfer or death of a person who has had a known communicable infection
- following use of an area to support implementation of transmission-based precautions for a person / cohort.

Terminal cleaning and disinfection should be performed on the advice of the infection prevention and Control Team or manager in charge of the ward / unit / facility. The terminal cleaning and disinfection should not commence until the relevant area has been fully vacated, that is all disposable equipment disposed of, curtains removed, waste removed etc.

See Appendix 6 for further information about terminal cleaning and a suggested terminal cleaning template.



Chapter 5

Antimicrobial Resistance, Multi-Drug Resistant Organisms and Antimicrobial Stewardship

The HSeLanD modules 'AMRIC Introduction to Infection Prevention and Control and Antimicrobial Resistance' and 'AMRIC Antimicrobial Stewardship in Practice' are recommended for staff to enhance their knowledge about this chapter of the manual. In addition, nurses should complete the module 'AMRIC Role of the Registered Nurse / Midwife in Antimicrobial Stewardship' and 'The Basics of Microbiology and Surveillance'

5. Introduction

Antimicrobials are medicines used to prevent and treat infection and infectious disease. Antimicrobial resistance (AMR) occurs when bacteria, viruses, fungi and parasites no longer respond to antimicrobial medicines. Antibiotics are antimicrobial medicines used to treat bacterial infections. As a result of drug resistance, antibiotics and other antimicrobial medicines become ineffective and infections become difficult or impossible to treat, increasing the risk of disease spread, severe illness, disability and death.

Effective antimicrobials are essential to the practice of modern medicine. AMR threatens to undo many of the lifesaving advances in human health care that have been made over the past 100 years (for example, surgery, cancer treatment, organ transplantation). It is estimated that by 2050, if the world does not address this risk, AMR will be responsible for 10 million deaths annually (more than are currently lost to cancer) and will have cost USD\$100 trillion in lost global production. The Irish Government's National Risk Assessment (NRA) 2024 document²⁸ identifies strategic risks that may have an adverse impact on Ireland's wellbeing, and aims to ensure that appropriate prevention and mitigation frameworks are in place. Antimicrobial resistance has been identified as a national risk on the NRA since 2014.

Antimicrobial resistance has become a major challenge to healthcare delivery systems in Ireland and throughout the world. Control of antimicrobial resistance is grounded in improved use of antimicrobial agents (antimicrobial stewardship) and better control of the spread of antimicrobial resistant organisms (infection prevention and control). Antimicrobial prescribing guidelines are available on the HSE website.

The World Health Organisation One Health Initiative²⁹ is an integrated, unifying approach that aims to sustainably balance and optimise the health of people, animals and ecosystems. It recognises that the health of humans, domestic and wild animals, plants, and the wider environment (including ecosystems) are closely linked and interdependent. While health, food, water, energy and environment are all wider topics with sector-specific concerns, the collaboration across sectors and disciplines contributes to protect health, address health challenges such as the emergence of infectious diseases, antimicrobial resistance, and food safety and promote the health and integrity of our ecosystems.

The Government of Ireland signed up to the initiative in 2015, initially publishing its first National Action Plan on Antimicrobial Resistance 2017-2020 (iNAP 1), Second One Health National Action Plan on Antimicrobial Resistance 2021-2025 (iNAP 2). Ireland's third National Action Plan on Antimicrobial Resistance 2026-2030 (iNAP 3) was published in November 2025.² This plan recognises the urgent and growing problem of antimicrobial resistance for human health worldwide. It aims to implement policies and actions to prevent, monitor and combat antimicrobial resistance across the health, agricultural and environmental sectors. Reducing the inappropriate use of antimicrobial medicines, as well as preventing the transmission of infections and disease, is vital to stop the development and spread of resistant microorganisms. In response the HSE has identified key actions to be delivered over the course of plan – HSE Antimicrobial Resistance and Infection Control (AMRIC) action plan 2026-2030. More information is available on the HSE website.

This chapter of the manual focuses on the following two key aspects of safe and effective care.

- The care of service users colonised with multi-drug resistant organisms (MDROs), and how we can provide care to people who are colonised with these organisms in community health and social care settings.
- Antimicrobial stewardship which involves appropriate use of antimicrobial agents such as antibiotics to maximise their benefit while causing the least harm.

This section of the manual is adapted from DOH (2023) National Clinical Guideline, no. 30, IPC,¹ Guidelines for the Prevention and Control of multi-drug resistant organisms (MDRO) excluding MRSA in the healthcare setting 2014³⁰, HSE (2022) AMRIC Antimicrobial Stewardship – guidance for all healthcare settings³¹ and HSE AMRIC (2025) Management and Control of Carbapenemase-producing Enterobacterales (CPE) in all Health and Social care Settings³².

5.1 Multi-Drug Resistant Organisms (MDROs)

MDROs, which are predominantly bacteria, are organisms that are resistant to multiple classes of antimicrobial agents, for example, antibiotics. Acquired resistance to three or more classes of antimicrobials is generally accepted as defining an MDRO.

Antimicrobial resistance increases the morbidity and mortality associated with infection and contributes to increased costs of care due to prolonged hospital stay and other factors, including the need for more expensive drugs.

A major cause of antimicrobial resistance is the exposure of a high-density and medically vulnerable population in an acute care setting (hospital) to frequent contact with health care workers (resulting risk of cross infection) and extensive antimicrobial use in these settings. People who use community health and social care services may on occasion require treatment in an acute care setting, increasing their risk of exposure to MDROs.

For the purpose of this document, MDROs can be divided into:

- skin and nose-colonising MDROs
- gut-colonising MDROs.

Skin and Nose-Colonising MDROs

For those MDROs that colonise the skin and nose, there is a risk of transmission via the hands from touching the face and nose

Meticillin resistant *Staphylococcus aureus* (MRSA) is an example of a skin and nose-colonising MDRO. In many cases it may be possible to eradicate or minimise surface colonisation with MRSA by using a decolonisation protocol. However, this should only be done if there is a clinical indication for doing so, for example, if a service user has a planned surgical procedure in an acute hospital and the hospital team request decolonisation. Prolonged use and multiple courses of mupirocin (used for nasal MRSA decolonisation) have been associated with the development of mupirocin resistance and prolonged or repeated courses are to be avoided in long stay patients.

Gut-Colonising MDROs

Gut-colonising MDROs include a number of antibiotic resistant bacteria that have been a problem for many years including Vancomycin Resistant *Enterococci* (VRE) Extended Spectrum Beta-Lactamase producing Enterobacterales (ESBLs) and Carbapenemase Producing Enterobacterales (CPE).

These organisms spread from person-to-person through the faecal-oral route. Faecal-oral transmission means that the germs that cause illness are found in the stool (faeces) of an infected person, and are spread to another person. This occurs when a person touches the stool of an infected person or an object contaminated with the stool of an infected person and ingests the germs.

Traces of faeces, that are often invisible, can be transferred to hands and to other surfaces by touch. The organisms can then be transferred from hand and surfaces to the mouth, either directly, or from contamination of food or utensils. It follows from the above that for those with gut-colonising MDROs the principal issue is about managing the risk of faecal contamination of hands and surfaces. Provided the person is continent, fully dressed, has no behavioural disturbance and is supported as necessary in performing correct hand hygiene and personal hygiene after using the toilet the risk of person to person spread and environmental contamination is very low in most non-acute settings. There is no established protocol internationally for decolonisation of the gut of people with gut-colonising MDROs. Service users with gut-colonising MDROs do not need to be restricted to their rooms and can access group activities and make use of communal areas if they are independent, they are continent of faeces or their faeces can be contained, and they carry out supervised hand hygiene.

Regardless of known or suspected MDRO status, a person who has new onset diarrhoea should be cared for as infectious diarrhoea until the cause is known. Several factors other than infection can cause diarrhoea, for example, a change in diet or a new medication. Service users with diarrhoea should be assessed to determine cause, and if infection is suspected or confirmed transmission-based precautions should be implemented in addition to standard precautions. The most critical elements in controlling the spread of MDROs in health and social care settings are likely to be adherence to standard precautions in all settings and with all service users.

A two-level approach is necessary for the prevention and control of spread of MDROs.

This involves implementation of:

- Core strategies for MDRO prevention and control in any situation where MDRO infection or colonisation is suspected or identified.
- Organism-based or resistance mechanism-based approaches if the incidence or prevalence of MDROs are not decreasing despite implementation of the core strategies. There may be different strains of the MDRO therefore laboratory confirmation of strain is essential.

In all settings measures to manage the risk of transmission associated with MDROs must be balanced with the imperative of delivering appropriate care to people in a timely manner.

Home Support and Other Community-Based Health and Social Care Settings

Successful control of MDROs is based on a combination of interventions with a shift over the last decade towards the engagement and participation of service users in infection control strategies.

The control of MDROs involves antimicrobial stewardship, continued rigorous adherence to standard precautions (including hand hygiene and appropriate use of PPE as per PCRA)¹⁰ and implementation of specific contact precautions until people have been discharged from the acute hospital facility or until such time as implementation of contact precautions can be lifted based on laboratory results and IPC team assessment (see chapter 4 – transmission based precautions).

In community health and social care settings standard precautions in addition to antimicrobial stewardship are generally sufficient to manage the risk of MDRO transmission. However, additional measures including placement in a single room and use of PPE (as per PCRA)¹⁰ may be considered for certain elements of care in discussion with the IPC Team.

The current evidence does not support routine surveillance testing for MDROs in home support and community-based settings such as residential care facilities.

Service users with specific risk factors for transmission of microorganisms, such as a discharging wound, should have an IPC risk assessment performed to determine whether any measures beyond standard precautions should be implemented. There should be a focus on the element of a task or behaviour that may increase risk, and appropriate additional contact precautions that may be required. Any additional precautions implemented should have due regard to the overall care needs of the service user.

Carbapenemase Producing Enterobacterales (CPE)

For full guidance relating to caring for people with CPE refer to HSE AMRIC (2025) Management and Control of Carbapenemase-producing Enterobacterales (CPE) in all Health and Social Care Settings available on [HPSC.ie](https://www.hpsc.ie/32).³²

The gut of every normal, healthy human contains bacteria including a group of bacteria called Enterobacterales. This group of bacteria includes *E. coli* and *Klebsiella pneumoniae*. When Enterobacterales get into the bladder, kidney or bloodstream, they can cause infection (cystitis, pyelonephritis, sepsis). CPE is a particular variant of these common gut bacteria that have become resistant to a critical group of antibiotics, the carbapenems. They are often also resistant to many other antibiotics. Although they are resistant to antibiotics, in most other respects they are like other Enterobacterales bacteria.

A person who carries CPE in the gut but who has no clinical symptoms or illness related to the CPE is said to be colonised with CPE. People may also have asymptomatic CPE colonisation of urine, leg ulcers or invasive devices. People colonised with CPE (that is with no clinical evidence of infection) should not be treated with antibiotics. There is insufficient evidence on decolonisation regimens for resistant Enterobacteriaceae. Attempts to decolonise people with CPE are not currently recommended. Refer to HSE (2025) CPE guidance as above for more information on delisting and the management of CPE outbreaks in facilities.

When people colonised with MDROs (including CPE) develop clinical evidence of infection, the MDRO may not be the cause of the infection.

For example, respiratory tract or skin infections are very unlikely to be caused by CPE even in a person colonised with CPE. In a small number of people colonised with CPE in the gut, the CPE may cause cystitis, pyelonephritis or sepsis. In this case, many of the antimicrobial agents commonly used in the community may not work.

Consultation with a medical officer of health (MOH) or General Practitioner (GP) in the first instance is recommended and a clinical assessment undertaken. Further advice from a consultant microbiologist or infectious disease physician may be appropriate if a person colonised with CPE develops clinical evidence of infection, in case they may need treatment directed towards CPE.

Communication of Carbapenemase Producing Enterobacterales (CPE) on a Hospital Discharge Letter

There are six common types of enzymes found in CPE isolates, with that number increasing as new variants are discovered. The most common type prevalent in Ireland is called OXA.

When admitting a person colonised with CPE from an acute hospital to your service their discharge letter may say 'CPE' or it may include the variant type, for example, 'CPE-OXA'. The minimum information required is that the person is colonised with CPE, however, some acute hospitals are now including the variant type on the discharge letter. The other variants that may be referred to are:

CPE-IMI	CPE-IMP	CPE-KPC	CPE-OXA-181
CPE-OXA-48-like	CPE-VIM	CPE-OXA-244	CPE-NDM

The care of a person colonised with CPE is the same regardless of the variant type.

Health and social care services should follow the guidance in table 12 to assist with IPC risk assessment when admitting a service user colonised with CPE. More detailed information on the care of a person colonised with CPE can be found in the HSE (2025) Management and Control of Carbapenemase-producing Enterobacterales (CPE) in all Health and Social Care Settings.

Contact your local IPC / AMS team to support you in this risk assessment process.

5.2 Caring for People Colonised with an MDRO in Community Health and Social Care Settings

In general, service users in community health and social care settings have a lower risk of developing invasive infections than hospitalised patients. It is recognised that both the requirements for containment of CPE and different approaches to management will vary across different settings and patient populations. Patients in acute hospitals have increased vulnerability for many reasons, for example, they may be immunocompromised due to their presenting illness / being acutely unwell, and have a higher use of invasive devices such as intravenous lines and urinary catheters.

Some community settings may follow acute care guidelines when caring for people with multi-drug resistant organisms. These settings may include – rehabilitation / short-stay settings, in-patient hospice / palliative care settings, acute psychiatric units and integrated care services. If unsure of whether to follow acute, or community, guidance when caring for a person with an MDRO please seek clinical advice from the persons treating physician / consulting microbiologist.

The implementation of infection control precautions at a level required in the hospital setting may have adverse psychological consequences for the service users in residential care facilities, where the facility is also their home. However, all healthcare facilities should endeavour to prevent transmission of MDROs. Service users of RCFs are frequently hospitalised. There may be frequent transfer of people colonised with MDROs between RCFs and acute hospitals. Control of resistant organisms is both a national and local problem and requires that facilities that share patients across acute and non-acute settings, where care is provided in each of the health regions and beyond, work together to prevent transmission.

All healthcare facilities, whether hospitals or community facilities should have an infection control programme in place, incorporating the following:

- a process for monitoring infection control problems, including outbreaks of infection
- education of healthcare staff in infection control practices, to include standard and transmission-based precautions and hand hygiene training
- dedicated formal access to microbiology and infection prevention and control advice
- dedicated formal access to occupational health services
- an active antimicrobial stewardship programme.

Health and social care staff should have access to all relevant national guidelines / resources and tools available to support them in making decisions relating to the management and care of a service user colonised with an MDRO. All those who prescribe should have access to, and use, the HSE website for the most up to date clinical treatment recommendations for the community.

Decisions regarding precautions to use for a service user colonised with an MDRO may need to be made on a case-by case basis.

For service users colonised with an MDRO an IPC risk assessment should be performed to facilitate planning the care of these service users. Approaches to manage a person who is colonised or infected with CPE may differ in different healthcare settings and are addressed in relevant sections of the above guidance. Risk assessment should take into account the following in relation to managing CPE and other MDROs in RCF settings:

- Relatively healthy independent service users colonised with an MDRO – standard precautions, ensuring that appropriate PPE is worn (as per PCRA) when dealing with secretions, draining wounds, stool, ostomy bags or tubes and pressure ulcers. Service users with CPE do not need to be restricted to their rooms and can access group activities and make use of communal areas if they are independent, they are continent of faeces or their faeces can be contained, and they carry out supervised hand hygiene.
- Dependent ill service users or service users with uncontrolled secretions / excretions or service users with an MDRO infection – contact precautions are recommended in this situation. Single room accommodation with ensuite is preferable, if available. If single rooms are not available, cohorting of service users known to be colonised with the same MDRO is acceptable.

If cohorting is not possible, then those service users colonised with an MDRO should be placed in a room with a service user considered to be at low risk for acquisition of an MDRO (that is not immunocompromised, not on antimicrobials, without open wounds, drains or urinary catheters) or those who have an anticipated short duration of stay.

Any additional precautions implemented should have due regard to the overall care needs of the service user. It may be more challenging to care for some service users colonised with an MDRO as they may not be able to understand or follow recommended IPC measures, for example, a service user with cognitive impairment. In these situations a service user may require more supervision and assistance.

Other aspects of control of MDRO in community settings include:

- maintaining a list of service users infected / colonised with an MDRO in compliance with general data protection regulations (GDPR)
- monitoring microbiology culture results of specimens sent to the local microbiology laboratory

- communication of information relating to the status of an MDRO colonised service users to other receiving or transferring facilities where indicated, such as upon referral to hospital or other healthcare facilities
- ensuring adequate environmental cleaning. If the spread of an MDRO within a facility is detected despite implementation of the infection control precautions mentioned in Table 12, intensified infection control measures may be required and expert advice should be sought.



MDROs can be skin and nose-colonising (MRSA) or gut-colonising (VRE, ESBL, CPE)

Consider: What MDRO is the service user colonised with?

How does it spread? (Think – Chain of Infection)

Staff who are making decisions regarding how to provide care to people colonised with an MDRO must know the answer to these questions to assist them with undertaking an IPC risk assessment and planning care of these service users.

It is recommended that the local community IPC / AMS team is consulted when a person colonised with an MDRO is admitted to any service in the community to support IPC risk assessment.

Due to the multiple variations across health and social care facilities and service users, it is not possible for this manual to give prescriptive IPC advice on the care of a service user colonised with an MDRO. Table 11 outlines some general recommendations for how standard precautions should be applied when service users are colonised with an MDRO outside of the acute setting (in the management of blood and body fluids), and where additional contact precautions may be required. It includes the rationale for each recommendation.

In all cases if further advice is required, contact the service users GP / treating physician or local IPC team / consultant microbiologist / department of public health as appropriate.

Table 11: Caring for a Service User who is Colonised with an MDRO

IPC Precaution	Recommendation	Rationale
Hand Hygiene	Staff Undertake hand hygiene as per ‘the 5 moments for Hand Hygiene’ – see Chapter 3. Alcohol-based hand rub has been shown to be effective against MDROs. Service Users Encourage service users to undertake hand hygiene. This is especially important after the service user has used the toilet. For service users who cannot attend to their own hand hygiene staff should support them to clean their hands.	Skin and Nose-Colonising MDROs: Hand contamination is more persistently present as contact of hands with the face and nose are frequent behaviours that may be more common when the person has a respiratory tract infection or nasal drip. Gut-Colonising MDROs: These organisms spread from person-to-person by the faecal-oral route, which is to say that they are shed in faeces. Traces of faeces, often invisible, can be transferred to hands and to other surfaces by touch. The organisms can then be transferred from hands and surfaces to the mouth either directly or from contamination of food or utensils.

IPC Precaution	Recommendation	Rationale
Personal Protective Equipment	Staff should undertake a PCRA to determine the appropriate PPE to wear based on the task they are due to perform (see Chapter 3). Always consider the impact wearing PPE may have on your service user – refer to Chapter 3 for more information on available resources to support effective communication with service users when wearing PPE.	Microorganisms transmitted by the contact route can potentially be transmitted by contamination of health and care workers hands, skin or clothing. A PCRA should always be undertaken by staff to determine appropriate choice of PPE when dealing with uncontrolled secretions, draining wounds, stool, ostomy bags or tubes and pressure ulcers. Gloves should never be a substitute for effective hand hygiene Factors to be considered are: • probability of exposure to blood and body substances • type of body substance involved • probable type and probable route of transmission.
Environmental Cleaning	In general, environmental cleaning using a neutral detergent (diluted as per manufacturers' instructions) and mechanical action is sufficient in community settings when caring for a service user colonised with an MDRO. Refer to Chapter 3 for more information on environmental cleaning / management of blood and body fluid spills. There are occasions where disinfection may also be required (see rationale opposite). Decisions on the appropriate use of disinfectants should be taken on a case by case basis, with consideration of factors which will inform the IPC risk assessment (see rationale). Cleaning audits should be undertaken periodically to ensure compliance with cleaning schedules. All services should have a process in place to report slow draining clinical hand wash basins / sinks / showers.	The importance of routine cleaning of the environment cannot be overemphasised. This is regardless of whether a service user colonised with an MDRO is present or not. A clean, well-maintained environment not only contributes to preventing the spread of infection, but also promotes a pleasant environment for both service users and staff. The most important step in assuring a safe environment is routine, scheduled cleaning that is monitored, along with maintenance of fixtures and fittings to ensure cleaning is effective. Any spillages of blood or body fluids must be dealt with immediately, as per the process outlined in Chapter 3. Examples of occasions where disinfection may be required in addition to cleaning with a neutral detergent whereby the service user: • is incontinent of faeces / soiling of the environment occurs • has difficulty maintaining personal hygiene • displays behaviours that challenge, for example, wandering into other service users' rooms, smearing etc. • has a discharging wound and the discharge is difficult to contain.

IPC Precaution	Recommendation	Rationale
Environmental Cleaning (cont'd)		It is important to note that service users colonised with an MDRO rarely require isolation in the community health and social care environment, therefore they are free to move throughout the facility. It may not always be practical to disinfect every area the service user has been in (for example, activity rooms). If this situation presents an IPC risk assessment should be undertaken, and plans put in place to reduce potential environmental contamination. The focus of IPC measures should continue to be on staff and service user hand hygiene, containing wound secretions, managing incontinence and maintaining a clean environment.
Service User Equipment	Ideally, all service users living in residential care settings should be provided with their own equipment, regardless of whether they are colonised with an MDRO or not. If equipment is shared amongst service users cleaning of equipment followed by disinfection is recommended if contact with blood or body fluids, paying particular attention to touch points. Bedpan washers must be serviced and maintained as per manufacturer's instructions. Contingency plans should be in place for urgent repair / replacement of bedpan washers should they malfunction.	It is especially important for service users colonised with an MDRO who require the use of equipment that comes in contact with blood or body fluids / service users' hands (for example, commodes, hoist slings, walking aids, blood pressure cuffs, shower chairs) be provided with their own equipment to prevent cross contamination to other service users / staff. Items should be stored clean and dry in an appropriate area. Promotion of service user hand hygiene and containment of body fluids is very important to prevent the spread of MDROs by way of potentially contaminated equipment. Body fluids may not always be visible, and the aim of providing colonised service users with their own equipment is to prevent other service users from coming into contact with the MDRO. Service users who are colonised with gut-colonising MDROs should be provided with their own bathroom / commode.
Laundry and Linen	Linen and laundry belonging to a service user colonised with an MDRO should be managed as per standard precautions (see Chapter 3). Linen contaminated with blood or body fluids should be placed in an alginate bag prior to transfer to laundry for processing.	Perform hand hygiene after touching linen, regardless of whether gloves have been worn or not. Linen should be handled carefully to prevent contamination of environment. Undertake a risk assessment on a case-by-case basis to determine the need for alginate bags.

IPC Precaution	Recommendation	Rationale
Waste	Waste generated from a service user colonised with an MDRO must be managed as per standard precautions. There may be a requirement for a healthcare risk waste stream to be available. Refer to Chapter 3 for information on waste management.	A healthcare risk waste stream will be required for waste contaminated with blood or body fluids, for example, contaminated dressings from a discharging wound. Non-infectious incontinence wear (waste) in a community setting is generally disposed of in a domestic waste stream.
Service User Placement	Colonisation with an MDRO should not be a barrier to accessing health and social care services. When admitting a service user colonised with an MDRO ideally, they should be provided with their own bedroom and bathroom.	A single room with an ensuite is highly recommended for service users with gut-colonising MDROs who are incontinent of faeces to prevent the risk of cross contamination to other service users. For service users with skin / nose-colonising MDROs, a single room is recommended also. Where this is not available an IPC risk assessment should be undertaken. Avoid placing a person colonised with an MDRO in a room with a person who is vulnerable. Offering a single room / single room with ensuite to a service user colonised with an MDRO in a community setting is not for isolation purposes. Isolation of service users colonised with an MDRO is generally not required in community health and social care settings. It must be remembered that the residential care setting is the service users' home, and prolonged isolation has been shown to cause severe psychosocial harm. Discuss with IPC team / local department of public health if further advice is required.

In all cases it is recommended that services contact the local IPC / AMS team for advice if they are providing health or social care to a service user colonised with an MDRO.

5.3 Antimicrobial Stewardship (AMS)

The AMRIC hub on HSeLand has the following e-learning modules that support Antimicrobial Stewardship:

- Antimicrobial Stewardship in Practice
- Prevention and Management of Urinary Tract Infection
- *Clostridioides difficile* Infection
- Pneumococcal Polysaccharide Vaccine (PPV23)
- The Basics of Microbiology and Surveillance
- Role of the Registered Nurse / Midwife in Antimicrobial Stewardship.

In addition to e-learning webinar recordings are available to all staff on the Health Protection Surveillance Centre website www.hpsc.ie.

Safe and appropriate use of antimicrobials is a critical element of Ireland's national plan for antimicrobial resistance and of patient quality and safety initiatives (Department of Health 2026-2030).²

Over the last 50 years, the prevalence of MDROs has risen rapidly, initially mainly in hospitals but now increasingly in the community also. There is good evidence that overall levels of antimicrobial resistance correlate with the total quantity of antimicrobials used. In individuals, the risk of colonisation and infection with MDROs correlates strongly with previous antimicrobial therapy.

What is Antimicrobial Stewardship?

Over the last 20 to 30 years we have seen many antimicrobials become less effective or even not effective at all for treatment of some bacterial infections due to AMR. This pushes us to use different antimicrobials that may be more toxic, more difficult to use and more costly. People with antimicrobial resistant infections are sicker for longer and require more complex care. Effective antimicrobials are essential to the practice of modern medicine.

High levels of antimicrobial use and inappropriate use of antimicrobials causes increasing AMR as well as other patient harms. Antimicrobial stewardship (AMS) is vital in limiting and potentially reversing the development of AMR so that antibiotics are kept effective for future generations.

AMS promotes maximising the benefit of antimicrobials and causing the least harm for the individual service user.³¹

The purpose of AMS is to:

- support delivery of the right antimicrobial, at the right time, dose and duration to meet service users' needs
- protect service users from avoidable harm related to inappropriate antimicrobial use
- ensure that antimicrobials remain effective for the future by limiting the emergence of antimicrobial resistance.

Antimicrobial Stewardship Resources

The HSE has produced national guidelines on Antimicrobial Stewardship: Guidance for all healthcare settings.³¹ These guidelines recognise the importance of all healthcare providers as antimicrobial stewards and outlines the roles and responsibilities of different healthcare professionals in antimicrobial stewardship.

Further information on antimicrobial stewardship including resources and audit tools to support healthcare professionals to implement the core principles of antimicrobial stewardship can be found on the HSE website.

The HSE has developed an antimicrobial stewardship toolkit for residential care facilities, available on its website.

Green / Red Antibiotic Quality Improvement Initiative for Community Prescribers

A major initiative to support antimicrobial stewardship in the community setting has been the Green / Red Antibiotic Quality Improvement Initiative for Community Prescribers, developed by the HSE Antimicrobial Resistance and Infection Control (AMRIC) team and the HSE Medicines Management Programme.

A 'Green / Red' list of antibiotics assists community prescribers in choosing a preferred Green antibiotic, when needed, that is effective, has fewer side effects and less likely to lead to resistant infections than 'Red agents'.

The HSE antimicrobial guidelines for community prescribers recommend when an antibiotic is needed, the preferred use of 'green' agents where possible.

The Green agents are:

Cefalexin, amoxicillin, doxycycline, trimethoprim, nitrofurantoin, fosfomycin, lymecycline, flucloxacillin and penicillin V.

The Red agents are:

Co-amoxiclav, quinolones (e.g. ciprofloxacin and levofloxacin), most cephalosporins (except cefalexin), macrolides (e.g. clarithromycin, azithromycin and erythromycin) and clindamycin.

General Practitioners are provided with a mouse mat / poster of the Green / Red Antibiotics (Figure 4) to assist in antibiotic decision making at the point of prescribing.

The HSE national AMRIC team are also collaborating with the Primary Care Reimbursement Service to build on this Green / Red antibiotic initiative. Each quarter since September 2019 each GP with more than 100 general medical scheme patients receives an individualised report on antibiotic use for their general medical scheme cohort for an updated rolling 12 month period. The report details the percentage of Red / Green agents prescribed by the GP and places the GP's own rate within a national quartile of low, midrange or high. Since 2019, there has been a significant decrease in the proportion of Red agents prescribed by GPs.

Figure 4: Green / Red Antibiotic List

In many cases the Preferred Antibiotic is No Antibiotic

Advise patients/carers to visit the HSE website www.undertheweather.ie for self-care advice for viral and self-limiting infections

☒ **Preferred Antibiotics In Community**

See www.antibioticprescribing.ie If antibiotic therapy is indicated the preferred first line choices below are likely to be effective, have fewer side effects, and are less likely to lead to resistant infections.

Respiratory Infections Duration in general: 5 days	Urinary Tract Infections	Skin and Soft Tissue Infections
Amoxicillin	Nitrofurantoin* (Only for lower UTI)	Flucloxacillin
Doxycycline*	Cefalexin	Cefalexin
Penicillin V (phenoxymethylpenicillin)	Trimethoprim*	Doxycycline* (acne)
	Fosfomycin* (Only for lower UTI)	Lymecycline* (acne)

☒ **Antibiotics To Be Avoided First Line In Community**

Co-amoxiclav Risks: C.diff Unless as first line for: animal or human bite; facial cellulitis; post partum endometritis; caesarean wound infections; perineal wound infection	Quinolones Risks: C.diff, drug interactions, tendon/nerve & other toxicities, prolongation of QT interval, lowers seizure threshold - Levofloxacin* - Ciprofloxacin* – Unless as first line for acute prostatitis - Ofloxacin* – Unless as first line for acute epididymo-orchitis - Moxifloxacin* – AVOID due to risk of severe liver toxicity	Other cephalosporins Risks: C.diff - Cefaclor - Cefixime - Cefuroxime
Clindamycin* Risks: C.diff	Macrolides Risks: C.diff, drug interactions, prolongation of QT interval - Clarithromycin* – Unless as first line for helicobacter eradication - Azithromycin* - Erythromycin*	

* These antibiotics may be safely used in patients with true penicillin allergy (immediate hypersensitivity).
C. diff = *Clostridioides difficile* infection

See www.antibioticprescribing.ie for details



Version 5, February 2023









Skip the Dip for UTI in over 65s quality improvement initiative

Skip The Dip for UTI in over 65s is a HSE quality improvement initiative that aims to reduce the levels of inappropriate prescribing for urinary tract infections (UTIs) in people aged 65 years and older and promote best practice in the management of suspected UTI.

UTIs are a common reason for antibiotic prescribing in older persons. The diagnosis and management of UTI can be challenging in older persons. Asymptomatic bacteriuria (ASB) is the presence of bacteria in the urine without symptoms of a UTI. It can be present at any age but is particularly common in those aged over 65 years and is very common in those persons with an indwelling urinary catheter. Urine dipstick tests are not a useful marker to assess for evidence of UTI in older people as they do not distinguish between ASB and UTI. ASB can lead to positive results for markers of UTI in urine dipstick tests, even in those without a UTI.

Inappropriate use of urine dipstick tests can lead to unnecessary antibiotic prescribing. This does not benefit the service user and may cause considerable harm including adverse effects, drug interactions and antimicrobial resistance. The diagnosis of a UTI should be based on clinical signs and symptoms of UTI in those aged 65 and older, not a urine dipstick test result. Antibiotics, if needed, should be prescribed in line with national guidance.

Contact your regional IPC / AMS teams for more information and resources to support the SKIP THE DIP for UTI in over 65s quality improvement initiative.



Appendices

Appendix 1

Taking a Specimen to Support Diagnosis of Infection

Clinical skills based training should be undertaken by staff who take specimens as part of their role with competence assessment included. All services should be aware of the local laboratory available to them to process specimens. This guidance should be used in association with any specific guidance on the collection, storage and transportation of samples from the testing laboratory.

The national AMRIC team has developed patient information leaflets to support people diagnosed with infection. These are available on www.healthpromotion.ie. Before taking any specimen services should have a process in place for receiving the result of the relevant test, and also how a diagnosis of infection will be communicated with services users / families / staff / other services providing care to the person.

Taking a Wound Swab

The following section is an extract from the HSE National Wound Management Guidelines (2018) which can be accessed at: <https://www2.healthservice.hse.ie/organisation/national-pppgs/hse-national-wound-management-guidelines/>

The routine taking of wound swabs is not recommended. While there isn't a 'best technique' identified or validated for obtaining a wound swab, the Levine Technique is promoted as the most useful in enabling a quantitative microbiological analysis to be obtained.

The following should be considered as indicators to take a wound swab:

- discharge – serous exudate with inflammation (seropurulent / haemopurulent / pus)
- delayed normal healing
- discolouration of wound bed; beefy red / dull purplish
- unexpected pain / tenderness / change in type of pain and duration
- over-granulation of tissue that bleeds easily
- sudden increase in the amount of exudate from wound
- abnormal smell
- bridging / pocketing at base of wound
- friable granulation tissue that bleeds easily
- wound dehiscence
- Cellulitis is not usually indicated as a requirement for a wound swab.

Other clinical signs include:

- Person shows signs of a systemic infection such as pyrexia, raised white cell count, blood C reactive protein levels (CRP) and / or blood erythrocyte sedimentation rate (ESR).
- People that are elderly or immunosuppressed tend to be more susceptible to wound infections and present with other symptoms exhibiting drowsiness, loss of appetite, nausea, restlessness and confusion.
- The swab is part of a screening programme, for example, for Meticillin Resistant *Staphylococcus aureus* (MRSA).
- It should be noted that inflammation at a wound site can be part of the healing process and is not a clinical indicator for infection, therefore inflammation in isolation is not a reliable indication for taking a swab or treating a wound for infection.

Levine Technique (1976)

The best technique for swabbing wounds has been identified and validated as the Levine Technique. The method most cited and underwritten by microbiologists in relation to wound infection are the steps as outlined by Levine (1976).

How to Take a Wound Swab

- When a swab is indicated, the person should be given a concise explanation of the need for microbiological investigation and what the procedure involves, for example, that swabs are mainly used to recover species from the surface layers rather than from the deep tissues of a wound.
- Before a representative sample is collected, any contaminating materials such as slough, necrotic tissue, exudate and dressing residue should be removed by cleansing the wound with tap water, sterile saline or debridement.
- Sterile swabs with cotton or rayon tips are usually used. If the wound is moist a swab can be used straight from the packaging. If the wound is dry, then the swab tip should be moistened with sterile saline to increase the chances of recovering organisms from the site. Swabs with a transport medium that incorporates charcoal enhance the survival of fastidious organisms.
- Care should be taken to ensure that the swab only comes into contact with the wound surface.
- The swab should be moved across the wound surface in a zig-zag motion, at the same time as being rotated between the fingers. Downward pressure to release fluid from the wound surface has been advocated, but this may be painful for the service user.
- A representative area of the wound should be sampled. If the wound is large, it may not be feasible to cover the entire surface, but at least 1cm squared should be sampled and material from both the wound bed and wound margin should be collected. If pus is present, the clinician should ensure that a sample is sent to the laboratory.
- Immediately following collection, the swab should be returned to its container (placed into the transport medium) and accurately labelled.
- Any supporting documentation for the laboratory should immediately be completed and a note included in the service user's records. It is important to provide information to the laboratory staff that will aid their use of the standard operating protocol, such as underlying co-morbidities, the service user's age, ongoing treatment and wound location.
- Swabs must be transferred to the laboratory as quickly as possible and ideally processed within four hours of collection.
- The laboratory report should list the potential pathogens.

Taking a Nasal / Throat Swab

Videos demonstrating how to take a deep nasal or nasopharyngeal swabs to test for respiratory viruses available online at: <https://www.hpsc.ie/a-z/microbiologyantimicrobialresistance/infectioncontrolandhai/videoresources/>

Taking a Stool (Faecal) Specimen

This section has been adapted from Health Protection Scotland – When and how to obtain a faecal specimen from a patient – information for healthcare staff, found at – <https://www.nhsinform.scot/healthy-living/screening/bowel-screening>

Gather all relevant equipment:

- clean, disposable / reusable bedpan or similar container
- leak proof sterile specimen container preferably with attached spoon or a clean disposable spatula (complete service user's details on the specimen container before obtaining the specimen)

- leak proof sealable bag (with separate compartment for the specimen)
- laboratory request form (if possible complete service user's details before obtaining the specimen).

Standard and contact precautions are required for this procedure. PPE required will be based on a PCRA (see Appendix 2)

Procedure

- Explain the need for the procedure to the service user including the reason for the test (for example, symptoms of diarrhoea), when and how the results will be given.
- Ask the service user to pass faeces into the bedpan or container avoiding if possible passing urine at the same time.
- Perform hand hygiene as per the 5 Moments for Hand Hygiene. Put on gloves and apron to receive the bedpan (refer to PCRA to support PPE decision making).
- Transfer faeces into a leak proof sterile specimen container using the scoop built into the container or a clean spatula to the fill line of the specimen container (or as a minimum covering the cone shape of the container). If the specimen contains blood, pus or mucus try to get these into the container.
- Put on the container lid and secure. Avoid contaminating the outside of the container.
- Discard bedpan and contents as usual. Discard other healthcare waste as defined in local policy.
- Remove gloves and apron and perform hand hygiene.
- Place the specimen container directly into the leak proof sealable bag (the outside of this bag must not be visibly contaminated).
- Wash and dry hands.
- Ensure the transport of specimen within 2 hours of collection (If necessary specimens can be refrigerated for up to 24 hours at 4°C in a designated non-food fridge).

Taking a Sample of Urine from an Indwelling Urinary Catheter

Discuss the procedure with the person you are caring for, and allow time for questions, and obtain their consent where possible.

New products are being developed to improve taking urine specimens from urinary catheters, including needle-free sample collection devices. Follow manufacturers instructions if using any of these devices.

Procedure

- obtain consent and ensure the procedure is performed maintaining service user dignity
- perform hand hygiene
- if there is no urine visible in the catheter tubing, a clamp may be placed a few centimetres distal to the sampling port
- once there is sufficient urine visible in the drainage tube above the clamp, wipe the sampling port with an alcohol swab and allow to dry
- insert a sterile syringe into the needle-free sampling port. Aspirate the required amount of urine
- remove the syringe and transfer specimen into sterile specimen pot
- wipe the sampling port with an alcohol swab and allow to dry
- unclamp the drainage tubing
- dispose of all waste materials

- perform hand hygiene
- complete documentation according to the organisational guidelines
- dispatch the specimen to the laboratory.

Source: European Association of Urology Nurses, 2024

Collecting a Mid-Stream Urine Specimen (MSU)

When a urinary tract infection is suspected, an MSU may be required for microscopy, culture and susceptibilities. This helps to identify the causative organism and select appropriate antibiotics to treat the infection. An MSU may also be obtained for near-service user urine testing and other tests, such as toxicology screening to identify causes of poisoning or drug overdose.

The collection of an MSU must be performed as part of a holistic assessment and must be considered alongside the presenting signs and symptoms

Service User Preparation

To obtain an MSU, service users need to be continent and able to empty their bladder on request.

Urine in the bladder is sterile and, in the absence of a UTI, it should not be contaminated with bacteria. However, MSUs can become contaminated by:

- bacteria that colonise the distal urethra
- hand or genital contamination.

The aim of collecting MSUs is to reduce the effects of urethral contamination by taking a sample of urine while the bladder is emptying, avoiding the initial and end stages of micturition. Bacteria around the distal urethra are washed away by the initial urine flow.

Service users should wash and dry their hands before collecting an MSU, it is also recommended that the urethral meatus is cleaned to further reduce the risk of contamination, although it is acknowledged that the effectiveness of this intervention has been questioned.

Equipment

The following equipment is required:

- sterile specimen pot
- sterile container with a wide top to collect the urine, which can then be transferred into a specimen pot
- soap and water, 0.9% sodium chloride solution or a disinfectant-free solution for genital hygiene
- gloves / plastic apron (if required – as per PCRA)
- appropriate forms / documentation.

Procedure

- Obtain informed consent and explain the procedure to optimise the quality of the specimen.
- Explain the steps of the procedure and how to avoid contaminating the specimen. check whether the service user needs any help.
- Identify a suitable location to collect the specimen, for example, a clean toilet, and ensure the service users privacy and dignity are maintained.
- Wash your hands and put on gloves and an apron (as per PCRA) if you are accompanying the service user or handling the specimen.

- Ask the service user to wash their hands with soap and water and dry them, to reduce the risk of the specimen being contaminated.
- Service users who are able to do so should perform genital hygiene with soap and water, 0.9% sodium chloride solution or a disinfectant-free solution. Uncircumcised men should retract their foreskin to clean around their urethral meatus. Women should separate their labia with their fingers and clean around the urethral meatus, ensuring they wipe away from the urethra towards the anus using a clean swab each time.
- Instruct male service users to keep the foreskin retracted and direct the first part of the urine void (15-30ml) into the toilet to wash away any bacteria colonising the distal end of the urethra (foreskin must be returned to normal position following void).
- Women should part their labia with their fingers while passing the first 15-30ml of urine into the toilet.
- The service user should collect the middle part of the stream in a wide-neck sterile container without interrupting micturition.
- The service user can then void the remaining urine into the toilet.
- Transfer the specimen into a sterile container and seal the lid.
- Ask the service user to wash their hands.
- Remove your gloves and wash your hands.
- Complete the documentation on the specimen pot, request form and in the service users notes.
- Place the specimen and request form in the specimen bag.
- At the end of the procedure, decontaminate hands with either alcohol-based hand rub.
- Send the sample to the laboratory immediately (or within four hours) or refer to organisational policy if storage is required.
- If the service user needs help, follow standard precautions when collecting and handling the MSU. Service users may find the procedure embarrassing and it is important to protect their privacy and dignity while offering or providing support.

Transporting Specimens

All specimen containers must be transported in a self-sealing polythene bag with two compartments: one for the laboratory request form and one for the specimen. Specimens should be sent to the laboratory as soon as possible after collection as a delay may adversely affect the results. If immediate transportation is not possible, it is important to consult local guidelines about storage of specimens.

Source: Shepherd E (2017) Specimen collection 1: general principles and procedure for obtaining a midstream urine specimen. Nursing Times [online]; 113: 7, 45-47. <https://www.nursingtimes.net/assessment-skills/specimen-collection-1-general-principles-and-procedure-for-obtaining-a-midstream-urine-specimen-12-06-2017/>

Appendix 2 – Point of Care Risk Assessment Poster

Point Of Care Risk Assessment (PCRA)

Infection prevention & control (IPC)



To be carried out before each patient* interaction

IMPORTANT Check patient's symptoms/ MDRO status/ travel history	Does the patient have unexplained rash, cough, sneezing / unexplained diarrhoea / fever or known MDRO. Suspected or confirmed droplet (eg influenza, meningitis) or airborne illness (e.g. chicken pox, measles, MDRX TB)	If yes:	PPE (as per below) determined by level of anticipated contact and type of activities. For suspected/confirmed droplet/airborne illness - medical (droplet) or respirator (airborne) mask as minimum	
HANDS Perform hand hygiene as per WHO 5 moments	Can my hands be exposed to blood, body fluids, non intact skin, mucous membranes or contaminated items	If yes:	Don gloves	
MUCOUS MEMBRANES	Will I be exposed to a splash, spray, cough, sneeze while I am within 2 metres of a patient/client	If yes:	ADD Facial protection (includes mask & goggles or visor)	
SKIN/CLOTHING	Will my skin/clothing come in direct contact with blood, body fluids, non intact skin or items contaminated with body fluids	If yes:	Low contact activity = apron High contact activity = gown	
IF CONDUCTING AN AEROSOL GENERATING PROCEDURE	Aerosol generating procedure (AGP) Does the patient have a suspected droplet/airborne illness or an emerging respiratory pathogen	If yes:	ADD FFP2/3 respirator	

REMEMBER: Hand Hygiene (WHO 5 moments) to protect patients and yourself

*The term patient refers to patients, service users, clients, residents, person, supported individual



Adapted from Nova Scotia Health authority/IWK Health Centre, Canada



Appendix 3 – Recommended ABHR technique



Seirbhís Sláinte
Níos Fearr
á Forbairt

Building a
Better Health
Service

How to handrub

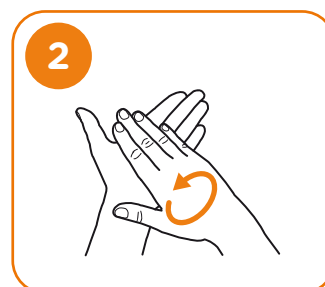
Rub hands with hand sanitiser for hand hygiene. Wash hands when visibly dirty.



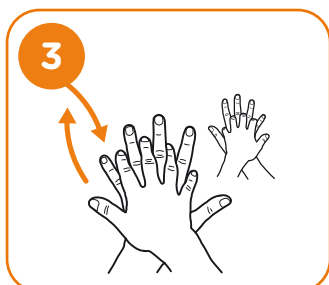
Length of time to use handrub: 20-30 seconds



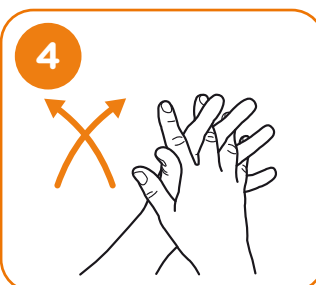
Apply a palmful of the product in a cupped hand, covering all surfaces



Rub hands palm to palm



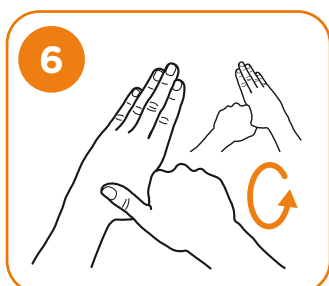
Right palm over the back of the left hand with interlaced fingers and do same on other hand



Palm to palm with fingers interlaced



Backs of fingers to opposite palm with fingers interlocked



Rotational rubbing of left thumb clasped in right palm and do same on other hand



Rub in a circle with clasped fingers of right hand in left palm do same on other hand



Once dry, your hands are safe



www.hse.ie/infectioncontrol

Appendix 4 – Recommended hand washing technique



Seirbhís Sláinte
Níos Fearr
á Forbairt

Building a
Better Health
Service

How to hand wash

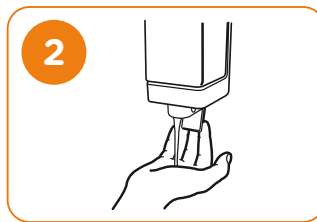
Wash hands when visibly soiled. Otherwise, use handrub with hand sanitiser.



Length of time to spend washing: 40-60 seconds



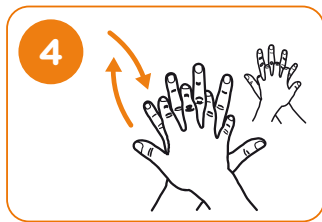
Wet hands with water



Apply enough soap to cover all hand surfaces



Rub hands palm to palm



Right palm over the back of the left hand with interlaced fingers and do same on other hand



Palm to palm with fingers interlaced



Backs of fingers to opposite palm with fingers interlocked



Rotational rubbing of left thumb clasped in right palm and do same on other hand



Rub in a circle with clasped fingers of right hand in left palm do same on other hand



Rinse hands with water



Dry hands thoroughly with a clean towel or single use towel



For non-clinical hand wash basins turn off the tap with a tissue



Your hands are now safe



www.hse.ie/infectioncontrol

Appendix 5

Common Service-User Care Items and their Recommended Decontamination

This section has been adapted from DOH (2023) National Clinical Guideline no.30, IPC and is a general guide to decontaminating service user equipment.

In all cases, refer to the manufacturer's instructions when planning and undertaking decontamination of service users' equipment including safety precautions recommended (for example, disconnecting electrical equipment prior to cleaning).

Common Single-use Only Items – Do Not reprocess / Do Not Reuse

Examples

- medicine cups
- tympanic thermometer ear probes
- scissors – dispose into sharps container immediately after use (see note on re-usable scissors below)
- suction catheters.

Common single service-user items

Dedicated to one service user only. Do not share with multiple users.

Examples

- earphones
- blood glucose monitors
- bowls (service user wash bowls)
- hoist slings
- pressure relieving cushions
- suction machine liners and tubing– single service user use and change as necessary
- nebulisers – masks and tubing – single service user use (some nebulisers are single use only and should be disposed of after use). Clean after each use. Change the full set every 24 hours or as per manufacturer instructions.

Decontamination Methods:

In general, clean items after use with detergent and water, and if disinfection required for example, if (possibly) contaminated with blood / body fluids or service user is on transmission-based precautions then follow with a chlorine-based disinfectant at 1,000ppm (or combined detergent disinfectant) or wipe and ensure all surfaces are rinsed to prevent damage. Allow to dry fully then store in a clean, dry place, for example, a locker / wardrobe as appropriate. Washable items such as hoist slings should be decontaminated in a washing machine as per manufacturer's instructions.

Common Shared Service User Equipment

The following practice is recommended:

- For service users who are colonised with a multi-drug resistant organism (MDRO) please refer to Chapter 5 of the manual for advice on how to manage their equipment.
- Service users who have a suspected or confirmed infection should be provided with their own dedicated equipment in line with transmission-based precautions.
- Service users in residential care settings should be provided with their own dedicated equipment.
- Any equipment that has been provided based on an assessment of a single service user (for example, occupational therapy equipment) should not be shared with another service user.

The table below gives general recommendations as part of standard precautions – always follow manufacturer's instructions / safety precautions and consider the IPC risk associated with sharing equipment – for further advice and support contact the local IPC team.

Item	Comment In all cases cleaning should be undertaken when item is visibly soiled. More frequent cleaning may be required based on local IPC risk assessment	Clean with detergent / water solution or wipe	If disinfection is required, use a combined cleaner and disinfectant agent at 1,000ppm available chlorine Ensure all surfaces are rinsed to prevent damage
Baby scales	Use a fluid resistant disposable sheet between uses.	Yes	Yes, if blood or body fluid contamination.
Bed frames, cradles, cot sides / bed rails.	Clean weekly or on discharge.	Yes	Yes, if blood or body fluid contamination.
Bedpans, urinals, commode basins, body fluid jugs	• Clean after every use in a washer-disinfector commonly referred to as a bedpan washer. • Confirm that the bedpan washer is working correctly and that all water drainage points are draining quickly and completely. • A documented weekly check of the washer disinfector machines should be undertaken. The purpose of the weekly checks is to ensure the machine is functioning correctly that is taking in the cleaning agent and reaching the required temperatures. • Interior of the machine should be checked for cleanliness after each cycle (document same). In the event of an outbreak, the frequency of the weekly checklist may need to be increased on the advice of outbreak control team. Ensure machine is serviced every 6 months / as recommended by manufacturer and maintain records of service.		

Item	Comment In all cases cleaning should be undertaken when item is visibly soiled. More frequent cleaning may be required based on local IPC risk assessment	Clean with detergent / water solution or wipe	If disinfection is required, use a combined cleaner and disinfectant agent at 1,000ppm available chlorine Ensure all surfaces are rinsed to prevent damage
Blood Glucose Monitors	Blood glucose monitor. Each service user should have their own machine.	Yes	Yes – after every use. Where multi-service user blood glucose monitors are in use HCWs should provide documented evidence of decontamination between use. If a communal blood glucose monitor is in use, the storage box for the monitor must not be brought to the service user bed space. Instead use an IV tray with integrated sharps container.
Blood pressure Cuff and Monitor	If reusable BP cuff used, replace when visibly stained.	Yes, clean BP cuff after every service user. Clean monitor after every use.	Dedicate a blood pressure cuff to each service user with suspected or confirmed infection.
Catheter Bag Holders		Yes, clean daily.	Not routinely.
Dressing Trolleys	Ensure rust free and in good condition	Yes, clean before use.	Yes, disinfect trolley between uses for aseptic procedures.
Drip Stands	Ensure rust free and in good condition	Clean daily when in use, weekly when in storage.	
Examination Couch	Ensure cover is intact and in good condition	Yes, after every use.	Yes, if contaminated with blood or body fluids.
Fans	Not recommended in clinical areas. Seek IPC advice during periods of hot weather.		
IV Trays		Yes, after every use.	Yes, if contaminated with blood or body fluids.
Scissors for Clinical Use	Reusable scissors should only be used when there is no direct contact with the wound or contaminated dressings (seek IPC advice where unsure)	Reusable – Clean after every use – wash with neutral detergent and warm water, dry, then disinfect with 70% alcohol wipes.	Yes In home situation / service user with chronic wound it may be prudent to allocate dedicated scissors for that service users use only. Clean and disinfectant between use.
Stethoscopes	Single service user use required for isolation rooms	Clean between each service user use.	Yes, if contaminated with blood or body fluids.

Item	Comment In all cases cleaning should be undertaken when item is visibly soiled. More frequent cleaning may be required based on local IPC risk assessment	Clean with detergent / water solution or wipe	If disinfection is required, use a combined cleaner and disinfectant agent at 1,000ppm available chlorine Ensure all surfaces are rinsed to prevent damage
Thermometers	Tympanic ear probes are single use only.	Yes, after every use. Dedicate a thermometer to service users being isolated.	Yes, if contaminated with blood or body fluids.
Toys	Toys that are easily cleaned with no grooves are preferred.	Yes, after every use.	Yes, if contaminated with blood or body fluids. Avoid soft toys for communal use. Launder routinely / when visibly soiled.
Resuscitation Trolley	All items should be single use only.	Yes weekly (or sooner after use). Clean the outside of the trolley weekly or after each use.	Yes, if contaminated with blood or body fluids.
Weighing Scales		Yes, after every use.	Yes, if contaminated with blood or body fluids.
Wheelchairs	Ideally allocate to single service user.	Yes, after every use.	Yes, if contaminated with blood or body fluids.

Appendix 6

Terminal Cleaning

Terminal cleaning and disinfection is the thorough cleaning / disinfection of all surfaces including floors and reusable equipment either within the whole health or social care facility or within an individual ward / department / unit / room.

Terminal cleaning and disinfection is intended to remove or inactivate pathogenic microorganisms to avoid the risk of transmission to subsequent users of health and social care services and HCWs.

Terminal cleaning and disinfection may be required following:

- an outbreak or increased incidence of a communicable infection
- discharge, transfer or death of a service user who has had a known communicable infection
- use of an area to support implementation of transmission-based precautions for a person / cohort.

Terminal cleaning and disinfection should be carried out on the advice of the local infection prevention and control team or the manager in charge of the ward / unit / facility. The terminal cleaning and disinfection should not commence until the relevant area has been fully vacated.

A terminal clean should only commence after the service user's belongings are removed after having been cleaned and any other reusable or surplus equipment, for example, hoist, commode, blood pressure monitor has been removed. Items no longer required must be cleaned and disinfected appropriately prior to being brought to storage areas.

The use of sodium hypochlorite disinfection in addition to cleaning with a detergent solution is recommended for terminal disinfection of healthcare facilities when terminal disinfection is required for example, in seeking to end *C. difficile* and norovirus outbreaks.

Note: terminal disinfection must always occur in the context of a process of terminal cleaning and disinfection.

This section has been adapted with the kind permission of South East Community Healthcare IPC Nursing Team who developed the original terminal cleaning template.

Before commencing terminal cleaning:

- a co-ordinated approach and agreed schedule need to be in place between housekeeping and clinical staff
- arrange a time that service users can be moved from the room to another location
- arrange for removal of radiator covers, cleaning of shower outlets and removal of curtains
- arrange sufficient supplies of curtains and bedding.

Gather all necessary equipment including:

- colour-coded disposable cloths – approximately six per bed space and four per ensuite
- disposable gloves / disposable apron
- colour-coded bucket, mop handle, colour-coded mop head as determined by location. Do not bring excess stock into room
- white net bag (if used for mop heads), alginate bag and clear plastic bag – use bags in the room / or bring a limited amount
- high-duster, dust-control tool, green scrubber, implement for difficult to reach areas
- warning signs
- products and product dilution container.

Use only approved detergents and disinfectants adhering to manufacturer's instructions including dilution and contact times.

A two step or one step process can be used as follows:

Two Step

Cleaning with neutral detergent and warm water, then disinfecting with 1000ppm available chlorine followed by rinsing and drying

or

One Step

Using a combined cleaner / disinfectant that is a one step process at 1000 ppm available chlorine.

Wear appropriate PPE – in general, this includes a disposable single use, plastic apron and nitrile gloves. The requirement for PPE should be assessed as per PCRA.

Sample Terminal Cleaning Process:

- perform hand hygiene and don appropriate PPE. During the cleaning process change / remove PPE and perform hand hygiene as required
- discard disposable items e.g. paper towels, tissues, toilet rolls and gloves in a healthcare risk waste bag. Where there has been enteric infections (for example, diarrhoea) toilet brush and holder should be replaced
- discard items that cannot be cleaned – magazines, papers, non-laminated posters
- posters which are laminated can be wiped clean
- remove all bed linen, curtains, personal blankets and cushions and place in alginate bag, tie and place in appropriate colour coded laundry bag
- inspect mattress and pillows for damage, including opening mattress cover to inspect foam. If either the cover is torn or the foam is contaminated, the mattress / pillows should be replaced
- dismantle / remove removable bed panels, attachments to access all parts of beds
- clean with warm water and detergent and then disinfect using chlorine releasing disinfectant / hypochlorite at 1000 ppm concentration or use combined cleaner disinfectant at 1000ppm available chlorine, rinse and dry
- decontaminate from clean to dirty and high to low surfaces avoiding cross contamination
- clean floors working from the furthest point towards the door in a single room. In multiple occupancy rooms move furniture to middle or one side of the room to clean the floor on each side of the room
- periodically check cleaning solutions and cloths, change as required
- use more than one disposable cloth if required
- discard cloths used in sanitary areas immediately after use
- once cleaning completed, all floor mops are placed in alginate bags and sent for laundering.

Terminal cleaning of multiple rooms or bed spaces in a cohort room

Between each area / space

- remove gloves and disposable plastic apron, perform hand hygiene
- prepare a fresh solution and use new cloths
- don PPE
- once cleaning completed, all floor mops are placed in alginate bags and sent for laundering
- remove all equipment, clean and disinfect mop bucket / basin before storage
- Once all surfaces are cleaned and dry – replenish stock, replace furniture, hang curtains, make up bed.

Sample Terminal Cleaning Checklist

Date: / /	Time:	Completed by:
Unit / Location: Room No.		
Bedroom / Bed Space:	Initials	
Clean and disinfect the lighting and ventilation components on the ceiling.		
Clean and disinfect all surfaces of hard-to-reach fixtures and fittings from higher up to floor level for example, windows, windowsills, blinds and radiators.		
Clean and disinfect television and wall bracket.		
Clean and disinfect television remote controls and service user call bell.		
Clean and disinfect doors, handles and light switches paying particular attention to frequently touched surfaces, for example, door panels.		
Clean and disinfect high surfaces around bed space including curtain rail, over bed light and arm and any ledges where dust may fall.		
Inspect mattress / pillows for damage including opening mattress cover to inspect foam. If either the cover is torn or the foam is contaminated, the mattress should be replaced.		
Dismantle / remove detachable bed panels and attachments to access all parts of bed.		
Clean and disinfect bed frame including underneath, bed rails, remote control.		
Clean and disinfect chairs, bedside table, locker and wardrobe.		
Clean and disinfect items such as picture frames and accessories.		
Clean and disinfect sinks, taps, soap and ABHR dispensers – paying particular attention to cleaning dispensing nozzles.		
Clean and disinfect waste bins.		
Where no longer required remove extra waste bins to storage area.		
Clean and disinfect floor working from the furthest point towards the door or from one side to other where beds are moved to one side.		
Comments:		

Ensuites / Bathrooms	Initials
Clean and disinfect all upper surfaces of hard-to-reach fixtures and fittings e.g. shower rails, windows, windowsills, blinds, mirror.	
Clean and disinfect door panel, door handle, light switches and radiator.	
Clean and disinfect taps, basin, soap and ABHR dispensers.	
Clean and disinfect shower fitting, shower cubicle and waste trap.	
Clean and disinfect toilet cistern, flush handle, grab rails, and toilet seats.	
Rinse toilet brush and replace if needed.	
Clean bathroom floor working from furthest point towards the door.	
Remove equipment, clean and disinfect buckets and basins.	
Following Terminal Clean	
Replenish paper towels, soap, ABHR and waste bags.	
Hang bedside / window curtains.	
Comments:	

Room checked by: _____

Date: _____

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