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Community Infection Prevention and Control Manual: A practical guide to implementing Standard and Transmission-Based Precautions in Community Health and Social Care Settings

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Community Infection Prevention and Control Manual

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

Publication date: 31 March 2022
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Developed by the HSE Community Operations
Infection Prevention & Control Nursing Teams

Foreword

HSE Community Operations is delighted to present this Infection Prevention & Control Manual, to guide the implementation of Standard & Transmission Based Precautions across Community Health & Social Care services.

Infection Prevention and Control is the cornerstone of safe patient care. Building capacity within community health and social care services to identify and manage infection prevention and control (IPC) risk is a key priority for the HSE. Getting the fundamental principles of IPC right, in every service, every time, is key to ensuring IPC risk is minimised, and both staff and service users are kept safe.

This manual is part of an overall package of measures which have been led by the Infection Prevention and Control Nursing teams across Community Healthcare Organisations to promote best practice in IPC, and support services to ensure IPC risk is assessed and managed in a meaningful way. Building on the work already undertaken by numerous stakeholders, including the National AMRIC Team, the Health Protection Surveillance Centre, the Office of Nursing & Midwifery Services Directorate, Occupational Health and Public Health Departments, the aim of this document is to support services to get the fundamental principles of infection prevention and control right. This document will be implemented across services by Infection Prevention & Control Nurse Specialists, working with newly trained IPC Link Practitioners.

I would like to express my gratitude to all those who were involved in the development of this manual. In particular my thanks to Ms. Gwen Regan, HSE Director of Nursing, Infection Prevention & Control, Community Healthcare Quality & Patient Safety, and all members of the Community IPC Nursing Team. I would also like to thank the National AMRIC team for their expert advice and guidance on which this document is based.

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We also fully acknowledge the work of our colleagues in the National Antimicrobial Resistance and Infection Control (AMRIC) Team for their ongoing work in developing guidance and resources to support IPC/AMS services and the Health Protection Surveillance Centre across Community Health & Social Care Services.

List of abbreviations used in this document

ADON	Assistant Director of Nursing
AGP	Aerosol Generating Procedure
AMRIC	Antimicrobial Resistance & Infection Control Committee
AMS	Antimicrobial Stewardship
ANTT	Aseptic Non-Touch Technique
CHO	Community Healthcare Organisation
FFP2	Filtering Face Piece – a mask that conforms to EN149 European standard for testing and marking requirements for filtering half masks
HCAI	Healthcare Associated Infection
HCW	Healthcare Worker
HIQA	Health Information and Quality Authority
HSE	Health Service Executive
HPSC	Health Protection Surveillance Centre
IPC	Infection Prevention & Control
MDRO	Multi-Drug Resistant Organism
NPHET	National Public Health Emergency Team
PPM	Parts per million
PPE	Personal Protective Equipment

Note:

The term *'Service User'* is used throughout this document and encompasses all those who utilise Community Health & 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, e.g. patient/resident/client etc.

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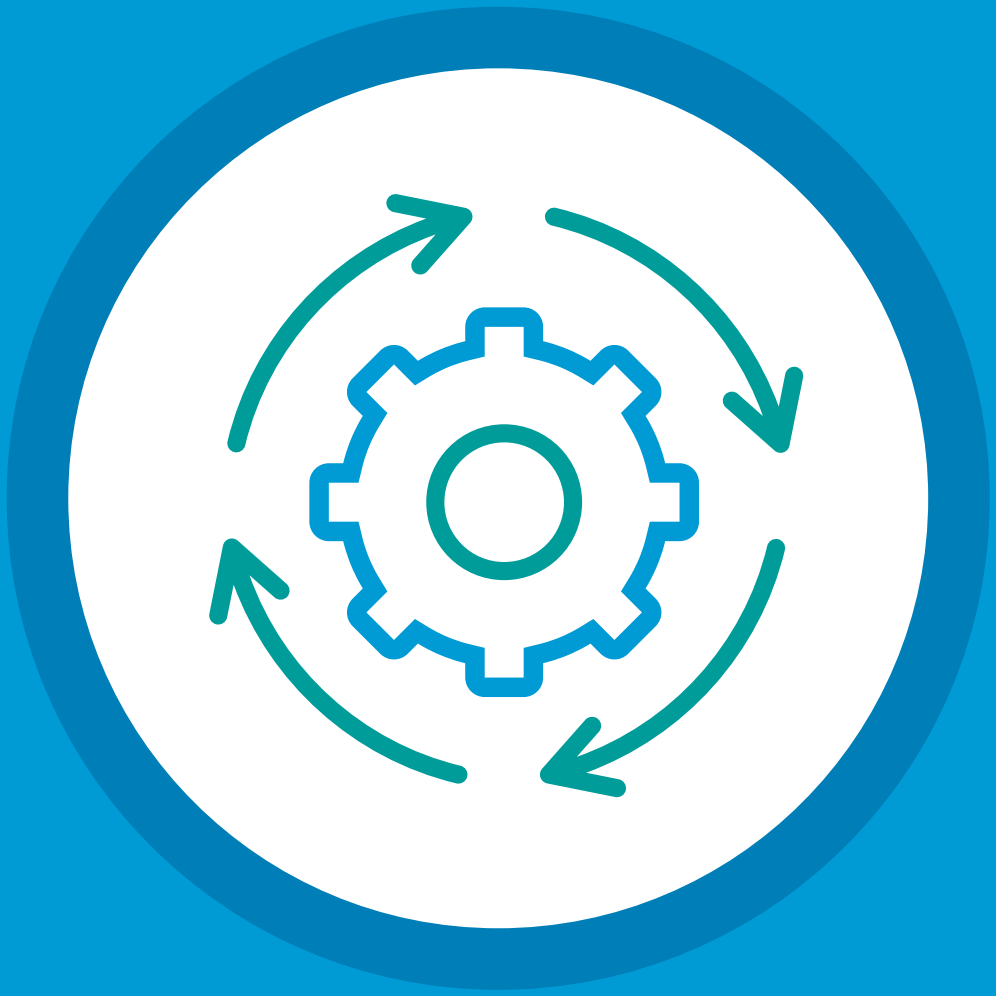


Section 1

Background, Scope & Implementation Plan

1 Background, Scope & Implementation Plan

1.1 Background

In 2018 a National Clinical Effectiveness Committee (NCEC) Guideline development group was convened to develop an Infection Prevention and Control Guideline for Ireland. The emergence of COVID-19 created intense demands for targeted guidance and training specifically focused on COVID-19, which resulted in interruptions of the work of this development group. In 2020 a pragmatic decision was made to use work already undertaken on the NCEC guideline as a basis for an *"Interim Guidance on Infection Prevention & Control for the Health Service Executive"*. At time of printing the National Clinical Effectiveness Committee Draft Guidance on Infection Prevention and Control 2022 has been published.

A cohesive National document is welcomed by all services. The development of Infection Prevention & Control/Antimicrobial Stewardship Teams (IPC/AMS) within Community Healthcare Organisations (CHOs) is further enhancing the HSE response to protecting service users from the harm caused by healthcare associated infections and inappropriate use of antimicrobials. With the development of these teams it has been recognised that an abridged document outlining the fundamental concepts of standard and transmission based precautions based on the above guidance document is required to support community services to implement best practice.

This document does not replace the National Clinical Effectiveness Committee Draft Guidance on Infection Prevention and Control 2022 and subsequent updates which provide a robust overarching guide to IPC core practices. The purpose of this document is to provide Community Health & Social care services with an easy to use manual to guide IPC practices within their facility or services, using the National Clinical Effectiveness Committee Draft Guidance on Infection Prevention and Control 2022 and subsequent updates as the reference document for the content herein.

1.2 Scope of Document

Staff from all HSE Community Health & Social Care services may use this manual as a guide to best practice in relation to IPC. Non-HSE services may also use this document as relevant to their care setting, taking into consideration the different IPC risks posed by individual, particular settings.

Dental/Orthodontic services are outside the scope of this manual, but may refer to sections of it as appropriate. Dental/orthodontic services should follow the HSE (2020) National Guideline for Infection Prevention and Control in HSE Dental and Orthodontic Services and subsequent updates.

1.3 Implementation Plan

The purpose of this manual is to support services to apply standard and transmission based precautions in practice. Implementation will be agreed at local level, in line with service developments and quality improvement practices.

1.4 Outcome Measurement

This document will be supported by a suite of 'Toolbox Talks' to be implemented across Community Health & Social Care services through the developing networks of IPC Link Practitioners led by CHO Assistant Directors of Nursing, IPC (ADON IPC) and their teams.

Each Toolbox Talk will be accompanied by a standard audit tool whereby services (through their IPC Link Practitioner) will be able to evaluate the implementation of IPC Standard and Transmission Based Precautions within their service.

1.5 Responsibility for Updating and Communication

The Director of Nursing, IPC, HSE Community Healthcare: Quality & Patient Safety, is responsible for updating this document and communicating any changes/updates as they emerge. The communication pathway for this will be through IPC ADONs at CHO level.

1.6 Recommended Education

It is recommended that all services consider completion of all of the IPC modules on HSELand mandatory for all staff within the services, with consideration of their role and responsibility within the organisation. Modules should be undertaken as part of the induction of all new staff, and be updated every two years/ more frequently as content is updated. The HSE has specifically mandated that all staff complete hand hygiene training at induction and every two years thereafter:

The HSE AMRIC Infection Prevention and Control and Antimicrobial Resistance Learning Programme is available online at www.hseland.ie. The programme currently includes the following e-learning modules, and plans are in place to increase the modules available:

- Introduction to Infection Prevention and Control and Antimicrobial Resistance
- Antimicrobial Stewardship in Practice
- Prevention and Management of Urinary Tract Infection
- Basics of Infection Prevention and Control
- Standard and Transmission-Based precautions
- Hand hygiene
- Personal Protective Equipment (PPE)
- Respiratory hygiene and cough etiquette
- Aseptic technique
- Prevention of peripheral and central venous catheter related infections
- Infection prevention and control cleaning and decontamination of the healthcare environment and service user equipment
- *Clostridioides difficile* infection, IPC and AMS principles, prevention and management.
- Infection prevention and control management of blood and body fluid spills

A blended approach to hand hygiene training is recommended, to ensure both the theory and practice of optimal hand hygiene is promoted amongst all staff. Hand hygiene training is mandatory for all new staff as part of induction to the service, and every 2 years thereafter. In addition to HSELand Hand Hygiene training IPC Link Practitioners are trained to deliver hand hygiene training at local service level.

For information on where to access additional IPC/AMS education and training, including face to face Hand Hygiene Training, please contact your Community Healthcare Organisation Infection Prevention & Control Team – contact details in Appendix 1.

1.7 Health Information and Quality Authority Standards

The Health Information and Quality Authority (HIQA) has developed specific national standards for community health and social care services in Ireland, which cover infection prevention and control and antimicrobial stewardship.

The standards outline 20 standard statements and cover important areas such as communicating well with people who use community health or social care services, involving people in making decisions about their care, providing care in a clean and safe environment and prescribing antimicrobial medication in a safe manner.

HIQA have developed some useful tools to support services which can be accessed here: https://www.hiqa.ie/reports-and-publications/standard/national-standards-infection-prevention-and-control-community

1.8 Structure of this Document

The manual is presented in 5 Sections, followed by a useful suite of appendices which services can access as required.

Section 2

Understanding How Infections Spread

2 Understanding How Infections Spread

The term Healthcare Associated Infection (HCAI) 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.

To reduce and prevent incidences of HCAI, and also protect healthcare workers, the two-tiered approach of Standard and Transmission based precautions are recommended. These will be dealt with in Sections 3 & 4.

2.1 Microorganisms

- Microorganisms exist naturally everywhere in the environment. Most microorganisms do not cause infection in otherwise healthy people
- Infection refers to the invasion of body tissue by a microorganism. When a microorganism causes an infection it is known as a pathogen
- Almost all infectious disease is associated with microorganisms including bacteria, viruses, fungi and protozoa
- In order for an infection to spread six elements are required – this is known as the Chain of Infection (see section 2.3)
- Microorganisms including bacteria, viruses, fungi and protozoa can be involved in causing either colonisation or infection, depending on the susceptibility of the host. Host susceptibility may be increased for several reasons, e.g. impaired immunity, age, pre-disposing medical conditions, clinical interventions etc.

2.2 Contamination, Colonisation & 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 differences between these terms as it will help you make a decision with regard to care plans.

Contamination often referred to as surface microorganisms. We can describe a piece of equipment as being 'contaminated', or the hands of healthcare workers as being 'contaminated'. In itself contamination causes no harm, however if, for example, a piece of equipment (e.g. commode) contaminated with a microorganism is shared with another person there is a risk of that microorganism spreading to another person. This is the reason IPC practices such as cleaning, decontamination of shared equipment, not re-using needles and hand hygiene become such critical factors in protecting service users and staff. We will consider the difference between general cleaning and disinfection/decontamination when we look at standard precautions later in this manual.

Colonisation Colonisation occurs where there is a sustained presence of a replicating microorganism on or in the body, without causing infection or disease. For example, a service user with a chronic leg ulcer may have multiple bacteria colonising their wound (e.g. Pseudomonas species). A service user with an indwelling urinary catheter may have bacteria (e.g. Escherichia coli) in their bladder, meaning they are colonised with a microorganism. It is important to understand this, as if we take a wound swab from a service user with a leg ulcer, or a urine sample from a service user with a urinary catheter, the result may show a presence of bacteria. It is not appropriate to prescribe treatment for these service users unless they are displaying clinical signs of infection (see below). Prescribing antibiotics for service users who are colonised and not infected can lead to antibiotics causing harm, or becoming ineffective, otherwise known as antimicrobial resistance.

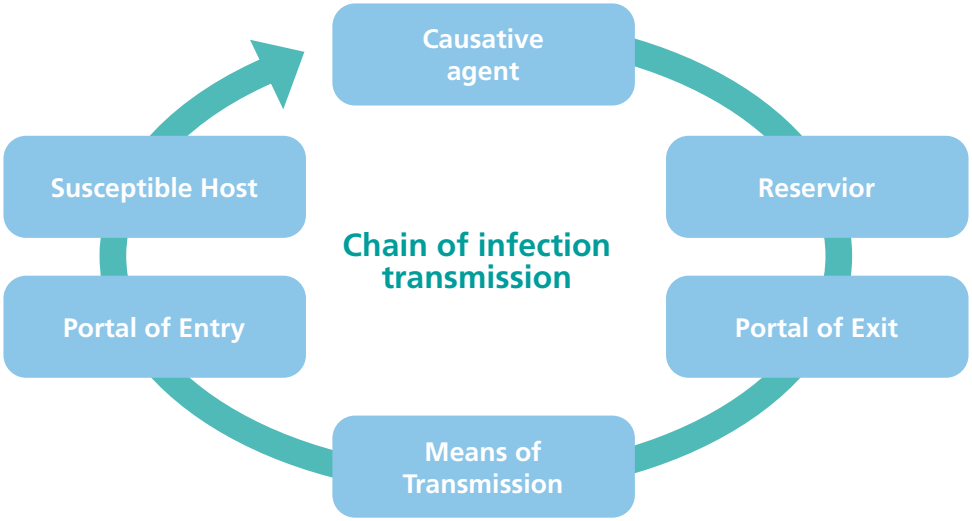
Infection When infectious microorganisms invade the body, an immune response, with or without symptomatic disease, results. Signs and symptoms of infection will vary depending on the site of the infection, and the individual response of the person infected. Every person working in a health or social care facility should have an awareness of potential signs and symptoms of infection, and know who to report to if they have a concern about a service user, or about themselves.

2.3 The Chain of Infection

For an infectious microorganism to spread from one individual to another it must go through a process which is known as the **Chain of Infection**. This is a cycle of events which supports the microorganism to exit one host and enter another.

The Chain of Infection has six elements. The fundamental goal of all infection prevention and control practices is to break this chain, thus preventing the microorganism from spreading by implementing key infection prevention and control principles.

Figure 1: The Chain of Infection



Causative Agent	the microorganism causing the infection. For example, in health & social care we commonly experience infections caused by bacteria such as *Escherichia coli* (E.Coli), *Methicillin Resistant Staphylococcus Aureus* (MRSA), *Clostridioides difficile* and viruses such as influenza, 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 SARS-CoV-2 (which causes the disease COVID-19) will be found in the nose/mouth/lungs (respiratory tract) of an infectious person, *Pseudomonas* bacteria may have a reservoir in a wound bed.
Portal of Exit	How the microorganism exits the body. This will depend on the reservoir site. For example, the reservoir for SARS-CoV-2 is the respiratory tract, therefore its portal of exit will be via respiratory secretions (e.g. through coughing). The reservoir for *C. Difficile* is the bowel, its portal of exit will be from bowel secretions, e.g. diarrhoea.
Means of Transmission	This is how the microorganism spreads (transmits). In healthcare there are multiple ways a microorganism can transmit – 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 via the contaminated hands of healthcare workers, through the sharing of contaminated equipment, or through inadequate ventilation systems. In healthcare the main means of transmission are considered contact, droplet and airborne, however microorganisms can also spread through common vehicle (e.g. Legionella bacteria through poorly maintained ventilation systems) and vectors (e.g. malaria through mosquito bites).
Portal of Entry	How the microorganism enters the body of a new host. For example, a person could inhale droplets of influenza through close contact with an infected person who is coughing. Another example could be through eating food contaminated with a bacteria such as Salmonella, or through a break in the skin through sharing a needle with a person infected with Hepatitis B etc.

Susceptible Host	We are all susceptible to infection. However, our risk of becoming unwell depends on multiple factors – our age, our general health, any other conditions we may have such as diabetes, whether we are vaccinated against the microorganism, medical interventions, and our previous exposure to the microorganism (immunity).

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.

2.4 How do we 'Break the Chain'

If we know what the infectious microorganism is, and then consider how it spreads (transmits) from one person to another, we can put in place some IPC practices to break the chain of infection. These practices, when grouped together, are known as Standard and Transmission Based Precautions. We will look at Standard Precautions in more detail in Section 3, and Transmission Based Precautions in Section 4.

2.5 Identifying Infections – Signs & Symptoms

It is essential that all staff working within health & social care services are aware of the common signs and symptoms of infections so that they can report quickly any suspected infection in either a service user or themselves, and implement any other additional infection prevention & control practices to reduce exposure. All staff should be aware of who they should report this information to.

The signs and symptoms of infection can vary between individuals, and are based on a number of factors, such as the microorganism, the body system it affects, the general health of the service user etc.

However, it must be remembered that some or all of these signs may be absent (asymptomatic infection). Staff should use clinical assessment tools available in their facility to assist with their clinical judgement, e.g. pain score, Bristol stool chart, fluid balance chart, vital signs, early warning system, case definitions etc.

Signs and symptoms of infection will present relating to the body system affected.

There are 11 systems in our bodies (see next page).

Consider each of these systems and how they may be affected by infections.

- Endocrine
- Respiratory
- Nervous
- Cardiovascular
- Digestive
- Lymphatic
- Reproductive
- Urinary
- Integumentary
- Skeletal
- Muscular

For a full list of common signs and symptoms relating to specific infections please go to:
https://www.hpsc.ie/a-z/

2.6 Diagnosing Infection

Diagnosing infection is done through an evaluation of clinical signs and symptoms, a history of potential exposure to an infectious agent, and laboratory confirmed diagnosis. All services should have a protocol in place for the storage, collection and transportation of specimens to the laboratory who perform their testing.

For further Information on how to take specimens to confirm infection go to Appendix 5.

2.7 Sepsis

2.7.1 What is sepsis?

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

2.7.2 Who is at risk?

Some people are at higher risk for sepsis:

- Adults aged 65 years or older
- People with weakened immune systems
- People with chronic medical conditions, such as diabetes, lung disease, cancer, and kidney disease
- People with recent severe illness or hospitalisation
- Sepsis survivors
- Children under the age of one year

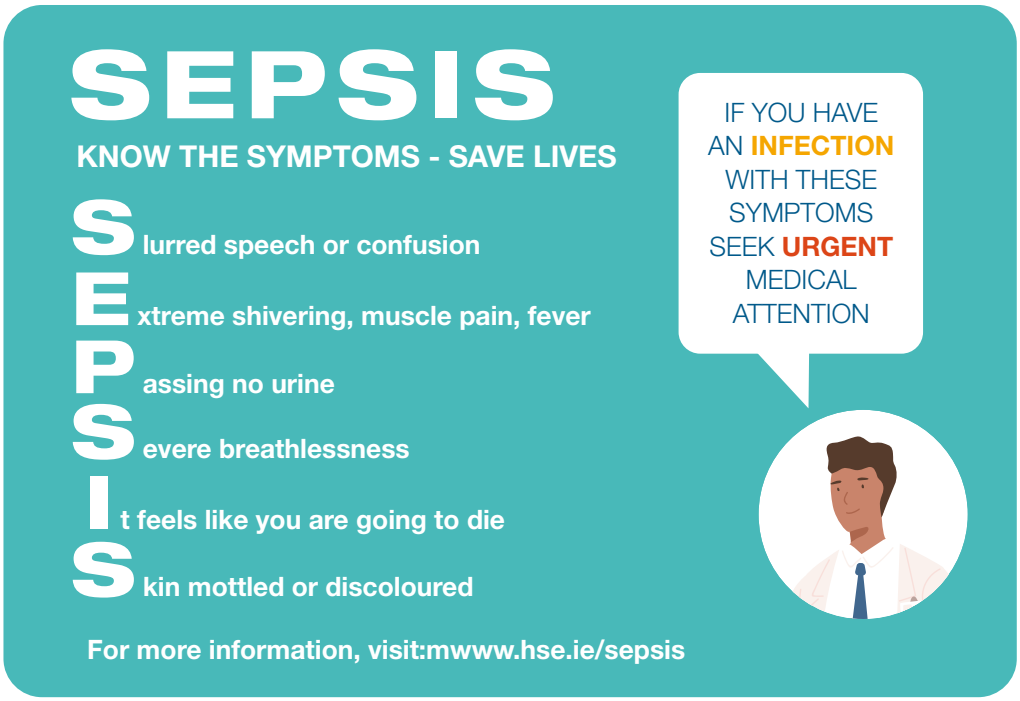
2.7.3 What are the signs & symptoms?

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

- High heart rate or low blood pressure
- Confusion or disorientation
- Extreme pain or discomfort
- Fever, shivering, or feeling very cold
- Shortness of breath
- Clammy or sweaty skin

A medical assessment by a healthcare professional is required to confirm sepsis and provide further management.

Figure 2: Sepsis Symptoms



More information about sepsis, its management, guidance and the National Clinical Programme for Sepsis can be found at; https://www.hse.ie/eng/about/who/cspd/ncps/sepsis/

2.8 Risk Assessment

Effective infection prevention & control is central to providing high quality healthcare for people who use health and social care services and a safe working environment for those that work in these environments. IPC risk assessment is everyone's business, and should be incorporated into daily practice. The current pandemic has brought the importance of IPC risk assessment in services into focus. IPC Risk Assessment involves two key considerations – understanding the way particular microorganisms are transmitted, and using this knowledge to identify key IPC principles to prevent this transmission from occurring.

Successful approaches for preventing and reducing harms arising from HCAI's involve applying 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, healthcare 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 need to be taken to mitigate against that risk. The principle risk for health & social care services in relation to IPC is the possibility for microorganisms to colonise or infect people using the service, or health & social care workers arising from carrying out work activities in that setting.

The HSE Integrated Risk Management Policy (2017) provides additional information on risk management in the healthcare system in Ireland. Full information on risk management processes is outside the scope of this document, however useful examples of the application of IPC risk management is available in the National Clinical Effectiveness Committee Draft Guidance on Infection Prevention and Control 2022 and subsequent updates. In summary, the risk management process involves:

Establish the context	for example, the type of facility/service, extent of and support for the service IPC programme, who are the key stakeholders, governance of service, local/national outbreaks of infectious disease etc.
Risk Assessment Process	this is comprised of 3 steps (a) Risk identification – a risk is something that may happen that could impact on the delivery of clean safe care. (b) Risk analysis – a process that is used to gain a better understanding of the risk identified and the level of risk associated with it. Assessing the level of associated risk takes account of controls in place to mitigate the risk (c) Risk evaluation – this is a process to determine if the level of risk is acceptable. If the risk is not acceptable it is essential to consider how to treat the risk. Risk treatment is the process of selecting and implementing measures to modify the risk

IPC Risk management is a constant process within an organisation. Health & Social Care services should constantly monitor and review their risks, and ensure they are actively putting controls in place to mitigate against these risks, in order to protect their service users, staff, and visitors and ensure continuity of service delivery.

Consider how you would apply a Risk Management approach in your setting. Where would you start? Who do you need to help you?

Examples of applying an IPC Risk Assessment Methodology in practice can be found in the National Clinical Effectiveness Committee Draft Guidance on Infection Prevention and Control 2022 and subsequent updates published on www.hpsc.ie

2.8.1 Applying a Risk Assessment Methodology in Practice – Practical Example

This case study has been taken from the National Clinical Effectiveness Committee Draft Guidance on Infection Prevention and Control 2022 and subsequent updates

Case Study: Influenza in a Residential Care Setting

A cluster of cases of confirmed influenza occurred in a residential care facility, which were observed after a group activity involving dancing was held in the dining room prior to the midday meal.

It was observed that a resident who was unwell with nasal discharge and cough had attended the group activity and had sat at the dining tables. It was noted that during the meal the ill resident placed used tissues on the dining room table. It was also noticed that a number of service users remained in the vicinity of the dining room post activity as their rooms were a short distance from the dining room. There were no facilities for hand hygiene in the dining room. Six service users reported signs and symptoms consistent with influenza two to three days following the event.

Samples from 4 service users were submitted for laboratory testing and Influenza A virus infection was confirmed in 3 of the 4 samples.

Two staff members also developed flu like illness. The vaccination coverage of the service users was 66% and for staff was 41.7%.

Applying a Risk Methodology – Case study for influenza in a long-term care facility

Establishing the Context

As per the above context, it is not possible to eliminate the risk of spread of acute respiratory virus infection in residential facilities, so it must be managed.

Risk Assessment – Risk identification

In this case, the risk has been identified as cross-transmission of influenza virus in the context of a risk incident. Note that risk identification should not wait until an incident has occurred.

Risk Assessment – Risk analysis

Assembling of a large numbers of service users in one area increases the opportunity for contact and droplet transmission of respiratory virus, but may be important for the service users overall wellbeing.

Attendance at the event by a resident with features of an acute viral respiratory tract infection increased the risk of transmission.

Placing used tissues on the table could have increased opportunities for virus transmission. If waste receptacles were used opportunities for transmission would be less.

The lack of hand hygiene facilities in the immediate vicinity could have resulted in poor hand hygiene compliance, with staff or service users not decontaminating their hands prior to eating, after sneezing or coughing.

Low levels of resident and staff immunisation are likely to have contributed to the spread of the infection.

Risk Assessment – Risk evaluation

The balance of likelihood and consequences identify this as a 'very high risk' situation requiring additional risk treatment

Risk Treatment

Immediate measures may include:

- Informing the Department of Public Health that there has been an outbreak
- Implement control measures as per the most up to date version of 'Public Health & Infection Prevention & Control Guidelines on the Prevention and Management of Cases and Outbreaks of COVID-19, Influenza & other Respiratory Infections in Residential Care Facilities'
- Providing hand hygiene facilities in common areas and encouraging service users and staff to use them. Provide waste receptacles in common areas, so people can dispose of tissues immediately after use. Additional work to promote immunisation to all service users and staff

Other measures may include:

- Education of staff and service users on the importance of limiting contact with others if they have a flu like illness and reminding staff to stay home if they have a flu like illness
- Education of staff and service users on hand hygiene, respiratory hygiene and cough etiquette.
- Promoting Influenza immunisation of service users and staff
- Displaying posters and signage on hand hygiene and respiratory hygiene around the facility on an ongoing basis.

Monitoring and Review

Staff should continue to monitor service users for influenza-like illness and ongoing influenza-like illness surveillance should be heightened during the influenza season.

Immunisation rates among staff and residents could be monitored, as well as monitoring the difference in case numbers from previous influenza outbreaks and outbreaks after the measures have been put in place.

Section 3

Standard Precautions

3 Standard Precautions

3.1 What are Standard Precautions?

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

When Standard Precautions are consistently implemented, the risk of spread of infection to healthcare workers (HCWs) workers and service users is minimised. All HCWs and others providing service user care should be educated about standard precautions on induction, every 2 years or sooner as recommended by the IPC Team. The HSE's online Standard Precautions e-learning module is available on www.hseland.ie. Additional education is provided in each CHO by the IPC team – for further information regarding IPC Team contact details see Appendix 1.

Detailed information about Standard Precautions is available in the National Clinical Effectiveness Committee Draft Guidance on Infection Prevention and Control 2022 and subsequent updates published on www.hpsc.ie

The IPC Principles that constitute Standard Precautions are listed in Table 1.

Table 1: Standard Precautions

Standard Precautions
Hand hygiene as consistent with the WHO 5 moments for hand hygiene
The use of appropriate personal protective equipment (PPE)
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

3.2 Standard Precautions – Hand Hygiene

Hand hygiene is the single most important procedure for preventing infection. Hand hygiene training is mandatory for all HSE staff on induction and every 2 years thereafter. Please contact your local IPC team for advice on how accessing a Hand Hygiene Train the Trainer programme to establish hand hygiene training in your service (see contact details in Appendix 1).

3.2.1 Hand Hygiene – the '5 Moments' for Hand Hygiene

Hand hygiene is one of the most effective actions to reduce the spread of pathogens and prevent infections, including the SARS-CoV-2 virus (WHO, 2021). The '5 moments' for hand hygiene were developed by the World Health Organisation 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 'My 5 moments for hand hygiene' approach defines the key moments when health-care workers should perform hand hygiene, and is relevant to all settings where care is delivered, for example residential care, primary care clinics, domiciliary care etc. This evidence-based, field-tested, user-centred approach is designed to be easy to learn, logical, and applicable in a wide range of settings.

Figure 3: World Health Organisation Five Moments for Hand Hygiene

3.2.2 How to perform Hand Hygiene

- The use of alcohol based hand rubs (ABHRs) is considered the gold standard to decontaminate healthcare workers hands
- Use alcohol based hand rubs that contain between 60% and 80% v/v ethanol or equivalent for all routine hand hygiene practices. Alcohol based hand rubs must meet EN 1500 standards, in line with the HPSC alcohol based hand rub products specification which can be found at: https://www.hpsc.ie/a-z/microbiologyantimicrobialresistance/infectioncontrolandhai/handhygiene/publications/
- Use soap and water to clean hands that are visibly soiled
- In the presence of known or suspected *Clostridioides difficile* and viruses such as Norovirus hand hygiene must be performed as follows:
    - If gloves are worn and appear intact on removal, then alcohol based hand rub 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 towel.

Staff should perform hand hygiene using the recommended techniques referenced in Appendix 3. *(Alcohol rub technique and handwashing technique)*

3.2.3 Hand Hygiene – protecting yourself and preventing the spread of infection

- 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 (with the exception of one plain metal band)
- Wrist jewellery should not be worn. This includes wrist watches/bracelets/fitness trackers e.g. Activity trackers etc.
- 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
- A 'Bare Below Elbows' dress code should apply to all health and social care staff
- Hand hygiene also includes caring for the hands to maintain intact skin. Regular use of hand lotion is recommended
- The use of nail brushes (unless doing a surgical scrub); cloth towels or bar soap is not recommended for health and social care staff while on duty.
- Electric hand dryers are not recommended for use in clinical areas.

3.2.4 Hand Hygiene – service users

- Service users should be educated on the benefits and techniques involved in hand hygiene
- Staff who visit service user's homes must have a supply of alcohol based hand rub to use in the course of their work. Hand hygiene facilities in the domiciliary setting vary widely.
    - If appropriate, and following discussion with service users regarding the importance of hand hygiene, healthcare workers who visit homes may request that they are provided with liquid soap and disposable paper towels (e.g. kitchen towels) to facilitate hand hygiene in the service users' home.
    - This will not always be appropriate and staff who are concerned about their ability to perform hand hygiene in the home should discuss this with their line manager.
    - The local IPC team will support managers to undertake IPC risk assessments relevant to the setting
- 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. Alcohol based hand rub/hand wipes may also be used.

3.2.5 Hand Hygiene – equipment and supplies

Each health care setting should have adequate hand hygiene facilities including designated clinical hand wash sinks, wall mounted soap dispensers (with disposable cartridges) and paper towel dispensers, foot pedal-operated waste bins and alcohol based hand rub dispensers.

Soap should be non-coloured/non-perfumed to prevent risk of skin reactions/sensitivity. Antibacterial soap is generally not required in community settings, if it is considered essential please discuss with local IPC team.

In clinical areas taps should be hands-free: elbow, knee or foot pedal operated or automatic. Hand wash sinks should have mixer taps that allow mixing of hot and cold water and delivery through a single tap.

Alcohol based hand rub are 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 (avoid being placed in pockets). Bottles and containers should not be topped up. A local risk assessment should be carried out to determine if there are any safety issues regarding the placement of alcohol gel dispensers in residential or healthcare facilities. Avoid placing dispensers next to soap dispensers at the hand washing sinks. It may not be advisable to place alcohol gel dispensers within reach of small children or service users with alcohol dependency.

3.2.6 Hand Hygiene – training requirements for staff

It is mandatory that all staff who are currently in employment in health and social care complete hand hygiene training on induction and at least every two years after that. Hand hygiene updates may be provided in addition to this training as part of an IPC action plan, for example during an outbreak. Documentation relating to all IPC training undertaken by staff should be maintained. These training records should be available locally for external inspections and should include category of health care worker.

The percentage of people in compliance with the requirement should be assessed annually with respect to those people in active employment on the 31st of December each year. Staff on career breaks, maternity leave and any other extended long-term leave as at year end should not be included in assessing the percentage compliance.

The following hand hygiene training approaches are recommended:

- Face to face learning theory and practical skills learning from an approved HSE Hand Hygiene Trainer (e.g. IPC Link Practitioner) or Infection Prevention and Control Nurse
- Blended approach – online e-learning theory module followed by practical skills learning from HSE approved Hand Hygiene Trainer or IPCN

The HSE's online Hand Hygiene e-learning module is available on www.hseland.ie

If you are unsure who can deliver this training to your service contact your local IPC team (details in Appendix 1).

3.3 Standard Precautions – Personal Protective Equipment

3.3.1 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 & safety hazards. PPE is the last IPC control measure and should only be provided where the risks cannot be avoided or limited by other means (HSE, 2021). 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.

Figure 4: Examples of PPE

3.3.2 Manager responsibilities in relation to PPE

In relation to Standard Precautions, PPE selection is based on the potential exposure of the healthcare worker to the blood or body fluids of the service user. The selection of PPE in relation to known infectious microorganisms will be considered with transmission based precautions later in this document.

- Ensure a supply of appropriate PPE is available in your facility
- Carry out a risk assessment to ensure the correct type of PPE is provided
- PPE should be sourced through a procurement process to ensure it meets specifications and has the appropriate CE mark.
- Organise training in the use of PPE where necessary (training videos are available on www.hpsc.ie, and training modules on www.hseland.ie)
- Supervise the appropriate wearing of PPE
- Where an employee suffering from a medical condition is impacted when wearing PPE seek medical/ occupational health advice
- Additional PPE protection (e.g. FFP2 respirator masks) are dealt with in transmission based precautions

3.3.3 Employee responsibilities in relation to PPE

- Participate in training on PPE
- Undertake a risk assessment to identify when PPE should be worn, and do not wear if it is not indicated, seek advice if unsure
- Use PPE in line with training provided, only as appropriate to the situation, and dispose of it into appropriate waste stream following use
- Always clean your hands before donning (putting on) PPE and after doffing (removing) it. See section 3.1 for more information on how to perform hand hygiene
- Report any defects in the PPE immediately to your manager
- Ensure PPE is stored and used in accordance with the manufacturer's instructions
- Tell your manager of any medical conditions that may be affected by using PPE. Your manager may refer you for a medical/occupational health assessment

3.3.4 What are the risks?

As part of standard precautions the IPC risk considered is potential exposure is 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.

PPE used as part of standard precautions includes aprons, gowns, and gloves and in some specific situations eye protection. **The COVID-19 pandemic is an evolving situation. As new evidence emerges guidance in relation to PPE may change at short notice. For this reason all services must ensure they keep up to date with all new developments and follow advice on www.hpsc.ie /current Public Health advice as relevant to their service.**

Factors that should be considered in relation to PPE include:

- Probability of exposure to blood and body fluids/substances
- Type of body substance involved

Think of your own setting and ask yourself:

What is the likely exposure to blood/body fluids?*

What items of PPE are required to protect you and your staff from this exposure?

* Some examples in practice could be changing incontinence wear, emptying a urinary catheter bag, cleaning up a blood spillage.

3.3.5 Key questions to ask when considering PPE

- Have you explained to the service user/carer why PPE is being worn?
- What is the risk to staff? Other service users?
- Have you been trained in putting on (donning) and removing (doffing) PPE? Do you feel competent? If unsure contact your manager for advice
- Have you completed on-line training in relation to PPE? (HSELand/HPSC)
- Are you aware of the criteria for a donning and doffing station? Where will PPE be put on (donned)? How is it stored/accessed? Is alcohol based hand rub available at that point to support you to undertake hand hygiene? Is there an instruction poster available to guide you?
- Where will PPE be removed (doffed)? Do you need access to clinical waste bins? Is alcohol based hand rub available at point of removal to support you to undertake hand hygiene?
- At what point will PPE use be discontinued? As part of standard precautions PPE is only required when there is a potential risk of contact with blood and body fluids.

See Appendix 2 for links to HPSC/HSE PPE poster resources.

3.4 Standard Precautions – Respiratory Hygiene & Cough Etiquette

Good respiratory hygiene and cough etiquette will prevent the potential transmission of respiratory viruses, and should be performed by all staff and service users at all times:

- 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 objects or materials.
- Keep contaminated hands away from the mouth, eyes and nose.

In residential care facilities, service users with symptoms of respiratory infections should be supported to maintain good respiratory and cough hygiene. During the COVID-19 Pandemic advice on the management of service users with symptoms of respiratory infections is being updated frequently. Refer to www.hpsc.ie for up to date advice and guidance.

Healthcare workers should assist service users (for example Older Persons) who need assistance with containment of respiratory secretions. People who are immobile will need a bin or a plastic bag near them for disposal of used tissues and will need to be offered hand hygiene facilities.

Healthcare workers with respiratory tract infections should not attend for work and should remain at home at least until such time as their symptoms have resolved. In the context of a public health emergency or pandemic or in the context of specific infectious diseases there may be a requirement for defined periods of absence from work. Managers and staff should familiarise themselves with the most up to date occupational health guidance in relation to this, available on www.hpsc.ie.

See Appendix 2 for links to HPSC/HSE Respiratory Hygiene poster resources.

3.4.1 Immunisation

To reduce the risk of spreading respiratory infection, staff and service users should be offered and encouraged to avail of vaccination in line with National Immunisation guidelines for

- Seasonal influenza
- SARS-CoV-2, the virus that causes COVID-19
- Pneumococcal infection (for at risk groups).

In the context of a public health emergency or pandemic more general use of face masks by service users in the healthcare setting may be advised to manage risk of virus shedding by pre-symptomatic, minimally symptomatic or asymptomatic individuals. Use of a mask is in addition to and not instead of the requirement to maintain distance from others where physical distancing is recommended. Services should adhere to the most up to date COVID-19 guidance relevant to their setting, found at www.hpsc.ie.

Refer to Occupational Health Department for more information on vaccination recommendations for staff.

3.5 Standard Precautions – Safe Injection Practice, Safe Use and Disposal of Sharps

3.5.1 Safe injection practice

Unsafe injection practice and the use of multi dose vials can and has resulted in the spread of cases and outbreaks of viral infection such as HIV, Hepatitis B, Hepatitis C and also bacterial infection due to Streptococcus pyogenes.

3.5.2 Single dose medication vials

- The most effective way to avoid cross infection via 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.

3.5.3 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 and labelled with the name of the service user and the date the vial was opened. The vial should be discarded within the manufacturers recommended timeframe, or when the service user has been discharged/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.

3.5.4 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 ampules 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 (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 non-touch technique
- Use a sterile needle to draw up all the contents of the vial into individual syringes before administering to service users. For some solutions filter needles may be required.
- Where possible, only have the current service user's 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.

Consider the IPC Risk of what you are doing, is it safe?

Consider what measures you can take to protect service users.

* In exceptional circumstances multi dose vials are the only way to deliver vaccines or drugs to a large proportion of the population in a timely fashion. An example is the COVID-19 pandemic when there may be a delay in single dose vaccines or drugs becoming available for a period of time. Refer to COVID-19 vaccination protocols.

3.5.5 Safe use and disposal of sharps

Eliminating workplace hazard 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 healthcare workers to be familiar with health and safety legislation. Healthcare workers must comply with all 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 developed by the HSE relating to the safe use of sharps can be accessed online at: https://healthservice.hse.ie/staff/benefits-services/health-and-safety/safe-use-of-sharps.html

In addition the Health & Safety Authority have produced guidance which can be accessed at: https://www.hsa.ie/eng/Your_Industry/Healthcare_Sector/Biological_Agents_/Sharps_/Sharps_Directive_and_Regulations/#:~:text=The%20European%20Union%20%28Prevention%20of%20Sharps%20Injuries%20in,response%20in%20the%20event%20of%20an%20incident%20occurring

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

- First eliminating and reducing the use of needles and other sharps where possible
- Next is to 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.

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.

Figure 5: Examples of Sharps

Examples of sharps	
Hollow bore sharps	Non hollow bore sharps
Disposable needles	Glass vials
Steel winged (butterfly) needles	Dental probes
Multi sample blood collection needles	Scalpel blades
Intravenous catheter stylets	Suture needles
Arterial blood collection syringe needles	Retractors
Aspiration needles	Skin or bone hooks
Injector pen needles	Sharp electrosurgical tips
Broken capillary tubes	

3.5.6 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. 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 healthcare workers in the use of the new technology to achieve successful reduction in percutaneous injury rates.

3.5.7 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 disinfection procedures, may contribute to increased bloodstream infection rates. Services should identify who is best placed to provide that training relevant to the staff members' role, e.g. HSE Regional Centres of Nursing & Midwifery Education.

There are a wide range of health and social care settings in the community which have varying use of sharps. IPC recommend that services develop protocols in relation to the sharps they use, ensuring service user safety, IPC and Health & Safety are considered. IPC will 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 non-touch technique.
- Caps should be changed no more frequently than every three days or according to manufacturer's recommendations. Refer to local protocol.
- 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.

Table 2: Recommendations for the appropriate use of injection equipment

At all times an **aseptic non-touch technique** should be employed

Device	Recommendation
Single Use Items such as needles, cannula, syringes	• **Avoid** contaminating the device • **Do not use** the same for device for more than one person • **Never** administer medications from a single syringe to more than one person, 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	• In general, do not administer medications from single dose vials or ampoules to multiple people or combine leftover contents for later use. • If the use of single dose vials or ampoules for multiple people is unavoidable (for example COVID-19 Vaccination), additional safety precautions must be followed in line with National guidelines
Multi Dose Vials	• Multi dose vials **should not** be used except where they are 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 • Change on a regular basis, depending on their use Administration sets (clear fluids) should be changed every 72 hours or if the set is temporarily disconnected. For intermittent infusions (e.g. antibiotics that are administered by infusion) discard the set after every administration. • 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 pre-mixed intravenous bags of medication wherever possible, in order to reduce the risk of contamination or infection during mixing, dilution or preparation • Avoid temporary disconnection of administration sets if possible to minimise the risk of infection.

3.5.8 Handling of sharps

All healthcare workers 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.

Standard measures include 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 IV tray with integrated sharps bin or neutral zone*
- Use round tipped scalpel blades instead of pointed sharp tipped blades
- Take special care when removing needles from insulin pen

* A neutral zone is a designated space or device (for example an IV tray with integrated sharps bin) 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.

Services who provide care in the home (e.g. Public Health Nursing, Community Intervention Teams, Palliative care, Mental Health Services etc.) who use sharps as part of their function should undertake an Occupational Health risk assessment and ensure protocols are in place to protect staff.

3.5.9 Reducing the risk of sharps injury

- Explain to people who use healthcare services the risks to healthcare workers 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 that you are vaccinated against Hepatitis B virus and that your immune response has been checked – refer to Occupational Health for further advice
- Participate in education sessions and professional development sessions on handling sharps, as well as those on new safety devices and how to use them (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

3.5.10 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 (e.g. PHN, CRGN, G.P., local pharmacy) and where the container can be returned to for safe disposal
- Dispose of sharps immediately after use into a sharps waste containers that is clearly labelled, puncture and leak proof, and conforms to ISO 23907 2019.
- Locate the sharps container at the point of use or, if this is not possible, 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 National guidance available at: https://www.hse.ie/eng/about/who/qid/nationalsafetyprogrammes/decontamination/sterile-service-standards.html
- 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 an accessible height for the healthcare worker but out of reach of children and others to prevent hands and fingers entering the container – *this is very important to re-iterate to service users in the home setting*
- Sharps containers should be placed in a secure position or mounted on the wall to prevent tipping (approximately 1.3m 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). Local protocol and procedures should be available to outline their appropriate use.

3.5.11 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.

Please see Guideline for the Emergency Management of Injuries and Post-exposure Prophylaxis (PEP) at www.hpsc.ie/a-z/EMIToolkit/

Sharps injuries must be reported as per the HSE National Incident Management Framework, which can be accessed online at: www.hse.ie/eng/about/who/nqpsd/qps-incident-management/incident-management/

3.6 Standard Precautions – Aseptic Technique

Aseptic technique protects service users during invasive clinical procedures by employing a variety of infection control measures that minimise, as far as practicably possible, the presence of pathogenic microorganisms. A number of approaches to promote aseptic technique are available.

Aseptic technique is also commonly referred to as ANTT – Aseptic Non-Touch Technique. The Principles of ANTT procedure are:

- **A**lways decontamination your hands
- **N**ever contaminate key parts of sterile materials/equipment or key sites
- **T**ouch non-key parts with confidence
- **T**ake appropriate infective prevention precautions, e.g. PPE, Waste Disposal

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

- Identifying and protecting key parts and key sites
- Hand hygiene
- Use of a no touch technique
- Use of sterile equipment
- Disinfecting key parts prior to use (scrub the hub).
- Allow sufficient drying time post disinfecting

In Community Health & Social care settings the most common procedures undertaken which require an aseptic technique are – insertion of a urinary catheter, wound dressings and venepuncture. Other activities undertaken by some services include managing devices such as central venous access devices.

3.6.1 Training and education requirements for healthcare workers

Undertaking aseptic technique is a skilled clinical practice which requires training and education in both theory and practice, followed by competency assessment. This training is outside of the scope of the IPC team. Where clinicians are identified, or identify themselves, as requiring training/refreshers in aseptic technique, managers should refer them to appropriate sources. Some examples may be HSE Regional Centres for Nursing & Midwifery Education, local acute hospital medical teams etc.

The IPC team can support the principles of aseptic technique and assist with IPC risk assessment, care planning etc.

More information on ANTT is available in the National Clinical Effectiveness Committee Draft Guidance on Infection Prevention and Control 2022 and subsequent updates published on www.hpsc.ie.

Additional resources and information is available at https://www.antt.org/. This site includes useful posters/ prompt which can be downloaded for display in clinical areas. It also includes posters outlining steps to ANTT in community settings such as homes.

3.6.2 Aseptic Technique in Challenging Environments

Some community environments challenge the ability of clinicians to undertake aseptic technique effectively. There can be due to environmental challenges (e.g. undertaking procedures in a service users home) or down to challenging behaviour of service users (e.g. 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 care being provided 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 to your manager and request additional support and training.

Part of the clinical assessment prior to undertaking aseptic technique in these environments includes:

- 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 (e.g. service user moves and 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 (e.g. for catheterisation), and if so do you need assistance to get them into a suitable 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, a coffee table etc. Can that surface be cleaned prior to opening your sterile field? If opening the field on the service users bed ensure it is not on their legs or it could be displaced easily if they move suddenly.
- How will you decontaminate your hands before and after the procedure? Do you have alcohol based hand rub?
- Where will the waste be disposed of?

The IPC team will be happy to support you to identify the best possible solutions to ensure optimum aseptic practice is undertaken. Details of your local IPC team are in Appendix 1.

3.7 Standard Precautions – Management of Service User Care Equipment

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

3.7.1 What is the risk?

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

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

Principles of reprocessing reusable medical devices include:

- Before purchase, health care facilities should ensure that manufacturers reprocessing instructions are provided and can be followed by the health care 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 **manufacturers** recommendations. A copy of the manufacturers instructions and recommendations should be retained on site to be referred to as required
- Single use medical devices should not be reprocessed for reuse. Exceptions to this should only be considered in an emergency situation. This exception should be based on a risk assessment.

3.7.2 Reprocessing Medical Devices

Any medical device (instruments and equipment) that is to be reused requires reprocessing:

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 pre-requisite 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 instruments and 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.

In general in the community setting cleaning is sufficient for the vast majority of service user care items, however an IPC risk assessment must be undertaken for all shared devices used (See Appendix 6).

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. The system is based on instruments and items for service user care being categorised into critical, semi critical and non-critical according to the degree of risk for infection involved in use of the items.

Table 3: Categories of Items for Service User care

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.

Further information on the reprocessing of invasive medical devices can be found at: https://www.hse.ie/eng/about/who/qid/nationalsafetyprogrammes/decontamination/standards-for-decontamination.html

3.7.3 General criteria for reprocessing and storage of equipment and instruments in health care settings

How items are reprocessed (i.e. cleaned, disinfected, sterilised) is based on the level of risk. In general the criteria for reprocessing and storing service user equipment and instruments is outlined below

Dental/orthodontic services should follow the HSE National Guideline for Infection Prevention and Control in HSE Dental and Orthodontic Services.

Table 4: 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 effective biobarriers 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

Table 5: 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 manometry, catheters, diaphragm fitting rings Probes including transoesophageal, echocardiogram, transrectal ultrasound and transvaginal probes
Storage	Store to prevent any environmental contamination. All endoscopic instruments (except those in sterile packaging) should be stored in a suitable Controlled Environment Storage Cabinets or reprocessed within set time frames prior to use

Table 6: Level of Risk – Non-Critical

This is the most common level within Community Health & Social Care

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 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, blood pressure cuffs and crutches*
Storage	Store in a clean, dry place to prevent environmental contamination

* 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 polices for cleaning non-critical items.

A list of common service user care items and their recommended decontamination is found in Appendix 6.

3.8 Standard Precautions – Environmental Hygiene

Infectious microorganisms can be found in healthcare settings and 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.

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 that are in contact with contaminated equipment or the environment and then touch a person. Environmental surfaces can be safely decontaminated using less rigorous methods than those used on medical instruments and devices (see definitions of cleaning, disinfection and sterilisation in Section 3.5).

Think of your own service and ask yourself 3 key questions in relation to environmental hygiene:

- **What is the risk?**
- **How do we decide the level of cleaning required?**
- **Who is responsible for each task?**

3.8.1 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 microorganism in the intervals between environmental cleaning.

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

A note about General Maintenance

- Surfaces that are cracked, chipped or otherwise damaged cannot be cleaned effectively and must be repaired or replaced promptly.
- Sinks 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

3.8.2 How do we decide 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 which can be recommended, and which will assist with services when developing appropriate cleaning schedules for their local environment.

Before you start to develop a cleaning schedule consider your local environment:

1. What is the IPC Risk?
2. Is the environment easily cleanable? Is it cluttered? Are there areas that need repair?
3. What products will we need? Where will they be stored?
4. How often do we need to clean? Is there a cleaning schedule?
5. Who will do the cleaning? How will they be trained?
6. How will we ensure the cleaning is carried out effectively?

Q1 What is the IPC Risk?

The method, thoroughness and frequency of cleaning, and the products 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.

Q2 Is the environment easily cleanable?

The general environment should promote ease of cleaning. Cleaning 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?

There should be a procedure in your service for reporting surfaces that are cracked, chipped or otherwise damaged, and slow-draining or non-draining sinks and shower trays to facilities maintenance.

Q3 What products will we need? 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. Enhanced cleaning is required when there is a particular IPC issue which requires transmission based precautions to be instigated, for example a service user who is infected with a multi-drug resistant organism, or during an outbreak.

IPC teams can support services to identify their cleaning requirements when transmission based precautions are in place.

A detergent solution is recommended for routine cleaning.

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 the 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.

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 washing or disposal after each use.

Disinfectants are usually only necessary if a surface that has already been cleaned with detergent and water is suspected or known to have been contaminated by multi drug resistant organisms before (MDROs) and or other 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 should be enough to reduce numbers.**

Disinfectants are used after routine cleaning or as a combined cleaning/disinfecting agent during an outbreak of for example a gastrointestinal disease. 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 or sodium dichloroiscyanurate 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 particular microorganisms including microbiological activity and contact time to kill microorganisms

See below considerations relating to cleaning stores and tools.

Q4 How often do we need to clean? Is there a cleaning schedule?

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.

Table 7: Cleaning requirements – Routine Environmental Cleaning

Cleaning requirements for routine environmental cleaning	
Minimally touched surfaces	**Frequently touched surfaces**
Examples: Floors, ceilings, walls and blinds	Examples: Doorknobs, bed rails, table-tops, light switches and sanitary ware
Walls and blinds should be cleaned when visibly dusty or soiled. Curtains should be regularly changed in addition to being cleaned when soiled or exposed to MDROs. A detergent solution (diluted as per manufacturer's instructions) is adequate for cleaning general surfaces and non-service user care areas. 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. 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 washing or disposal after each use.	Should be cleaned more frequently than minimally touch surfaces. Detergent solution (diluted as per manufacturer's instructions) can be used with the exact choice of detergent determined by the surface and likely degree of contamination. Detergent impregnated wipes may be used for a single piece of equipment or a small area but should not be used routinely as a replacement for the mechanical cleaning process. Particular attention is required to ensure that sinks, shower and related fittings are cleaned on a regular basis and that water drains freely and thoroughly so that there is no pooling of water.

Cleaning Schedules

The recommendations outlined for cleaning should be justified by the risk of transmission of infection with within a particular healthcare facility.

All services should have a documented cleaning schedule that outlines clear responsibilities of staff, roster of duties, the frequency 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.

A suggested cleaning schedule is provided in Appendix 7.

Cleaners Store Rooms/Housekeeping Rooms

It is important that staff who perform 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 also should:

- have appropriate personal protective equipment available
- have an appropriate water supply and a sink or floor drain
- be appropriately sized and well ventilated with suitable lighting and locks fitted to all doors
- have chemical storage facilities.
- Have suitable hand hygiene facilities

All cleaning equipment must be well maintained clean, in good repair and undergo periodic testing as appropriate.

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

The NHS have produced a helpful guideline which may be accessed here to guide laundry service requirements: https://www.hps.scot.nhs.uk/web-resources-container/national-guidance-for-safe-management-of-linen-in-nhsscotland-health-and-care-environments-for-laundry-servicesdistribution/

Cleaning carts should:

- have a physical partition 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 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 implements and solutions

Part of the cleaning strategy is to minimise contamination of cleaning solutions and cleaning tools. Proper procedures for effective use of mops, cloths and 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.

Carpets

The use of carpet in service user care areas should be avoided.

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.

During outbreaks vacuuming of carpet floors should be avoided until such time as the outbreak is over, following which the carpet should be steam cleaned.

Q5 Who will do the cleaning? How will they be trained?

Services must identify who will carry out their routine cleaning, and how cleaning should be managed should there be a requirement for enhanced cleaning, e.g. during an outbreak of infectious disease. Cleaners are part of the wider healthcare team and should be inducted and trained in cleaning tasks relevant to their role, storage of chemicals, health & safety, standard and transmission based precautions etc.

All persons working in the facility should assist the cleaners through maintaining a tidy environment, promptly putting away items such as stores, ensuring a clean desk policy is adhered to, decluttering areas to ease cleaning, and ensure all service user items are stored appropriately and out of the way of cleaning staff.

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:

- Minimum cleaning frequencies and specifications of methods (cleaning service providers are required to provide cleaning services at whatever frequencies are deemed necessary in order 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 fluids) 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 particular infections 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 to be cleaned more frequently and then disinfected with sodium hypochlorite or sodium dichloroiscyanurate)

Q6 How will you ensure the cleaning is carried out effectively?

Checking, auditing and environmental sampling

Healthcare facilities use a variety of systems to ensure that cleaning standards are met. These include checklists, 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 facilitate 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.

3.8.3 Special Precautions when Cleaning – the 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.

Spill Kit

Supplies required for dealing with a spill of blood or body fluids should be readily available in each clinical area and should include a scoop and scraper, single use gloves, protective apron, surgical mask and eye protection, absorbent agent, health care risk waste bags and ties and detergent. 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.

Process for spills management

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:

- Healthcare workers can manage small spills by cleaning with detergent solution.
- for spills containing large amounts of blood or other body substances contain and confine the spill by:
    - removing visible organic matter with absorbent material (for example disposable paper towels)
    - removing any broken glass or sharp material with forceps

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

Hypochlorite or sodium dichloroiscyanurate 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.

Alcohol solutions should not be used to clean spillages.

Table 8: Spill management

Volume of spill	Process
Spot Cleaning	• Select appropriate personal protective equipment (for example gloves and disposable apron) • Wipe up spot immediately with a damp cloth tissue or paper towel • Discard contaminated materials • Perform hand hygiene
Small spills (up to 10 cm diameter)	• Select appropriate PPE (for example gloves and disposable apron) • Wipe up spill immediately with absorbent material • Place contaminated absorbent material into impervious container or plastic bag for disposal • Clean the area with warm detergent solution using disposable cloth or sponge • Wipe the area with sodium hypochlorite sodium dichloroiscyanurate and allow to dry • Perform hand hygiene
Large spills (greater than 10 cm diameter)	• Select appropriate PPE (for example gloves and disposable apron) • Cover area of the spill with absorbent material, e.g. disposable paper towels to soak up as much of the spillage as possible • Place all contaminated items into impervious container or plastic bag for disposal • Discard contaminated materials • Mop the area with detergent solution • Wipe the area with sodium hypochlorite or sodium dichloroiscyanurate and allow to dry • Perform hand hygiene

3.9 Standard Precautions – Waste Management

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

Services should consider what type of waste is generated in their facility, and ensure staff have access to the appropriate waste receptacles to enable easy segregation of the waste at point of care. For example, recycling bins, domestic waste bins, clinical waste bins etc. The HSE have found that only 66% of waste in yellow bags is healthcare risk waste. Healthcare risk waste is the most expensive waste to dispose of.

Consider 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 (DOH, 2010):

- Biological (recognisable anatomical waste)
- Infectious
- Chemical, toxic or pharmaceutical including cytotoxins
- Sharps (e.g. needles, scalpels, sharp broken materials)
- Radioactive (refer to Radioactive Waste Directive(s)

3.9.1 Handling Waste – IPC Considerations

- Apply Standard Precautions to protect against exposure to blood and body substances during handling of waste.
- Perform hand hygiene following the procedure.
- Segregation should occur at the point of 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 bins should be foot operated and have a secure lid, and be emptied when 2/3 full. All healthcare risk waste must be tagged (see link to HSE Waste Management Guidelines below).

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. A waste management poster can be downloaded from the following link and displayed at point of care to support staff to make the correct choices when segregating waste: www.hse.ie/eng/about/who/healthbusinessservices/national-health-sustainability-office/waste-prevention/healthcare-risk-waste/

For additional information on waste management, see the HSE Waste Management Handbook www.hse.ie/eng/about/who/healthbusinessservices/national-health-sustainability-office/waste-prevention/waste-measuring-monitoring-and-benchmarking/

3.9.2 Healthcare Risk Waste generated in the domiciliary (home) setting

Health and social care services are currently provided on a large scale in service users homes. These services are provided by a number of groups, for example, Public Health Nurses, Homecare providers, Mental Health Services, Community Intervention Teams, and Palliative Care services etc. Some of the interventions carried out result in the generation of waste.

In response to the volume of queries Community IPC Teams receive in relation to this area a position statement has been developed in relation to infectious (or potentially infectious) waste generated in the home, for example as a result of wound dressings, incontinence wear, catheter bags etc. generated through routine health & social care in the home. Please contact your local IPC team for more information.

3.9.3 Healthcare Risk Waste – Resources

The HSE has developed a number of resources to support services to manage waste. These resources can be found at: https://www.hse.ie/eng/about/who/healthbusinessservices/national-health-sustainability-office/waste-prevention/healthcare-risk-waste/

3.10 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 on-site. In addition facilities should have a policy for how to manage service users' personal laundry.

3.10.1 Terms used

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	All linen used by a person known, or suspected to be, infectious. This includes linen that is contaminated with blood or other body fluids, e.g. faeces, blood, vomit, urine

3.10.2 Handling Used or Infectious Linen

- Used linen should be handled carefully, to avoid dispersing skin scales into the environment or onto staff clothing.
- Appropriate PPE should be used when handling used linen
- 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.
- Colour coded laundry bags may be used (see below)
- 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 & social care is provided in small community household units with a small number of service users, for example low support homes in mental health 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. In these settings it is appropriate to undertake laundry as is normal in a domestic household. The only exception to this is if an outbreak or an incident of infectious disease occurs (e.g. colonisation, based on IPC risk assessment).

Local IPC teams will support IPC risk assessment in these situations (contact details in Appendix 1).

3.10.3 Storage of Linen

Clean linen should be stored in a designated cupboard or room that is only used for the purpose of storing linen. Under no circumstances should clean linen be stored beside used linen.

If using linen trolleys in a care facility ensure the trolley is maintained and cleaned regularly. Clean linen should be kept in its plastic wrapping until it is brought to point of use.

3.10.4 Used Linen/Laundry Bag Colour Coded System

Used linen should be placed directly into a laundry skip beside the bed/point of use. Used linen should never be carried in arms, thrown on floors etc.

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:

Red Laundry Bag	Infectious linen
White laundry Bag	Used Linen

3.10.5 Service Users personal clothing

All facilities should have a process in place for managing service users personal clothing.

If industrial style laundering is not available a domestic-type laundry facility may be suitable for individuals laundering personal clothing, e.g. adults in rehabilitation facilities. If using a domestic-type washing machine to launder service users personal items:

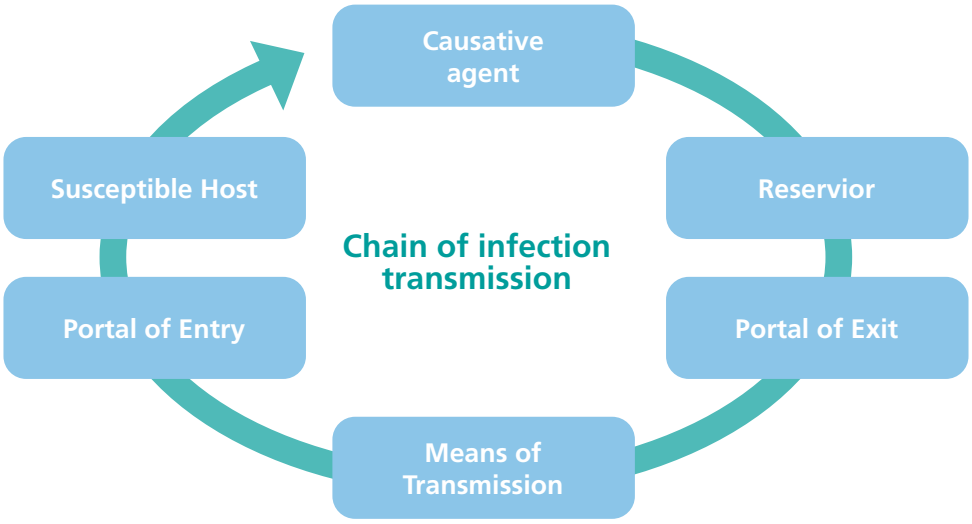
- Use a suitable detergent
- Use the highest temperature setting tolerated by the fabric (see care label), for example wash delicate items at a lower temperature.
- Avoid mixing items from multiple persons in a single load
- Service users clothing should be identifiable to avoid items being mixed up

Section 4

Transmission Based Precautions

4 Transmission Based Precautions

Transmission Based Precautions (TBP) are a set of measures we can put in place to reduce the risk of infection spread when an infection is either suspected or confirmed. The aim of TBP is to reduce the opportunities for that infection to spread by breaking the chain of infection at the route of transmission.



Transmission Based Precautions are applied to service users suspected or confirmed to be infected or colonised with microorganisms transmitted by the contact, droplet or airborne route (see below).

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

TBP 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 instigate TBP should take the whole person into consideration, and advice should be sought from the Community IPC team if there is a concern for the service users well-being as a result of instigating TBP. 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 TBP.

When deciding whether to instigate TBP it is essential that you refer to appropriate and up to date advice in relation to the suspected or confirmed microorganism. Go to the Health Protection Surveillance Centre (www.hpsc.ie) for specific advice in relation to the precautions required.

4.1 Application of Transmission Based Precautions – What are the Risks?

When a service user has a known or suspected infection there are 3 transmission routes (i.e. means of spread) to be concerned about:

- Contact
- Droplet
- Airborne

4.2 Contact Precautions

Contact transmission can be direct (e.g. blood from an infected person comes in contact with a mucous membrane or break in the skin of another person) or indirect (e.g. via shared equipment that has not been cleaned sufficiently, e.g. commodes).

Direct and indirect contact transmission is considered to be 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 this are C. difficile, MRSA, highly infectious skin infections, e.g. impetigo etc.

There are 5 main contact precautions that should be applied in addition to standard precautions:

- 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

4.2.1 How do we apply Contact Precautions in a practical way?

Remember! Before applying any precaution remember to fully communicate the reason you are doing this to the service user/carer/other staff to reduce anxiety and fear and encourage compliance with measures. The exact application of precautions will vary depending on your facility, and how they may impact your service user.

Table 9: Applying contact precautions in practice

Precaution	How to Do it?	Reason – Break the Chain
Hand Hygiene	Refer to the 5 moments of hand hygiene in Section 3	Microorganisms can spread easily to service user/environment/staff through contaminated hands Hand hygiene compliance is likely to improve if staff/service users have good access to sinks /alcohol based hand rub at point of care
Use of Appropriate PPE	Additional Personal Protective Equipment may be required in addition to those mentioned in standard precautions, e.g. 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, e.g. Norovirus (Winter vomiting bug) Appropriate PPE will also help contain microorganisms that transmit through direct contact, e.g. blood and body fluid splashes It is critical to don and doff PPE correctly
Special Handling of Equipment	Once TBP have ended all equipment used by the service user must be thoroughly cleaned and disinfected/ disposed of as appropriate Contact IPC team for further support and advice	Any medical device (instruments or equipment) that is to be reused must be reprocessed in line with manufactures recommendations – cleaned, disinfected and/or sterilised.

Precaution	How to Do it?	Reason – Break the Chain
Special Handling of Equipment	For service users with known or suspected infections on contact precautions consider all the equipment they require for optimum care Best IPC practice recommends equipment should be dedicated to that person alone for the duration of the TBP, and not shared with any other service user (e.g. commode, blood pressure cuff, wheelchair, drip stands etc.)	The minimum level of reprocessing required for reusable instruments/ equipment depends of the individual situation, i.e. the body site, presence of infectious organisms, and the nature in which the device will be used Dedicating equipment to the service user with known or suspected infection may reduce the transmission of that infection via that equipment to another service user
Service user Placement	Best IPC practice requires that all service users with a known or suspected infection should be cared for in a single room with en-suite If this is not possible undertake an IPC risk assessment – contact IPC team for support and advice if required 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 notes/charts/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 clinical 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** Place signage on door to ensure all staff/visitors know contact precautions in place – see 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 en-suite 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 healthcare 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 service user does not suffer harm as a result of isolation, e.g. encourage frequent checks by staff, use alternative methods of communication (e.g. virtual) with contacts etc.* Do not unnecessarily prolong isolation – refer to www.hpsc.ie/local IPC team for guidance on duration of contact precautions depending on infectious microorganism Whilst in the isolation room, gloves may need to be removed and hand hygiene performed in order 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 service user care areas	Hand hygiene must be performed prior to moving the service user and appropriate clean 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 a risk assessment has been undertaken and all practical and appropriate measures have been put in place to prevent transmission of infection.

Remember – 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 infectious transmission risk within your service. If you are unsure contact your local IPC team to advise and support you.

Some examples of IPC risk assessment in practice are available in the National Clinical Effectiveness Committee Draft Guidance on Infection Prevention and Control 2022 and subsequent updates published on www.hpsc.ie

4.3 Droplet Precautions

Some infectious microorganisms can be transmitted through the respiratory route, generated through coughing, sneezing or talking. Infectious particles may travel to another person either directly (i.e. 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 your eyes/nose/mouth via your 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. Some common 'droplet' microorganisms experienced in community health and social care include influenza, Norovirus (Winter Vomiting Bug, during vomiting) and SARS-CoV-2 (COVID-19).

4.3.1 How do we apply droplet precautions?

Similar to 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 respiratory hygiene and cough etiquette
- Use of appropriate PPE
- Special handling of equipment
- Minimising service user movement

The role of ventilation is currently being researched following experience of SARS-CoV-2 (COVID-19) outbreaks and the potential impact of poor ventilation on outbreak outcomes. At time of writing a clear definition of 'adequate' ventilation is not yet available. Ensuring an area receives the benefit of fresh air must be balanced with the comfort of staff and service users (e.g. open windows may not be possible in Winter). Local IPC teams will support services with advice on how to do an IPC risk assessment in these circumstances.

In addition the role of physical distancing has come to the fore in light of the COVID-19 pandemic. Please refer to the www.hpsc.ie for specific advice on physical distancing within your own facility.

When instigating droplet precautions consider the impact on the service user. For example, communication may be challenging when healthcare workers are wearing PPE, 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.

It is good practice to place people on TBP in a single-service user room. Where this is not possible a minimum distance should be maintained between service users (follow current HPSC.ie advice). Where single rooms are unavailable or in short supply consider the following as part of your risk assessment:

- Prioritise service users who have highly infectious disease for which other control measures are not available
- 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)

Table 10: Applying droplet precautions in practice

Droplet Precaution	How to Do it?	Reason – Break the Chain
Standard Precautions	Strict adherence to hand hygiene Strict adherence to respiratory/cough hygiene See section 3 Standard Precautions	Prevents the spread of droplets through contaminated hands Contains the transmission of organisms when the service user is in close contact with another person
Use of appropriate PPE	See section 3 Standard Precautions	As new evidence on the spread of SARs-CoV-2 emerges changes to PPE will be recommended by Public Health. Services should follow the most up to date advice in relation to PPE, available at www.hpsc.ie
Special Handling of Equipment	Best IPC practice is to designate single service user use/disposable equipment and avoid sharing of equipment Ensure all equipment is thoroughly decontaminated as per manufactures 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 Where single rooms are unavailable cohorting may be advised 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 – i.e. 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 mask they should be supported to follow respiratory/cough hygiene

If a service user requires care under Droplet Precautions but an aerosol generating procedure (AGP) associated with an increased risk of infection is undertaken, then Droplet Precautions should be increased to airborne precautions (see below) for at least the duration of the procedure.

Consider where the procedure is being undertaken and how the area will be ventilated afterwards, ensuring all staff entering the area are wearing appropriate PPE

Refer to the www.hpsc.ie guidance documents for the most up to date information.

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 (COVID-19) and other respiratory viruses may sometimes be transmitted via the airborne route and in certain circumstances, for example when performing AGPs.

- What microorganism do we suspect/has been confirmed in our service?
- How does the microorganism spread? Based on what you know about how it can transmit from one person to another what type of PPE do you need? If unsure refer to HPSC for information about that microorganism/contact your local IPC team for advice
- 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 clinically indicated to be used, 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.
- Services should contact their local Occupational Health department or Health & Safety Advisor for more information on where to source Fit Testing locally.

How to apply Airborne Precautions

The key aspects of applying airborne precautions relate to:

- Standard precautions, including cough/respiratory hygiene
- Appropriate ventilation
- Use of appropriate PPE, particularly correctly fitted FFP2 respirators
- Minimising exposure of people who use healthcare services and healthcare workers 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 HPSC posters (see Appendix 2) as a prompt for staff in correct donning & doffing procedure. Alcohol based hand rub 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.
- All PPE with the exception of a mask, can be removed inside the service user's room. Masks should be removed outside the service user's room.
- HCWs who provide care in the home of a service user should have access to a full range of PPE.

Table 11: Applying airborne precautions in practice

Airborne Precaution	How to Do it?	Reason – Break the Chain
Standard Precautions	See Section 3 – Standard Precautions	
Appropriate Ventilation	Specialist isolation rooms with negative pressure ventilation are not found 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 if possible, 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/opening windows etc.
Appropriate PPE	FFP2 Respirator masks are recommended as part of airborne precautions. FFP2 masks should be 'fit checked' to ensure they sufficiently prevent inhalation of respiratory particles from an infected person Fit Checking is different to Fit Testing. For advice on Fit Checking refer to video on www.hpsc.ie. As above refer to Occupational Health for information on Fit Testing	The Health & Safety Authority indicate that where a risk assessment indicated that HCWs require an FFP2 masks to deliver care every effort should be made to comply with the requirement for fit testing of the workers. Contact Occupational Health Dept. or Health & Safety Advisor for more information
Minimising Exposure	Reduce exposure to person on airborne precautions through limiting their contact with service users and staff	

Section 5

Multi-Drug Resistant Organisms & Antimicrobial Stewardship

5 Multi-Drug Resistant Organisms & Antimicrobial Stewardship

Antimicrobial resistance is 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 & Control).

5.1 What is a Multi-Drug Resistant Organism (MDRO)?

MDRO's, which are predominantly bacteria, are organisms that are resistant to multiple classes of antimicrobial agents. Acquired resistance to 3 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 to frequent contact with healthcare workers (resulting in attendant risk of cross infection) and extensive antimicrobial use in this setting.

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

5.1.1 Skin and nose colonising Multi-Drug Resistant Organisms

For those MDROs that colonise the skin and nose the risk of environmental and 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.

Methicillin resistant *Staphylococcus aureus* (MRSA) – In many cases it may be possible to eradicate or minimise surface colonisation with MRSA through application of a decolonisation protocol **if there is a clinical indication for doing so**, however in Community settings this should never be routine practice.

5.1.2 Gut colonising MDROs

This group of bacteria include a number of antibiotic resistant bacteria that have been a problem for many years including **Vancomycin resistant *enterococci* (VRE)** and **Extended spectrum beta-lactamase producing *Enterobacterales* (ESBLs)**.

It also includes a major new concern **Carbapenem producing *Enterobacterales* (CPE)**.

These organisms spread from person-to-person trough the faecal-oral route, which is to say that are shed in faeces.

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 dressing after visiting the toilet the risk of person to person spread and environmental contamination is very low in most settings. There is no established protocol internationally for decolonisation of the gut of people with MDRO.

Regardless of known or suspected MDRO status, a person who has diarrhoea or who is incontinent of faeces must be prioritised for immediate care in the appropriate setting, to ensure dignity and respect as well as for IPC purposes.

The most critical elements in controlling the spread of MDROs in healthcare settings are likely to be adherence to Standard Precautions in all settings and with all service users and antimicrobial stewardship.

A 2-level approach is necessary for the prevention and control 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. *Note – 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 MDRO must be balanced with the imperative of delivering appropriate care to people in a timely manner and respecting the right of people to visit relatives and friends in hospital.

5.1.3 Home care and other community-based 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) and implementation of specific Contact Precautions until people have been discharged from the acute hospital facility or until such time as application of Contact Precautions can be lifted based on laboratory results and IPC team assessment.

In Community healthcare settings Standard Precautions (particularly hand hygiene by both people cared for and healthcare workers) 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, may be considered for certain elements of care of the person if the they are heavily colonised or if there is known continuing transmission, in discussion with the IPC Team.

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

In these settings, the use of Standard Precautions and antimicrobial stewardship as part of routine practice should assist in minimising the cross-transmission risks of infection, regardless of MDRO status.

Service users with specific risk factors for transmission of microorganisms, such as a discharging wound, should have a risk assessment performed to determine whether any measures beyond Standard Precautions should be implemented.

Any additional precautions implemented should have due regard to the overall care needs of the resident/service user.

5.2 Antimicrobial Stewardship

Safe and appropriate use of antimicrobials is a critical element of Ireland's national plan for antimicrobial resistance and of service user quality and safety initiatives (Department of Health 2017/2021).

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.

5.2.1 What is Antimicrobial Stewardship?

Antimicrobial Stewardship (AMS) refers to coordinated interventions designed to improve and measure the appropriate use of antimicrobials by promoting the selection of the optimal antimicrobial drug regimen, dose, duration of therapy, and route of administration. Antimicrobial stewards seek to achieve optimal clinical outcomes related to antimicrobial use, minimise toxicity and other adverse events, reduce the costs of health care for infections, and limit the selection for antimicrobial resistant strains.

5.2.2 Key Elements/Core Principles of AMS

The core principles of Antimicrobial Stewardship are:

- Prescribe the right antibiotic, antiviral, antifungal for the service user in front of you considering age, other medical conditions, pregnant? Long term care resident?
- Choose the right dose, duration, and route for the condition you are treating
- You cause the least amount of harm to that service user, consider drug interactions, allergy and toxicity.
- You cause the least amount of harm to future service users by decreasing antimicrobial drug resistance
- Do not prescribe for obvious self-limiting viral infections
- Only use antibiotic's for suspected bacterial infections
- Promote use of immunisation to minimise infections
- Practice good infection control to minimise the spread of infections

5.2.3 Antimicrobial prescribing and Antimicrobial Stewardship Resources

The HSE have developed a number of guidelines and resources to support optimal antibiotic prescribing and antimicrobial stewardship. These resources are available at: www.hse.ie/eng/services/list/2/gp/antibiotic-prescribing/

Appendices

Appendix 1

Contact Details HSE Community Infection Prevention & Control/Antimicrobial Stewardship Teams

At time of writing the HSE is currently developing IPC/AMS teams across Community Healthcare Organisations.

Centralised mailing systems have been established in each area for IPC information and advice:

Community Healthcare Area	Community Healthcare Organisation	Email address
1	**Community Healthcare Organisation 1** Sligo, Leitrim, Donegal, Cavan, Monaghan	cho1.ipc@hse.ie
2	**Community Healthcare West** Galway, Mayo, Roscommon	IPCCHW@hse.ie
3	**Mid-West Community Healthcare** Clare, Limerick, North Tipperary/East Limerick	CHO3InfectionPreventionControl@hse.ie
4	**Cork Kerry Community Healthcare** Kerry, North Cork, North Lee, South Lee, West Cork	IPCCorkKerry@hse.ie
5	**South East Community Healthcare** South Tipperary, Carlow/Kilkenny, Waterford, Wexford	Infection.ControlCHO5@hse.ie
6	**Community Healthcare East** Wicklow, Dun Laoghaire, Dublin South East	qssi.che@hse.ie
7	**Community Healthcare Dublin South, Kildare & West Wicklow** Kildare/West Wicklow, Dublin West, Dublin South City, Dublin South West	IPC.CHO7@hse.ie
8	**Midlands Louth Meath Healthcare** Laois/Offaly, Longford/Westmeath, Louth, Meath	InfectionPrevention.ControlNurseCHO8@hse.ie
9	**Dublin North City and County Healthcare** Dublin North Central, Dublin North West	ipc.dncc@hse.ie

Appendix 2

Links to IPC Resources

The Health Protection Surveillance Centre (HPSC) hosts resources relating to all notifiable diseases in Ireland: https://www.hpsc.ie/

The HPSC website hosts guidance in relation to infection prevention & control and also antimicrobial resistance. Depending on the facility/service you are in (*e.g. residential care, palliative care*) you will locate the guidance applicable to you:

- A-Z of common infections – includes factsheets, service user information leaflets, guidance etc.
- Frequently Answered Questions (FAQ's) updated continuously
- Posters readily available for printing
- Videos resources available as a training recourse (e.g. PPE Donning & Doffing)
- Sampling videos
- Visiting guidance for services
- National Clinical Effectiveness Committee Draft Guidance on Infection Prevention and Control 2022 and subsequent updates
- Webinars speciality/service specific also available with slides and recordings
- HSE land IPC E-learning courses (www.hseland.ie) available for all staff regardless of health & social care setting.

Appendix 3

Hand Hygiene Technique

How to Hand Wash

www.hpsc.ie/publications/posters/

How to Hand Rub using Alcohol Gel

www.hpsc.ie/publications/posters/f

Appendix 4

IPC in the Domiciliary (Home) Setting

Infection control procedures should be carried out in all healthcare settings, and this includes service users' homes.

Hand hygiene

- Community healthcare workers (HCWs) should perform hand hygiene before and after contact with clients as per 'My 5 Moments' – see Section 3, Standard Precautions
- HCWs should ask clients, 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 alcohol based hand gel for use as required. Alcohol based hand rub can be used as an alternative to hand washing with 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 alcohol based hand rub 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 detergent wipes and dried prior to the application of the alcohol based hand rub
- Any cuts or abrasions on the hands of the HCW should be covered with a waterproof dressing

Personal Protective Equipment

- Community HCWs should carry an appropriate supply of personal protective equipment in anticipation of exposure to blood and body fluids
- These should be carried in a work equipment case and should include disposable plastic aprons, non-sterile disposable gloves, and, in certain cases, eye/mouth protection (e.g. goggles and mask or fluid shield mask/ visor). *Refer to www.hpsc.ie for up to date guidance in relation to PPE (including mask) requirements as part of COVID-19 risk assessment.*
- Care should be taken to perform hand hygiene before removing items or returning clean items to the work case
- The work case should be cleaned regularly or if soiled

Waste disposal

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

With regard to the domiciliary setting, healthcare risk waste collection may be required. Risk assessment regarding home collection should be done in conjunction with service manager, in consultation with other stakeholders as relevant (e.g. HSE waste manager/Infection Prevention & Control Team/Health & Safety etc.).

Service Users who require sharps in their homes must be educated in the correct storage and return of these bins by the person who gives them their sharps container.

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.
- 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, injection equipment etc. should not be stock piled in service users homes. Only bring necessary supplies as needed to avoid waste

Appendix 5

Taking a Sample or Specimen to Support Diagnosis of Infection

Note: this guidance should be used in association with any specific guidance on sample submission available from the testing laboratory. Please note that sample requirements may change.

4.1 Taking a Wound Swab

The following section is an extract from the **HSE National Wound Management Guidelines, 2018**.
For further information on wound infection and management please refer to the above guidance.

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:

- Cellulitis
- Discharge – serous exudate with inflammation (Seropurulent/Haemopurlent/Pus)
- Delayed normal healing
- Discolouration of wound bed; beefy red/dull purplish
- Unexpected pain/tenderness/change in type of pain & 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

Other clinical signs include:

- Service user 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)
- Service users 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, e.g. for Methicillin 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

1. When a swab is indicated, the service user 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.
2. 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.
3. 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
4. Care should be taken to ensure that the swab only comes into contact with the wound surface.
5. 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.
6. 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.
7. Immediately following collection, the swab should be returned to its container (placed into the transport medium) and accurately labelled
8. Any supporting documentation for the laboratory should immediately be completed and a note included in the service users 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 users age, ongoing treatment and wound location.
9. Swabs must be transferred to the laboratory as quickly as possible and ideally processed within four hours of collection.
10. The laboratory report should list the potential pathogens.

5.2 Taking a Nasal/Throat Swab

It is recommended that services should access the following link for the most up to date information and associated learning videos for taking a nasal/throat swab. This guidance is updated frequently and subject to change so should be referred to directly: https://www.hpsc.ie/a-z/respiratory/coronavirus/novelcoronavirus/guidance/infectionpreventionandcontrolguidance/sampling/

5.3 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.hps.scot.nhs.uk/web-resources-container/guidance-for-obtaining-faecal-specimens-from-patients-with-diarrhoea/

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 patient 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 patient details before obtaining the specimen).

NB – Use Standard Precautions and Contact Precautions throughout this procedure.

Procedure

1. Explain the need for the procedure to the service user including the reason for the test (e.g. symptoms of diarrhoea), when and how the results will be given.
2. Ask the service user to pass faeces into the bedpan or container avoiding if possible passing urine at the same time.
3. Perform Hand Hygiene as per *'My 5 Moments of Hand Hygiene'*. Put on gloves and aprons to receive the bedpan.
4. Transfer faeces into a leak proof sterile specimen container using the spoon 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
5. Put on the container lid and secure. Avoid contaminating the outside of the container.
6. Discard bedpan and contents as usual. Discard other healthcare waste as defined in local policy.
7. Remove gloves and apron and perform hand hygiene
8. Place the specimen container directly into the leak proof sealable bag (The outside of this bag must not be visibly contaminated).
9. Wash and dry hands.
10. 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).

5.4 Taking a Sample of Urine from an indwelling Urinary Catheter

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

The following information has been amended from NHS Scotland, who have also produced a training video which can be accessed for additional learning here: https://learn.nes.nhs.scot/27948/infection-prevention-and-control-ipc-zone/sipcep-intermediate-layer/continence-management/catheter-specimen-of-urine/sampling-urine-from-a-urinary-catheter-transcript

Gather the required equipment to obtain a Catheter Specimen of Urine.

This should include:

- Two 70% alcohol-impregnated swabs for cleaning the sampling port.
- Sterile 20mls syringe.
- A red-topped boric acid tube should be used as samples may not be processed immediately in the laboratory. The boric acid container contains a white powder. Do not discard the white powder. The white powder will prevent the overgrowth of bacteria in the sample and the identification of the bacteria causing infection.
- Universal specimen containers may be used in some areas.
- Disposable apron and single-use non-sterile gloves.
- Laboratory request form.

Prepare to take the sample.

Ensure that there is adequate privacy and a suitable location to collect the specimen.

- Before obtaining urine specimen you must perform hand hygiene using alcohol-based hand rub, if hands are visibly clean.
- Put on a disposable apron and disposable non-sterile gloves if you anticipate contact with blood or body fluids.
- Check if there is urine in the catheter tubing. If the tubing is empty you must apply a clamp to the tubing below the level of the sampling port for approximately 15 to 30 minutes, but no longer. Some catheter drainage bags have an integral clamp. This will allow time for urine to collect in the tubing to be able to obtain a sample.
- Perform hand hygiene using alcohol-based hand rub if hands are visibly clean. Put on disposable non-sterile gloves and an apron.
- Clean the sampling port with a 70% alcohol impregnated wipe to reduce the risk of cross-infection or contamination of the sample. Allow to dry.
- Stabilise the drainage bag tubing below the level of the sampling port by holding it securely before inserting the tip of the syringe into the sampling port, ensuring that you do not contaminate the tip of the syringe.
- Aspirate 20ml of urine with the syringe and disconnect the syringe from the sampling port. Do not use a hypodermic needle. Samples of less than 10ml may give false results.
- Open the specimen container without touching the inside of the container, rim, or the inside of the lid to prevent bacteria from entering the sample.
- Transfer the urine specimen into the specimen container without touching the container with the syringe. You need to fill the specimen container to the desired volume. Fill levels are marked on the specimen container.
- The laboratory may reject the specimen if there is less than the correct volume. This can affect the boric acid concentration levels and therefore the results.
- Clean the sampling port with the remaining 70% alcohol wipe to reduce the risk of cross contamination.
- If you were required to clamp the drainage tube to acquire the sample you should now release the clamp to allow urine to drain freely.
- Dispose of waste, syringe and wipe as per local policy.
- Remove gloves and apron, and dispose into a healthcare waste bag.
- Perform hand hygiene using alcohol-based hand rub if hands are visibly clean.
- Ensure container is labelled appropriately and legibly.
- Ensure laboratory request form is completed fully
- Place completed laboratory request form and filled specimen container in a specimen bag and send to the laboratory immediately or refrigerate in appropriate specimen fridge until transported to the laboratory and inform laboratory staff that the specimen has been refrigerated.
- Perform hand hygiene using alcohol based hand rub and then document in the person's notes that the specimen has been obtained and sent to the laboratory for testing.

Appendix 6

Decontamination of Service User Care Equipment

This section has been adapted from National Clinical Effectiveness Committee Draft Guidance on Infection Prevention and Control 2022 and is a general guide to decontaminating service user care equipment.

In all cases refer to the manufacturer's instructions when planning and undertaking decontamination of service users equipment.

Item	Comment	Clean with detergent/ water solution or wipe	If disinfection is required, use a combined cleaner and disinfectant agent at 1,000 Parts per Million (PPM) available chlorine *Ensure all surfaces are rinsed to prevent damage*
Baby scales	Use a fluid resistant disposable sheet between uses	Yes	Yes if used by a baby who is in isolation/blood contamination
Bed frames, cradles, cot sides.	Clean weekly or on discharge	Yes	Yes if used by a service user/ resident who is in isolation/ blood contamination
Bedpans, urinals, commode basins, body fluid jugs	Clean after every use in a washer disinfector (WD) commonly referred to as a bed pan washer. A weekly check of the washer disinfector machines should be undertaken. The purpose of the weekly checks is to ensure the machine is functioning correctly i.e. taking in the cleaning agent and reaching the required temperatures. Interior of the machine should be checked for cleanliness after each cycle and documented as being checked on the weekly checklist. 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 and same to be recorded on machine.		
Blood Glucose Monitor	Blood glucose monitor *(both single service user use and multi service user use)* Lancets, glucose test strip are all single use only **Each resident should have their own machine**	No, cleaning followed by disinfection is required	Yes after every use If a communal monitor has to be used, the storage box for the monitor **must not** be brought to the resident/service user bed space. Instead use a IV tray with integrated sharps bin)
Bowls (service user/resident wash bowls)	Single service user use for the duration of their stay. Dispose when no longer needed.	Yes, clean after every use, dry and store inverted in the locker/ wardrobe	Yes if used by a service user/ resident who is in isolation/ blood contamination

Item	Comment	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*
BP cuff, monitor & sphygmomano-meter	If reusable BP cuff used, replace frequently when visibly stained especially at the velcro. Dedicate a BP cuff to each service user/resident in isolation & consider disposal when isolation has ended.	Yes clean BP cuff after every service user. Monitor to be cleaned after each use.	Yes if used by a service user/ resident who is in isolation/ blood contamination
Catheter bag holders		Yes, clean daily	Not routinely
Crutches, walking frames, walking sticks	Single service user use for the duration required. Dispose when no longer needed.	Yes if stained	Yes if used by service user/ resident who is in isolation/ blood contamination
Curtains	Curtains should be laundered at the following temperatures: 65 degrees for 10 minutes or 71 degrees for 3 minutes. 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 3 months or sooner as per local unit policy. Disposable curtains must be changed at least every 3 months. A curtain changing cleaning log must be maintained.		
Cushions (pressure relieving)	Covers must be fluid resistant. Check regularly that the cover is intact and fluid resistant.	Yes, clean daily	May be required subject to a risk assessment
Dressing trollies	Ensure rust free and in good condition.	Yes, clean before use Individually wrapped 70% alcohol wipes can be used to disinfect trolley between uses for aseptic procedures if visibly clean and not used for a service user/resident in isolation.	Yes if used by a service user/ resident who is in isolation/ blood contamination
Drip Stands	Ensure rust free and in good condition	Clean daily when in use, weekly when in storage	

Item	Comment	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*
Duvets, Pillows	Duvets and pillows must have a fluid resistant cover	Yes clean weekly or sooner on discharge/ soiling	Yes if used by a service user/ resident who is in isolation/ blood contamination
Ear phones	Single service user use only		
Examination couch	Ensure cover is intact and in good condition	Yes after every use	Yes if used by a service user/ resident who is in isolation/ blood contamination
Falls mats	Ensure cover is intact and in good condition Single service user use for the duration the mat is required	Yes daily	Yes if used by a service user/ resident who is in isolation/ blood contamination
Fans	Not recommended in clinical areas. Seek IPC advice during periods of hot weather		
Hoists/Slings	**Reusable:** Dedicated hoist sling per service user. Slings are **not** to be shared between service users.	Send to laundry weekly or sooner if soiled. Wash at 60 degrees or above.	**Disposable:** single service user use, dispose when no longer required/soiled.
IV Trays		Yes after every use	Yes if used by a service user/ resident who is in isolation/ blood contamination
Medicine cups	Single use only		
Medical equipment	Follow manufacturer instructions. If  is on the packaging, this means single use only and not to be re-used. If equipment is reusable – generally acceptable the item can be cleaned with detergent or chlorine if disinfection is required.		

Item	Comment	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*
Nebuliser Machine	Single service user use only. Ensure filters are changed as per manufacturer instructions & between service users. Nebuliser mask/hand held & tubing – single service user use. Some units are single use only.	Clean machine daily Single use only – dispose Single service user use, clean acorn after each use. Change the full set every 24 hours/as per manufacturer instructions.	Yes if used by a service user/ resident who is in isolation/ blood contamination
Scissors for clinical use	Use disposable scissors especially for wound dressings and likely contact with blood or the service user/resident is in isolation. Dispose into sharps bin immediately after use. Reusable scissors should only be used when there is no direct contact with the wound/contaminated dressings (seek IPC advice where unsure)	Reusable – Clean after every use – wash with detergent and warm water, dry, then disinfect with 70% alcohol wipe	If disposable is not available and used by a service user/resident who is in isolation/blood contamination In home situation/service user with chronic wound it may be prudent to allocate a dedicated scissors for that service users use only. Clean and disinfectant between use
Stethoscopes	Single service user use required for isolation rooms	Yes after every use	If disposable is not available and used by a service user/resident who is in isolation/blood contamination
Suction machines and accessories	Liners: disposable and dispose via yellow rigid container		
Thermometers	Tympanic: ear probes are single use only and dispose immediately Dedicate a thermometer to service users being isolated.	Yes after every use	Yes if used by a service user/ resident who is in isolation/ blood contamination

Item	Comment	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*
Toys	Toys that are easily cleaned with no grooves are preferred. Avoid soft toys for communal use. Launder occasionally.	Yes after every use	Yes if used by a service user/ resident who is in isolation/ blood contamination
Resuscitation Trolley	All items should be single use only Clean the outside of the trolley weekly or after each use.	Yes weekly (or sooner after use)	Yes if used on a service user who is in isolation/blood contamination
Weighing Scales		Yes, after every use	Yes, if used on a service user who is in isolation/blood contamination
Wheelchairs	Ideally allocate to single service user	Yes after every use	Yes if used on a service user who is in isolation/blood contamination

Appendix 7

Sample Template Environmental Cleaning Schedule

The following table outlines the recommended minimum frequencies for routine cleaning of various items in healthcare facilities. It is applicable to all settings (although some items may not be relevant to all settings) and is presented by level of risk as per the key below. The table has been amended from the National Clinical Effectiveness Committee Draft Guidance on Infection Prevention and Control 2022, and developed to provide a benchmark guide to best-practice cleaning schedules.

Facilities should develop and implement a local cleaning schedule and policy that suits their environment, and consider regular monitoring and mechanisms to deal with specific organisms and outbreak situations.

In general Community Health & Social care settings are considered low risk, however if unsure seek advice from your local IPC Team (contact list Appendix 1).

Risk rating	Settings
Very high risk	Outbreak in high-risk area
High risk	Intensive care unit, high dependency unit, burns unit, renal units, operating suite, emergency departments.
Significant Risk	General wards
Low Risk	Rehabilitation, long-term care*, primary care, office-based, homecare services.

* The above table has been adapted from the National Clinical Effectiveness Committee Draft Guidance on Infection Prevention and Control 2022. Services should consider their own risk rating based on the type and layout of facility, the services provided, the vulnerability of the service users etc. when considering environmental cleaning schedules.

The frequencies outlined in the following table (Significant Risk/Low Risk) are based on non-outbreak situations – during outbreaks IPC staff can advise on enhanced cleaning required to support management of the outbreak as relevant to the organism and how it is transmitted.

Minimal Cleaning Frequencies National Clinical Effectiveness Committee Draft Guidance on Infection Prevention and Control 2022

Element	Very high risk	High risk	Significant risk	Low risk	Method
Alcohol-based hand rub dispenser, bedside	Clean Daily	Clean Daily	Clean Daily	Clean Weekly	Detergent
Alcohol-based hand rub dispenser, not in service user/ treatment rooms	Clean Daily	Clean Daily	Clean Daily	Clean Weekly	Detergent

Element	Very high risk	High risk	Significant risk	Low risk	Method
Bath	Clean daily & spot/check Clean once daily If used by more than one person Clean after each use	Clean daily & spot/check Clean once daily If used by more than one person Clean after each use	Clean daily & spot/check Clean once daily If used by more than one person Clean after each use	Clean daily & spot/check Clean once daily If used by more than one person Clean after each use	Detergent
Bed	Clean frame daily Clean underneath weekly Clean whole on discharge	Clean frame daily Clean underneath weekly Clean whole on discharge	Clean frame daily Clean underneath weekly Clean whole on discharge	Clean frame weekly and when visibly soiled Clean whole on discharge	Detergent Detergent + disinfectant for MDRO & specific infections
Bed Rails	Clean twice daily & after discharge	Clean twice daily & after discharge	Clean twice daily & after discharge	Clean twice daily & after discharge	Detergent Detergent + disinfectant for MDRO & specific infections
Bedside Table	Clean twice daily & after use	Clean twice daily & after use	Clean Daily	Clean weekly and when visibly soiled	Detergent Detergent + disinfectant for MDRO & specific infections
Element	Very high risk	High risk	Significant risk	Low risk	Method
Carpet (soft floor) (should generally be avoided in clinical areas but may be appropriate in special areas within clinical facilities for family/ bereavement rooms)	Vacuum clean twice daily Steam clean 6-monthly	Vacuum clean twice daily Steam clean 6-monthly	Vacuum clean daily Steam clean annually	Vacuum clean weekly Steam clean annually	Vacuum with high efficiency particulate air filter Steam clean (or shampoo)
Catheter stand/ bracket	Clean daily & after use	Clean daily & after use	Clean before initial use, after use & monthly	Clean before initial use, after use & monthly or when visibly soiled	Detergent

Element	Very high risk	High risk	Significant risk	Low risk	Method
Ceiling	Spot clean daily & wash yearly	Spot clean daily & wash yearly	Spot clean weekly & wash yearly	Spot clean monthly & wash every 3 years	Detergent/Damp dust
Chair	Clean twice daily	Clean twice daily	Clean daily	Clean weekly	Detergent Detergent + disinfectant for MDRO & specific infections
Cleaning Equipment	Clean after use	Clean after use	Clean after use	Clean after use	Detergent Detergent + disinfectant for MDRO & specific infections
Commode	Clean contact points after use	Clean contact points after use	Clean contact points after use	Clean contact points after use	Detergent Detergent + disinfectant for MDRO & specific infections
Computer and keyboard; used and/ or located in close proximity to service user for example service user bay or room	Clean twice daily and anytime when visibly soiled	Clean twice daily and anytime when visibly soiled	Clean daily and anytime when visibly soiled	Clean daily and anytime when visibly soiled	Manufacturers recommend-ations Install keyboard covers or washable keyboards where feasible Detergent
Computer & keyboard; general ward use, non-mobile, located outside service user area	Clean twice daily and anytime when visibly soiled Clean between service users Clean after discharge	Clean twice daily and anytime when visibly soiled Clean between service users Clean after discharge	Clean daily and anytime when visibly soiled Clean between service users Clean after discharge	Clean weekly and anytime when visibly soiled Clean between service users Clean after discharge	Manufacturers recommend-ation Install keyboard covers or washable keyboards Detergent and disinfectant for MDRO & specific infections

Element	Very high risk	High risk	Significant risk	Low risk	Method
Curtains and blinds	Bed curtains – change or clean weekly/on discharge Service user with MDRO/other infectious disease – change bed curtains or clean upon discharge Clean change or replace yearly	Bed curtains – change or clean monthly Service user with MDRO change bed curtains or clean upon discharge Clean, change or replace yearly	Bed curtains – change or clean biannually Service user with MDRO change bed curtains or clean upon discharge Clean, change or replace every 2 years	Bed curtains – change or clean biannually Service user with MDRO change bed curtains or clean upon discharge Clean, change or replace every 2 years/if visibly soiled	Replace with laundered curtains or steam clean while in place. Follow manufacturers recommend-ation
Element	Very high risk	High risk	Significant risk	Low risk	Method
Door knob/ handle general	Clean twice daily	Clean daily	Clean daily	Clean weekly (*daily in high throughput areas, e.g. Primary Care Centre)	Detergent
Door knob/ handle service user room	Clean twice daily	Clean daily	Clean daily	Clean daily	Detergent Detergent + disinfectant for MDRO & specific infections
Floor, non-slip	Damp mop twice daily	Damp mop twice daily	Damp mop daily	Damp mop daily	Detergent Detergent + disinfectant for MDRO & specific infections
Floor, polished	Dust removal and clean twice daily	Dust removal and clean daily	Dust removal and clean daily	Dust removal and clean weekly	Detergent for routine Consider electrostatic mops Detergent and disinfectant for MDRO & specific infections

Element	Very high risk	High risk	Significant risk	Low risk	Method
Fridges	Weekly and defrost as required Three times daily spot check- clean when necessary	Weekly and defrost as required Daily spot check- clean when necessary	Monthly defrost as required Daily spot check- clean when necessary	Monthly defrost as required Daily spot check- clean when necessary	Detergent
Fridge (drug)	Clean weekly	Clean weekly	Clean weekly	Clean weekly	Detergent
Element	Very high risk	High risk	Significant risk	Low risk	Method
Glazing, internal (including partitions	Spot clean daily and full clean weekly	Spot clean daily and full clean weekly	Spot clean daily and full clean weekly	Clean weekly	Detergent
Hoist, bathroom	Clean weekly and contact points after use	Clean weekly and contact points after use	Clean weekly and contact points after use	Clean weekly and contact points after use	Detergent and disinfectant for MDRO & specific infections
Drip/IV stand and poles	Clean daily and clean contact points after use	Clean daily and clean contact points after use	Clean weekly and contact points after use	Clean weekly and contact points after use	Detergent + disinfectant for MDRO & specific infections
Light switch	Clean daily	Clean daily	Clean weekly	Clean weekly	Detergent + disinfectant for MDRO & specific infections
Beside locker	Clean contact points twice daily	Clean contact points twice daily	Clean contact points daily	Clean contact points weekly	Detergent + disinfectant for MDRO & specific infections
Manual handling (such as hoist)	Clean weekly and contact points after use	Clean weekly and contact points after use	Clean weekly and contact points after use	Clean weekly and contact points after use	Detergent + disinfectant for MDRO & specific infections
Mattress (Entire mattress should have a waterproof cover)	Clean when visibly soiled/ bodily fluids and after discharge	Clean when visibly soiled/ bodily fluids and after discharge	Clean when visibly soiled/ bodily fluids and after discharge	Clean when visibly soiled/ bodily fluids and after discharge	Detergent + disinfectant for MDRO & specific infections
Over bed tray table	Twice daily	Daily	Daily	Weekly	Detergent + disinfectant for MDRO & specific infections

Element	Very high risk	High risk	Significant risk	Low risk	Method
Oxygen equipment	Clean daily and after use	Clean daily and after use	Monthly/post discharge before initial use	Monthly/post discharge before initial use	Detergent + disinfectant for MDRO & specific infection
Element	Very high risk	High risk	Significant risk	Low risk	Method
Pillow (waterproof cover)	Clean when visibly soiled/ bodily substances and after discharge	Clean when visibly soiled/ bodily substances and after discharge	Clean when visibly soiled/ bodily substances and after discharge	Clean when visibly soiled/ bodily substances and after discharge	Detergent + disinfectant for MDRO & specific infections
Shower – In addition to cleaning there should be a daily check that water is draining freely with no pooling or backflow	Clean daily and one spot check clean daily If used by more than one person clean after each use	Clean daily and one spot check clean daily If used by more than one person clean after each use	Clean daily and one spot check clean daily If used by more than one person clean after each use	Clean daily and one spot check clean daily If used by more than one person clean after each use	Detergent + disinfectant for MDRO & specific infections
Sink (hand washing) In addition to cleaning there should be a daily check that water is draining freely with no pooling or backflow	Clean twice daily and after use	Clean twice daily and after use	Clean daily and after use	Clean daily	Detergent
Surfaces (general horizontal) in service user room such as ledges	Clean twice daily and spot clean after use	Clean twice daily and spot clean after use	Clean daily and after discharge	Clean weekly and after discharge	Detergent + disinfectant for MDRO & specific infections
Telephone	Clean daily and spot clean after use	Clean daily and clean after use	Clean daily	Clean weekly	Detergent
Toilet	Clean twice daily and spot clean after use	Clean twice daily and spot clean after use	Clean daily and spot clean after use	Clean daily	Detergent and disinfectant

Element	Very high risk	High risk	Significant risk	Low risk	Method
Toilet seat, raised after use Clean daily Detergent	Clean twice daily and spot clean after use	Clean twice daily and spot clean after use	Clean daily and spot clean after use	Clean daily	Detergent Detergent + disinfectant for MDRO & specific infections
Element	Very high risk	High risk	Significant risk	Low risk	Method
Trolley dressing	Clean utilised surfaces before and after use Clean whole trolley weekly	Clean utilised surfaces before and after use Clean whole trolley weekly	Clean utilised surfaces before and after use Clean whole trolley weekly	Clean utilised surfaces before and after use Clean whole trolley monthly	Detergent + disinfectant for MDRO & specific infections
Trolley, linen	Clean contact points daily Clean whole trolley weekly	Clean contact points daily Clean whole trolley weekly	Clean contact points daily Clean whole trolley weekly	Clean contact points weekly Clean whole trolley monthly	Detergent
Trolley resuscitation	Clean daily	Clean weekly	Clean weekly	Clean weekly	Detergent Detergent + disinfectant for MDRO & specific infections
TV, fixed (out of service user reach)	Clean weekly	Clean weekly	Clean weekly	Clean weekly	Detergent
TV, service user beside (mobile and within service user reach)	Clean daily and between service users	Clean daily and between service users	Clean daily and between service users	Clean monthly and between service users	Detergent/damp dust Detergent + disinfectant for MDRO & specific infections
Walls	Spot clean daily and dust weekly and full clean yearly	Spot clean daily and dust weekly and full clean yearly	Spot clean weekly and full clean yearly	Spot clean weekly and full clean yearly	Detergent/damp dust
Waste Receptacle	Clean weekly Spot clean when visibly soiled	Clean weekly Spot clean when visibly soiled	Clean weekly Spot clean when visibly soiled	Clean weekly Spot clean when visibly soiled	Detergent

Appendix 8

Terminal Cleaning – Sample Checklist

This section has been adapted with thanks to the CHO 5 IPC Nursing Team Terminal Cleaning Checklist.

A terminal clean should only commence after

- The service users belongings are removed or stored in wardrobe after having been cleaned and
- Any other reusable/surplus equipment, e.g. hoist, commode, dynamap etc. have been removed. Items no longer required must be cleaned and disinfected appropriately prior to being brought to storage areas

Before commencing terminal clean

- A co-ordinated approach and agreed schedule needs to be in place between housekeeping and nursing 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, curtain removal etc.
- Arrange sufficient supplies of curtains and bedding
- Gather all necessary equipment
- colour-coded disposable cloths – *approximately 6 per bed space and 4 per en-suite*
- disposable gloves/disposable apron
- Colour-coded bucket/mop trolley/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 – avoid bringing excess stock into room*
- high-duster/dust-control tool/dust-control head/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

  - **Two Step**

    Clean with detergent and warm water, then disinfect with chlorine releasing agent 1,000 ppm rinse and dry

    OR

  - **One Step**

    Use a combined cleaner/disinfectant which is a one step process at 1,000ppm available chlorine.
- Wear appropriate PPE – disposable single use, plastic apron & nitrile gloves. Check with Clinical Nurse Manager if any other PPE required. In a pandemic situation masks may need to be worn in healthcare environments – Refer to www.hpsc.ie for most up to date clinical advice

Example of Terminal Clean Process

- Perform hand hygiene and don appropriate PPE. During the cleaning process change/remove PPE and perform hand hygiene as required
- Discard all disposable items e.g. paper towels, tissues, toilet rolls, gloves etc. in healthcare risk waste bag. Where there have been enteric infections (e.g. diarrhoea) toilet brush and holder should be replaced
- Discard items which cannot be cleaned e.g. magazine, papers, posters not laminated.

- Posters which are laminated can be wiped clean
- Remove all bed linen, curtains, personal blankets cushions etc. and place in alginate bag, tie and place in appropriate colour coded bag
- Remove personal blankets, cushions etc. place in alginate bag, tie and place in appropriate colour coded 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 & detergent & then disinfect using chlorine releasing disinfectant/hypochlorite/ sodium dichloroiscyanurate at 1000ppm concentration or use combined cleaner disinfectant at 1,000PPM available chlorine, rinse & 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 should be placed in alginate bags and sent for laundering

Terminal clean 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 and don PPE
- Once cleaning completed, all floor mops should be placed in alginate bags and sent for laundering
- Remove all equipment, clean and disinfect mop bucket/basin before storage.

Once all surfaces are clean and dry – Replenish stock, replace furniture, hang curtains, make up bed.

Sample Terminal Clean Checklist

Date: / /	**Time:**	**Completed by:**
Unit/Location:		**Room No.**
Bedroom/Bed Space:		
Clean & disinfect the lighting & ventilation components on the ceiling.		
Damp clean & disinfect all surfaces of hard-to-reach fixtures & fittings from higher up to floor level e.g. Windows, blinds & sils, radiators		
Clean & disinfect TV & wall bracket		
Clean & disinfect remote controls TV & service user call bell		
Clean & disinfect doors, handles & light switches pay particular attention to frequently touched surfaces, eg door panels		

Bedroom/Bed Space:
Clean disinfect high surfaces around bed space including curtain rail, over bed light & arm & 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 removable bed panels, attachments to access all parts of beds
Clean & disinfect bed frame including underneath, bed rails, remote control
Clean & disinfect chairs, bedside table, locker & wardrobe
Clean & disinfect items such as picture frames, ornaments etc.
Clean & disinfect sinks, taps, soap & alcohol dispensers – pay particular attention to cleaning dispensing nozzles.
Clean & disinfect hands free, pedal operated, healthcare risk waste bin
Where no longer required remove extra bins to storage area
Steam clean carpet
Clean & disinfect floor working from the furthest point towards the door or from one side to other where beds are moved to one side
Comments:

En-Suite/Bathroom Facilities
Clean & disinfect all upper surfaces of hard-to-reach fixtures and fittings eg. shower rails, windows, sils, blinds, mirror
Clean & disinfect door panel, door handle, light switches & radiator
Clean & disinfect taps, basin, soap & alcohol dispensers Clean & disinfect shower fitting, shower cubicle & waste trap
Clean & disinfect toilet cistern, flush handle, grab rails, and toilet seats.
Rinse toilet brush/replace if needed
Clean bathroom floor working from furthest point towards the door.
Remove equipment, clean & disinfect buckets basins etc.

En-Suite/Bathroom Facilities
Following Terminal Clean
Replenish paper towels, paper towels, waste bags etc.
Hang bedside/window curtains
Comments:

Room checked by: Date:

Enquiries to:
Gwen Regan
Director of Nursing, Infection Prevention and Control
Community Healthcare – Quality & Patient Safety

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