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Best Practices for Infection Prevention and Control in Long-Term Care

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PIDAC | Provincial Infectious Diseases Advisory Committee

Infection Prevention and Control

Public Health Ontario

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About the Provincial Infectious Diseases Advisory Committee – Infection Prevention and Control

The Provincial Infectious Diseases Advisory Committee – Infection Prevention and Control (PIDAC-IPC) is a multidisciplinary committee of health care professionals with expertise and experience in Infection Prevention and Control. The committee advises PHO on the prevention and control of health care-associated infections, considering the entire health care system, with a focus on clients, patients and residents, as well as health care providers. PIDAC-IPC produces best practice documents that are evidence-based, to the largest extent possible, to assist health care organizations in improving quality of care, as well as client, patient and resident safety.

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Contact

Provincial Infectious Diseases Advisory Committee (PIDAC)
Email: pidac@oahpp.ca

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Authors and Contributors

PIDAC-IPC Members

Dr. Dominik Mertz, Chair
Associate Professor, Medical Director, Infection Control, Hamilton Health Sciences. Hamilton

Maria Louise Azzara
Infection Prevention and Control Specialist, York Region Community and Health Services. Richmond Hill

Dr. Zain Chagla
Co-Medical Director, Infectious Control and Head of Infectious Diseases Service, St. Joseph's Healthcare. Hamilton

Dr. William Ciccotelli, Vice Chair
Infectious Disease and Medical Microbiology, Grand River Hospital. Kitchener

Megan Clarke
Infection Control Practitioner, The Hospital for Sick Children. Toronto

Dr. Reena Lovinsky
Medical Director, Infection Prevention and Control, Scarborough Health Network. Scarborough

Liz McCreight
Director, Infection Prevention and Control & Risk, Sinai Health. Toronto

Francine Paquette
Director, Infection Prevention and Control, peopleCare Communities. Waterloo

Dr. Herveen Sachdeva
Associate Medical Officer of Health, Toronto Public Health. Toronto

Laurie Streitenberger
Senior Manager, Infection Prevention and Control, The Hospital for Sick Children. Toronto

Dr. Nisha Thampi
Medical Director, Infection Prevention and Control, Children's Hospital of Eastern Ontario. Ottawa

Dr. Alon Vaisman
Hospital Epidemiologist, Infection Prevention & Control, University Health Network. Toronto

Erika Vitale
Director, Infection Prevention & Control, & Pandemic Planning, Windsor Regional Hospital. Windsor

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Dr. Matthew Muller (former Chair)
Medical Director, Infection Prevention and Control, St. Michael's Hospital. Toronto

Dr. Jeffrey Eruvwetaghware
Director, Quality, Risk, Operational Performance and Infection Control, Weeneebayko Area Health Authority. Moose Factory

Zahir Hirji
Manager, Privacy & Risk Management, Scarborough Health Network. Toronto

Dr. Susy Hota
Medical Director, Infection Prevention and Control, University Health Network. Toronto

Dr. Jennie Johnstone
Medical Director, Infection Prevention and Control, Sinai Health. Toronto

Dr. Mike Payne
Medical Director, Infection Prevention and Control, London Health Sciences Centre. London

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Table of Contents

Abbreviations

ABHR	alcohol-based hand rub
AIIR/AIR	airborne infection isolation room
ARI	acute respiratory infection
ARO	antimicrobial resistant organism
CPE	carbapenemase-producing *Enterobacteriaceae*
CID	communicable infectious disease
COVID-19	coronavirus disease 2019
CPO	carbapenemase-producing organism
DIN	Drug Identification Number
HAI	health care-associated infection
HCW	health care worker
HIV	human immunodeficiency virus
ICP	infection prevention and control professional
IDIT	interdisciplinary IPAC team
IPAC	infection prevention and control
IPCC	infection prevention and control committee
JHSC	joint health and safety committee
LTC	long-term care
LTCH	long-term care home
MIFU	manufacturer's instructions for use
MRSA	methicillin-resistant *Staphylococcus aureus*
OHS	occupational health and safety
OHSA	*Occupational Health and Safety Act*
PCRA	point-of-care risk assessment
PHO	Public Health Ontario
PHU	public health unit
PIDAC-IPC	Provincial Infectious Diseases Advisory Committee on Infection Prevention and Control
PPE	personal protective equipment
VRE	vancomycin-resistant enterococci

Glossary of Terms

Acute respiratory infection (ARI): Any new onset acute respiratory infection that is spread via respiratory particles and typically presents with symptoms of a fever greater than 38° C and a new or worsening cough or shortness of breath (previously known as febrile respiratory illness, or FRI). It should be noted that older adults and people living with immunocompromising conditions may not have a febrile response to a respiratory infection.

Additional Precautions: Precautions (i.e., Contact Precautions, Additional Precautions for acute respiratory infection and Airborne Precautions) that are necessary in addition to Routine Practices for certain pathogens or clinical presentations.[1]

Administrative controls: Measures put in place by the administration of a health care setting to reduce the risk of infection to staff or to residents through policies/procedures that minimize the exposure to the hazard (e.g., screening policies, healthy workplace policies, education/training).

Adverse drug events: Unintended injuries or complications that occur in the process of prescribing, dispensing or administration of medication that result in disability at the time of discharge, a prolonged hospital stay, or death. Adverse-drug events result from the care provided to the resident rather than the resident's underlying disease process. Adverse-drug events may be preventable (e.g., medication errors) or non-preventable (e.g., reactions to properties inherent to a drug when used without errors).[2,3]

Aerosol: Term typically used for very small droplets of moisture that may carry microorganisms. Aerosols may be light enough to remain suspended in the air for prolonged periods of time, allowing inhalation of the microorganism.[1]

Airborne infection isolation room (AIIR/AIR): A room that is designed, constructed and ventilated to limit the spread of airborne microorganisms from an infected occupant to the surrounding areas of the health care setting. This is also known as a negative pressure room. NOTE: The Canadian Standards Association uses the term Airborne Isolation Room, abbreviated AIR.

Airborne Precautions: Used in addition to Routine Practices for residents known or suspected of having an illness transmitted by small infectious respiratory particles that remain suspended in the air and may be inhaled by others. See also Infectious respiratory particles.

Alcohol-based hand rub (ABHR): A liquid, gel or foam formulation of alcohol (e.g., ethanol, isopropanol) which is used to reduce the number of microorganisms on hands in clinical situations when the hands are not visibly soiled. Alcohol-based hand rubs contain emollients to reduce skin irritation and are less time-consuming to use than washing with soap and water.[4]

Antimicrobial-resistant organism (ARO): A microorganism that has developed resistance to the action of several antimicrobial agents and is of special clinical or epidemiological significance.

Audit: A systematic and independent examination to determine whether quality activities and related results comply with planned arrangements, are implemented effectively and are suitable to achieve objectives.

Body fluids: Any fluid in the body. Examples of body fluids to which health care providers might reasonably be exposed to include: blood, urine, saliva, sputum, tears, semen, pre-seminal fluid, milk, vaginal secretions, synovial fluid, amniotic fluid, cerebrospinal fluid, pleural fluid, peritoneal fluid, marrow, pericardial fluid, faeces, nasal secretions, vomitus, mucus, cervical mucus, phlegm, colostrum and secretions, blood from the umbilical cord.

Carbapenemase: A class of enzymes that inactivate carbapenem antibiotics by hydrolysing them. In almost all instances, these enzymes hydrolyse not only carbapenem antimicrobials but also first-, second- and third-generation cephalosporins and penicillins (e.g., piperacillin-tazobactam). The genetic information to produce carbapenemases is often located on a mobile genetic element (e.g., plasmid, transposon), which frequently also carries resistance to other classes of antimicrobials, such as fluoroquinolones and aminoglycosides.[1]

Carbapenemase-producing *Enterobacteriaceae* (CPE): For the purposes of this document, these are *Enterobacteriaceae* that are resistant to carbapenem antimicrobials (e.g., imipenem, meropenem, ertapenem) through the production of carbapenemase.[1]

Caregiver: Any person who provides critical personal, social, psychological and/or physical support to a long-term care resident—often a family member, friend or community support but may also be a privately hired caregiver.

Case: In epidemiology, an individual who is infected or colonized with a particular microorganism.

Cleaning: The physical removal of foreign material (e.g., dust, soil) and organic material (e.g., blood, secretions, excretions, microorganisms). Cleaning physically removes rather than kills microorganisms. It is accomplished with water, detergents and mechanical action.

Cohorting: The assignment of a geographic area such as a room or a resident care area to two residents who are either colonized or infected with the same microorganism.

Colonization: The presence and growth of a microorganism in or on a body with growth and multiplication but without tissue invasion or cellular injury or symptoms.

Contact Precautions: Used in addition to Routine Practices to reduce the risk of transmitting infectious agents via contact with an infectious person or their environment.

Continuous Masking: Wearing a mask over prolonged periods of time and across multiple resident interactions, as both, source control and as PPE.

Communicable infectious disease (CID): This term is used throughout the document to represent an infectious disease that can be transmitted from one resident, staff or visitor to other residents, staff or visitors within a long-term care home.

Direct care: Providing hands-on care (e.g., bathing, washing, turning the resident, changing clothing, continence care, dressing changes, care of open wounds/lesions or toileting). Assisting a resident with their meal and pushing a wheelchair are not classified as direct care.

Discharge/transfer/terminal cleaning: The thorough cleaning of a resident room or bed space following discharge, death or transfer of the resident, in order to remove contaminating microorganisms that might be acquired by subsequent occupants and/or staff. When Additional Precautions have been discontinued a thorough cleaning of the resident room is to occur and may be referred to as a Terminal Clean.

Disinfectant: A product that is used on environmental surfaces or noncritical medical equipment/devices which results in disinfection of the equipment/device. Disinfectants are applied only to inanimate objects. Some products combine a cleaner with a disinfectant.

Disinfection: The inactivation of disease-producing microorganisms. Disinfection does not destroy bacterial spores. Medical equipment/devices are to be cleaned thoroughly before effective disinfection can take place. See also disinfectant.

Droplet Precautions: Term traditionally used for precautions in addition to Routine Practices for residents known or suspected of having an infection that can be transmitted by large respiratory particles.

Drug Identification Number (DIN): In Canada, disinfectants used on environmental surfaces and inanimate objects are regulated as drugs under the Food and Drugs Act and regulations.[5,6] Disinfectant manufacturers are required to obtain a drug identification number from Health Canada prior to marketing, which ensures that labelling and supporting data have been provided and that it has been established by the Natural and Non-prescription Health Products Directorate that the product is effective and safe for its intended use.[7]

Engineering controls: Physical or mechanical measures put in place to reduce the risk of infection to staff or residents (e.g., heating, ventilation and air conditioning systems, room design, placement of hand washing sinks).[1]

Environment of the resident: The immediate space around a resident that may be touched by the resident and may also be touched by the health care worker when providing care. In a private room, the resident environment is the room. In a shared room, the resident environment is the area inside the individual's curtain.[1,4] See also Health care environment.

Essential caregiver: See Caregiver.

Exposure: An exposed person is someone who has been in proximity to a case with a transmissible disease so that transmission is possible. There are various degrees of risk based on the type of exposure or the parameters of the exposure.

Eye protection: A device that covers the eyes and is used by health care workers to protect the eyes when it is anticipated that a procedure or care activity is likely to generate splashes or sprays of blood, body fluids, secretions or excretions, or within two metres of a coughing resident. Eye protection includes safety glasses, safety goggles, face shields and visors.

Facial protection: Personal protective equipment that protect the mucous membranes of the eyes, nose and mouth from splashes or sprays of blood, body fluids, secretions or excretions. Facial protection may include a medical mask or respirator in conjunction with eye protection, or a face shield that covers eyes, nose and mouth.

Fit-test: A qualitative or quantitative method to evaluate the fit of a specific make, model and size of respirator on an individual. Fit-testing is required at least every two years and whenever there is a change in respirator face piece or the user's physical condition that could affect the respirator fit.[8-10]

Hand care: Actions and products that reduce the risk of skin irritation.[4]

Hand care program: A hand care program for staff is a key component of hand hygiene that includes hand care assessment, staff education, Occupational Health assessment if skin integrity is an issue, provision of hand moisturizing products and provision of alcohol-based hand rub that contains an emollient.[4]

Hand hygiene: A general term referring to any action of hand cleaning. Hand hygiene relates to the removal of visible soil and removal or killing of transient microorganisms from the hands. Hand hygiene may be accomplished using an alcohol-based hand rub or soap and running water. Hand hygiene includes surgical hand antisepsis.[1,4]

Hand hygiene moment: The point(s) in an activity at which hand hygiene is performed. There may be several hand hygiene moments in a single care sequence or activity.[4]

Hand washing: The physical removal of microorganisms from the hands using soap (plain or antimicrobial) and running water.[4]

Health care-associated infection (HAI): A term relating to an infection that is acquired during the delivery of health care (historically also referred to as nosocomial infection).

Health care environment: People and items, which make up the care environment (e.g., objects, medical equipment, staff, residents) of a health care setting, outside the immediate environment of the resident.[4] See also environment of the resident.

Health care facility: A set of physical infrastructure elements supporting the delivery of health-related services. A health care facility does not include a resident's home or physician/dentist/other health offices where health care may be provided.[1]

Health care setting: Any location where health care is provided, including settings where care is provided such as: pre-hospital care, hospitals, complex continuing care, rehabilitation hospitals, long-term care homes, mental health facilities, outpatient clinics, community health centres and clinics, integrated community health services centres and out-of-hospital premises as well as other locations in the community where health care is provided.[1]

Health care worker (HCW): All persons carrying on activities in a health care setting that have direct contact with residents including but not limited to employees, physicians, nurses, contract workers, students, post-graduate medical trainees, researchers and volunteers. See also staff.

HEPA filter: High efficiency particulate air (HEPA) filter with an efficiency of 99.97% in the removal of airborne particles 0.3 microns or larger in diameter.[11]

Hospital clean: The measure of cleanliness routinely maintained in resident care areas of the long-term care setting.[12] Hospital Clean is "hotel clean" with the addition of disinfection, increased frequency of cleaning, auditing and other infection control measures in resident care areas. In this document, we also refer to hospital clean as 'health care clean' to be more inclusive of the LTCH setting.

Hotel clean: A measure of cleanliness based on visual appearance that includes dust and dirt removal, waste disposal and cleaning of windows and surfaces. Hotel clean is the basic level of cleaning that takes place in all areas of a health care setting.

Infection: The entry and multiplication of an infectious agent in the tissues of the host. Asymptomatic or sub-clinical infection is an infectious process running a course similar to that of clinical disease but below the threshold of clinical symptoms. Symptomatic or clinical infection is one resulting in clinical signs and symptoms (disease).

Infection Prevention and Control (IPAC): Evidence-based practices and procedures that, when applied consistently in health care settings, can prevent or reduce the risk of transmission of microorganisms to health care providers, other residents and visitors.

Infection Prevention and Control (IPAC) Hubs: A local team of IPAC experts, hosted in hospitals or public health units, that provide expertise to support IPAC programs and build IPAC capacity within LTCH and other congregate care settings. [13]

Infection prevention and control professional (ICP): Trained individual responsible for a health care setting's infection prevention and control activities including development, implementation, evaluation and education of infection prevention and control policies, procedures and practices.[14]

Infectious agent: A microorganism, i.e., a bacterium, fungus, parasite, virus or prion, which is capable of invading body tissues, multiplying and causing infection.

Infectious respiratory particles: Pathogens carried in expired airflow from the respiratory tract of infected individuals.[15]

Interdisciplinary IPAC Team (IDIT): A team which includes the home's/organization's infection prevention and control lead, the Medical Director, the Director of Nursing and the Administrator.[16]

Long-term care (LTC): A broad range of personal care, support and health services provided to people who have limitations that prevent them from full participation in the activities of daily living. The people who use long-term care services are usually older adults, people with disabilities and people who have a chronic or prolonged illness.

Mask: A device that covers the nose and mouth, is secured in the back and is used by individuals to protect the mucous membranes of the nose and mouth as personal protective equipment. It can also be used to limit the risk of transmission when worn by infectious individuals. In health care settings, a mask refers to as medical mask (or a surgical/procedure mask). In Canada, masks (medical or surgical/procedure masks) used for medical purposes are considered medical devices and are required to comply with the *Medical Devices Regulation* under the *Food and Drugs Act*.[5] Health Canada

recognizes masks that are rated using the American Society for Testing and Materials (ASTM) or the European Committee for Standardization (CEN) rating systems. The three ASTM classifications all have similar particulate filtration efficiencies and are most different with respect to fluid resistance that may occur with body fluid splashes/splatters as experienced in health care settings.

Methicillin-resistant *Staphylococcus aureus* (MRSA): A strain of *Staphylococcus aureus* that has a minimal inhibitory concentration (MIC) to oxacillin of ≥ 4 mcg/ml and contains the *mecA* gene coding for penicillin-binding protein 2a (PBP 2a). Methicillin-resistant *Staphylococcus aureus* is resistant to all of the beta-lactam classes of antibiotics, such as penicillins, penicillinase-resistant penicillins (e.g., cloxacillin) and cephalosporins.[1]

N95 respirator: A respirator is a personal protective device that is worn on the face and covers the nose and mouth to reduce the wearer's risk of inhaling airborne particles. The most common respirator used in health care is a N95 half-face piece filtering respirator. A NIOSH-certified N95 respirator has a filter efficiency of 95% or more for particles that are 0.3 microns or larger in size and provides a tight facial seal with less than 10% leak.

Occupational Health and Safety (OHS): Preventive and therapeutic health services in the workplace provided by trained occupational health professionals, e.g., nurses, hygienists, physicians.

Outbreak: For the purposes of this document, an outbreak is an increase in the number of cases above the number normally occurring in a particular health care setting over a defined period of time.

Personal protective equipment (PPE): Clothing or equipment worn for protection against hazards.[1]

Plain soap: Detergents that do not contain antimicrobial agents or that contain very low concentrations of antimicrobial agents that are present only as preservatives.

Point-of-care: The place where three elements occur together: the resident, the health care worker and care or treatment involving resident contact. Point-of-care products, e.g., alcohol-based hand rub, personal protective equipment as well as sharp containers, should be accessible to the health care provider without the provider leaving the zone of care, so they can be used at the required moment.[17]

Point-of-care risk assessment (PCRA): An individual and dynamic risk assessment that should be completed by the health care worker before each resident interaction or task where is there is a potential risk of being exposed to an infection and for the selection of correct personal protective equipment required in their interaction with the resident and the resident environment.[1,18]

Portal of entry: The anatomic site at which microorganisms get into the body, i.e., mucous membranes of nose, mouth and broken skin.[1]

Portal of exit: The anatomic site at which microorganisms leave the body, i.e., secretions and excretions that exit the respiratory tract, GI tract or broken skin.[1]

Precautions: Interventions to reduce the risk of transmission of microorganisms e.g., from resident-to-resident, resident-to-staff, staff-to-resident, contact with the environment, contact with contaminated equipment.

Private room: Refers to the situation where there is only one resident living in the room—thus a shared room with one bed blocked can function as a private room when required for IPAC purposes.

Advisory Committee Infection Prevention and Control (PIDAC-IPC):[19] A multidisciplinary scientific advisory body that provides the President and CEO of PHO evidence-based advice regarding multiple aspects of infectious disease identification, prevention and control.

Public Health Ontario (PHO):[20] Public Health Ontario is the operating name for Ontario Agency for Health Protection and Promotion.

Reprocessing: The steps performed to prepare used medical equipment for use (e.g., cleaning, disinfection, sterilization).

Reservoir: An animate or inanimate source where microorganisms can survive and multiply (e.g., water, food, people).[1]

Respiratory etiquette: Personal practices that help prevent the spread of bacteria and viruses that cause acute respiratory infections (e.g., covering the mouth when coughing, care when disposing of tissues).[1]

Respiratory particles: Particles exhaled by an individual that may be infectious.

Risk assessment: An evaluation of the interaction of the health care worker, the resident and the resident environment to assess and analyze the potential for exposure to infectious disease.[1] See also Point-of-care risk assessment.

Routine Practices: The system of infection prevention and control practices to be used with all residents during all care to prevent and control transmission of microorganisms in all health care settings.[1]

Seal-check: A procedure that the health care worker must perform each time an N95 respirator is worn to ensure it fits the wearer's face correctly to provide adequate respiratory protection. The health care worker must receive training on how to perform a seal-check correctly.[10]

Sharps: Objects capable of causing punctures or cuts (e.g., needles, syringes, blades, clinical glass).

Staff: Individuals working in a setting where health care is provided including, but not limited to, health care workers. See also Health care worker.

Susceptible host: An individual who is at risk for infection.[1]

Syndromic Surveillance: The detection of individual and population health indicators of illness (i.e., signs and symptoms of infectious disease) that is discernible before confirmed laboratory diagnoses are made.

Transmission: The method by which infectious agents spread from one person to another (e.g., contact, respiratory particles).

Vancomycin-resistant enterococci (VRE): Strains of *Enterococcus faecium* or *Enterococcus faecalis* that have a minimal inhibitory concentration (MIC) to vancomycin of ≥ 32 mcg/ml. and/or contain the resistance genes *vanA* or *vanB*.[1]

Visibly soiled hands: Hands on which dirt or body fluids can be seen.[4]

Visitor: A person coming into a long-term care home to see a resident, usually for social reasons, who does not provide the type of critical support for the resident that is provided by an essential caregiver. See also caregiver.

Preamble

The need for infection prevention and control (IPAC) measures in the long-term care (LTC) setting has never been more apparent. Ontario has an aging population, placing an increasing burden on the LTC sector. The medical complexity of residents within LTC continues to increase. Antibiotic resistance has become a significant issue in health care settings, including LTC. Furthermore, the impact of the Coronavirus Disease 2019 (COVID-19) pandemic highlighted the risk of infection transmission and the vulnerability of residents in this setting, and identified major deficiencies in IPAC programs and resources within LTC.

It is incumbent on all long-term care homes (LTCHs) to do their upmost to protect this vulnerable population and ensure a safe environment for staff, visitors and essential caregivers (ECs). A key requirement for a safe environment is a strong IPAC program with evidence-based and updated IPAC policies, leadership that prioritizes IPAC and resident safety and a workforce that is aware of IPAC principles and facility IPAC policies, and applies these principles and practices consistently.

IPAC is a complex field that interacts with all aspects of health care. IPAC principles and practices are essential during all clinical interactions, from assistance with meals to the provision of foot care. There are also critically important IPAC considerations in many other activities occurring within LTC including facility design and renovation, equipment procurement and reprocessing, environmental cleaning, resident admissions and transfers.

While the principles of IPAC are the same in all clinical settings, the application of these principles varies from setting to setting. It can be difficult for LTCHs to be aware of the full array of evidence-based guidance documents covering these different aspects of IPAC and how they should be applied in the LTC setting. The goal of this document is to provide a summary of IPAC best practices as they apply to LTCHs in Ontario.

Retirement homes are not considered health care settings, and are governed by separate legislation. As such, they are out of scope for this document. Nevertheless, retirement homes share many of the challenges faced by LTCHs. In some retirement homes, or units within retirement homes, the medical issues facing residents are similar to what is seen in LTCHs. While this document cannot be directly applied to this setting, some of the material within may be of interest to this sector as long as it is applied with a clear understanding of the differences between these settings.

This document will be of interest to LTCH leadership, including administrative and medical leadership; infection prevention and control professionals (ICPs) working with or within LTCHs, as well as physicians and all staff working in the LTC setting.

1.0 Legislation Relating to IPAC in Long-Term Care

IPAC is a core element of safe care in all health care settings. This chapter describes provincial and federal legislative requirements for IPAC as they apply in the LTC setting in Ontario.

Legislative requirements set mandatory requirements for IPAC in the LTC setting. These requirements are to be viewed as minimum requirements. To ensure that IPAC principles and practices are implemented in a manner that provides maximum benefit to LTCH residents and ensures staff safety requires that LTCH leadership understand and act upon the intent of these requirements—to strengthen and support IPAC programs and IPAC practices in LTC.

To achieve this, all LTCHs should implement these legislative requirements in a manner that will be effective in preventing infections, protecting residents and ensuring a safe workplace.

Note that references to legislation relevant to IPAC in this document should not be interpreted as a comprehensive representation of the legislation or of legislative requirements, and do not replace the need for all LTCHs to review the legislation directly and to seek legal advice where appropriate.

1.1 The Occupational Health and Safety Act

LTCHs are required to have policies and procedures that protect the health and safety of workers as set out in the *Occupational Health and Safety Act* (OHSA) .[21]

The OHSA requires that the employer takes all reasonable precautions in the circumstances for the protection of the worker, which includes protection from infections acquired in the workplace and protection from exposure to potentially harmful biological agents, such as viruses, bacteria and other microorganisms.[21] Additionally, OHSA specifies the specific roles and responsibility of workers and supervisors, as well as employers, in ensuring a safe workspace within the LTCH setting (Table 1).

Section 9 of the OHSA requires LTCHs with 20 or more regularly employed workers to have a joint health and safety committee (JHSC) that works collaboratively with both workers and management representatives to identify and address potential hazards in the workplace, including hazards related to the risk of infection transmission.[21] Smaller workplaces are required to have a health and safety representative. (For homes with fewer than 20 staff, see Guide for health and safety committees and representatives)[22]

Table 1: Roles and Responsibilities of Employers, Supervisors and Workers in the LTC Setting as Set out in the OHSA*

Roles	Responsibilities
Employers	• Make sure workers know about hazards and dangers by providing information, instruction and supervision on how to work safely. • Appoint a "competent person" as defined by the OHSA to be a supervisor. • Make sure the supervisor knows what is required to protect workers' health and safety on the job. • Create workplace health and safety policies and procedures (where more than five workers are regularly employed). • Make sure everyone follows the workplace health and safety policies and procedures. • Make sure workers wear and use the appropriate personal protective equipment (PPE). • Maintain equipment, material and protective devices in good condition. • Comply with applicable legislation and reporting requirements. • Do everything reasonable under the circumstances to protect workers from being hurt or getting a work-related illness.
Supervisors**	• Inform workers about hazards and dangers, and respond to their concerns. • Show workers how to work safely, and make sure they follow the law and workplace health and safety policies and procedures. • Make sure workers wear and use the appropriate PPE. • Do everything reasonable under the circumstances to protect workers from being hurt or getting a work-related illness.
Workers	• Comply with the OHSA and its regulations and the workplace's health and safety policies and procedures. • Work and act in a way that won't hurt themselves or anyone else. • Report any hazards or injuries to the supervisor/employer. • Wear and use the PPE required by the employer.

* Note: This is a list of key roles and responsibilities but is not intended to be a complete list of all roles and responsibilities for employers, supervisors or workers.

** A supervisor includes any person who has charge of a workplace or authority over a worker. Definitions of employer, supervisor and worker can be found in the OHSA.[21]

The OHSA also requires regular inspections of the workplace, on at least a monthly basis, to ensure that all safety requirements have been effectively implemented (e.g., to identify and record health and safety hazards, assess that existing controls are adequate, and to identify and implement corrective actions if required).

Based on the OHSA, everyone working in the LTC setting has a shared responsibility for ensuring a safe work environment, which includes preventing the spread of infection. For more information regarding the OHSA requirements, please see *Guide to the Occupational Health and Safety Act*.[23]

1.2 The Health Care and Residential Facilities Regulation

Within the OHSA, the *Health Care and Residential Facilities* regulation (O. Reg. 67/93) indicates that employers, in consultation with the JHSC or health and safety representative, are required to:[24]

- Have written health and safety procedures that are reviewed and updated annually, and fully implemented. Many of these required procedures are related to IPAC, including the requirement to have written procedures on:
  - proper hygiene practices and the use of hygiene facilities
  - the control of infections
  - immunization
  - the appropriate use of PPE
  - management of soiled linen
  - protection from exposure to biological hazards
- Train and educate all workers to ensure they understand and can correctly apply the required health and safety procedures and document this training.
- Ensure that all workers receive, upon hire and periodically thereafter, specific training on the use and indications for use of all required PPE.*

The OHSA also requires, within the *Needle Safety* regulation (O. Reg. 474/07), the use of hollow bore needles that are safety-engineered to reduce the risk of sharps injuries to health care workers (HCWs).[25]

1.3 The Workplace Hazardous Materials Information System

The Workplace Hazardous Materials Information System (WHMIS) is a national hazard communication standard exemplified in the *Workplace Hazardous Materials Information System Regulation* (R.R.O. 1990, Reg. 860) of the OHSA.[26]

* All workers are also required to use the PPE required by the employer, when indicated.

There are three key elements:

- cautionary labelling of containers of hazardous substances, called “hazardous products”, e.g., disinfectants
- provision of safety data sheets (SDS) for all hazardous substances
- worker education programs

Employers are required to uphold WHMIS standards in all LTC settings. The LTCH and all staff of the LTCH are required to be familiar with this legislation.

Legislated items:[21]

- The employer, supervisor and the worker have duties under the OHSA.[21]
- Employers are required to uphold WHMIS standards in their workplace. All those working in LTC are required to be aware of WHMIS requirements.
- Employers are required to ensure that the setting is a safe work environment that protects residents, staff and themselves and is in accordance with federal and provincial legislation.

For more information on WHMIS, see Reg. 860.[26]

1.4 The Fixing Long-Term Care Act, 2021

The *Fixing Long-Term Care Act, 2021* requires that every LTCH has an IPAC program.[27] The IPAC program is required to ensure that all residents are assessed daily for symptoms and signs of infection, that there are measures in place to prevent the transmission of infection within the LTCH, and that the IPAC program meets all required standards and requirements. The *Fixing Long-Term Care Act, 2021* also requires LTCHs to provide IPAC training to all staff, residents, volunteers and essential caregivers. Detailed requirements of the IPAC program are provided in the *General*, O. Reg. 79/10 under that Act and in the *Infection Prevention and Control (IPAC) Standard for Long-Term Care Homes*.[16,28]

The *Infection Prevention and Control (IPAC) Standard for Long-Term Care Homes* also requires IPAC programs to develop, document and use an ethical framework to inform IPAC decisions.[16,29] The key principles that should underpin the ethical framework include: fairness, equity, transparency, evidence, impacts of decisions on residents and staff, resident quality of life, risks and benefits and safety.

1.5 Other Relevant Legislative Requirements and Standards Relevant to IPAC

- *Health Protection and Promotion Act*, R.S.O. 1990, c H.7 concerning duty to report diseases of public health significance.[30]
- *Food Premises*, R.R.O. 1992, Reg. 562 for safe food handling.[31]
- *Environmental Protection Act*, R.S.O. 1990, c E.19 for safe disposal of clinical waste.[32]

- *Personal Service Settings*, O. Reg. 136/18 for safe provision of personal services that have a risk of exposure to blood or body fluids.[33]
- *Regulated Health Professions Act*, S.O. 1991, c 18.[34]
- *General*, O. Reg. 63/09 under *Pesticides Act*, R.S.O. 1990, c P.11 for pest control.[35,36]
- *Transportation of Dangerous goods Act*, 1992, S.C. 1992, c 34 and *Dangerous Goods Transportation Act*, RSO 1990, c D.1 when transporting soiled equipment or devices (for LTCHs that transport loaned, shared and leased medical equipment or devices).[37,38]

Legislative Requirements

1. **All LTCHs are required to be in compliance with legislated federal and provincial requirements regarding health and safety, including legislated requirements for IPAC.**
2. **All LTCHs are required to be in compliance with the *Infection Prevention and Control (IPAC) Standard for Long-Term Care Homes*.[16]**

Recommendation

3. **LTCHs should develop and support an IPAC program that implements IPAC best practices aimed at minimizing infection risks for residents, staff and all others within the LTCH environment.**

2.0 IPAC Program Structure and Function and Required Resources

This chapter outlines the optimal structure, key functional elements and resource requirements for an effective IPAC program that will protect residents, staff, essential caregivers and visitors from infections acquired within the LTC setting in an evidence-based and cost-effective manner.

A properly resourced and effectively functioning IPAC program is essential to improve resident, staff, essential caregiver and visitor safety.

2.1 IPAC Program Goals and Core Functions

The goals of an IPAC program are to:[39,40]

- Protect residents from health care-associated infections (HAIs), which in turn will improve resident survival and quality of life while reducing infection-associated morbidity.
- Prevent the spread of infection amongst residents, HCWs, visitors, essential caregivers and others in the health care environment.
- Consider and mitigate against any potential harms that might result from the implementation of IPAC procedures and policies.

These goals can only be achieved with an active, effective, organization-wide IPAC program that is supported by the senior administration of the LTCH.

The core functions of an IPAC program include:

- The implementation of evidenced-based practices, standards, and guidelines through the development of policies and procedures appropriate for the LTC setting.
- Education and training of HCWs, staff, residents and essential caregivers.
- Ensuring that an effective program of syndromic surveillance is in place within the LTCH to rapidly identify, diagnose and manage residents with symptoms consistent with a communicable infectious disease (CID; e.g., syndromic surveillance for respiratory tract infections and gastrointestinal infections).
- The collection and management of surveillance data on infectious outcomes (e.g., the incidence of HAIs) and performance data (e.g., hand hygiene compliance), with feedback on these measures provided to all stakeholders.
- To implement measures to prevent the transmission of infection, including effective outbreak prevention and control measures.

- Communication of infection-related issues and required preventive practices to leaders and staff to facilitate improvement.
- Ongoing evaluation and continuous improvement of the IPAC program.
- Close collaboration with the LTCH's occupational health and safety (OHS) program to ensure that healthy workplace policies and immunizations programs are in place.[41]

2.2 IPAC Program Structure

All LTCHs are required to have an IPAC program with a dedicated IPAC Lead responsible for the program.[27] The IPAC Lead should be an infection control professional (ICP) with appropriate education and training including certification in infection prevention and control [either a Certification in Infection Control (CIC) or a Long-Term Care Certification in Infection Prevention (LTC-CIP) designation]. Depending on the size and complexity of the facility, the IPAC team may consider also including additional ICPs or other individuals with IPAC training (see Section 2.4 IPAC Program Resource Requirements).

The IPAC program will only be successful if it is supported by the LTCH leadership. There should be regular, formal and informal, communication between the IPAC Lead and program, the LTCH leadership and other partners and stakeholders.

All LTCHs are required to have a committee to oversee the activities of the IPAC program (IPAC oversight committee).[16] In acute care, the IPAC oversight committee is commonly referred to as the infection prevention and control committee (IPCC). In Ontario's *Infection Prevention and Control (IPAC) Standard for Long-Term Care Homes*,[16] this committee is referred to as the interdisciplinary IPAC team (IDIT) and this term will be used throughout this document.

The goal of providing oversight for the IPAC program can be achieved either via a stand-alone IDIT, or by having an existing committee, such as the professional advisory committee or the LTCH's quality improvement/risk management committee act as the IDIT. If IPAC oversight will be provided by the professional advisory committee or quality improvement/risk management committee, it is essential that all required stakeholders sit on the committee (see below) and that IPAC has sufficient, regular, dedicated time on the agenda to fulfill its IPAC roles.

The roles of the IDIT:

- Establish IPAC program goals and priorities.
- Develop, review and approve policies and procedures.
- Review HAI surveillance and other IPAC data.
- Review and monitor outbreaks and the outbreak response.
- Assess program efficacy regularly.
- Ensure sufficient resources are allocated to the IPAC program.
- Connect key IPAC stakeholders with IPAC (e.g., clinical services, OHS, environmental services).

While large organizations that operate multiple LTCHs may have a centralized IDIT, it is essential that each individual home have its own IDIT and ICP IPAC Lead (as discussed above). Overarching IPAC polices can be developed centrally but it is recommended that the local IDIT and IPAC Lead review, adapt (as necessary) and approve each policy to ensure it is appropriate for the LTCH's own resident population, community, workforce and infrastructure.

Suggested membership of the IDIT are listed in Table 2. The IDIT committee is required to meet at least quarterly.[42] More frequent meetings may be required to respond to emerging IPAC issues. Written minutes of all meetings should be maintained and copied to facility leadership.

Note that the IDIT is not the same thing as an outbreak management team. The IDIT provides overall, ongoing supervision and guidance for the IPAC program, which should include a high-level review of outbreaks at the facility. The outbreak management team is a specific group brought together on a time-limited basis to rapidly address outbreaks within the LTCH. While membership may overlap, the role of the IDIT and outbreak management team are distinct.

Table 2: Membership of an Interdisciplinary IPAC Committee

Position	Membership
Standing†	• Administrative lead • ICP/IPAC program Lead • Nurse representative • Medical director • OHS lead • Maintenance/facilities • Environmental services/housekeeping • Joint Health and Safety Representative‡ • Family/Resident representation§ • Clinical services • Food services • Others as deemed appropriate
Ad Hoc	• Important stakeholders that are not required to be present at all IDIT meetings can be invited on an ad hoc basis to address specific issues or could provide a periodic (e.g., annual or bi-annual) report to the committee.

† The local medical officer of health (or designate) are to be invited to the meetings of the IDIT.
‡ Communication between the JHSC and the IDIT is essential. An optimal approach is to have the IPAC Lead as a member of the JHSC and have a JHSC representative at the IDIT.
§ Resident and family input is essential. This can be facilitated by having a resident and family member sit at the IDIT, or by having the IDIT send a representative to resident and family councils.

2.2.1 IPAC Program Structure at Small Long-Term Care Homes

At smaller LTCHs (e.g., <70 beds) it may not be possible to have a full-time, dedicated ICP on staff. Where this is the case, the LTCH should have a part-time ICP who should have sufficient, dedicated on-site hours to support the LTCH and the goals of the LTCH's IPAC program. If the identified IPAC Lead has other, non-IPAC responsibilities at the LTCH, it essential that they have designated and protected hours dedicated to IPAC on a weekly basis. These hours should be clearly documented in a written policy for the LTCH's IPAC program, and consistently implemented.

While it is essential that the IPAC Leads have sufficient time dedicated to IPAC, it is equally important that their role is sufficiently focused on IPAC that they are able to develop sufficient expertise to achieve credibility within the organization, and with external partners, as an IPAC expert.

2.3 IPAC Program Functions

The core functions of an IPAC program are listed in Table 3. These functions do not represent all of the activities that IPAC may be involved in within the LTCH, but are all viewed as core or critical functions that should be a part of all IPAC programs in a LTCH. Only appropriately resourced IPAC programs will be able to effectively implement these core functions.

Some core functions (e.g., surveillance, case management) need to be available at all times, including nights, weekends and holidays. To achieve continuous IPAC coverage, as required by the *Infection Prevention and Control (IPAC) Standard for Long-Term Care Homes*,[16] LTCHs with a single IPAC Lead will need to be able to delegate IPAC responsibilities and activities to other appropriately educated staff, as required.

Table 3: IPAC Program Functions

Function	Details
Develop IPAC Policies and Procedures	The IPAC program should develop and maintain policies and procedures on: • Routine Practices including hand hygiene and selection and use of PPE • Additional Precautions • HAI and Antimicrobial Resistant Organism (ARO) surveillance • Organism specific control policies (e.g., for influenza, COVID-19) • Outbreak management • Staff education • Resident and Staff immunization

Function	Details
Review Clinical Policies of IPAC Importance	The IPAC program should review and approve policies that have IPAC importance. Some examples of policies that should be reviewed include: • Clinical policies with IPAC implications (e.g., insertion and management of urinary catheters) • OHS policies (e.g., staff vaccination policy) • Equipment reprocessing (e.g., policy and procedure for the care of personal respiratory equipment such as continuous positive airway pressure or bilevel positive airway pressure devices, policies and procedures for the reprocessing of foot-care equipment) • Environmental cleaning (e.g., procedure for daily cleaning of resident rooms, discharge room cleaning, cleaning of activity and dining rooms, procedure for blood spills, etc.)
Case Management	The IPAC program supports the clinical teams and the LTCH in selecting optimal room placement for residents, as well as the need for Additional Precautions (see Chapter 5. Additional Precautions). The IPAC program determines when residents can be removed from Additional Precautions.
Surveillance and Reporting	The IPAC program should establish and monitor a program of syndromic surveillance (i.e., admission and daily surveillance of all residents for symptoms of common CIDs, such as respiratory and gastrointestinal infections, with reporting of symptomatic residents to IPAC). The IPAC program should identify, along with facility leadership* and stakeholders, the key outcome and performance measures that should be monitored. The IPAC program should select standardized and validated case definitions for all measures tracked, conduct surveillance, and report incidence rates to the IDIT and other stakeholders. The IPAC program should track all diseases of public health significance (i.e., reportable infections) and report these infections to public health.
Education and Training	The IPAC program should provide IPAC education to all staff upon hire and on an annual basis. IPAC should support the clinical teams in providing required IPAC education to residents, essential caregivers and visitors.

Function	Details
Quality Improvement Auditing of Care Practices	The IPAC program should conduct regular audits of care practices (e.g., hand hygiene compliance, use of PPE, maintenance and use of indwelling devices) focusing on those identified as high priority by the IPAC program. Participate and support quality improvement work relevant to IPAC goals and objectives (e.g., antimicrobial stewardship initiatives, initiative to improve appropriateness of urinary catheter insertion and use).
Product Evaluation	IPAC should be involved in reviewing new products to be brought into the LTC environment to ensure they do not create an infection risk and can be cleaned and disinfected effectively.
Facilities Management	IPAC should work with facilities management, environmental services and other stakeholders to ensure that standards are met in all of the following areas: HVAC, environmental cleaning, laundry management, sharps management, waste management, food preparation and storage, equipment reprocessing.
Construction and Renovation	It is required that the IPAC program be consulted during the planning stages of design of new LTCHs and when renovating existing LTCHs to ensure IPAC principles are included in the design.** IPAC is required to remain involved throughout any construction project to ensure processes are in place to minimize the risk of infection transmission related to construction activities and to ensure that all IPAC requirements are met prior to utilization of any new or renovated areas.** IPAC (or a third party delegate) should provide IPAC training to the construction team.**
Pandemic Planning and Disaster Management	IPAC should be involved in planning for significant events that may pose an infection risk to residents and staff including pandemic planning and disaster planning and management.

* Facility leadership includes the medical director and the administrative leadership of the LTCH.

** While it is recommended that IPAC is involved in all stages of renovation and construction activity, it is the responsibility of the facility to ensure that the design and construction process meets relevant IPAC standards and that the companies hired to conduct the construction or renovation has IPAC knowledge and experience.[11] For large projects, the IPAC team may not have sufficient construction knowledge, experience or resources to effectively supervise the project and LTCHs should consider hiring an appropriate third party consultant to work with the LTCH, IPAC program and construction team to ensure that construction processes and results adhere to IPAC standards.

2.4 IPAC Program Resource Requirements

Only appropriately resourced IPAC programs can operate effectively.[43] LTCHs' IPAC programs should have access to a certified ICP to Lead and support the implementation of the IPAC program at the LTCH.

Based on the Ontario *Fixing Long-Term Care Act, 2021* and the April 2022 *Infection Prevention and Control (IPAC) Standard for Long-Term Care Homes,*[16,27] it is required that the minimum dedicated hours for the IPAC Lead at a LTCH be based on the number of licensed beds (see Table 4).[42] This is consistent with prior Provincial Infectious Diseases Advisory Committee on Infection Prevention and Control (PIDAC-IPC) recommendations for one ICP per 150 to 200 beds.[44]

Some retirement homes provide support to complex resident populations similar to what is seen in LTCHs and may consider whether an IPAC program similar to those recommended in LTCHs would be beneficial in their setting.

Table 4: Minimum† Number of Dedicated IPAC Hours for the IPAC Lead at a LTCH[42,44]

Number of Licensed Beds	Minimum Dedicated Hours per Week for IPAC Lead
69 beds or fewer	17.5††
70 to 199	26.25††
200 to 299	35††
300 to 399	52.5†††
400 to 499	70 to 87.5†††
500 to 599	87.5 to 105†††
600 or more	>105†††

† It is also noted that LTCHs are to take into account the complexity and vulnerability of their resident population and based on this assessment may need additional IPAC staff and additional hours of IPAC staffing beyond this minimum. The resource needs of the IPAC program will depend not only on the size of the LTCH, but also on the nature of the resident population (e.g., their medical complexity, functional status and care needs, and whether any specialized population is served such as residents with spinal cord injury, residents with cognitive impairment, or residents requiring dialysis), and the required scope of the IPAC program.
†† Required hours based on the Ontario IPAC standards.
††† PIDAC-IPC-recommended minimum hours for large LTCHs.

Given these considerations, the hours indicated in Table 4 represent the minimum number of hours required for a typical LTCH. For LTCHs with a higher proportion of older, medically complex or otherwise vulnerable residents or specialized resident populations such as large numbers of residents on dialysis, residents with dementia or chronically ventilated residents, staffing beyond this minimum will be necessary.

These recommendations also do not account for large LTCHs with > 300-350 beds. As LTCH size increases beyond 300 beds, additional IPAC personnel and IPAC hours are recommended, as detailed in Table 4.

In addition to consideration of the minimum number of IPAC Lead hours required, the following recommendations are important to ensure the IPAC program will be effective:

- There should be one individual designated as the on-site IPAC Lead.[42]
- Regardless of the size of the facility, the expected number of hours per week devoted to IPAC should be clearly stated in the institutional policy and implemented.
- The IPAC Lead should not have additional responsibilities within the LTCH. In small LTCHs where this is not feasible the IPAC Lead should have designated and protected time for IPAC activities on a weekly basis.
- The IPAC Lead should have the required education and experience and be a CIC-certified ICP or LTC-CIP. LTCHs temporarily without a certified ICP should have access to a certified ICP for consultation and support when required, until a certified ICP can be hired or trained. This could include a certified ICP at another LTCH, within a cluster of LTCHs, within acute care or within a regional IPAC Hub. (see Section 2.4.1 Other Resource Requirements)

2.4.1 Other Resource Requirements

- LTCHs may often have a single IPAC Lead and will rarely have a physician with significant IPAC or infectious diseases training and experience. It is important for a LTCH's IPAC program to have formal or informal links to larger regional IPAC programs operated within hospitals that include IPAC physicians and ICPs with specialized skill sets [e.g., construction, *Candidozyma auris* (*C. auris*) case management, etc.] that allow for consultation and support in the management of challenging IPAC problems. This can be achieved through any of the following: (a) direct linkage with an ICP external to the LTCH; (b) direct linkage with an IPAC physician external to the LTCH; (c) direct linkage to the IPAC program at a regional acute care hospital; (d) direct linkage to an IPAC Hub. Regular contact with the local public health unit (PHU) can also provide important support to the LTCH's IPAC program. For LTCHs in remote areas of the province, links to the PHU are particularly important as there may not be access to a local hospital with IPAC expertise or IPAC hub.
- Third party consultants with appropriate IPAC expertise can also be used. For example, if the LTCH will be undergoing a major renovation, it might be necessary or beneficial to hire third party IPAC experts to review the plans for construction, and monitor its safe progress, if the internal IPAC team has limited construction experience, or insufficient resources to conduct these activities effectively.
- Laboratory testing—LTCHs need to have established access to accredited microbiology laboratories that can provide testing for antimicrobial resistant organisms (AROs) screening and other relevant microbiological testing (e.g., testing for influenza, COVID-19, *Clostridioides difficile* [*C. difficile*]) in a timely manner.
- Administrative support.
- Support for educational opportunities and resources.

For details on IPAC programs and qualifications of an ICP, see PIDAC-IPC's *Best Practices for Infection Prevention and Control Programs in Ontario in All Health Care Settings*.[44]

Legislative Requirements

4. **All LTCHs in Ontario are required to develop and maintain an effective IPAC program focused on reducing the risk of HAIs in order to improve resident and staff wellness and safety.[27,42]**
5. **All LTCHs are required to have an interdisciplinary IPAC team to set goals for IPAC programs and ensures these goals are met.[16]**
6. **The IPAC program is required to be led by a trained and certified ICP.[16,42]**
7. **LTCHs are to have sufficient ICPs to allow all core functions of the IPAC program to be effectively implemented. The number of ICPs within the IPAC program should be proportional to the size, complexity, case mix and estimated risk of the population served by the LTCH and are required to meet the minimum requirements for dedicated ICP hours established by the Ontario IPAC Standard based on number of beds.[16,44]**

Recommendations

8. **Continuing support for the IPAC program is to be an organizational priority.**
9. **At the minimum, the IPAC program is to be evaluated annually by the IDIT to reassess the LTCH's needs, whether the goals of the IPAC program are being met and whether additional program elements are required.**
10. **LTCHs are to have access to an accredited microbiology laboratory that can process screening specimens for AROs and will alert the IPAC program to microorganisms of importance and provide assistance to the program with surveillance information in a timely fashion.**
11. **The LTCH's IPAC program should establish formal linkages with IPAC experts outside the LTCH that may include linkages to: certified ICPs in other LTCHs or in acute care; IPAC physicians; PHU or an IPAC Hub, to help support the LTCH's IPAC program and ensure practices remain up to date and evidence-based.**

3.0 Staff Education and Training

IPAC programs are most effective when all staff understand the importance of IPAC and the conceptual basis of pathogen transmission and prevention of transmission, are aware of the facility's IPAC and OHS policies and have been educated in IPAC procedures, including hand hygiene and the use of PPE.

IPAC education and training is also important for residents, families, essential caregivers and visitors to help them protect themselves and prevent infection transmission within the facility.

3.1 Staff Education and Training

Regular education, both at the time of hire/orientation, and on an annual basis is essential to ensuring staff are aware of the IPAC practices required to protect staff and residents from infection acquired within the LTCH.[27] Additional education sessions are also appropriate during outbreaks, when IPAC policies and procedures change, or if specific issues or problems are identified.[27]

Annual retraining and education is important to ensure staff maintain their understanding of IPAC policies and procedures.

All training and education should be documented such that there is a record of which staff have received training and when this training occurred. The proportion of staff trained on hire, and the proportion of staff receiving annual retraining are important safety metrics and should be reported annually to the IDIT and to the LTCH's leadership.

The curriculum and content of the education should be developed by the IPAC program and should cover all of the following, at a minimum:

- The risks associated with infectious diseases, including acute respiratory infections (ARIs), gastroenteritis and bloodborne pathogens.
- How infections are transmitted within the LTC environment, and how transmission can be prevented.
- The importance of resident and staff immunization.
- The use of Routine Practices, including the point-of-care risk assessment (PCRA), hand hygiene, PPE use, sharps safety, cleaning and disinfection of shared equipment and surface disinfection.
- The use of Additional Precautions.
- The use of syndromic surveillance to identify residents who may require Additional Precautions.
- Medication safety related to IPAC.
- Body fluid management.
- Facility-specific IPAC policies relating to all of the above.

In addition, hands on training is required to ensure:

- Staff understand how to effectively perform hand hygiene.
- Staff understand how to safely put on, take off and dispose of PPE.

This education may be provided by IPAC staff, or by other LTCH staff trained by IPAC to effectively deliver this education under IPAC supervision.

IPAC should review the content of their training and education programs annually, or more frequently if IPAC policies and procedures change. The curriculum should also be evaluated by the LTCH staff and leadership to ensure it is user friendly, informative and meets the needs of the LTCH. Testing of staff IPAC knowledge and practices pre- and post-education is another way of confirming the effectiveness of the education program.

Public Health Ontario (PHO) offers online learning resources that may be useful for LTCH staff or for IPAC programs of LTCHs developing their own IPAC education curriculum. Examples of these resources include:

- Infection Prevention and Control - Online Learning[45]
  - IPAC for Health Care Workers
  - Reprocessing in Community Health Care Settings Module
- Just Clean Your Hands Program[46]

While online learning modules can be an effective tool to provide IPAC education to staff, it is essential such tools are developed by, or reviewed by, the LTCH's IPAC program to ensure they are up to date, accurate and meet the needs of the LTCH. Online learning should enhance, but not replace, in-person training by IPAC on PPE use, including observed putting on and taking off of PPE.

3.2 Resident, Visitor, Essential Caregiver Training

Residents should be supported in their performance of IPAC practices such as hand hygiene and respiratory etiquette. Education on hand hygiene and respiratory etiquette education should be offered to residents by the LTCH with IPAC support.

Clinical staff, with support from IPAC, should ensure that essential caregivers and visitors are educated and understand the importance of not visiting the LTCH when sick with a potentially infectious illness and the correct use of hand hygiene and respiratory etiquette when within the home. Visitors and essential caregivers coming to see a resident in Additional Precautions should receive education with respect to their personal risk of acquiring an infection (or lack thereof) and the correct use of any required PPE.

PHO offers resources that may be useful for LTCH residents, visitors and families:

- FACT SHEET Infection Prevention and Control Tips for Visiting All Health Care Settings[47]
- PPT-Infection Prevention and Control Tips for Visiting All Health Care Settings[48]

Legislative Requirements

12. **All LTCHs are required to ensure that staff receive IPAC training upon hire, and then annually.**[16,27,42]
13. **The curriculum for IPAC education and training is required to be developed by the IPAC Lead to meet the needs of the LTCH and is required to be evaluated and updated annually.**[16]
14. **Staff training and education is required to be documented for annual education and training compliance being reported to the IDIT.**[16]

Recommendations

15. **Staff IPAC training should be performed by IPAC, or by staff trained by IPAC to perform this training and education.**
16. **Staff should be taught by IPAC how to educate essential caregivers and visitors on required IPAC practices within the LTCH and should support residents in learning and applying hand hygiene practices and respiratory etiquette.**

4.0 Routine Practices

The goal of Routine Practices is to protect residents, as well as staff, essential caregivers and visitors, from infection acquired within the LTCH.

Routine Practices include practices that should be performed by all HCWs when working with residents or working within the resident's environment. Routine Practices also includes environmental and administrative control measures that should be adopted by the LTCH to minimize infection risk.

Routine Practices are based on the idea that all residents could have an infection that might be contagious, even if they are feeling well and don't have any symptoms. For this reason, the same safe standards of practice should be used **routinely** with **all** residents to prevent exposure to body fluids, secretions, excretions, mucous membranes, non-intact skin or soiled items and to prevent the spread of infection. As some infections can spread within LTCHs despite the use of Routine Practices, some residents will require measures in addition to Routine Practices. These measures are called Additional Precautions and are addressed in the next chapter (see Chapter 5. Additional Precautions). The material in this chapter has been adapted from PIDAC-IPC's *Routine Practices and Additional Precautions In All Health Care Settings*, which provides additional details on this topic.[1]

Here are some examples of why Routine Practices are to be used for all interactions with residents, regardless of their symptoms or diagnosis:

- Respiratory infections, such as influenza and COVID-19, are infectious even before symptoms start and when symptoms are very mild. Using Routine Practices can prevent the spread of viral respiratory infections from resident to staff.
- A resident could be infected with human immunodeficiency virus (HIV), hepatitis B or hepatitis C and may not know it. The use of Routine Practices when handling needles or other items contaminated with blood (e.g., blood glucose monitors) is essential to prevent the transmission of HIV, hepatitis B or hepatitis C to staff or to other residents.
- A resident could have an unrecognized bacteria (or fungus) living on their skin or elsewhere in their body that is resistant to many different antibiotics (or antifungal drugs). For most residents, colonization with these AROs will not cause any symptoms. For some residents, however, these microorganisms will cause severe disease that is difficult to treat. Examples of resistant organisms that can do this include, methicillin-resistant *Staphylococcus aureus* (MRSA), vancomycin-resistant enterococci (VRE), carbapenemase-resistant *Enterobacteriaceae* (CPE) or *C. auris*. The use of Routine Practices will reduce the risk that these resistant microorganisms spread to other residents, even when these AROs have not yet been detected (Note: once a resident is known to have colonization with an ARO, Additional Precautions are required to further reduce risk – see Chapter 5. Additional Precautions).

Routine Practices prevent the spread of infection within LTCHs and protect residents, staff, essential caregivers and visitors from infection.

Infections can spread from one person to another through exposure to blood, body fluids, non-intact skin and also through contact with contaminated equipment, items or surfaces. Since any resident may have an infection that can spread in this way, all staff need to think about what they are doing, whether they are going to come in contact with blood, body fluids, non-intact skin or contaminated items or surfaces and then take steps to make sure they are safe. This thought process is called a risk assessment and is the core principle of Routine Practices. In addition, as the risk assessment is done immediately before the task is started it is referred to as a PCRA. For example, if a personal support worker is going to change the sheets of a resident that is incontinent and has soiled the sheets, they should think about the risk of having their hands and clothes contaminated by faeces and then take steps to minimize this risk by wearing gloves and a gown, and washing their hands before putting on and after removing their gloves.

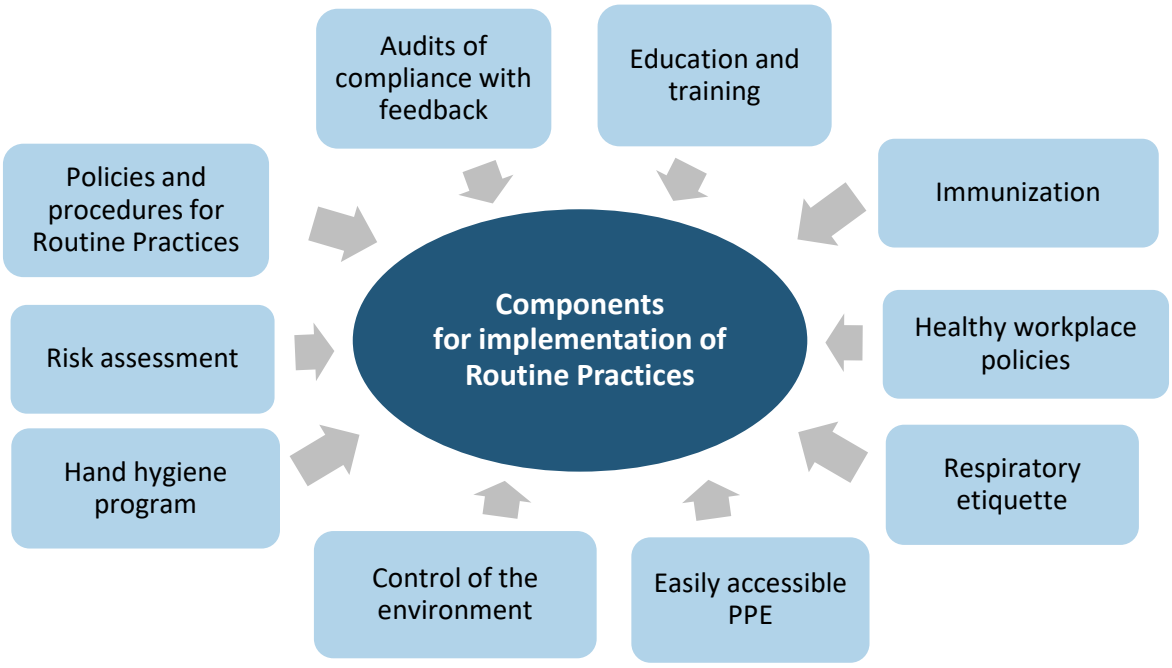
This risk assessment, followed by the implementation of practices to reduce or remove these risks should be incorporated into the culture of all LTCHs and into the daily practice of each HCW.

All of the following are essential components of Routine Practice within the LTCH (see also Figure 1):

- Written IPAC policies and procedures that include the need for a PCRA.
- Staff education and training in Routine Practices.
- A program to measure compliance with Routine Practices.
- Sufficient and easily accessible alcohol-based hand rub (ABHR; hand sanitizer) and PPE (e.g., gloves, masks, eye protection, gowns) available for HCWs and other staff who may be exposed to blood and body substances, with education and training in their use.
- Healthy workplace policies including (but not limited to):[1]
  - A sharps injury prevention program.[49]
  - A staff immunization program.[16,28]
  - A program to promote hand hygiene and respiratory etiquette.[16]
  - The requirement that staff remain home if they have symptoms that may indicate a CID, e.g., fever, vomiting, diarrhea) and enablers to help staff comply with these requirements.[39]
- Organizational risk assessment
- Control of the environment to reduce the risks of transmission of microorganisms.[16]

Successful implementation of Routine Practices requires the support of senior administration. Figure 1 shows all the components required for the successful implementation of Routine Practices in LTCHs.

Figure 1: **Components Required When Implementing Routine Practices**



4.1 Overview of Routine Practices

Routine Practices refer to IPAC practices that are to be used by all HCWs with all residents during all care, to prevent and control transmission of microorganisms.

Routine Practices are part of the daily practice of every HCW to protect residents and HCWs.

4.1.1 Elements that Comprise Routine Practices

The basic elements of Routine Practices are listed in Figure 2 and include:

- **PCRA** used by the HCW before providing care, in order to assess their risk of exposure to infectious microorganisms, and the steps (including the use of PPE) that they should take to avoid getting or spreading infections.
- **Hand hygiene** to be performed with an ABHR or with soap and water before and after contact with a resident or their environment, before aseptic procedures and after body fluid exposure risk.
- **Respiratory etiquette**.
- **PPE** including policies and procedures on correct PPE use; staff training and education on PPE use; and sufficient, easily accessible and appropriate PPE to prevent HCW contact with blood, body fluids, non-intact skin or mucous membranes.

- **Control of the environment**, including:
  - Appropriate resident placement and bed spacing, such as private room (single room) and private toileting facilities for residents who soil the environment.
  - Cleaning of equipment that is used for/on more than one resident between uses.
  - Cleaning of the health care environment, including safe handling of soiled linen, waste and sharps to prevent exposure and transmission to others.
  - Engineering controls, such as:
    - Well-maintained heating, ventilation and air conditioning (HVAC) systems meeting requirements for air exchanges per hour in resident's rooms and other areas within the LTCH.[50]
    - **Barriers**, such as the use of plexiglass screens or curtains.
    - Placement of ABHR dispensers and sharps containers near to the point-of-care optimally located to allow efficient performance of hand hygiene and safe disposal of sharps.[16,51]
    - Adequate dedicated hand wash sinks.
- **Administrative controls**, including:
  - The development and implementation of policies and procedures to ensure that staff are able to deal effectively with transmission risks associated with infectious illnesses.
  - Staff education to heighten awareness of CIDs and AROs, their mode of transmission and prevention of transmission.
  - The development and implementation of healthy workplace policies that require and enable staff to not come to work when ill with a CID that would put residents and other staff at risk.
  - Immunization programs for staff and for residents.
  - Monitoring of compliance with feedback is built into the program to measure compliance with Routine Practices, including hand hygiene.
  - Sufficient staffing levels to enable HCWs to comply with IPAC policies and procedures.

Figure 2: Elements of Routine Practice

Elements of Routine Practices		
Risk Assessment + **Hand Hygiene +** **Respiratory Etiquette +** **Personal Protective Equipment**	**Control of the Environment** (Placement, Cleaning, Engineering Control)	**Administrative Controls** (Policies and Procedures, Staff Education, Healthy Workplace Policies, Monitoring of Compliance with Feedback)

4.1.2 Routine Practices for Visitors and Essential Caregivers

Visitors and essential caregivers should receive instruction regarding specific facility control measures before they visit a resident, to help reduce the risk of infection transmission:

- Visitors and essential caregivers should not enter the LTCH if they have symptoms suggestive of a transmissible infection (e.g., fever, vomiting, diarrhea) or are unable to comply with hand hygiene and other precautions that might be required.
- Hand hygiene before and after visiting should be emphasized.
- If PPE is required by the visitor or essential caregiver, this should be accompanied by instruction in its correct application, use and disposal.

Instructional materials may be provided to visitors on recommended hand hygiene and respiratory etiquette practices.

4.2 Point-of-Care Risk Assessment

HCWs need to assess the risk of exposure to blood, body fluids, non-intact skin and contaminated surfaces or items prior to all clinical interactions in order to identify the PPE they should use as well as all other steps they should take to decrease exposure risk and prevent the transmission of infection.

Any resident may have an infection that may be contagious, even if they are feeling well and don't have any symptoms. For this reason, it is essential that the same safe standards of practice should be used routinely with all residents to prevent staff exposure to body fluids, secretions, excretions, mucous membranes, non-intact skin or soiled items, and to prevent the spread of infection.

However, the specific actions taken to reduce the risk of exposure will vary depending upon the purpose of the clinical interaction between the HCW and the resident (or the purpose of the interaction between the HCW and the resident's environment), the current clinical status of the resident, and in some cases, the health status of the HCW themselves.

It is up to each HCW to decide whether PPE is required when providing care by performing a PCRA. The purpose of the PCRA is to ensure the HCW considers if there is any risk of exposure to the resident's blood, body fluids, secretions, excretions, non-intact skin, or equipment and environmental surfaces contaminated with any of these. Wear gloves for contact with mucous membranes, non-intact skin including undiagnosed rashes, blood, body fluids, secretions, excretions or equipment and environmental surfaces contaminated with any of these or body fluids in order to take actions that can reduce or eliminate this risk. This will minimize the risk of the HCW getting an infection from a resident with an undiagnosed infectious illness and will reduce the risk of the HCW passing on an infection to residents or other staff.

Staff that are not HCW and are not trained in the use of a PCRA should be supervised by HCW when working with in the areas of the LTCH where residents live and given direction with respect to required actions (e.g. hand hygiene) and PPE use.

In its simplest form the PCRA requires the HCW to ask themselves two questions[*]:

- What am I planning to do during this clinical interaction that may increase my risk of exposure to blood, body fluids, non-intact skin or contaminated surfaces or items?
- Does this resident have symptoms that will increase my risk of exposure to blood, body fluids, or non-intact skin or contaminated surfaces or items?

Because a resident's condition, the purpose of the interaction, and the HCW's condition can change, it is necessary to repeat the PCRA with each new interaction.

Risk assessment is an ongoing process used by staff before every resident interaction, to rapidly identify the changing information required to guide IPAC practice.

Here are several examples of how these two questions (What is going on with this resident? What is my task?) can help identify risks and determine what PPE is required (see Table 5).

Example 1

- A PSW is going to support a resident with meals. They know that the resident has behavioural issues and frequently spits at staff. Based on the task (providing care) and resident considerations (i.e., spitting issue) the PSW realizes that because they will be close to the resident in order to assist with the meal, and the resident may spit, with potential for contact of body fluids with t he PSW's eyes, nose or mouth. Based on this PCRA, the PSW decides to wear a mask and face shield while supporting the resident at mealtime, to prevent exposure to body fluids and to perform hand hygiene immediately before and after removal of the face shield and mask.

Summary: if there is a risk that your mucous membranes (eyes, nose or mouth) may be exposed to blood or body fluids, a mask and eye protection is required.

Example 2

- A PSW is going to change the resident's bedding. They know the resident is incontinent and may have soiled their bed linens. Putting this together in the PCRA, the PSW realizes that, although they will not be in direct contact with the resident, they will have contact with an item (bed linens) that may be heavily contaminated with faeces. Based on this PCRA, the PSW decides to wear a gown and gloves (put on after performing hand hygiene) while changing the sheets, followed by hand hygiene after removal of PPE, to prevent exposure to body fluids.

Summary: if there is a risk that your hands or clothes may be exposed to blood or body fluids, a gown and gloves are required.

[*] While these are the two questions that guide the PCRA, HCW should also consider whether they are at increased risk of acquiring an infection or developing a severe infection (e.g. immunocompromised, overdue for vaccination) or of exposing the resident to a risk of body fluid exposure (e.g., non-intact skin on hands due to a wound or skin condition)

Example 3

- A nurse is going to assess a resident's vital signs. The resident has intact skin and no infectious symptoms, is not in Additional Precautions and is in their usual state of health. After considering the task and the resident's status in a PCRA, the nurse realizes that measuring the vital signs will only require contact with intact skin and the risk of exposure to blood or body fluids is low. Because intact skin can be colonized with bacterial and fungal pathogens, potentially including undiagnosed AROs, hand hygiene is still required before and after contact with the resident and their environment.

Summary: if there is no risk of blood or body fluid exposure, and the resident is not in Additional Precautions, no PPE is not required.[†] However, hand hygiene is still required if there is any contact with the resident or the resident's environment.

Example 4

- An environmental service worker will be cleaning the bathroom of a resident's room who was not in Additional Precautions, after the resident is discharged. In their PCRA, the environmental service worker realizes that, although they will not have any contact with the resident, their hands could be exposed to body fluids if the toilet is contaminated. Based on the PCRA, the environmental service worker decided to perform hand hygiene and then wear gloves when cleaning the toilet and then perform hand hygiene again immediately after glove removal.

Summary: if there is a risk of hand contact with objects or environmental surfaces contaminated with body fluids, gloves are required. Hand hygiene should always be performed before putting on gloves and after removing them.

Table 5: PPE Required as per Point-of-Care Risk Assessment

Situation	Required PPE based on PCRA*
Potential for exposure of eyes to blood or body fluids	Eye protection
Potential for exposure of nose or mouth to blood or body fluids	Mask
Potential for exposure of hands to blood or body fluids or contaminated objects or surfaces	Gloves
Potential for exposure of clothing or skin to blood or body fluids or contaminated objects or surfaces	Gown

* Hand hygiene is a fundamental part of Routine Practices and is required both prior to, and following, any contact with a resident or the resident's environment (see hand hygiene below).

[†] Note that glove use may be required when handling disinfectant wipes if indicated in the safety data sheet for the disinfectant used in order to protect the staff's skin from potentially harmful chemicals.

For each resident encounter, HCWs screen the resident to determine whether they may have a CID and to assess the risk of exposure to blood, body fluids, secretions, excretions and non-intact skin, and identify the strategies that will decrease exposure risk and prevent the transmission of microorganisms.

In addition to the above considerations, there are other factors that HCWs may consider as part of their PCRA when determining what PPE is required. Examples include the resident and the HCW's vaccination status, or the current incidence of specific infectious diseases within the local community.

In some cases when a PCRA is conducted, the HCW may recognize that the resident has symptoms or signs of a CID for which Additional Precautions beyond Routine Practices are required. For example, the HCW may realize that the resident has a new cough and fever that may indicate a viral respiratory tract infection. When this occurs the PCRA should trigger the initiation of Additional Precautions and this is discussed in Chapter 5. Additional Precautions.

When residents have been diagnosed with a CID or ARO, a sign is put up indicating the PPE staff should use when entering the room or providing care to the resident. This is part of Additional Precautions and is discussed in Chapter 5. Additional Precautions.

For further details of the risk assessment, see the PIDAC-IPC's *Routine Practices and Additional Precautions in All Health Care Settings* and the Public Health Agency of Canada's *Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Healthcare Settings*.[1,18]

4.3 Hand Hygiene

Hands are frequently contaminated with microorganisms when providing direct care to residents, or from contact with contaminated objects and surfaces within health care facilities. Hands contaminated with bacteria, viruses and other microorganisms may appear clean, but still carry sufficiently large numbers of microorganisms that they can spread infection to multiple residents. We can prevent infections from spreading in this way by the simple act of hand hygiene.

Hand hygiene is a general term that refers to two different ways to remove or inactivate microorganisms on your hands:

- use of soap and water (also called hand washing)
- use of ABHR (also called hand rubbing)

Hand hygiene is one of the most effective IPAC measures to prevent the spread of many HAIs. Despite this, performance of hand hygiene in health care settings, including in LTC, is often missed.[52]

4.3.1 Hand Hygiene Program

To improve hand hygiene within LTCHs requires the use of evidence-based improvement strategies sustained and maintained over the long term. Simple, one-time efforts such as a single "lunch and learn" session, or putting up posters reminding staff to wash their hands, will have a positive impact, but will not, in and of themselves, result in sustained improvement unless embedded within a more comprehensive program of hand hygiene promotion.

To achieve and sustain an improvement in staff hand hygiene requires an ongoing, facility-wide and multi-disciplinary effort supported by all levels of the LTCH's leadership.

The most effective hand hygiene programs use a "multimodal" approach that includes many different improvement strategies that work together to maximize behaviour change.

The core strategies required are:

- **Education.** All staff should be educated about the impact of HAIs on residents, the effectiveness of hand hygiene in preventing HAIs and occupationally acquired infections, as well as when and how to perform hand hygiene. Education and training should be provided to all staff on hire, and periodically after.
- **Awareness.** A variety of strategies should be used to keep hand hygiene top of mind for staff. This can include signage in key areas, regular reminders at meetings, screen savers promoting hand hygiene or any other strategy to remind staff about the importance of hand hygiene.
- **Access.** Making it as easy as possible for staff to perform hand hygiene is one of the most important strategies to improve performance**. ABHR dispensers** should be located conveniently at the point-of-care throughout the LTCH so that anytime staff need to perform hand hygiene they can do so easily. It is equally important to make sure there is a process to rapidly identify and refill empty dispensers, and rapidly repair broken dispensers.
- **Audit and feedback.**[53] To improve performance in the future, you need to know what current performance is. This requires measurement (i.e., audits) of hand hygiene practices by staff, followed by feedback of the results. Feedback is also a key strategy that can lead directly to improved hand hygiene performance. Feedback works best when it is given more than once, provided in a constructive (rather than critical) manner, given both verbally and in writing, and when feedback goes to everyone within the LTCH (e.g., front-line staff to leadership).
- **Leadership.** It is essential those in leadership positions demonstrate that they take hand hygiene and resident safety seriously. LTCH leaders will improve hand hygiene within the LTCH by supporting hand hygiene programs, routinely reviewing hand hygiene performance data and vocally and visibly supporting improvement efforts. Clinical, administrative and opinion leaders at all levels of the LTCH can also role model optimal hand hygiene performance – by performing hand hygiene themselves, and by demonstrating how to appropriately give and receive performance feedback.

The multimodal approach means using as many of these approaches as possible, although they do not all need to be implemented at once. It is a lot of work, but can result in real improvements in hand hygiene followed by reductions in infection rates, better outcomes for residents and fewer infections in staff. This approach has repeatedly been demonstrated to be effective in a variety of health care settings.[17,54]

Additional evidence-based strategies that may be useful also include goal setting, accountability for hand hygiene performance and rewards linked to hand hygiene improvement.

All LTCHs should implement a hand hygiene program that incorporates all of the following elements:[44]

- Senior management support and commitment to make hand hygiene an organizational priority.
- Implementation of a multimodal and multidisciplinary hand hygiene program.
- Ensuring system supports are in place to make it easy for staff to perform hand hygiene.
    - ABHR conveniently located at or near the point-of-care in all areas where hand hygiene may be required.
    - Hand washing sinks placed in appropriate locations within the facility.
    - An organized approach to ensure ABHR dispensers are full and are working, and to rapidly replace or fix broken dispensers.
- Education is given to all staff on hire, and periodically, on the importance of hand hygiene in preventing infection among both residents and staff, as well as when and how to clean their hands.
- Regular auditing and observation of staff hand hygiene practices, with feedback to all levels of management, and to all staff.
- Implementation of a hand care program to ensure staff are able to maintain skin integrity, in collaboration with the LTCH occupational health lead or occupational health program.
- As part of a hand care program, moisturizers compatible with the hand hygiene products used are made available to staff, to help maintain skin integrity.
- Further information on hand care can be found in PIDAC-IPC's *Best Practices for Hand Hygiene in All Health Care Settings* and PHO's *Recommendations for the Prevention, Detection and Management of Occupational Dermatitis in Health Care Settings*.[4,55]
- Resident engagement and support and promotion of resident hand hygiene.
- Promotion of hand hygiene best practices including reminders in the workplace and opinion leaders modeling hand hygiene best practices.

To implement a comprehensive hand hygiene program in a LTCH, refer to:

- Ontario's evidence-based Just Clean Your Hands (JCYH) program for hospitals and LTC.[46]
- PIDAC-IPC's *Best Practices for Hand Hygiene in All Health Care Settings*.[4]

4.3.2 Hand Hygiene Basics

The Four Moments of Hand Hygiene – when is hand hygiene necessary?

In Ontario, the indications for hand hygiene in health care settings have been classified into four "moments" which refers to the four situations where hand hygiene is required. These situations include (see also Table 6):

Moment 1: Before touching a resident or any objects or furniture in the resident's environment (i.e., room or bed space).

Example: hand hygiene is required when entering a resident's room in order to provide support with care (as this will involve contact with the resident). Hand hygiene is also required when entering the resident's room to change the bed linens (because this will involve contact with the resident's environment).

Moment 2: Before an aseptic procedure performed on a resident.

Example: hand hygiene is required immediately prior to removing a dressing and examining a wound because this is an aseptic procedure, and it is important to make sure no bacteria get into the wound.

Moment 3: After any potential exposure to a resident's blood or body fluids.

Example: hand hygiene is required immediately after removing a urinal from the resident's room as this could result in contamination of the staff's hands with urine.

Moment 4: After touching a resident or an object in the resident's environment (i.e., room or bed space).

Example: hand hygiene is required when leaving a resident's room after providing support with care (as this involved resident contact). Hand hygiene is also required when leaving a resident's room after changing the bed linens (as this involved contact with the resident's environment).

It is good practice to perform hand hygiene every time you enter or leave a resident's room, as staff almost always come in contact with something when in the room.

While the above four moments apply in LTCHs for care provided within resident rooms, the LTCH is the residents' home, and residents spend considerable time outside of their rooms. Hand hygiene is still required when care is provided outside of the room, including performing hand hygiene:

- Prior to joining an individual or group activity in a common area.
- Prior to directly assisting (i.e., touching) a resident.
- After directly assisting (i.e., touching) a resident.
- After leaving an individual or group activity in a common area.

In addition to performing hand hygiene settings according to the **4 Moments for Hand Hygiene** as described in Ontario's Just Clean Your Hands program (Table 6),[46] there are also other situations where hand hygiene is required including:

- Before preparing, handling, serving or eating food.
- After your hands are exposed to your own body fluids, secretions or excretions (e.g., after blowing your nose or sneezing into your hand, after using the toilet).

Table 6: The Four Moments of Hand Hygiene from Ontario's "Just Clean Your Hands" Program[46]

Moments of Hand Hygiene	When to Clean Hands	Why Clean Hands
1. BEFORE initial resident/resident environment contact	Clean your hands when entering: • Before touching resident. • Before touching any object or furniture in the resident's environment. • Before participating in a resident activity in a common space.	To protect the resident/resident's environment from harmful microorganisms carried on your hands.
2. BEFORE aseptic procedure	Clean your hands immediately before any aseptic procedure.	To protect the resident against harmful microorganisms, including the resident's own germs, entering his or her body.
3. AFTER body fluid exposure risk	Clean your hands immediately after an exposure risk to body fluids (and after glove removal).	To protect yourself and the health care environment from harmful resident microorganisms.
4. AFTER resident/ resident environment contact	Clean your hands when leaving: • After touching resident. • After touching any object or furniture in the resident's environment. • After participating in a resident activity in a common space.	To protect yourself and the health care environment from harmful resident microorganisms.

Information posters and tools on hand hygiene may be obtained free of charge from PHO's Just Clean Your Hands (JCYH) Program web page.[46]

4.3.3 Product Selection and Placement

What products should be used for hand hygiene and where should they be located?

Both ABHR and liquid soap are effective for hand hygiene and both have advantages in specific situations. Staff in LTC should have access to both ABHR (at the point-of-care) and dedicated hand hygiene sinks where washing with soap and water can be performed. It is not recommended to perform hand hygiene with ABHR, followed immediately by soap and water (or vice versa) as this can result in excessive hand drying and with limited additional benefit, as both methods of hand hygiene are effective. When staff members are using a sink for hand washing, they should use a sink dedicated for staff hand hygiene and should not wash their hands using the sinks intended for other purposes (e.g., resident's bathroom sink, sink in the dirty utility room used to rinse equipment).

4.3.3.1 Alcohol-Based Hand Rub

ABHR is available in concentrations ranging from 60% to 90%. As norovirus, a common cause of viral gastroenteritis and gastroenteritis outbreaks in LTCHs, is only inactivated by concentrations at or above 70%,[56] a minimum of 70% alcohol content is recommended. ABHR products being considered for purchase require a Drug Identification Number (DIN) or Natural Product Number from Health Canada.[5,6,57]

It is best to use ABHR for most hand hygiene, as long as your hands are not visibly dirty or soiled.[58] ABHR kills microorganisms quickly,[59,60] is easier on the skin than soap and water, and requires the least amount of time for effective hand hygiene—particularly because dispensers can be placed right at the point-of-care.[61] The only situations where soap and water are required (rather than ABHR) is when the hands have visible dirt, grease, blood or body fluids on them. When this happens, the ABHR cannot penetrate to kill microorganisms and using both soap and water is essential.

Soap and water may also be more effective against *C. difficile* spores and is preferred when caring for a resident with *C. difficile* infection. However, ABHR should be used for hand hygiene upon room exit, and then the staff can proceed directly to the nearest designated hand hygiene sink for hand washing.

4.3.3.2 Hand Washing Soaps

Plain soap and water acts by dislodging dirt and organic substances (e.g., blood, mucus), which are then flushed away with rinsing. Some soaps include additional ingredients with antimicrobial properties (i.e., medicated soaps). However, plain soap is good enough to remove disease causing microorganisms from the hands.

Soap comes in liquid and bar forms. Bar soaps are not to be used by staff in LTCHs as the surface of the bar or the water that it often sits in near the sink, can become contaminated with microorganisms that can contaminate the hands during hand washing.

Both ABHR and liquid soap are dispensed in disposable containers. Containers should not be refilled or topped up when partially empty as they can become contaminated.

Do not "top up" ABHR and liquid soap dispensers – the containers are disposable and should be replaced when empty.

Do not use bars of soap.

4.3.3.3 Other Hand Antiseptic Agents

Waterless antiseptic hand hygiene agents that do not contain 70 to 90 per cent alcohol do not work as well as ABHR and their use is not recommended.[62] These agents can also be more irritating to the hands, depending on the active ingredients used.[63,64]

Note: What to use to clean your hands?

- **ABHR when hands are not visibly soiled.**
- **Plain liquid soap when hands are visibly soiled.**

4.3.3.4 Product Selection

Careful selection of ABHR and soap is important. When LTCHs are selecting a new hand hygiene product, all stakeholders should be involved, including front-line clinical staff, IPAC and OHS. In addition to ensuring that an effective product is selected, care should be taken to ensure to review any additional ingredients (e.g., perfumes) that may cause skin irritation, ensure the product is acceptable to staff, and to ensure that the dispenser is well designed and dispenses a sufficient amount of ABHR or soap.

LTCHs should also select appropriate hand moisturizing skin care products as part of a hand care program. Product selection should follow the process outlined above for hand sanitizer. The selected hand cream should have a fat content of approximately 70% and should be compatible with the gloves used within the LTCH (petroleum-based hand lotions and creams can damage gloves).[17]

4.3.3.5 Product Placement

ABHR Dispensers

Installing ABHR dispensers at the point-of-care improves adherence to hand hygiene. Point-of-care products should be accessible to staff without having to leave the resident.

- Locate ABHR dispensers at point-of-care, i.e., within every resident's room or bed-space and within arm's length of the resident.[‡]
- ABHR dispensers should be mounted at a height that will be ergonomically appropriate for the majority of HCWs.
- Do not place ABHR at, or adjacent to, hand washing sinks.
- Place ABHR dispensers at the entrance to the health care area with visual instructions for residents and visitors.

[‡] Exceptions can be made on a case-by-case basis for residents determined to be a risk of harm due to the potential for ingestion of ABHR

- Use non-refillable bottles for ABHR to prevent contamination.[§]
- Do not install ABHR dispensers over or directly adjacent to an ignition source, such as an electrical outlet or switch, or over carpeted areas.[46]

Note: Local fire safety regulations or guidelines shall be followed for placement and storage of ABHR.[65,66]

For PHO resources on hand hygiene product, including ABHR, placement, see:

- At a glance: Hand Hygiene Product Placement[67]
- Hand Hygiene Product Placement Checklist[68]

Hand Washing Sinks

Improper sink placement, design and use can add to the environmental reservoir of contaminants. Sinks need to be convenient and accessible. When space is renovated or new space designed, the following criteria can help guide the selection and placement of sinks. Figure 3 and figure 4 display features of a preferred and not preferred sink for hand washing.

List 1: Criteria for Choosing and Installing New Hand Washing Sinks

When designing or renovating a LTCH:

- LTCHs should develop a plan for where staff hand hygiene sinks should be located in all resident areas.[51]
- Recessed staff hand hygiene sinks should be placed in hallways with at least one sink for every two to three rooms; alternatively, staff hand hygiene sinks could be placed within each resident room, if the room is sufficiently large.
- Locate hand washing sink in:[51]
  - Any dedicated space where treatment is provided or procedures or physical exams are performed.
  - Specimen collection area.
  - Equipment decontamination area.
  - Any area where food, medication or resident care items (e.g., trays) are prepared.
- Hand washing sinks should be free-standing, i.e., not inserted into/adjacent to a counter, no storage beneath sink.
- Provide a backsplash that extends a minimum 0.6 metres/two feet above sink level and a minimum of 25 cm/10 inches below sink level. Backsplashes should be seam-free and include the area under the paper towel dispenser and soap dispenser.
- Provide non-refillable soap dispensers, single-use towels and foot pedal-operated waste bins at every sink.

[§] Although alcohol is antimicrobial, it can become contaminated through improper practices such as preparation by unskilled personnel in an unhygienic environment or use of contaminated containers.51. CSA Group. CSA Z8000-18 Canadian health care facilities. Toronto, ON: CSA Group; 2018.

- Hand washing sinks are to be used for only hand washing, i.e., no equipment cleaning or discarding fluids/waste.
- Controls (faucets) should be hands-free (e.g., electric eye or foot-operated) and designed to minimize splashing.

In addition, ABHR dispensers should be located in other areas of the LTCH where care may occur (e.g., dining room, activity room).

Figure 3: Preferred Sink

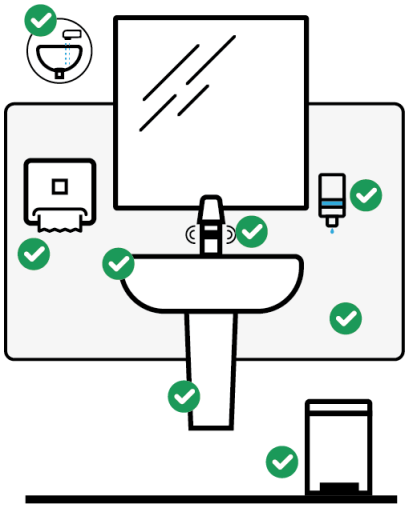
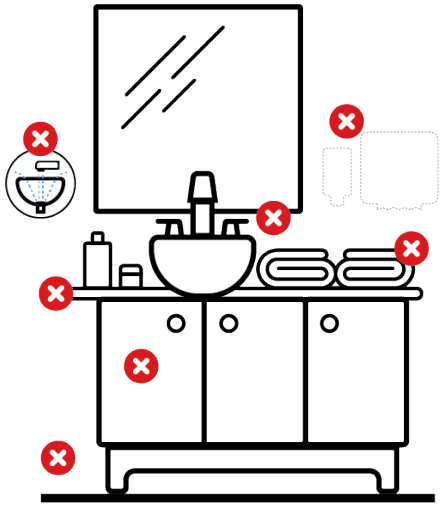


Figure 4: NOT Preferred Sink



Preferred Sink Attributes

- Hand free faucet
- Non-refillable soap dispenser
- Single use paper towels
- Seamless or narrow lipped sink area
- Free standing sink
- Foot pedal-operated waste bin at the sink
- Faucet is off-set to the drain
- Seam free backsplash extending above and below sink and includes the area under the paper towel dispenser and soap dispenser

Not Preferred Sink Attributes

- Non hand-free faucet
- Lack of access to soap and paper towel
- Wide lip on sink or area near/beside sink where supplies could be placed
- Storage under sink
- Supplies on side of sink where they will be splashed
- Faucet pour directly into the drain (causes splash)
- Too small of a sink

Note: Do not store medical supplies or equipment underneath a sink or on a counter adjacent to a sink, as there is a risk of the items becoming damp and susceptible to mould.

For requirements for hand washing sinks in health care, see the CSA's Z8000-18 Canadian health care facilities.[51]

4.3.4 Hand Hygiene Technique – How to Perform Hand Hygiene Properly

It is important to know when to perform hand hygiene—but equally important to do it properly. To effectively removed microorganisms from the hands it is essential that there are no barriers to effective hand hygiene, and that the correct technique is used for a sufficient amount of time.

4.3.4.1 Barriers to Effective Hand Hygiene

Jewellery, nail polish and artificial nails/nail enhancements can prevent hand hygiene from working to remove all microorganisms from the hands.

- **Nail polish**—chipped nail polish can harbour microorganisms that are not removed by hand washing.[69,70] Nail polish should not be worn by LTCH staff or if worn should be carefully maintained.
- **Artificial nails/nail enhancements** have been associated with bacterial and fungal outbreaks.[71,72] Artificial nails and nail enhancements are not recommended for LTCH staff.
- **Rings, other hand jewellery, bracelets and watches**—all are hard to clean, hide bacteria and viruses from the action of the hand hygiene agent and increase the risk of tears in gloves.[73-79]
  It is best if staff avoid or limit the amount of hand jewellery they wear. If watches, rings or other jewellery are worn, they should be removed or pushed above the wrist when performing hand hygiene.
- **Long sleeves** can become contaminated and can interfere with hand hygiene. Wearing short sleeves, or pushing longer sleeves up above the wrists is recommended when performing hand hygiene.

4.3.4.2 Technique for Hand Hygiene with ABHR

- Apply enough ABHR so that your hands remain wet for at least 15 seconds (usually one full pump for smaller hands, two pumps for larger hands).
- After applying ABHR rub your hands together until both hands are dry.
- Rub the hands in the same pattern each time, and in a manner that will cover all hand surfaces (see PHO info graphics) including the front and back of the hands, between the fingers, the tips of the fingers and thumbs, and the base of the thumb.

4.3.4.3 Technique for Hand Hygiene with Soap and Water

- Turn on the tap and ensure that the water is neither too hot nor too cold, then wet hands.
- Apply enough soap to ensure the lather covers all hand surfaces.
- Wash hands (prior to rinsing with water) for a minimum of 15 seconds and using the same pattern each time, in a manner that will cover all hand surfaces (see PHO info graphics).
- Rinse hands with water.
- Pat hands dry with paper towel and use the towel to turn off the water (for manually operated faucets) and discard in the waste bin.

4.3.5 Resident and Visitor Hand Hygiene

In addition to staff hand hygiene, residents can also reduce their own risk of infection by performing hand hygiene. All residents need access to a sink where they can wash their hands as well as access to ABHR. Residents should be made aware of the importance of hand hygiene. Staff should encourage residents to perform hand hygiene before meals and after toileting, and should assist residents unable to access sinks or ABHR dispensers due to immobility. Residents with issues accessing wall mounted ABHR dispensers could be provided access to portable ABHR dispensers.

Although alcohol-wipes and antimicrobial hand wipes are not as effective as ABHR and are not considered acceptable for staff hand hygiene,[4] residents unable to use wall mounted or portable ABHR dispensers can have their hands wiped by staff as an alternative to ABHR.[80-85] Examples of situations where hand wipes may be considered for use include for residents with cognitive impairment such that they are unable to follow instructions on hand hygiene, or residents with severe arthritis or contractures who are unable to rub their hands together.

Visitors and essential caregivers should also be encouraged to perform hand hygiene when visiting residents within LTCHs.

- For more information about Hand Hygiene, see PIDAC-IPC's *Best Practices for Hand Hygiene in All Health Care Settings*.[4]
- For more information about Ontario's evidence-based hand hygiene program, visit PHO's Just Clean Your Hands.[46]

4.4 Respiratory Etiquette

LTCHs should educate staff, residents, visitors and essential caregivers about practices that can help prevent the spread of respiratory infections such as influenza, COVID-19 and other viruses that cause colds, influenza-like illness and pneumonia.

These practices include:

- Staying home when ill (see below).
- Measures that minimize contact with droplets when coughing or sneezing, such as:
  - Turning the head away from others when coughing or sneezing.
  - Maintaining a two-metre separation from others when coughing or sneezing.
  - Covering the nose and mouth with tissue.[*]
- Immediate disposal of tissues into waste after use.
- Immediate hand hygiene after disposal of tissues.

[*] If tissues are not available, other avoidance measures (e.g., sneeze into sleeve) may be used.

Staying home when ill is a critical part of respiratory etiquette. Staff with symptoms of a respiratory infection, particularly staff with fever and cough[†], should not come to work and should report their symptoms to their manager and occupational health as per their LTCH occupational health policy. Reporting symptoms of a respiratory illness is important to allow the LTCH to recognize outbreaks quickly. LTCHs should encourage and educate staff about the need to not come to work when ill, and should have sick leave policies that support this best practice.

Signage reminding staff, essential caregivers and visitors about the symptoms of respiratory illness, to not come to the LTCH if symptomatic, and outlining respiratory etiquette best practices should be posted near LTCH entrances and at other areas as appropriate.

List 2: Actions to Support and Promote Respiratory Etiquette

- Post signs reminding visitors, essential caregivers and staff to screen themselves for symptoms and not to enter the LTCH if symptomatic.
- Provide face masks for staff and residents, with instructions on proper use and disposal.
- Provide tissues and waste containers.
- Provide instruction to cover the nose and mouth when coughing or sneezing.
- Provide readily accessible ABHR.

4.5 Continuous Masking

Continuous masking is an approach to staff masking that involves the use of a single mask worn for prolonged periods of time, and/or during interactions with more than one resident, as both, source control and as PPE.[86] The mask is to be taken off if visibly soiled, damaged or becomes difficult to breathe through. Note, once the mask is removed, it should always be discarded and never be re-used.

There are two main types of continuous masking approaches:

- Targeted Masking: A narrow form of continuous masking where masking is limited to **staff while providing care** to residents.
    - In LTCHs, and in this document, we consider targeted masking to include **staff masking while in all areas of the LTCH** typically used by residents (e.g., residents' rooms, activity and dining rooms, corridors on units).
- Universal Masking: A more extensive form of continuous masking when masking is required for typically **all persons** (e.g., staff, residents, visitors) **at all times while in the LTCH** including administrative roles, shared offices, meeting rooms, and public spaces such as hallways and elevators ("door-to-door masking").

[†] During periods of COVID-19 activity, IPAC and OHS may ask staff not to come to work with new respiratory symptoms (e.g., cough and sore throat) even in the absence of fever—staff should be updated regularly about the respiratory symptoms that should be reported.

Targeted masking may be implemented in defined areas of the LTCH during viral respiratory outbreaks (e.g., COVID-19, influenza). It may also be implemented during fall-winter respiratory virus season or at other times when the risk of transmission of viral respiratory pathogens within LTCHs is high. The decision to implement continuous masking strategies may be made by the LTCH Leadership in consultation with the IPAC Lead, by the Outbreak Management Team in consultation with Public Health or by the Ministry of Long-Term Care.

A continuous masking approach, if implemented, allows the use of the same mask when providing care for multiple residents. However, once the mask is removed, it should always be discarded and never re-used.

Further details on the correct use of masks is provided in Section 4.6.3 Facial Protection of this document and for further guidance on continuous masking approaches, see Section 2.2.1 Continuous Masking Strategies in PIDAC-IPC's *Best Practices for the Prevention of Acute Respiratory Infection Transmission in All Health Care Settings*.[86]

4.6 Personal Protective Equipment for Routine Practices

PPE is worn by staff as part of Routine Practices to prevent transmission of microorganisms from resident-to-staff and in some cases is also effective at preventing transmission from staff-to-resident. PPE is used to prevent exposure by placing a barrier between the infectious source and one's own mucous membranes, airway, skin and clothing. The specific types of PPE used is selected based on the type of interaction that will occur between the HCW and the resident and/or on the mode(s) of transmission of infectious agents. Selection of PPE is based on the risk assessment (e.g., nature of the planned interaction, clinical status of resident). See Section 4.2 Point-of-Care Risk Assessment.

PPE includes gloves, gown and facial protection including masks, respirators and eye protection. PPE is also required as part of Additional Precautions when caring for residents suspected or confirmed to have specific transmissible infections (e.g., MRSA, influenza, pulmonary tuberculosis). This is discussed in Section 5.2.1.3 Personal Protective Equipment Used as Part of Additional Precautions.

PPE should never be used indiscriminately, and overuse may have negative impacts, such as:

- interference with quality of resident care[87,88]
- increased waste and increased cost
- staff may be less likely to wash their hands when wearing gloves for routine tasks
- shortages of PPE that result in inappropriate use (e.g., re-use of gloves and gowns), leading to increased transmission of microorganisms[89,90]
- environmental concerns relating to disposable PPE, washing agents and chemicals

PPE should be put on just prior to the interaction with the resident. When the interaction for which the PPE was used has ended, PPE should be removed immediately and disposed of in a waste container that is designated for PPE disposal.[‡] Proper PPE removal requires that each item of PPE removed in the right order and using the correct technique, to avoid contamination.[91] See Recommended Steps for Putting On and Taking Off Personal Protective Equipment.

The proper sequence for removing PPE is critical to avoid self-contamination. LTCHs are required to ensure that staff have sufficient supplies of and easy access to all required PPE.[16] LTCHs should have a process for evaluating PPE to ensure it meets quality standards where applicable,[10] including a respiratory protection program compliant with the Ministry of Labour, Immigration, Training and Skills Development requirements.[8-10,44] Key stakeholders including IPAC, OHS and a representative from the JHSC, as well as the end-users, should be involved in the PPE selection process. LTCHs should ensure they have a sufficient supply of PPE to ensure continuous supply during outbreaks or transient interruptions in the supply chain.

LTCHs are required to provide education on the proper use of PPE to all HCWs and staff who have the potential to be exposed to blood and body fluids.[16] This education is to be provided upon hire and on an annual basis.[16,24,42]

4.6.1 Gloves

4.6.1.1 Indications for and Appropriate Use of Gloves

Gloves should be worn if contact with mucous membranes, non-intact skin, tissue, blood or body fluids may occur, and when touching equipment or surfaces that may be contaminated with blood or body fluids.[18] Gloves (along with gowns) also form the basis of protection for diseases spread by the contact route (see Chapter 5. Additional Precautions).[18]

Gloves are not required for routine activities in which contact is limited to intact skin (e.g., taking blood pressure).

Wearing gloves when it is not necessary to do so can actually increase the risk of transmitting infection.[92] Gloves should be used for a specific task based on a risk assessment, and then removed immediately and properly discarded in a designated waste receptacle as soon as the task is finished. Gloves should never be re-used.[93,94]

Wearing gloves is not a substitute for hand hygiene.

Staff should perform hand hygiene and ensure their hands are completely dry before putting on gloves.

[‡] When a continuous masking approach has been implemented (e.g., Universal masking during high risk periods for respiratory viral infection) it is not necessary to remove the mask between residents – however, once the mask has been removed, it should never be re-used. See Section 4.5 Continuous Masking.

When removing gloves, careful technique should be used to prevent contact of your hands with the contaminated side of the used glove. When removing the first glove, the other gloved hand can touch the contaminated outside of the first glove. But once one glove is off, the ungloved hand should only touch the inside of the remaining glove, to avoid hand contamination. Even with this approach, hand hygiene should still be performed after glove removal.

List 3: Appropriate Use of Gloves

- Select the:
  - type of glove appropriate to task.
  - correct size of gloves.
- Wear gloves for contact with mucous membranes, non-intact skin including undiagnosed rashes, blood, body fluids, secretions, excretions or equipment and environmental surfaces contaminated with any of these.
- Gloves should be put on immediately before the activity for which they are indicated.
- Perform hand hygiene before putting on gloves.
- Remove gloves and discard immediately after the activity for which they were used. Do not re-use or wash gloves.
- Change or remove gloves if moving from a contaminated body site to a clean body site within the same resident.
- Change gloves between care for each resident. The same pair of gloves should never be used for the care of more than one resident.
- Change or remove gloves after touching a contaminated site and before touching a clean site or the environment.
- Perform hand hygiene immediately after gloves are removed due to possible contamination of hands during glove removal.

To reduce hand irritation related to gloves:[4]

- Wear gloves for as short a time as possible.
- Ensure hands are clean and dry before putting on gloves.
- Ensure gloves are intact, clean and dry inside.

4.6.1.2 Type and Selection of Gloves

Nonsterile examination gloves of good quality and in a range of sizes should be available in all LTCHs. Sterile and synthetic (e.g., nitrile, neoprene) gloves are not required in most LTCHs.

Allergic reactions have been reported with the use of latex gloves and non-latex gloves are widely available. Therefore, the **use of latex gloves is not recommended**.

- For more information about standards for gloves, visit the Canadian General Standards Board website.[95]
- For more information on glove selection and proper glove use, see PHO's *Recommendations for the Prevention, Detection and Management of Occupational Contact Dermatitis in Health Care Settings*.[55]

4.6.2 Gowns

4.6.2.1 Indications for and Appropriate Use of Gowns

A gown is worn when it is anticipated that a care activity, cleaning activity or procedure to be performed may result in contamination of the skin or clothing with blood or body fluids.[18] Gowns (along with gloves) also form the basis of protection for diseases spread by the contact route (see Chapter 5. Additional Precautions).

List 4: Appropriate Use of Gowns

- When use of a gown is indicated, the gown should be put on immediately before the task and worn properly, i.e., tied at top and around the waist.
- Remove gown immediately after the task for which it has been used in a manner that prevents contamination of clothing or skin and avoid shaking the gown.
- Perform hand hygiene after removing gown due to possible contamination of the hands during gown removal.
- Discard used gown immediately after removal into appropriate receptacle. Do not hang, store or keep gowns for later use.
- Do not go from resident to resident wearing the same gown.

4.6.2.2 Selection of Gowns

The type of gown selected is based on the nature of the interaction with the resident, including:[96]

- Anticipated degree of contact with blood or body fluids.
- Potential for blood and body fluid penetration of the gown (e.g., water-resistant gowns should be used if soaking is anticipated).
- Gowns should be cuffed and long-sleeved, and offer full coverage of the front of the body, from neck to mid-thigh or below. Several gown sizes should be available to ensure safe and appropriate coverage for shorter and taller staff.

4.6.3 Facial Protection

A mask and eye protection are worn to protect the HCW from splashes of blood and body fluids to the mucous membranes of the face, including the eyes, mouth and nose. Masks and eye protection also form the basis of protection for diseases spread by the droplet route (see Chapter 5. Additional Precautions).

4.6.3.1 Masks[§]

A mask is used by a HCW (in addition to eye protection) to protect the mucous membranes of the nose and mouth when it is anticipated that a procedure or care activity is likely to generate splashes or sprays of blood or body fluids.[18,96-98] A mask should be worn for wound irrigation procedures if there is any risk of sprays or splashes.[99] In most cases, when a mask is worn to protect the mucous membranes of the nose and mouth from anticipated splashes or sprays of body fluid, eye protection is also required to protect the mucous membranes of the eyes (see Section 4.6.3.3 Eye Protection)

Masks can also be used as source control. When used as source control, the use of the mask protects everyone around the masked individual by containing their secretions. For example, a resident with an acute respiratory illness should be encouraged to wear a mask when outside their room, if tolerated.[96,100,101] Similarly, a HCW that develops respiratory symptoms while at work should mask, until it is safe for them to transfer care and leave the LTCH.

See List 5 for the appropriate use of masks.

List 5: Appropriate Use of Mask

- Select a mask appropriate to the activity.
- Put on mask immediately before the activity for which it is indicated.
- The mask should securely cover the nose and mouth.
- Remove mask immediately after completion of task and discard into an appropriate waste receptacle (unless an extended mask use policy is in effect – see Section 4.5 Continuous Masking).
- Change mask if it becomes wet, soiled, damaged or is difficult to breathe through.
- Do not touch mask while wearing it.
- Do not allow mask to hang or dangle around the neck.
- Clean hands before putting on and after removing the mask.
- Do not re-use disposable masks - discard masks as soon as they are removed
- Do not fold the mask, or put it in a pocket for future use as this may reduce the effectiveness of the mask, and can result in contamination of cloths

[§]Throughout this document, the term mask refers specifically to a medical mask that meets regulatory standards for use by healthcare workers and in healthcare settings. When cloth or other non-medical masks are discussed, this will be highlighted.

4.6.3.1.1 Selection of Masks

Criteria for selecting masks include:

- Mask should securely cover the nose and mouth.
- Mask should be substantial enough to prevent droplet penetration.
- Mask should be able to perform for the duration of the activity for which the mask is indicated.
- Where significant exposure to fluids is anticipated, the mask should be fluid resistant.

4.6.3.2 N95 Respirators

An N95 respirator is used to prevent inhalation of IRPs including aerosols that may contain infectious agents (e.g., measles, varicella-zoster, *Mycobacterium tuberculosis*).

LTCHs are required to have a respiratory protection program in place for staff that may need to wear an N95 respirator.[8,10] A respiratory protection program includes training staff to use an N95 respiratory, fit-testing staff to determine the type of respiratory that fits best, and ensuring that staff have access to the type of respirator they were successfully fit tested on.[8,10,16] Staff training is required upon hire, and annually.[102] Fit testing is also required upon hire, and every two years, as facial structures can change over that time, requiring a switch to an alternative model of N95 respirator.[11,16]

List 6: Appropriate Use of Respirators

- Put on respirator immediately before the activity for which it is indicated.
- Remove respirator as soon as it is safe to do so.
- Use only a fit-tested respirator.
- Perform a seal-check each time a respirator is applied.
- Change respirator if it becomes wet or soiled.
- Remove respirator correctly and discard immediately after use.
- Perform hand hygiene before putting on and after removing the respirator.

LTCHs are required to have a respiratory protection program in place.[8-10]

The program should include N95 respirator fit-testing and staff training in the proper way to perform a seal-check.[10]

For more information about the requirements of a respiratory protection program, fit-testing and seal-checking, see PIDAC-IPC's *Routine Practices and Additional Precautions in All Health Care Settings*.[1]

4.6.3.3 Eye Protection

Eye protection is used by HCWs (in addition to a mask) to protect the mucous membranes of the eyes when it is anticipated that a procedure or care activity is likely to generate splashes or sprays of blood, body fluids, secretions or excretions,[18,97,103] or within two metres of a coughing resident.[96,98,104] Eye protection should also be worn for wound irrigation procedures if there is any risk of sprays or splashes.[99]

Prescription eye glasses are not acceptable by themselves as eye protection, but they can be worn underneath face shields and some other types of eye protection.

List 7: Appropriate Use of Eye Protection

- Eye protection should be used whenever there is a potential for splashes or sprays to the eyes, such as during wound irrigation, or when providing care to a resident that is vomiting.
- Ensure eye protection is comfortable, fits securely and does not interfere with vision.
- Put on eye protection immediately before the activity for which it is indicated.
- Remove eye protection immediately after the activity for which it is used.
- Remove eye protection by grasping the side arms and pulling eye protection forward, without touching the front of the eyewear.
- Discard eye protection after use or place into an appropriate receptacle for cleaning and disinfection.

4.6.3.3.1 Selection of Eye Protection

Acceptable forms of eye protection include:

- safety glasses
- safety goggles
- face shields
- visors attached to masks

The LTCH needs to select at least one of the above types of eye protection for use by staff. The eye protection selected needs to provide a barrier to splashes from the side. Eye protection may be single-use (disposed of after a single use) or re-usable (cleaned and disinfected between each use).

For more information about PPE, refer to PIDAC-IPC's *Routine Practices and Additional Precautions in All Health Care Settings*.[1]

For more information on the sequence of putting on and removing PPE, see:

- Putting on Full Personal Protective Equipment (2-minute video)[105]
- Taking off Full Personal Protective Equipment (1-minute video)[106]

4.7 Control of the Environment and Administrative Controls

The Routine Practices described prior to this section focus on the point of clinical interaction between staff and residents, as well as the administrative controls, policies and procedures, training and education and other supports required to allow staff to perform an effective PCRA, and implement appropriate control measures including hand hygiene, respiratory etiquette and use of PPE.

In addition to these aspects of Routine Practices, there are a number of environmental and administrative controls that will further reduce the risk of transmission within the LTC setting. As these measures are both complex and important, they are listed briefly below and are addressed in further detail in other chapters in this document.

4.7.1 Control of the Environment

Control of the environment is a large and diverse group of infrastructure issues that impact infection transmission and includes (but is not limited to):

- Appropriate **placement and bed spacing.** Private rooms (single room with a dedicated bathroom and sink) are preferred for all residents, as placement in a private room is associated with reduced morbidity and mortality from infection. As most LTCHs have a combination of single bed and two-bed rooms, residents who soil the environment or for whom appropriate hygiene cannot be maintained should be prioritized for placement in a private room with dedicated toileting facilities.
- **Cleaning and disinfection of equipment** between uses.
- **Cleaning of the environment**, including safe handling of soiled linen and waste to prevent staff exposure to blood and body fluids.
- **A sharps management program** to prevent sharps injuries.
- **Engineering controls**, such as:
  - Well-maintained HVAC systems with **sufficient air changes per hour**.[**]
  - **Barriers**, such as the use of wipeable, see through screens or curtains.
  - **Point-of-care** sharps containers and ABHR dispensers.
  - Adequate **dedicated hand washing sinks**.

For more information, see Chapter 7. Environmental Cleaning.

[**] As defined in the CSA standard Z317.2:19

4.7.2 Administrative Controls

Administrative controls are policies, procedures, training, education and quality improvement efforts that are put in place to ensure that safe practices designed to reduce infection transmission within the LTCH are in place, and used consistently.

Administrative controls include (but are not limited to):

- **Policies and procedures** to ensure that staff are able to deal effectively with transmission risks associated with CIDs and AROs.
- **Staff education** to heighten awareness of CIDs and AROs, including their mode of transmission and prevention of transmission (including hand hygiene and the correct use of PPE).
- **Healthy workplace policies** that exclude staff from working when ill with a CID that would put residents and colleagues at risk.[39]
- **Immunization programs** for staff and for residents where applicable.
- **Monitoring of compliance with feedback** is built into the program to measure compliance with Routine Practices, including hand hygiene.
- **Sufficient staffing levels** to allow optimal resident care, including consistent use of required IPAC measures.

Legislative Requirements

17. **The LTCH is required to have a respiratory protection program compliant with the Ministry of Labour, Immigration, Training and Skills Development requirements.[8-10]**
18. **The LTCH is required have an immunization program for staff that provides education about recommended and required immunizations (e.g., influenza vaccine, COVID-19 vaccine), and facilitates access to vaccine (e.g., time off work to attend vaccine clinic, mobile vaccination cart in LTCH).[16,28]**
19. **LTCHs are required to have a program to educate and train all staff on Routine Practices, including all of the elements of Routine Practices (e.g., PCRA, hand hygiene, respiratory etiquette, PPE use, equipment disinfection, etc.).[16]**

Recommendations

20. **LTCHs are to have a sharps injury prevention program.**
21. **The LTCH should have healthy workplace policies that ensure that staff do not come to work when ill with symptoms that may be due to a CID.**
22. **LTCHs are to have IPAC policies and procedures that outline Routine Practices and how these should be applied in the LTCH.**

23. **LTCHs and LTCH staff are to ensure that the elements of Routine Practices are incorporated into the culture of the LTCH and the daily practice of all staff at all times during the care of all residents.**
24. **Education and training of staff on all elements of Routine Practices should be documented and reported back to the manager to become part of the staff's performance review.**
25. **LTCHs are to ensure that visitors and essential caregivers are provided instruction on the measures required to prevent infection transmission to or from the resident before visiting.**
26. **HCWs are to perform a PCRA before each interaction with a resident or their environment in order to determine which interventions are required to prevent infection transmission during the interaction.**
27. **Staff that have not been trained to conduct a PCRA are to be provided clear instructions on all IPAC procedures required when entering a resident room or providing care to a resident.**
28. **LTCHs are to implement a comprehensive hand hygiene program that follows the recommendations of PIDAC-IPC's *'Best Practices for Hand Hygiene in All Health Care Settings'*.**
29. **LTCHs should provide appropriate PPE that is easily accessible at the point-of-care.**
30. **LTCHs are to have a process for evaluating PPE to ensure it meets quality standards where applicable.**
31. **Private rooms, with dedicated bathroom and sink, are preferred for the placement of all residents.**
32. **Residents who soil the environment or for whom appropriate hygiene cannot be maintained should be prioritized for placement in a private room with dedicated toileting facilities.**
33. **The LTCH should implement a program that promotes respiratory etiquette for staff, residents, visitors and essential caregivers.**
34. **LTCHs should have sufficient staffing to allow staff to provide optimal resident care while performing all of the elements of Routine Practices in order to minimize infection transmission risk within the home.**

5.0 Additional Precautions

Additional Precautions are used in addition to Routine Practices when residents are suspected or confirmed to have an infection, or to be colonized with ARO, that may continue to spread to others despite the use of Routine Practices (see Chapter 4. Routine Practices).

Different types of infection are transmitted (i.e., spread) in different ways. For this reason, there are different types of Additional Precautions that address each of the ways transmission can occur.

When Additional Precautions are instituted, they are always used in addition to Routine Practices.

In this chapter, we will consider the different routes by which infectious agents can spread within the LTC setting, the elements of Additional Precautions required for each of these, and the indications/infections for which the use of Additional Precautions is required.

Some elements of Additional Precautions can have negative impacts on residents. Implementation of these practices should be made in alignment with the resident's bill of rights,[27] and each LTCH's ethical framework. For LTCHs without an ethical framework, the Association for Professionals in Infection Control and Epidemiology (APIC) and Infection Prevention and Control Canada (IPAC Canada) have made available their framework to support ethical IPAC decision-making.[29]

When measures are implemented for IPAC purposes that may impact resident well being, there are strategies that can be applied to mitigate these effects and some of these strategies are discussed in this chapter.

Thus, while the principles of Additional Precautions are the same in all healthcare settings, their application in the LTCH setting are to be modified with the above considerations in mind, given that the LTCH is the resident's home.

5.1 Routes of Infection Transmission

Additional Precautions are selected based on the route(s) of transmission of infectious agents within the health care setting. These modes of transmission are:

1. Contact Transmission

Contact transmission occurs when microorganisms spread through physical contact and includes direct and indirect contact transmission. Microorganisms that spread through **direct contact transmission** are transmitted through physical contact between two people. For example, MRSA can be spread from one person to another by shaking hands, assisting with a transfer or conducting a physical exam.

Microorganisms that spread by indirect contact transmission are also transmitted by physical contact, but transmission occurs in two steps. Microorganisms are first transferred from a colonized or infected person to an object, item or surface. A second person who then comes in contact with the contaminated object, item or surface can pick up the microorganism. For example, *C. difficile* can be spread from person to person, if one person touches a bedrail and then a different person touches the same bedrail, or if one resident uses a commode that is then taken to another resident without being cleaned and disinfected.

2. Droplet Transmission

Infections that spread by droplet transmission occur when an infected person coughs or sneezes, sending infectious respiratory particles into the air. If these particles come in contact with the eyes, nose or mouth of someone nearby, this can result in transmission of the microorganism and infection can result.

3. Airborne Transmission

Infections that spread by airborne transmission occur when an infected person coughs, sneezes, sings or breaths, expelling infectious respiratory particles into the air. Airborne transmission differs from droplet transmission due to the smaller size of these particles, which allows them to remain floating in the air for long periods of time. Because these particles can remain in the air for a long time, they can travel larger distances on air currents. People farther away from the infected source can then become infected if they breathe in enough organisms, and if the organisms remain alive and infectious.

Note that there is not a clear distinction between droplet and airborne transmission, and both may occur to varying degrees depending on the specific microorganism. Also, some organisms can be transmitted by more than one route of transmission.

5.2 Types of Additional Precautions

Additional Precautions are bundles of interventions designed to prevent the transmission of CIDs and AROs based on the three route(s) of transmission described in Section 5.1 Routes of Infection Transmission. Table 7 describes the types of Additional Precautions, including Contact Precautions, Droplet Precautions and Airborne Precautions, as described by PIDAC-IPC in their document, *Routine Practices and Additional Precautions in All Health Care Settings*.[1,18]

In many cases, transmission of CIDs occurs via more than one route of transmission, in which case it is necessary to combine types of Additional Precautions together (e.g., Droplet+Contact Precautions). For example, most viral respiratory tract infections can spread by contact transmission and by droplet transmission. Thus, a resident with influenza should be placed in Droplet and Contact Precautions. Additionally, a resident may have two indications for Additional Precautions. For example, a resident colonized with MRSA that developed suspected tuberculosis would require Contact Precautions (for MRSA) and Airborne Precautions (for suspected Tuberculosis).

Table 7: Types of Additional Precautions

Type of Precautions (Examples)	Examples	Placement	Modification to Activities	PPE	Dedicated Equipment and Additional Cleaning Measures	Communication, Signage and Transportation
Contact Precautions	ARO, *C. difficile*, viral gastroenteritis, scabies, viral respiratory infections (e.g., influenza, COVID-19)*	Place resident in a private room with dedicated washroom OR Place resident in a shared room with another resident with the same CID/ARO* OR Leave infected and uninfected resident together but with mitigation measures in place	Limit participation in group activities, use of common areas, and time outside room (short term CIDs only) Implement mitigation and monitoring (short and long term CIDs)	Staff: Gowns, gloves	Dedicate equipment to a single resident where possible	Inform resident about the need for, nature of, and duration of precautions Post signage to indicate precaution type For transfers, ensure precaution type and diagnosis communicated to receiving facility
Droplet Precautions	Viral respiratory infections (e.g., influenza, COVID-19)*	As above	Limit or reduce participation in group activities, use of common areas, and time outside room (short term CIDs only)	Staff: mask, eye protection** Resident: mask when outside room (if tolerated)	As above	As above

Type of Precautions (Examples)	Examples	Placement	Modification to Activities	PPE	Dedicated Equipment and Additional Cleaning Measures	Communication, Signage and Transportation
Airborne Precautions***	Pulmonary tuberculosis, measles	Place resident in an airborne infection isolation room (AIIR/AIR) *** OR Place resident in a private room with the door closed***	Resident to remain in their room except for medically necessary procedures***	Staff: N95 respirator Resident: mask when outside room (if tolerated)	Not applicable	As above

* For viral respiratory infections such as COVID-19 and influenza, Contact and Droplet Precautions are both required (i.e., Droplet+Contact Precautions).

** Acceptable eye protection includes a face shield, goggles, or a mask with integrated visor.

*** Most LTCHs do not have AIIRs/AIRs and are not designed for the management of residents requiring Airborne Precautions. When a CID requiring Airborne Precautions is suspected, IPAC should be consulted and consideration given to transferring the resident to acute care.

5.2.1 The Elements of Additional Precautions

The application of Additional Precautions requires that five key elements are addressed (See Figure 5). Each element is described in detail below.

Figure 5: Elements of Additional Precautions

Elements of Additional Precautions				
Resident Placement	Modifications to Resident Activities and Movement	PPE	Dedicated Equipment and Additional Environmental Cleaning Measures	Communication and Signage

5.2.1.1 Resident Placement

The risk of CID transmission is highest among roommates, as they spend considerable time together within an enclosed space. Promptly separating infected and uninfected residents and placing them in private rooms will reduce the risk of infection transmission. However, there are risk and barriers that make it difficult for LTCHs to rapidly separate residents requiring Additional Precautions.

Physical and environmental factors include:

- Limited bed capacity.
- A limited number of private (single bed) rooms with dedicated washrooms.
- The need to move or store the resident's belongings and furniture.

Financial factor includes:

- Increased financial charges for resident's moved from a shared to a private room.

Risks include:

- Residents may have a higher risk of falls when moved into an unfamiliar room.
- Residents with cognitive impairment have an increased risk of confusion or delirium when moved into an unfamiliar room.
- Residents separated from a spouse or long-term roommate and placed in a private room may experience loneliness, anxiety or depression.

These factors make it difficult to separate residents in a timely manner when one develops a CID or ARO, and in some cases, the benefits of separation may outweigh the risks. Despite this, there are situations where every effort should be made to find a private room for a resident with a CID or ARO:

- If a resident is colonized or infected with an emerging pathogen that poses a high risk of transmission within the LTCH (e.g., *C. auris*). These cases should be discussed with IPAC and Public Health.
- If a resident has a CID that is highly likely to result in severe illness for the exposed roommate based on the nature of the CID, or the clinical status of the roommate and the risks of leaving the residents together outweighs the benefit

In very rare circumstances where separating residents is considered essential for the well being of the roommate but a private room is not available, it may be necessary to transfer of the resident to acute care.

A different situation arises when LTCHs are re-admitting a resident following hospitalization, if the resident has been identified as requiring Additional Precautions while in hospital – usually Contact Precautions for ARO colonization.

The decision to admit the resident to a private room, to return them to their original room (with their original roommate), or to cohort them in a shared room with another resident colonized with the same ARO requires the consideration of some of the factors discussed above, most notably:

- Room availability
- The resident (or resident's decision makers) preference[27]
- The status of the resident's prior roommate (i.e., they may be positive for the same ARO given their prior exposure to each other – in which case they should remain together)

In any circumstance where a resident requiring Additional Precautions is in a shared room with another resident not infected with the same CID or colonized with the same ARO, the LTCH should implement measures to reduce the risk of transmission, and monitor for infection in the uninfected roommate. Measures will vary depending upon the type of CID or ARO colonization.

Examples of measures to mitigate risk include:[*]

- Ensuring a minimum spatial separation of 2 metres between beds
- Placing privacy screens between bedspaces or pulling curtains around bedspaces.
- Increasing the frequency of environmental cleaning in the room and shared washroom
- Using a commode for one resident while the other uses the washroom
- Encouraging frequent hand hygiene by both residents
- Encouraging masking by both residents when out of bed

[*] Some of these measures would only be applicable for CID transmitted by a specific route (e.g,. masking is most relevant for CID spread via the droplet route)

Examples of measures to monitor risk include:

- For residents in Contact Precautions due to colonization with an ARO, conduct periodic testing of their roommate for the ARO of concern.[107]
- For residents in Droplet Precautions due to infection with a viral respiratory infection, conduct enhanced symptom surveillance for new fever or respiratory symptoms in their roommate, have a low threshold for testing the roommate for viral respiratory infection, and consider the use of prophylaxis if indicated (e.g., oseltamivir prophylaxis for roommate of a resident with influenza).

For further details on decision making related to resident placement and Additional Precautions, see PIDAC-IPC's *Routine Practices and Additional Precautions in All Health Care Settings*, Appendix C: Decision-Making Related to Accommodation and Additional Precautions.[1]

5.2.1.2 Modifications to Resident Activities and Movement

5.2.1.2.1 Modifications for Communicable Infectious Diseases with Short Infectious Periods

CID transmission is reduced if contact between the infected and uninfected residents is minimized during the infectious period. This is only feasible for CIDs with a short infectious period ranging from a few days up to 2 weeks (e.g., viral respiratory tract infections such as influenza, viral gastroenteritis, and *C. difficile* infection). For these CIDs, LTCHs can:

- Encourage the resident to remain in their room as much as possible.
- Encourage residents to wear a mask when outside their room (if tolerated).
- Direct residents leaving their room to quiet areas of the LTCH, away from other residents, as much as possible.
- Have the resident avoid participation in group activities, or modify the activity to allow safe participation, in consultation with IPAC. For example:
  - The same activity could be offered to the resident in their room, or the resident could participate in an event virtually.
  - The resident may be able to participate in outdoor group activities, with physical distancing.
  - The resident may able to participate in indoor group events with risk-mitigation strategies in place (e.g., physical separation of residents, masking, enhanced ventilation, hand hygiene, equipment disinfection, etc.).

Social interaction is essential for resident well-being. The LTCH should discontinue all modifications to regular resident activities as soon as the resident is no longer infectious. If these measures are having a negative impact on the resident, IPAC should be consulted to see if they can be further modified in a way to support the resident.

5.2.1.2.2 Modifications for Communicable Infectious Diseases with Prolonged Infectious Periods

While most CIDs have short infectious periods, ARO colonization can persist for months or years. Limiting a resident's ability to participate in communal activities, socialize or use common areas of the LTCH for a prolonged period is harmful. Instead, a risk mitigation approach should be adopted for residents colonized with an ARO, as described below:

Non-restrictive measures should be implemented to reduce transmission risk without preventing the resident from participating in activities within the LTCH. Examples of some non-restrictive measures are provided in List 8 – this is not a complete list, and the measures implemented will depend in part on the infrastructure, size and resources available at the LTCH.

List 8: Examples of Non-restrictive Measures to Control the Transmission of Antimicrobial Resistant Organisms from ARO Colonized Residents of Long-Term Care Homes

- Provide hand hygiene education and support hand hygiene is performed when a colonized resident leaves their room.
- Ensure wounds are covered when the colonized resident is outside of their room.
- Ensure the resident's clothing is changed and laundered frequently. Offer fresh clothes for group activities.
- During group activities, ensure hand hygiene is performed by all residents before and after the activity.[†]
- Implement enhanced environmental cleaning of common areas following group activities involving residents who are colonized with an ARO, particularly for ARO that are known to result in persistent environmental contamination (e.g., VRE, C. auris).
- For activities involving equipment (e.g., exercise balls)
  - Provide each participating resident with their own equipment or ensure participants practice hand hygiene before and after using the equipment.[2]
  - Ensure all equipment is cleaned and disinfected following the activity, and before use by other residents.
- Provide resources to redirect ARO colonized residents with wandering behaviours.
- If multiple residents on a unit are colonized with a specific ARO, consider periodic point prevalence testing for that ARO to monitor for transmission.

[†] Singling out a specific resident with ARO colonization to perform hand hygiene or use personally dedicated equipment may be stigmatizing for the resident. Having all residents perform hand hygiene before and after group activities every time is best practice, even when there are no residents with ARO colonization, and avoids this concern.

Residents colonized with an ARO may develop a self-limited secondary medical issue that increases their risk of spreading the ARO within the LTCH. For example, a resident colonized with VRE may develop gastroenteritis and have diarrhea and incontinence, or a resident colonized with MRSA may develop an infected ulcer with uncontained secretions. In such cases, modifications to the resident's activities are recommended on a short-term basis, in a manner similar to what was described for residents with CIDs with short infectious periods (see Section 5.3.2.1 Modifications for Communicable Infectious Diseases with Short Infectious Periods above).

Similarly, if a resident is identified with an ARO that is considered an emerging pathogen, which is currently rare in LTCHs in Ontario (e.g., *C. auris* colonization is a current example), LTCHs should consult with Public Health and/or IPAC professionals with experience in managing these pathogens to determine the optimal approach to management. Recommendations for such pathogens are likely to include assigning such residents the highest priority for private rooms, as well as other measures to reduce risk that may include stricter modifications to the resident's activities while within the LTCH, as compared to what is used for other ARO. Additional measures implemented are to be carefully considered through the lens of the LTCH ethical framework and should be implemented for a limited period of time.

A Note on Terminology

Because the application of Contact Precautions for residents with ARO colonization differs from the use of Contact Precautions for residents with a CID with a short infectious period, LTCHs may want to consider using different terminology for these distinct situations. For example, the term 'Contact Precautions' could be reserved for residents with a CID with a short infectious period, while terms such as 'limited' or 'modified' Contact Precautions could be considered when Contact Precautions are used for residents with ARO colonization.

In the US, a type of precautions termed 'enhanced barrier precautions' was developed specifically for LTCHs.[108,109] This term is not used in Canadian guidance provided by PHAC or PIDAC-IPC, and although some elements of enhanced barrier precautions are similar to the 'limited' or 'modified' Contact Precautions described above for use with ARO colonized residents, there are also differences. We therefore do not recommend using this term.

5.2.1.3 Personal Protective Equipment used as part of Additional Precautions

PPE used for residents on Additional Precautions is determined based on the specific type of Additional Precautions implemented.

For residents on Contact Precautions, gloves and gown are to be worn when providing direct care to residents, where the HCW's skin or clothing may come in contact with the resident, or items in the resident's room or bedspace. Direct care includes hands-on care such as bathing, washing, turning, changing clothing, continence care, dressing changes, care of open wounds/lesions and toileting. Assistance with meals and pushing a wheelchair are not considered direct care.

For residents on Droplet Precautions, eye protection (e.g., goggles or a face shield) and a mask are required when staff enter the resident's room.

For residents on Airborne Precautions, a fit-tested, seal-checked N95 respirator is required when entering the resident's room (for best practices when using a N95 respirator, see List 6).

Further details of the PPE required for the different types of Additional Precautions are shown in Table 7. When HCWs are leaving the room, or (if outside the room) have completed the care activity, all PPE should be removed and discarded and hand hygiene performed. Fresh PPE should be worn if the HCW re-enters the room or returns to provide further care to the resident.

Note that when residents are cohorted together (i.e., two residents with the same CID are placed together in a room) it is still essential that PPE be changed, and hand hygiene performed, between residents. Harm may still occur through pathogen transmission in this situation, as one resident may be colonized or infected with a microorganism not affecting the other resident.

5.2.1.4 Dedicated Equipment and Additional Cleaning Measures

Medical equipment (e.g., commode chairs, slings) that is required to provide care to the resident should be dedicated to that resident (i.e., remain in the resident's room and not be used for other residents) whenever possible. Equipment (e.g., mechanical lift) and supplies that are required for care should be assembled first and brought into the room after PPE has been put on. It is essential that equipment is cleaned and disinfected before use for any other resident.

For most residents on Additional Precautions, routine cleaning procedures are sufficient (see Chapter 7. Environmental Cleaning). However, for specific infectious agents, additional cleaning measures may be required (see Chapter 7. Environmental Cleaning).

5.2.1.5 Transport Procedures

Before transporting or transferring a resident, a risk assessment should be done to determine their risk of transmission to others. For some conditions (e.g., viral gastroenteritis, COVID-19, influenza), residents should not be transported or transferred unless medically necessary.

When medically necessary transport and transfer of a resident in Additional Precautions occurs, it is essential that there is communication between all transferring and receiving units and facilities to ensure that the receiving area is aware of the resident's diagnosis and the Additional Precautions required (see Section 5.2.1.6 Communication, including Signage).

Regardless of the diagnosis, normal care activities need to be maintained for residents in Additional Precautions, to ensure both quality of care and quality of life.

5.2.1.6 Communication, including Signage

When residents are placed in Additional Precautions, the reasons and nature of the precautions should be explained to the resident, as well as all essential caregivers, family or substitute decision maker, as appropriate.

Communication of the resident's status and need for Additional Precautions is also required when residents in Additional Precautions are transferred within the facility, or to another health care setting.

This communication of the resident's need for Additional Precautions should also be provided to all staff involved in the transportation of the resident, including Emergency Medical Services staff.

To ensure that all staff, essential caregivers and visitors are aware of the resident's need for Additional Precautions, and what PPE is required, signage specific to the type(s) of Additional Precautions should be posted, as follows:

- A sign that lists the required precautions should be posted at the entrance to the resident's room or bed space.
- Signage should maintain privacy by indicating only the precautions that are required, not information regarding the resident's diagnosis.

For sample signage, refer to the Additional Precaution signage on the PHO website.[110]

5.3 Initiation of Additional Precautions

When should Additional Precautions be initiated?

Additional Precautions are required for residents colonized or infected with specific CID or ARO. Examples common to LTCHs are provided in Table 7 and Table 8. A complete list is available in Appendix N of PIDAC-IPC's document, *Routine Practices and Additional Precautions in All Health Care Settings*.[1] Additional Precautions should be implemented as soon as it is suspected that a resident has a CID or ARO colonization, as follows:

- Residents with symptoms suggestive of a CID requiring Additional Precautions should be placed on Appropriate Additional Precautions—it is not necessary to wait for confirmatory tests. Examples of common clinical syndromes that should trigger suspicion for a CID and the initiation of Additional Precautions are provided in Table 9.
- Residents at high risk of colonization with an ARO requiring Additional Precautions based on known exposures or an assessment of risk factors, should be placed in Additional Precautions as per the LTCH's policy—it is not necessary to wait for confirmatory tests.

Example 1

A resident who develops a new fever and cough may have a viral respiratory infection such as influenza or COVID-19. Additional Precautions for Acute Respiratory Infection (Droplet+Contact Precautions) should be implemented immediately and should not be delayed while awaiting the results of PCR testing for COVID-19, influenza or other respiratory viruses.

Example 2

A resident was transferred from an acute care hospital ward that currently has an outbreak of a CPE. Given the risks associated with transmission of CPE within LTCHs, the resident was admitted to a private room with dedicated washroom and was placed on Contact Precautions immediately upon arrival. The use of Additional Precautions should not be delayed until a positive test result is available. If all required screening tests are negative, Contact Precautions can be discontinued by IPAC and the resident can then be transferred to a shared room, if otherwise appropriate.

Table 8: Examples of Antimicrobial-Resistant Organisms for Which Contact Precautions are Indicated‡

Antimicrobial-Resistant Organisms	Abbreviations
Candidozyma auris	*C. auris*
Carbapenemase-Resistant *Enterobacteriaceae*	CPE
Methicillin-Resistant *Staphylococcus aureus*	MRSA
Vancomycin-Resistant Enterococci	VRE

‡ Note that this table provides examples only. Some LTCHs may place residents with other AROs not listed here on Contact Precautions; although recommended by PIDAC-IPC, some LTCHs in Ontario do not place residents colonized with VRE in Contact Precautions.

Table 9: Examples of Clinical Syndromes Requiring Additional Precautions*

Syndrome	Type of Precaution	Private Room (single bed)?
Diarrhea and/or vomiting of suspected acute infectious etiology	Contact**	Yes or at a minimum dedicated toilet or commode
Rash—suggestive of varicella, disseminated herpes zoster	Airborne*** + Contact**	Yes An AIIR/AIR should be used if available. For facilities without an AIIR/AIR, the resident should be placed in a private room with the door closed. IPAC and public health should be consulted, and consideration given to transferring the resident to a facility with an AIIR/AIR.
Rash – suggestive of measles	Airborne*** + Contact** + Droplet	Yes An AIIR/AIR should be used if available. For facilities without an AIIR/AIR, the resident should be placed in a private room with the door closed. IPAC and public health should be consulted, and consideration given to transferring the resident to a facility with an AIIR/AIR.
Rash—undiagnosed, without fever	Routine Practices, gloves for skin contact	No
Red eye (viral conjunctivitis)	Contact**	Yes

Syndrome	Type of Precaution	Private Room (single bed)?
Respiratory and/or systemic symptoms suggestive of a viral respiratory infection	Droplet† + Contact**	Yes
Respiratory infection—risk factors, clinical presentation, and/or imaging suggestive of pulmonary tuberculosis	Airborne***	Yes An AIIR/AIR should be used if available. For facilities without an AIIR/AIR, the resident should be placed in a private room with the door closed. IPAC and public health should be consulted, and consideration given to transferring the resident to a facility with an AIIR/AIR.
Suspected meningitis and/or sepsis with petechial rash, etiology unknown	Adult: Droplet†	Yes

* For more information, please see PIDAC-IPC's *Routine Practices and Additional Precautions in All Health Care Settings*, Appendix N: clinical syndromes/conditions with required level of precautions.[1]
** Contact Precautions: Gloves and a gown are to be worn for direct care activities where the HCW skin or clothing may come in contact with the resident or items in the resident's room or bedspace.
*** Airborne Precautions: AIIR/AIR; fit-tested N95 respirator for suspected pulmonary tuberculosis.
† Droplet Precautions: Facial protection (mask, eye protection).

In order for LTCHs to identify and place residents in Additional Precautions in a timely manner, it is necessary to have a consistent process for assessing residents for transmissible infections at the time of LTCH admission. It is also essential that residents are assessed regularly (i.e., daily, every shift) for infectious symptoms.

Who should implement Additional Precautions?

All LTCHs should have a policy that allows any regulated health care professional to initiate the appropriate Additional Precautions when a CID or ARO is suspected or confirmed and to maintain these precautions until the diagnosis is ruled in or out.

In general, the member of the health care team who first identifies a need for Additional Precautions should be authorized to implement the precautions. When precautions are implemented, the resident's physician and the IPAC Lead should be notified. It is essential that the clinical team explains to the resident, and the resident's family or essential caregivers (as appropriate), the type of Additional Precautions that are being used, the reason for the precautions and their likely duration. The resident should be reassured that efforts will be made to minimize any impact on his or her care and quality of life and to ensure that the duration of Additional Precautions is minimized (see Section 5.5 Discontinuation of Additional Precautions).

The IPAC Lead should verify that the Additional Precautions are indicated and ensure that the correct type of Additional Precautions were selected.

Common examples of indications for Additional Precautions are listed in Table 9 and Table 10. For a complete list see PIDAC-IPC's *Routine Practices and Additional Precautions in All Health Care Settings*, Appendix N: clinical syndromes/conditions with required level of precautions.[1]

Example 3

A nurse is called to assess a resident because of concerns a PSW has identified about a resident with a new fever and cough. The nurse conducts a PCRA, puts on the required PPE based on their PCRA, and assesses the resident. The nurse confirms that the resident has symptoms of fever and cough consistent with a viral respiratory tract infection. Based on this, the nurse initiates Additional Precautions, informs the resident about the need for these precautions, and notifies the resident's physician and the IPAC Lead.

NOTE: While any member of the care team can initiate Additional Precautions, once they are initiated, they should only be removed in consultation with IPAC. This is discussed further below (see Section 5.5 Discontinuation of Additional Precautions).

5.4 Additional Precautions and Essential Caregivers/Visitors

Essential caregivers and visitors of residents on Additional Precautions in health care facilities:

- Will need to be educated regarding hand hygiene and the appropriate use of PPE as described under Routine Practices and Additional Precautions.
- Should wear the same type of PPE as HCWs if they will be in contact with other residents or will be providing direct care[‡].
- Should be informed of any risk to themselves that may result from visiting.
- For self-limited infections with a short period of infectivity:
  - The essential caregiver should continue to participate in the resident's care, and other visits can also continue,[§] with training and precautions as described above.

It is important that residents, essential caregivers and visitors are informed about the reason for implementing Additional Precautions and receive instruction regarding how to enter and leave the room safely when the resident is on Additional Precautions. This should include demonstration in putting on, taking off and disposing of PPE, as well as hand hygiene.

[‡] This refers to the minimum PPE required. Essential caregivers and visitors may choose to wear an N95 respirator instead of a mask, if they prefer.

[§] Some limitations on visitation may be considered necessary during outbreaks, but even during outbreaks efforts should be made to safely facilitate ongoing essential caregiver visits.

5.5 Discontinuation of Additional Precautions

The health care setting should have a policy that permits **discontinuation of Additional Precautions in consultation with the ICP** or designate. The care team including the attending physician should be notified when Additional Precautions are being discontinued.

Additional Precautions should remain in place until there is no longer a risk of transmission of the microorganism or illness. In instances where there is uncertainty about when Additional Precautions should be discontinued, expert consultation may be required. However, Additional Precautions are not to be continued longer than is necessary and should be discontinued promptly when the risk of infection transmission has resolved.

Health care settings should have policies indicating all regulated HCWs can initiate Additional Precautions but ONLY IPAC can discontinue Additional Precautions.

Where the periods of communicability are known, precautions may be discontinued at the appropriate time.

- Refer to PIDAC-IPC's *Routine Practices and Additional Precautions in All Health Care Settings*, Appendix N: clinical syndromes/conditions with required level of precautions, for recommendations related to the duration of Additional Precautions for specific illnesses.[1]

For recommendations for discontinuation of precautions for MRSA, VRE, CPE, *C. difficile and C. auris*:

- For MRSA, VRE, and CPE, refer to PIDAC-IPC's *Annex A: Screening, Testing and Surveillance for Antibiotic-Resistant Organisms (AROs) in All Health Care Settings*.[107]
- For *C. difficile*, refer to PIDAC-IPC's *Annex C: Testing, Surveillance and Management of Clostridium difficile in All Health Care Settings*.[111]
- For *C. auris*, refer to PIDAC-IPC's *Interim Guide for Infection Prevention and Control of Candida auris*.[112]

Table 10: Examples of Infectious Syndromes and Infectious Agents and the Required Precautions

Condition	Routine Practices	Contact Precautions	Droplet Precautions	Airborne Precautions
ARO colonization (e.g., MRSA, CPE)*	Yes	Yes****	No	No
Clostridioides difficile	Yes	Yes	No	No
Acute vomiting or diarrhea	Yes	Yes	No	No

Condition	Routine Practices	Contact Precautions	Droplet Precautions	Airborne Precautions
Uncontained drainage***	Yes	Yes	No	No
Conjunctivitis (red eye)	Yes	Yes	No	No
Viral respiratory infection	Yes	Yes	Yes	No
Pulmonary Tuberculosis	Yes	No	No	Yes
Varicella (chickenpox)	Yes	Yes	No	Yes

* For infectious pathogens not listed here, please see PIDAC-IPC's *Routine Practices and Additional Precautions in All Health Care Settings*, Appendix N: clinical syndromes/conditions with required level of precautions.[1]
** Residents with the same ARO can often be cohorted together but IPAC approval to cohort is required.
*** Drainage from a wound, ulcer or sinus tract is considered uncontained when it regularly comes through bandages, resulting in contamination of clothes, bedding and the environment, despite frequent dressing changes.
**** Contact Precautions are required for residents colonized with an ARO however, because ARO colonization is persistent in most cases, residents in Contact Precautions solely on the basis of ARO colonization can participate in group activities including communal dining and can use common areas of the LTCH. See section 5.2.1.2.2.

5.6 Impact of Additional Precautions on Quality of Care and Quality of Life

Although Additional Precautions are necessary to protect other residents and HCWs, there may be negative impacts for the resident in precautions.[87,88,113-115]

These impacts include:[114]

- The need for extensive PPE has been linked to a reduction in visits by HCWs. Limited contact with HCWs may result in lack of monitoring processes (e.g., recording of vital signs),[115] medication errors and increases in falls.
- Visitor restrictions result in fewer visits from family and friends. This reduces the amount of emotional support the resident receives and can result in feelings of loneliness or depression, particularly if prolonged.
- Reduced quality of life as a result of reduced socialization due to limited access to group activities, communal dining and use of common areas (e.g., activity room, TV room). This can also result in loneliness or depression, particularly if prolonged.
- All of the above factors can lead to psychological problems related to isolation such as anxiety, depression, sleep disturbance, withdrawal, regression and delirium.

Psychological support for the resident should include structured recreation programs (e.g., one on one activities provided within the resident's room), steps to prevent time disorientation and psychological support for both residents and their families.[114,116-121]

LTCHs should have policies in place to ensure that residents requiring Additional Precautions receive all of the standards of care provided to other residents.[**] For example, LTCHs should ensure that physician visits and monitoring of vital signs occur just as frequently for residents in Additional Precautions as they do for other residents. Auditing the frequency that residents in Additional Precautions are assessed can be useful to confirm that they are receiving appropriate care. For LTCHs with many residents requiring Additional Precautions (e.g., during an outbreak) it may be necessary to increase staffing levels to ensure that an appropriate level of care is maintained.

LTCHs should also make efforts to support residents in Additional Precautions in terms of non-essential services. For example, if the resident is unable to attend group activities due to their precautions, having staff (e.g., a recreation therapist or other appropriate staff trained to follow Additional Precautions) visit the resident in their room to provide a similar activity to the resident can reduce the isolation that the resident may feel if they are excluded from other activities.

It is important that Additional Precautions not be used any longer than necessary and that frequent assessment of the risks of transmission be carried out by ICPs with the goal being the removal of precautions as soon as it is safe to do so. For residents that experience depression or who are at risk for acute worsening of their mental or physical wellbeing as a direct result of Additional Precautions, IPAC Lead should be consulted to determine whether the precautions can be safely modified to support the resident.

- For more information about Additional Precautions, refer to PIDAC-IPC's Routine Practices and Additional Precautions in All Health Care Settings.[1]
- Locate PHU(s).[122]

Recommendations

35. **The LTCH is to have IPAC policies and procedures that outline Additional Precautions and how these should be applied in the LTCH.**
36. **The LTCH and LTCH staff are to ensure that the elements of Additional Precautions are consistently applied in the LTCH for residents requiring Additional Precautions.**
37. **LTCHs are to have a program to educate and train all staff on Additional Precautions, including all of the elements of Additional Precautions (e.g., room selection, modification of resident activities, PPE use, equipment cleaning and disinfection, environmental cleaning, communication and signage, etc.).**
38. **The education and training of staff on all elements of Additional Precautions should be documented and reported back to the manager to become part of the staff's performance record.**

[**] Often, the clinical condition of residents requiring Additional Precautions is such that they should be receiving additional in-person care beyond what is provided to other residents.

39. **The LTCH's IPAC policy should authorize any regulated health care professional working within the LTCH to initiate Additional Precautions if their PCRA identifies that a resident requires Additional Precautions (e.g., resident has developed a new fever and cough), as per the LTCH's IPAC policies and procedures. When initiating Additional Precautions, the resident's most responsible physician and IPAC should be notified.**
40. **Residents should only be removed from Additional Precautions in consultation with IPAC.**
41. **When a resident requiring Additional Precautions is identified, the placement of the resident should be determined based on the LTCH's IPAC policies and a risk assessment conducted in consultation with IPAC.**
42. **When a private room is recommended for a resident requiring Additional Precautions, but a private room is not immediately available, the feasibility of cohorting residents colonized or infected with the same microorganism should be considered, in consultation with IPAC.**
43. **When cohorting, apply Additional Precautions individually for each resident. Do not wear the same gown and gloves when going from resident to resident within the same room. Equipment is to be cleaned and disinfected between residents.**
44. **Visitors and essential caregivers that will be in direct contact with, or providing care to, residents in Additional Precautions should be instructed on the appropriate use of all required PPE.**
45. **Residents requiring Airborne Precautions should be moved to an airborne infection isolation room (AIIR/AIR) as soon as possible. If an AIIR/AIR is not available within the LTCH, this will require transfer to a facility with an AIIR/AIR. Until the transfer, the resident is to be restricted to their room and keep the door closed except for medically necessary procedures.**
46. **Residents in Droplet or Airborne Precautions should wear a mask, if tolerated, when it is necessary for the resident to be outside their room.**

6.0 Medication Safety and Vaccine Management

Errors in medication preparation, storage and administration can result in adverse drug events, including transmission of infection, and the risk of such events is elevated in the LTCH setting.[123-126] The transmission of bloodborne pathogens, particularly hepatitis B and hepatitis C, have been reported in health care settings, including in LTCHs, due to poor medication safety practices.[127-149] Common errors that have resulted in bloodborne pathogen transmission include the re-use of needles, syringes or other equipment that may be contaminated with blood (e.g., insulin pens,[150] IV tubing) and may have been in contact with the bloodstream. Additionally, bacterial and fungal infections also result from poor medication safety practices,[151] most commonly associated with the use of parenteral medications.

Point-of-care diagnostics that involve contact between equipment and blood (e.g., blood glucose monitors) can also result in the transmission of bloodborne pathogens if used incorrectly.[150,152,153]

This chapter focuses on the principles and practices required to ensure that viral, bacterial and fungal infections are not transmitted as a result of medication use or the use of point-of-care diagnostics.

6.1 Measures for the Safe Preparation and Storage of Medications

There are a number of measures that need to be consistently applied to ensure that medication preparation and storage is done in a safe manner that will not lead to the transmission of CIDs, including the transmission of bloodborne pathogens and bacterial and fungal infections. Such measures include:

- Medications should only be stored in areas where access is secured and not be accessible to residents or any non-authorized persons.
- Hand hygiene facilities should be located in all areas where medication is prepared.
- A puncture-resistant sharps container should be located in all areas where medications are prepared and should be accessible at point-of-use.
- Medications and supplies should be prepared in a clean area and on a clean surface and stored in a clean and secure area.
- Containers of sterile solution should be dated when opened and discarded after 24 hours or according to the manufacturer's instructions.
- Outdated medications should not be used and should be discarded. A process should be in place to check expiry dates before medication is used.

See Appendix C for a checklist for safe medication and injection practices.

6.2 Safe Administration of Injectable Medications

The transmission of bloodborne viruses and other microbial pathogens to residents during routine health care procedures continues to occur due to unsafe and improper injection, infusion and medication vial practices being used by health care professionals.[154-158]

The following practices should be adhered to when preparing and administering injectable medications:

6.2.1 Aseptic Technique

- Perform hand hygiene prior to accessing supplies, handling vials and IV solutions and preparing or administering medications.
- Use aseptic technique in all aspects of parenteral medication administration, medication vial use, injections and glucose monitoring procedures. Limit access to select trained individuals, if possible.
- Never administer medication from the same syringe to more than one resident, even if the needle is changed between residents.
- Never store needles and syringes unwrapped as sterility cannot be assured.
- Do not set up administration sets ahead of time.
- Do not use intravenous solution bags as a common source of supply for multiple residents.

6.2.2 Single Dose Vials

Single dose vials, intended for single resident use, typically lack preservatives. The use of these vials for multiple residents carries substantial risk for bacterial contamination and infection.

- Do not reuse single dose vials. Enter the vial once and then immediately discard it.
- Always use a sterile syringe and needle/cannula when entering a vial. Never enter a vial with a syringe or needle/cannula that has been used on a resident.
- Never combine or pool the leftover contents of single dose vials.

6.2.3 Multidose Vials

Outbreaks associated with the use of multidose vials in health care settings are frequent and continue to occur in Ontario. Any error in following protocols for the correct use of multidose vials can result in the transmission of both bacterial and bloodborne viral pathogens. Transmission of hepatitis C,[155,159-161] hepatitis B[162] and HIV[163] have been associated with the use of multidose vials.[164-167]

The use of multidose vials for injectable medications and vaccines increases the risk of transmission of bloodborne pathogens and bacterial contamination of the vial and should be avoided. Resident safety should be prioritized over cost when choosing between multidose and single-use medication vials.

If multidose vials are selected for use in the LTCH, the following recommendations should be followed each time the multidose vial is used:

- All needles are SINGLE USE ONLY.*
- All syringes are SINGLE USE ONLY.*
- NEVER re-enter a vial with a used needle OR used syringe.
- Once medication is drawn up, the needle should be IMMEDIATELY withdrawn from the vial. A needle should NEVER be left in a vial to be attached to a new syringe.
- Use multidose vial for a single resident only and mark the vial with the residents' identifying data.
- Mark the multidose vial with the date it was first used and ensure that it is discarded at the appropriate time.
- Adhere to aseptic technique when accessing multidose vials. Multidose vials should be accessed on a surface that is clean and where no dirty, used or potentially contaminated equipment is placed or stored. Scrub the access diaphragm of vials using friction and 70% alcohol. Allow to dry before inserting a new needle with a new syringe into the vial.
- Discard the multidose vial immediately if sterility is questioned or compromised or if the vial is not marked with the resident's name and unique identifying data, and the original entry date.
- Review the product leaflet for recommended duration of use after entry of the multidose vial. Discard opened multidose vials according to the manufacturer's instructions or within 28 days,[169] whichever is shorter†.

The use of multidose vials increases the risk of transmission of bloodborne pathogens and bacterial contamination. Single-dose vials are ALWAYS preferred.

6.3 Refrigerators

Refrigerators used to store medications or vaccines, should NOT be used to store clinical specimens or food (e.g., staff or resident snacks or beverages, etc.).

There are a number of requirements with respect to the correct type, use and maintenance of vaccine refrigerators. For further information, refer to the Ontario Ministry of Health's (2021) Vaccine Storage and Handling Guidelines.[170]

* When it is not feasible to use new needles and syringes for each injection to a single resident (e.g., when administration of incremental doses to a single resident from the same syringe is an integral part of the procedure), one should adhere to aseptic technique strictly when reusing the same syringe and needle for the same resident as part of a single procedure. The syringe should never be left unattended and that it be discarded immediately at the end of the procedure.

† Multidose vials contain preservatives and are designed for extended use (unlike single use vials and sterile solutions which should be discarded within 24 hours or as per the manufacturer's instructions).

6.4 Vaccines

Vaccines, particularly the influenza and COVID-19 vaccines, are regularly administered in the LTCH setting and are essential to protecting vulnerable residents from vaccine preventable illness. Vaccines that are not properly handled, stored or administered may not be effective. Regulated health care professionals should be trained and competent in the handling, administration and storage of all vaccines that are being used.

To ensure proper handling, storage and administration of vaccines, the following measures are necessary:[170-172]

- Develop policies and procedures for handling and storage of vaccines
- Follow the vaccine manufacturer's instructions for storage and handling.
- Stock no more than a one-month supply of vaccine.
- Check vaccine expiry dates regularly. Check the expiry date before use.
- Place short expiry vaccines in front of long expiry vaccines.
- Store vaccines within the temperature range recommended by the vaccine manufacturer.
- Store vaccines on the middle shelf of the refrigerator, not in the door.
- Do not leave vaccines out of the refrigerator, except when preparing the syringe.
- Protect vaccines from light.
- Do not prepare vaccine doses ahead of time by pre-filling syringes or leaving syringes ready on the counter.
- Return unused or outdated/expired vaccines to your local PHU, to the OGPMSS, or to the vaccine ordering source.
- If there is reason to suspect that the vaccine may be exposed to temperatures outside the required storage range, notify the vaccine supplier (i.e., local PHU, OGPMSS, vaccine manufacturer) to determine vaccine potency.

For more information, refer to the Ontario Ministry of Health's (2021) Vaccine Storage and Handling Guidelines.[170]

6.5 Sterile Irrigation Solutions

- Check expiration date of solutions before each use.
- Discard open bottles at the end of each day.
- Use small bottles, if possible, and store according to manufacturer's recommendations.

6.6 Ophthalmology Ointments and Drops

- Single-use eye drops (i.e., also called minims) are preferred.
- If multi-use eye drops or ointments are used, they should be used for a single resident, and should be labelled with the resident's name, the date the drops or ointment were first used, and then should be discarded according to the manufacturer's instructions.
- Replace tops of ointments and drops immediately after use.
- Discard ophthalmic medications immediately if there is any possibility that they have been contaminated.
- Do not touch the tip of the ophthalmic tube/dispenser to the residents' conjunctiva and ensure it does not come into contact with tears. If this happens, consider the item to be contaminated and discard.

6.7 Point-of-Care Testing

Point-of-care testing relates to test procedures conducted outside a medical laboratory in which test kits and/or hand-held devices are used to read blood, saliva or urine specimens.

Many outbreaks have been described relating to the reuse of medical devices used in the management of residents living with diabetes (e.g., finger stick devices, blood glucose monitoring devices).[153,173-175]

- Never use a finger stick device (also called lancing devices) for more than one resident. This includes both the lancet (i.e., the sharp instrument that punctures the skin), lancet hubs and the pen-like device that houses the lancet.
- In LTCHs, residents requiring blood glucose monitoring should have their own dedicated monitoring device, which is NEVER used for another resident.
- Blood glucose monitoring devices should be cleaned and disinfected as per MIFU.

Recommendations

47. **Do not re-enter a medication vial with a syringe or needle that has already been used for a resident.**
48. **Do not remove medication from a vial with a syringe or needle that has been used for a resident.**
49. **Do not reuse syringes.**
50. **Do not reuse needles.**
51. **Do not reuse single dose vials and do not pool and reuse the leftover contents of single dose vials.**
52. **Do not pre-fill syringes for later use.**
53. **Opened multidose medication vials should be discarded according to the manufacturer's instructions or 28 days after opening, whichever is shorter.**
54. **The vaccine manufacturer and the Ministry of Health instructions for vaccine storage and handling are to be followed.**
55. **Do not share blood glucose monitors and their associated parts between residents.**

7.0 Environmental Cleaning

In LTCHs, contamination of the environment with bacteria, viruses and other microorganisms is an ongoing process. Environmental contamination leads to the spread of infection, resulting in HAIs and outbreaks. Ongoing, effective environmental cleaning, by an organized, educated and appropriately resourced environmental service program, can reduce environmental contamination, and reduce the transmission of infections that spread from the environment to residents, staff and visitors. Furthermore, the maintenance of a clean and safe environment is a basic expectation of residents and their families.

An effective environmental service program requires organization, leadership, accountability, a sufficient and well-trained workforce, and up-to-date policies and procedures for cleaning. Ongoing quality control is also essential.

In addition, facility design and product selection impact the ability to maintain a clean and safe environment. IPAC, occupational health and environmental cleaning considerations should be considered at all stages of facility design and construction, and for the selection of all surfaces and equipment that will be used within the LTCH.

Routine and effective cleaning and disinfection is essential to protect residents, staff and visitors.

Note that this chapter does not address the required cleaning for food preparation areas including facility kitchens, cafeterias, commercial food premises or any area where food is prepared or stored (e.g., unit kitchen). LTCHs are required to have policies that address the cleaning of food preparation areas that following the requirements of the *Health Protection and Promotion Act,* R.S.O. 1990, c H.7 and *Food Premises*, O. Reg. 493/17.[30,31]

This chapter provides a summary of the key elements required for effective environmental cleaning, and for an effective environmental cleaning program. Further information is available in:

- PIDAC-IPC's *Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings*[176]
- CSA Group's *Z8000-18 Canadian Health Care Facilities*[51]
- CSA Group's *Z8002-19 Operation and Maintenance of Health Care Facilities*[177]

7.1 Organizational and Resource Requirements for an Effective Environmental Service Program

Environmental service programs in LTCHs should be focused on resident safety as their core priority. The environmental service program should be organized such that:

- A single individual has overall responsibility for the care of the physical facility and for the environmental service program as a whole.
- This individual reports regularly to the leadership of the LTCH.
- This individual works closely with key stakeholders including IPAC and OHS.

In addition, to be effective the environmental service program is to:

- Have a sufficient number of environmental service supervisors trained and knowledgeable with respect to cleaning standards and practices to support all frontline environmental service workers.
- Have up to date environmental service policies and procedures for cleaning of resident, administrative and public areas and for routine cleaning and disinfection of equipment.
- Have sufficient environmental service staffing to allow thorough and timely cleaning that adheres to the LTCH's environmental service policies and procedures (see Section 7.1.1 Policies and Procedures). Staffing levels should allow the assignment of additional staff to outbreak units without compromising the cleaning and disinfection of any resident care area.
- Have sufficient, effective and high-quality environmental service cleaning products and supplies and cleaning equipment (see Section 7.3 Selecting Cleaning Agents, Disinfectants, Disinfectant Wipes and Cloths).
- Have a primary focus on cleaning resident areas (rather than administrative or public areas).
- Have a program for the initial and continuing education of all environmental service workers (see Section 7.9.1 Education).
- Have a quality control program that monitors both staff performance, adherence to policies and procedures, and the overall effectiveness of environmental cleaning with (see Section 7.10 Assessment of Cleanliness and Quality Control):
    - Individual reports included on employee's performance reviews
    - Aggregate results presented to the IDIT and to the leadership of the LTCH

7.1.1 Policies and Procedures

LTCHs should have cleaning policies and procedures that are reviewed and updated on a regular basis. These policies and procedures should:

- Define accountability for the environmental cleaning program.
- Define the selection criteria for surfaces, finishes, furnishings and equipment used in resident care areas
- Define responsibility for the cleaning and disinfection of specific areas and items (i.e., who cleans, what do they clean and when do they clean it).
    - This includes clearly defining and assigning responsibility for the cleaning and disinfection of all shared medical equipment.
- Define the required frequency of cleaning and disinfection and the standards for cleaning and disinfection including procedures for:
    - Routine (e.g., daily) cleaning and disinfection.
    - Discharge/transfer/terminal cleaning and disinfection.
    - Additional cleaning and disinfection requirements for daily and discharge/transfer/terminal cleaning for residents requiring Additional Precautions and/or for specific organisms that spread due to persistent environmental contamination (e.g., *C. difficile*, VRE, *C. auris*).
    - Cleaning and disinfection of blood spills.
    - Cleaning and disinfection during renovation or construction activities.
- Ensure cleaning procedures incorporate the principles of IPAC (see PIDAC-IPC's *Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings*) and define responsibility for the cleaning and disinfection of medical equipment used within the LTCH.[176]
- Statutory requirements are met in relation to:
    - the safe disposal of biomedical waste
    - the safe handling of linen
    - food hygiene
    - pest control

Environmental service programs should also have cleaning schedules, procedures, checklists and other tools to ensure that all required cleaning is completed as required and that no areas are missed, including:

- Procedures for routine (e.g., daily) and discharge/transfer/terminal cleaning and disinfection.
- Procedures for cleaning in construction/renovation areas.
- Procedures for specific environmentally hardy microorganisms such as VRE, *C. auris* and *C. difficile*.
- Procedures for outbreak management.

7.1.2 Staffing Levels

Staffing levels should be appropriate to the size and complexity of the LTCH, with flexibility to increase staffing during outbreaks (Table 11). Environmental service staffing levels can be estimated by determining the average time required for environmental service workers to adequately perform daily and discharge/transfer/terminal cleaning of resident rooms (e.g., time management studies). When estimating required staffing levels, it is essential to account for any additional roles and responsibilities environmental service staff will have in addition to cleaning (e.g., meal delivery, etc.) and to build in additional contingency capacities for situations that may require additional resources (e.g., outbreaks, renovations).

Table 11: Factors to Consider When Determining Environmental Service Staffing Level

Factors	Examples
LTCH Population	LTCHs will have differing environmental cleaning needs depending upon their resident population (e.g., average age, medical comorbidities). Facilities with specialized areas or resident populations (e.g., memory units) may require increased environmental cleaning resources.
Building	Age, design and size of facility (larger and older buildings are harder to clean). Climate and season. Exposure of facility to outside dust and soil (e.g., construction site). Type of floors and walls. Presence of carpet and upholstered furniture that has not yet been removed.
Occupancy	Occupancy rate and volume of cases. Resident mix. Square metres to be cleaned in resident care areas. Square metres to be cleaned in non-resident care areas. Admissions, discharges, transfers by unit or area—more rapid turnover requires a shorter turnaround time for rooms and equipment, and more frequent discharge or transfer cleaning.
Additional Precautions	Proportion of residents requiring Additional Precautions (due to time required to put on or take off PPE and additional cleaning requirements for some organisms). Frequency of outbreaks.
Equipment	Type of cleaning tools/equipment available (e.g., automated floor cleaner versus mop and bucket). Methodology required for cleaning (i.e., equipment, chemicals, materials and physical ergonomics). Placement of custodial closets.

Factors	Examples
Training	Amount and level of training given to new staff will influence supervisory staffing levels. Staff training and experience (inexperienced and under trained staff will work slower than well trained, experienced staff).
Legislative Requirements	Amount of regulatory responsibility a supervisor may have. Environmental service worker role.
Role of Environmental Service Staff	Tasks assigned to environmental service workers. Whether the role of the environmental service worker is limited to cleaning or expanded to include other roles or tasks (e.g., resident transportation, food delivery).

Supervisory staffing levels should be appropriate to the number of staff involved in cleaning. Supervisors are essential for training and educating environmental service workers, and for ensuring environmental service protocols are followed.

7.1.3 Contracted Services

If environmental services are contracted out, it is essential that IPAC and occupational health requirements are outlined in the contract with the service provider. Although these requirements may be assigned to the service provider in the contract, the LTCH remains responsible for ensuring that the service provider has implemented these measures in a manner consistent with the intention of the contract.

The contract should ensure that:

- There are clear expectations on adherence to cleaning standards, cleaning frequency, and the need for ongoing education and routine audit and feedback to ensure effective cleaning is occurring.
- The service provider's staff work collaboratively with the LTCH's clinical staff, IPAC and OHS.
- The service provider provides all required mandatory training for staff and takes responsibility for employee health.[‡]
- The OHS policies of the service provider are consistent with those of the LTCH with respect to IPAC policies, staff immunization, reporting and management of exposures in the LTCH, and outbreak investigation and management.
- There is flexibility to allow changes in staffing levels and cleaning protocols when required (which may impact the cost of service).

[‡] The LTCH will still need to orient the service provider's staff to the specific workplace (e.g., location of PPE supplies, review of additional precautions signage).

7.2 Creating and Maintaining a Cleanable Environment

7.2.1 Selection of Surfaces, Finishes, Furnishings and Equipment

Cleaning and disinfection are more challenging in environments with surfaces, finishes, furnishings and equipment that are difficult to clean, such as cloth upholstery and carpeting. Surfaces, finishes, furnishings and equipment located in resident care areas of the LTCH[§] should be:

- cleanable
- compatible with the cleaning and hospital-grade disinfection products already in use at the LTCH[**]

To ensure that surfaces, finishes, furnishing and equipment within resident care areas are selected appropriately, the LTCH should have a policy:

- Specifying the selection criteria for surfaces, finishes, furnishings and equipment used in resident care areas including the requirement that these surfaces, finishes, furnishing and equipment are cleanable.
- Requiring that IPAC, OHS and environmental services are involved in the selection of all surfaces, finishes, furnishing and equipment to ensure they are cleanable with the cleaning and disinfection products available. IPAC, OHS and environmental services should be involved in decision-making regarding choices of equipment, furniture and finishes in LTC settings.

When selecting surfaces, finishes (e.g., flooring) and furnishing (e.g., mattresses, chairs), IPAC should look for products that are easily disinfected. Features that allow effective cleaning and disinfection include:

- cleanable
- easy to maintain and repair
- do not hold moisture
- nonporous and seamless

Do not buy equipment that cannot be cleaned and disinfected with the cleaning agents and hospital-grade disinfectants already in use at your LTCH.

[§] Resident care areas include the residents' rooms, common areas used by residents and any area used to support resident care even if residents are not present in these areas (e.g., clean and dirty supply rooms, nursing stations, medication preparation areas).

[**] LTCHs should only use a limited number of cleaning and disinfection products (see Section 7.3 Selecting Cleaning Agents, Disinfectants, Disinfectant Wipes and Cloths). New surfaces, finishes, furnishings or equipment that cannot be cleaned and disinfected with the commonly used cleaning and disinfection products already in use within the LTCH should not be purchased. Instead, an equivalent product that can be cleaned and disinfected with the LTCH's current cleaning and disinfection product should be selected. This will reduce the risk of equipment damage through the use of an incorrect product, reduce the risk of inadequate cleaning and disinfection, improve staff safety and reduce cost.

7.2.2 Considerations for Specific Types of Surfaces, Finishes, Furnishings and Equipment

7.2.2.1 Cloth Furnishings

Cloth furniture and upholstered furnishings are hard to disinfect and should be avoided in resident care areas.[††] LTCHs that have cloth furniture and upholstered furnishings should replace them with cleanable alternatives. Until this is done, LTCHs should take steps to reduce the risk of microbial contamination:

- Cover cloth furniture or furnishings with fabrics that are fluid-resistant, non-porous and can be cleaned with disinfectants.
- Ensure that regular, scheduled and as needed cleaning of cloth furniture and furnishings is occurring.
- Assess cloth furniture and furnishings for damage on a regular basis. Remove immediately if worn, stained, torn or contaminated with blood or body fluids and replace with cleanable non-cloth furniture.

7.2.2.2 Cloth Privacy Curtains

Ideally, the use of cloth privacy curtains could be avoided when not required or replaced with an alternative (e.g., wipeable privacy screen). If cloth privacy curtains are used, the LTCH needs to ensure that cloth privacy curtains are to be:

- Washed at a temperature that ensures disinfection.
- Removed, cleaned and disinfected immediately if they become contaminated with blood or body fluids, or are visibly soiled.
- Changed:
  - Following resident discharge or transfer
  - Before a new resident is admitted to the room
  - On a regular schedule (e.g., monthly)
  - At any point when a resident on Additional Precautions has these precautions discontinued

7.2.2.3 Carpeting

Carpeting is difficult to clean effectively, can become mouldy if they become wet, and have been associated with infections and outbreaks. They may also be an impediment to mobility devices and can increase falls risk. Carpeting should not be used within LTCHs.

LTCHs that have carpeting in resident care areas should remove this carpeting. Residents should not be present when carpeting is removed.

[††] Residents or their families may choose furniture for their own rooms. Residents and families can be encouraged to select safe and cleanable options but may choose cloth furniture. If a resident furnishes their own room with cloth furniture, in the event the resident is discharged or dies, the furniture should be removed from the room and not used for other residents.

7.2.2.4 Equipment

Equipment selected for use in the LTCH should be cleanable, and compatible with the cleaning and disinfectant products used in the LTCH. In addition, it is important that:

- The equipment includes written manufacturer's cleaning and disinfection instructions.
- For equipment that requires disassembly and reassembly for cleaning, detailed instructions with pictures should be provided by the manufacturer, and staff should be trained on the cleaning and disinfection process before the equipment is placed into the LTCH (e.g., mechanical lifts, specialized chairs or beds).

The cleaning and disinfection standards used by the LTCH for all equipment also apply to any equipment brought into the LTCH by outside agencies and taken off site for cleaning and disinfection.

Note: cleaning equipment used by environmental service staff (e.g., mop handles, buckets) also needs to be cleanable and meet all of the requirements described above.

7.2.2.5 Mattresses

LTCHs should provide hospital-grade mattresses and pillows that are cleanable and resistant to penetration by blood or body fluids.

Residents should be discouraged from providing their own mattress or pillow. If residents do provide their own mattress or pillow, remove the mattress and pillow if the resident is discharged or dies, and do not use them for any subsequent resident.

7.2.2.6 Plastic Covers

Plastic covers may be used to protect difficult to clean items or equipment from contamination (e.g., keyboard covers). If plastic covers are used, the following practices should be adhered to:

- Plastic coverings should be cleaned with disinfectants compatible with the covering.
- Plastic covers should be cleaned regularly, as well as between residents and when visibly soiled.
- Plastic covers should be inspected for damage on a regular basis and a process should be in place to ensure reporting of, and removal and replacement of damaged plastic coverings.
- LTCHs should use hospital bed mattresses and hospital-grade pillows that are cleanable and do not require a plastic cover (see Section 7.2.2.5 Mattresses).

7.2.2.7 Electronic Equipment

When LTCHs purchase electronic equipment that will be used in resident care areas, the electronic items selected should be cleanable and should be compatible with the health care setting's cleaning and disinfection products. Additionally, electronic equipment should be, whenever possible, designed for use in the health care setting and should come with manufacturer's instructions for cleaning and disinfection. Environmental services, IPAC and OHS should be consulted as key stakeholders prior to the purchase of new electronic equipment that will be used in care areas.

7.2.3 Maintaining a Cleanable Environment

In addition to selecting cleanable surfaces, finishes, furnishings and equipment, it is essential to maintain the environment in a manner that allows effective cleaning. Key recommendations to achieve this include:

- Avoid clutter in resident care areas.
- Avoid placing tape or stickers on surfaces or equipment as it impairs effective cleaning and disinfection and can be difficult to remove.
- **Routinely inspect surfaces, finishes, furnishings and equipment, and remove, repair or replace surfaces, finishes, furnishings and equipment that have torn, cracked, damaged or stained and may no longer be cleanable—this includes removing tape or adhesive from the area prior to cleaning.**

7.3 Selecting Cleaning Agents, Disinfectants, Disinfectant Wipes and Cloths

LTCHs should select cleaning agents and hospital-grade disinfectants in consultation with environmental services, IPAC, OHS and with the front-line staff that will be using these products and equipment to ensure that they are effective, safe for use by staff, minimize the risk of staff injury with ergonomic design, and meet IPAC requirements and cleaning standards.

7.3.1 Selection of Cleaning Agents and Disinfectants

Cleaning and disinfection are different and distinct processes.

Cleaning is the removal of dirt, dust, grease, blood, body fluids and any other foreign material from a surface or object. Effective cleaning physically removes most microorganisms but may not kill them. Cleaning is essential prior to disinfection, as dirty surfaces cannot be effectively disinfected. Cleaning agents are designed to remove dirt, debris, grease and organic materials and work best when combined with vigorous scrubbing or “elbow grease”.

Disinfection is a process that kills microorganisms on a surface. Disinfectants include active ingredients that kill microorganisms. Disinfectants are only be used to disinfect, and not as general cleaning agents. Instead, cleaning should be performed first with a cleaning agent, followed by disinfection with a disinfectant.

One step cleaner/disinfectants are products that contain both a cleaning agent and a disinfectant and these products can be used to clean and disinfect at the same time.

Cleaning agents and disinfectants selected for use in LTCH:

- Are to be:
  - approved by IPAC, OHS and environmental services.
  - compatible with the surfaces/equipment to be cleaned and disinfected.
  - used according to the manufacturer's recommendations for dilution, temperature, contact time and water hardness.
  - used according to the product's safety data sheet.
- Are to have a DIN from Health Canada (for disinfectants or cleaning agents that include a disinfectant).[‡‡]
- Are to have activity against the common microorganisms that cause infection in LTCHs.[§§]
- The disinfectant product selected are to be a hospital-grade disinfectant (Note: hospital-grade disinfectants are disinfectants designed to be used in the health care setting, including in LTCHs)
- Should be simple and easy to use.
  - Cleaners and disinfectants that do not require dilution are preferred. Products that do require dilution should be simple to prepare and use at the required dilution.
  - Disinfectants that keep surfaces wet for the required contact time, and that have short contact times, are preferred.
  - One step cleaner-disinfectants are preferred.
- Should be safe for use for both staff and residents.
  - Products should be non-toxic, non-irritating, and have an acceptable (or no) odour, whenever possible.
  - Flammability and safe storage are important considerations.
- Cost and impact on the environment should also be considered.
  - Avoid disinfectants that are harmful to the environment or are not readily biodegradable (e.g., quaternary ammonium compounds).

LTCHs should select the minimum number of cleaning and disinfectant agents required to meet all cleaning and disinfection needs. This will minimize training requirements and reduce the potential for error. When too many products are available, selection of the wrong product may lead to ineffective disinfection, damage to surfaces and equipment, or both.

[‡‡] Note: sodium hypochlorite (bleach) and alcohol-based disinfectants are exceptions and do not require a DIN, as long as they are used in the appropriate concentration. One step cleaner-disinfectants that include bleach or alcohol along with a cleaning agent do require a DIN.

[§§] *C. auris* is a major issue in LTCHs in the US and may emerge as a problem in Canada. Quaternary ammonium compounds are not effective against *C. auris* and this should be considered when selecting a disinfectant for use in the LTCH.

7.3.2 Selection of Disinfectant Wipes or Cloths

Effective disinfection can be achieved through the use of a cloth soaked with disinfectant or with a large, pre-prepared wipe saturated with disinfectant (Note: Small pre-prepared disinfectant wipes can be used to disinfect small pieces of equipment that move from resident to resident and are typically cleaned by the user such as vital signs monitors but should NOT be used to clean and disinfect large surfaces or more complex equipment).

When selecting disinfectant wipes for use in the LTCH:

- IPAC, OHS and environmental services should be involved in the selection of ready-to-use wipes.
- The active ingredient in the wipes should be a hospital-grade disinfectant and the wipes should be approved by Health Canada and have a DIN number. Alcohol-based disinfectant products should have a Natural Product Number.
- The detergent and disinfectant properties of the wipes, efficacy data and the manufacturer's instructions for use (MIFU) should be reviewed.

Cloths used for cleaning and disinfection can be conventional cloths or microfibre cloths. Microfibre cloths hold more water and require less disinfectant. When saturated with disinfectant, microfibre cloths may perform better than traditional cloths. However, microfibre cloths are not compatible with all cleaning and disinfectant products. Fibers can be damaged by chlorine-based disinfectants (e.g., bleach) and many microfibre cloths bind to quaternary ammonium compounds, lowering the concentration of disinfectant applied to the surface. The MIFU should be reviewed to ensure the microfibre cloth is compatible with the cleaning products used in the LTCH.

Both traditional cloths and microfibre cloths can spread organisms from surface to surface, increasing contamination, if not maintained, cleaned and used properly. Performance of both types of cloths reduces over time with repeated washing and use.

If microfibre cloths will be used, follow the MIFU and ensure that:

- All cleaning products used for cleaning are compatible with the cloth.
- The cloth is properly cleaned and disinfected between uses in a manner that will not damage the cloth[***]

[***] Some microfibre cloths can be damaged or have their effectiveness reduced if cleaned at a high temperature, if cleaned with the incorrect cleaning products, or if cleaned with fabric softeners or with organic fibers in the same load.

7.4 General Cleaning Practices to Achieve a "Health Care" Clean

Cleaning requirements, including the type and frequency of cleaning, are different for resident care areas (e.g., resident rooms, nursing stations, activity rooms, medication preparations areas, clean and dirty utility rooms) and non-clinical areas (e.g., administrative offices, staff locker rooms, lobbies).

7.4.1 Required Cleaning and Disinfection in Health Care Settings

Nonclinical areas require regular cleaning to remove dirt, dust, dispose of waste and maintain visibly clean environment. Resident care areas, as well as public bathrooms, require a more intensive and thorough clean that will also reduce contamination with microorganisms that may cause infection.

The required cleaning for nonclinical and clinical areas are sometimes referred to as a "hotel clean" (for nonclinical) and a "hospital clean" (for clinical areas). To be more inclusive of the LTCH setting, we will use the term health care clean for this document.

Examples of areas that only require a hotel clean would include administrative offices, public foyers, staff locker rooms or staff lounges. Examples of areas that would require a health care clean include resident rooms, resident activity rooms or lounges, and resident dining areas. All bathrooms used by residents should receive a health care clean.

Resident care areas should be the priority for environmental cleaning and these areas should have their own cleaning protocols and sufficient environmental service human resources to allow for more frequent and more intensive cleaning required.

The frequency of cleaning and approach to cleaning should be clearly outlined in the LTCH's environmental cleaning and disinfection policies, and specific procedures and protocols should be developed for cleaning and disinfecting resident areas. See Section 7.1.1 Policies and Procedures.

7.4.1.1 Components of Hotel Clean

- Floors and baseboards are free of stains, visible dust, spills and streaks.
- Walls, ceilings and doors are free of visible dust, gross soil, streaks, spider webs and handprints.
- All horizontal surfaces are free of visible dust or streaks (includes furniture, window ledges, overhead lights, phones, picture frames, carpets etc.).
- Bathroom fixtures including toilets, sinks, tubs and showers are free of streaks, soil, stains and soap scum.
- Mirrors and windows are free of dust and streaks.
- Dispensers are free of dust, soiling and residue and replaced/replenished when empty.
- Appliances are free of dust, soiling and stains.
- Waste is disposed of appropriately.
- Items that are broken, torn, cracked or malfunctioning are replaced.

7.4.1.2 Components of Health Care Clean

HOTEL CLEAN

+	+	+
High-touch surfaces in resident care areas are cleaned and disinfected with a hospital-grade disinfectant.	Noncritical medical equipment is cleaned and disinfected between residents.	Cleaning Practices are periodically audited and feedback is provided.

7.4.2 Cleaning and Disinfection Methods

Cleaning and disinfection methods include the correct use of cleaning agents, disinfectants, disinfectant wipes and cloths.

7.4.2.1 Use of Cleaning Agents and Disinfectants

Prior to cleaning, materials that may interfere with cleaning and disinfection should be removed from the surface or item to be cleaned (e.g., tape).

Cleaning should be done prior to, or simultaneously with, disinfection to remove visible dirt, grease, body fluids and other substances that will interfere with disinfection. Effective cleaning requires sufficient scrubbing ("elbow grease") of the surface to ensure cleanliness.

Following (or simultaneous to) cleaning, disinfection can proceed. A hospital-grade disinfectant is appropriate for disinfecting surfaces and non-critical resident care equipment. Non-critical equipment is equipment that is only intended to come in contact with intact skin (e.g., pulse oximeters, mechanical lifts, blood pressure cuffs).

Disinfectants are to be used according to the MIFU, particularly for required dilution and contact time. PPE should be worn, appropriate to the product used.

Where dispensing systems are used in the LTCH to prepare and dispense disinfectant at the correct concentration, the LTCH should regularly verify that the system is functioning correctly (i.e., calibration of dispensers, use of manufacturer's test strips).There should be a system in place to ensure the disinfectant used remains active over time (e.g., frequent testing of product, regular review of expiry date).

For information on the recommended concentrations and contact times for disinfectants commonly used in health care settings, see PIDAC-IPC's *Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings*, Appendix 1: Advantages and Disadvantages of Common Hospital Disinfectants and Sporicides for Environmental Cleaning.[176]

7.4.2.2 Use of Disinfectant Wipes

Keep wipes wet (by keeping the container lid closed) and discard wipes that dry out or have passed their expiration date.

Follow manufacturer's recommendations for:

- Storing wipes
- Reprocessing containers (containers that are not cleaned and disinfected can harbor microorganisms, and contaminate wipes)
- Using wipes (to ensure that the correct contact time is used)

Use all PPE required when using the wipes, as indicated in the safety data sheet (e.g., wear gloves when handling wipes, if indicated).

Small pre-prepared disinfectant wipes can be used to disinfect small pieces of equipment that move from resident to resident and are typically cleaned by the user such as vital signs monitors but should NOT be used to clean and disinfect large surfaces or more complex equipment.

7.4.2.3 Use of Cloths (Including Microfibre Cloths)

Use a new cloth or mop head when moving from one resident's room to another. In shared rooms, use a new cloth or mop head when moving from one resident's bed space to another resident's bed space. If the mop head gets dirty, then the mop head may need to be changed between different areas within a resident's environment.

7.4.3 Frequency of Routine Cleaning

Contamination and re-contamination of the environment is an ongoing and continuous process. Cleaning and disinfection will not result in a sterile environment totally free from microorganisms. Instead, the goal is to reduce the degree of contamination to levels that will significantly reduce the risk of infection transmission. To achieve this, all areas, surfaces and items within resident care areas should be cleaned on a regular basis according to the policies and procedures of the LTCH.

The frequency of cleaning should be determined based on the risk of contamination and the risk of transmission to residents and staff. Some issues to consider when determining frequency include:

- **High- and Low-touch Surfaces**
  - **High touch surfaces** (i.e., surfaces frequently touched by residents or staff) such as doorknobs, bedrails, toilet flushes and telephones) are more often contaminated with microorganisms than **low touch surfaces** (i.e., surfaces that rarely come in contact with residents or staff) such as ceilings, walls, floors, and window sills) (see Appendix D and Appendix E).
- **Level of Item and Surface Contamination**
  - Areas can also be divided into **light contamination**, **moderate contamination**, and **heavy contamination** based on the risk that the area may be exposed to blood or body fluids. For example, areas that don't routinely come in contact with blood or body fluids such as lounges and libraries can be considered lightly contaminated. Areas that are regularly contaminated with blood or body fluids but where these fluids are contained or rapidly removed such as resident's rooms and bathrooms can be considered moderately contaminated. The bedroom or bathroom of a resident with fecal incontinence, diarrhea or vomiting should be considered heavily contaminated.
- **Vulnerability of Resident Population**
  - Resident vulnerability is another factor to consider when determining cleaning frequency. Area's housing large numbers of residents at increased risk of infection, such as residents who are immunocompromised, or residents that have invasive devices (e.g., foley catheters, intravenous lines, dialysis lines) should be cleaned more frequently than other resident care areas.

Based on the above, the following principles can be used to determine cleaning frequency:

- Low touch surfaces in resident care areas require cleaning on a regular basis, as well as when visibly dirty, when soiling or spills occur or when a discharge/transfer/terminal clean has been completed.
- Many low touch surfaces do not require daily cleaning as long as there is a regular schedule for cleaning (e.g., every other day, weekly) and surfaces are cleaned promptly if visibly soiled (e.g., a resident's mattress does not require daily cleaning).
- High touch surfaces should be cleaned at least daily.
- Surfaces in the resident care areas of vulnerable residents, and surfaces and equipment at high or moderate risk of contamination should be cleaned more frequently than other surfaces and equipment.

Using the above criteria, each area or department within the LTCH can be evaluated and assigned a risk score for cleaning purposes, as illustrated in PIDAC-IPC's Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings, Appendix 21.[176] The score obtained will relate to a specific level of routine cleaning frequency. The risk score and frequency of cleaning should be reassessed periodically, as risks can change over time as resident populations change or different practices are implemented. In general, cleaning in all resident care areas and public washrooms should be performed at least daily.

7.4.4 Approach to Routine Cleaning of Resident's Rooms or Bed Spaces and Other Resident Care Areas

7.4.4.1 Routine Cleaning of Resident's Rooms

The health care clean of resident rooms should follow a standardized procedure that includes each of the following elements:

- **Assessment**
  - Determine if the health status of the resident may pose a challenge to safe cleaning (e.g., resident agitated); notify the clinical team and defer cleaning if concerns are identified.
  - Determine if the resident is on Additional Precautions and whether additional PPE or special cleaning and disinfection procedures are required (see Section 7.7 Cleaning and Disinfection Practices for Special Situations).
  - Walk through the room to determine what needs to be replaced (e.g., toilet paper, paper towel, soap, ABHR, gloves) and whether any special materials or equipment are required for cleaning—this may be done before or during the cleaning process.
- **Preparation**
  - Gather all supplies and equipment required for room cleaning before starting.
  - Follow Routine Practices and Additional Precautions.
  - Perform hand hygiene before entering the room or bed space (for shared rooms).
  - Put on additional PPE if required to avoid exposure to blood or body fluids or if indicated by Additional Precautions signage.
  - Remove gloves and other PPE and then perform hand hygiene upon room exit.*
- **Cleaning and Disinfection**
  - Work from clean to dirty (to avoid moving dirt and microorganisms from dirty areas to cleaner areas) and from high to low (to avoid having dirt or microorganisms drip down and re-contaminate areas already cleaned).

* Hand hygiene is required every time the room or bed space is re-entered and every time upon leaving the room or bed space. If gloves or other PPE are worn, remove them every time you leave the room or bed space, and put on new PPE when re-entering the room or bed space.

- **Waste Disposal**
  - Collect and remove waste from the room.
- **Resupply Room**
  - Replace required clean supplies; avoid overstocking.

See PIDAC-IPC's *Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings,* Appendix 4 for a sample procedure for routine daily cleaning of a resident room and Appendix 5 in the same document for cleaning of the resident bathroom.[176] Visual aids are available from PHO for Routine daily cleaning of resident room and bathroom.[178,179] In-room bathrooms should be cleaned last, after completing room cleaning, based on the principle of cleaning from clean to dirty. After cleaning the bathroom, gloves should be removed and hand hygiene performed.

7.4.4.2 Discharge/Transfer/Terminal Resident Room Cleaning

When a resident is discharged, transferred or when Additional Precautions have been discontinued, the room or bed space should be cleaned and disinfected thoroughly before the next resident occupies the space to prevent the transfer of microorganisms to the new resident. Discharge/transfer/terminal cleaning and disinfection upon discharge includes several steps not required during routine daily cleaning (see Section 7.4.4.1 Routine Cleaning of Resident's Rooms) and requires the close cooperation of clinical staff and cleaners.

In general, clinical staff are responsible for:

- Removing or discarding medical supplies.
- Removing or discarding medical equipment, including oxygen therapy equipment.
- Emptying items containing blood or body fluids and removing items or equipment potentially contaminated with blood or body fluids (e.g., discarding IV bags/tubing/urinary catheter collection bag, emptying bedpans/commodes/urinals/washbasins, emptying suction bottles).
  - If the resident has died or been permanently discharged from the LTCH, their personal articles including toiletries (e.g., soap, creams, razors, toothbrushes, comb, books, magazines, therapy aids) should be taken with them or discarded and should not be given to or used by other residents.
  - If the resident has been removed from Additional Precautions, personal items that are likely to be contaminated and could lead to re-infection should be discarded (e.g., toothbrush), and clothing and linens should be laundered.

Once these tasks are completed, cleaners can then conduct a discharge/transfer/terminal clean of the room, following the steps outlined in PIDAC-IPC's *Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings,* Appendix 6.[176]

7.4.4.3 Scheduled Resident Room Cleaning

In addition to the daily and discharge/transfer/terminal cleanings of resident rooms, there are other cleaning tasks that should be scheduled to occur on a regular basis within the resident room, including:

- high dusting (see below) in room
- clean baseboard and corners
- removal and laundering privacy curtains
- clean window curtains/coverings
- dust window blinds/covering

All these activities should be scheduled on a regular basis to maintain a clean, dirt and dust free environment. In all cases, cleaning should be performed immediately if contamination or gross soil is identified. The appropriate frequency for changing privacy curtains (or other solutions that minimize the need for laundering privacy curtains) is discussed above (see Section 7.2.2.2 Cloth Privacy Curtains). For the other tasks listed, LTCHs should determine the minimum frequency required to maintain a clean, dirt and dust free environment. As a minimum, high dusting and baseboard cleaning should occur weekly; window blinds/covering should be dusted monthly; and window curtains and coverings should be cleaned at least annually. These are minimum frequencies, and more frequent cleaning may be required to maintain appropriate levels of cleanliness. For more information refer to Appendix 8 in PIDAC-IPC's *Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings*.[176]

High dusting involves dusting all horizontal surfaces and fixtures above shoulder height, including vents. When performing high dusting:

- Dust when the resident is out of the room to minimize exposure to spores.
- Minimize dissemination of dust by using HEPA-filtered vacuums and/or damp mop/dusters.
- Proceed in an organized direction, to avoid missing any areas (e.g., clockwise).
- Note and report stained or misplaced ceiling tiles, fixtures or walls, so that they can be replaced or repaired.

7.4.4.4 Bathroom Cleaning in Residents' Rooms, Public, Communal and other Resident Care Areas

Bathrooms within the resident room should be cleaned last, after completing room cleaning, following the principle of cleaning from clean to dirty.

Bathrooms for residents in a private room should be cleaned daily, at the time of routine daily room cleaning. For bathrooms in shared rooms, daily cleaning of the bathroom is a minimum and consideration should be given to twice daily cleaning. Additional, immediate cleaning is required when there are spills or gross contamination of room surfaces. For a sample procedure for cleaning resident bathrooms, see PIDAC-IPC's *Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings,* Appendix 5.[176]

For communal shower or tub rooms, cleaning and disinfection should occur after each use as per MIFU. Bath seats/shower chairs are to be cleaned and low-level disinfected between residents and when soiled.[176] Shower walls should be thoroughly scrubbed and shower curtains changed at a higher frequency that what is done for showers within residents' rooms, based on the amount of use.

Bathrooms may be located outside of care areas (e.g., public washroom). However, because bathrooms are at high risk of microbial contamination, they still require a health care clean. However, bathrooms located in public and common areas may require a higher frequency of cleaning based on increased use.

7.4.5 Soiled (Dirty) and Clean Utility/Supply Rooms

A soiled utility room is used for temporary storage of supplies and equipment that will be removed for cleaning or discarded as waste and for the disposal of small amounts of liquid human waste. Soiled utility rooms should:

- Be physically separate from other areas, including clean supply/storage areas.
- Have access to the room restricted to avoid resident entry.
- Have a work counter and utility sink with a hot and cold mixing faucet. Sprayers are not to be used as they can produce sprays and aerosols that increase the risk of infection transmission.
- Have a dedicated hand washing sink with both hot and cold running water.
- Have adequate space to permit the use of equipment required for the disposal of waste.
- Have PPE available to protect staff during cleaning and disinfecting procedures.
- Be adequately sized within the unit and located near the point-of-care.

If a soiled utility room is used only to temporarily store soiled materials, a work counter and utility sink is not required. However, facilities for cleaning medical equipment such as bedpans and urinals are to be provided elsewhere. Soiled utility rooms/workrooms should not be used to store unused equipment.

A clean utility/supply room for storing unused/clean supplies and equipment should:

- Be separate from and have no direct connection with soiled workrooms or soiled holding areas.
- Be able to keep supplies free from dust and moisture and stored off the floor.
- Be adjacent to usage areas and easily available to staff.
- Be equipped with a work counter and dedicated hand washing sink if used for preparing resident care items.

7.4.6 Floor Cleaning

Floors in health care settings may be comprised of a number of materials, depending on the location of the flooring and the resident population in the vicinity. It is important to review the manufacturer's recommendations for cleaning a particular type of flooring before developing cleaning protocols. For information about floor finishes in health care, see Section 1.2.1 Selection of Surfaces, Finishes, Furnishings and Equipment for Areas Where Resident Care is Delivered in PIDAC-IPC's *Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings*.[176]

7.4.6.1 Floor Care

Floor cleaning consists of dry dust mopping to remove dust and debris, followed by wet mopping with a detergent to clean. Floors rarely come in contact with the hands of residents or HCWs; under normal circumstances, the use of a disinfectant is not required.

Dry mopping is done to collect dust and debris from the floor to prepare it for wet mopping. Dry mopping may be done with microfibre mops or pads to reduce dispersal of dust and debris. Wet mopping can be done using a bucket and loop mop, or with a microfibre mop. Dry and wet mop heads or pads should be changed after they are used in a room. It is essential that a clean mop head or pad is used for the next room to avoid moving microorganisms from one room to another.

For sample procedures for mopping, see PIDAC-IPC's *Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings*:[176]

- Appendix 9: Sample Procedure for Mopping Floors Using Dry Dust Mop
- Appendix 10: Sample Procedure for Mopping Floors Using Wet Loop Mop and Bucket
- Appendix 11: Sample Procedure for Mopping Floors Using a Microfibre Mop

7.4.6.2 Carpet Care

Carpeting should not be used in the resident care areas of the LTCH. For LTCHs that have not yet removed all carpeting, a rigorous program of carpet care is required until removal is complete and should include:

- daily vacuuming with a HEPA-filtered vacuum cleaner
- scheduled extraction/shampooing
- rapid response for dealing with spills of blood, body fluids or other liquid

For further information about carpeting in health care settings, see Section 1.2.1.4 Carpeting in PIDAC-IPC's *Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings* cleaning.[176]

7.4.7 Care and Storage of Supplies and Equipment for Environmental Cleaning

7.4.7.1 Cleaning Equipment

Cleaning equipment itself requires careful and regular cleaning and disinfection. Failure to clean and disinfect cleaning equipment can result in the equipment spreading organisms from one room to another during cleaning.

- Tools and equipment used for cleaning and disinfection should be cleaned and dried between uses (e.g., mops, buckets, rags).
- Cleaning tools and equipment used in a room or bed space on Additional Precautions should be cleaned and disinfected after use before being used in another room or bed space.
- Mop heads should be laundered daily. All washed mop heads should be dried thoroughly before storage.
- Cleaning equipment should be well maintained, clean and in good repair.

7.4.7.2 Storage of Cleaning Supplies

All chemical cleaning agents and disinfectants are required to be appropriately labelled and stored in a manner that eliminates exposure, inhalation, skin contact or personal injury. Chemicals are required to be clearly labelled in accordance with *Workplace Hazardous Materials Information System (WHMIS)*, R.R.O. 1990, Reg. 860, and a safety data sheet is required to be readily available for each item in case of accidents.[26,180]

Equipment used to clean toilets (e.g., toilet brushes, toilet swabs) should not be carried from room-to-room. If feasible, the toilet brush may remain in the resident's bathroom and replaced on a periodic basis as needed; if not, consideration should be given to using disposable toilet swabs. Toilet cleaning and disinfecting equipment should be discarded immediately if a discharge/transfer/terminal clean has been completed. In shared rooms, a system should be developed for replacement of toilet brushes on a regular basis or as required. When choosing a tool for cleaning toilets, consideration should be given to equipment that will minimize splashing.

7.4.7.2.1 Housekeeping Closet

It is essential that equipment and supplies for environmental cleaning be appropriately and safely used, transported, maintained, and cleaned. To facilitate this, facilities should have a sufficient number of rooms that are dedicated to the storage of cleaning equipment and supplies required for daily cleaning (housekeeping closets) and are located conveniently throughout the LTCH facility.[180-182] These rooms are used for the storage, preparation and disposal of cleaning supplies and equipment,[180,182] and are distinct from the clean utility/supply rooms described in Section 7.4.5 Soiled (Dirty) and Clean Utility/Supply Room. LTCHs may also have centralized housekeeping rooms for storing bulky cleaning equipment and large volume of supplies for distribution to local areas. At a minimum, there should be at least one housekeeping closet in all major care areas.[180,181] In addition, housekeeping closets:

Are dedicated for use as a cleaning supply room where cleaning solution is prepared, and dirty cleaning solution is disposed; and are not be used for other purposes.[180,182]

Are required to be/have:

- Maintained in accordance with good hygiene practices.[24]
- A dedicated hand washing sink with hot and cold running water.[180]
- Access to an eyewash station.[180,183]
- Appropriate PPE available, including safety eyewear.[8,24]
- A hot and cold water supply and a floor sink.[180,181]
- Well ventilated and illuminated.[180]
- Designed to be at negative pressure in relation to surrounding areas.[184]
- Easily accessible in relation to the area it serves.[180,181,185]
- Secure with access restricted to clinical and support staff.[180,181]
- Appropriately sized to the amount of materials, equipment, machinery and chemicals stored in the room/closet and allow for proper ergonomic movement within the room/closet.[180,181,185]
- Chemical storage that ensures chemicals are not damaged and may be safely accessed.[186]
- Personal belonging, food or beverages are not to be stored in the housekeeping closet.[24]

Should be

- free from clutter to facilitate cleaning.[187]
- ergonomically designed so that, whenever possible, buckets can be emptied without lifting them.[180]

7.4.7.2.2 Cleaning Carts

Cleaning carts:

- Should have a separation between clean and soiled items.
- Should never contain personal clothing or grooming supplies, food or beverages.[24]
- Should be thoroughly cleaned at the end of the day.
- Are required to be equipped with a locked compartment for storage of hazardous substances and each cart is required to be locked at all times when not attended, and stored, when not in use, within a locked housekeeping closet.[28,180,181]

7.5 Cleaning and Disinfection of Noncritical Equipment and Specialized Items

7.5.1 Cleaning and Disinfection of Noncritical Equipment

Non-critical equipment is equipment intended to come in contact with intact skin and is not intended to come in contact with non-intact skin (e.g., wounds), mucous membranes (e.g., oropharynx) or sterile tissues. Most medical equipment used in LTCHs are non-critical. Examples include vital signs monitors, commode chairs and physiotherapy equipment.

Non-critical equipment that is used by more than one resident (i.e., moves between residents) requires cleaning and disinfection after each use. Follow the manufacturer's recommended contact time for the product being used (see PIDAC-IPC's *Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings*, Appendix 8).[176] The responsibility for cleaning equipment between uses should be set out in written policies and procedures, and clinical and environmental service staff should be clear about their own responsibility for cleaning and disinfecting equipment. For equipment moving regularly from resident to resident, it is the staff using the equipment who has the ultimate responsibility for ensuring that the equipment/device has been cleaned and disinfected prior to use.

LTCHs should have a system in place that allows staff to know which equipment is contaminated and which is clean. To achieve this, and to prevent recontamination of clean equipment, clean equipment should be stored separately from used or dirty equipment. Clean equipment should be stored in a dedicated clean utility room, clean supply room or a designated clean area. Used equipment can be stored in a dirty utility room. Failure to separate clean from dirty/used equipment will lead to errors and infection transmission if used equipment is mistaken as clean and is extra work for staff if clean equipment is mistaken for dirty.

Example of the correct flow of equipment with appropriate cleaning and disinfection:

- A nurse takes vital signs monitoring equipment from the clean utility room. Because the device was in the clean utility room, the nurse knows that it has been cleaned and disinfected.
    - Dirty or used devices should never be placed in a designated clean area if they have not been cleaned and disinfected.
- The nurse performs hand hygiene and enters room 1 to check the vitals of resident A.
- The nurse also needs to record vital signs for resident B, also in room 1. The nurse then cleans and disinfects the vital signs monitoring equipment/tower, performs hand hygiene, and proceeds to resident B.
- After using the vital signs monitoring equipment/tower on resident B, the nurse may do one of the following, according to the situation and LTCH's policies and procedures:

- **OPTION 1.** The nurse cleans and disinfects the vital signs monitoring equipment/tower, performs hand hygiene, and takes the vital signs monitoring equipment back to the designated clean utility room
- **OPTION 2.** The nurse performs hand hygiene and takes the vital signs monitoring equipment/tower to a designated dirty utility room, then performs hand hygiene. Subsequently, the vital signs monitoring equipment/tower should be cleaned before removal from the soiled (dirty) utility room and either use or storage in the clean utility room or designated clean area.

The LTCH is required to have written policies and procedures for the appropriate cleaning and disinfection of equipment that clearly defines the frequency and level of cleaning and assigns responsibility for cleaning.[16]

7.5.2 Cleaning and Disinfection of Specialized Noncritical Equipment

7.5.2.1 Electronic Equipment

Electronic equipment in the LTC setting includes equipment such as keyboards, laptops, tablets, televisions and mobile phones, as well as electronic medical equipment, such as monitoring equipment or infusion pumps, etc. Some of this electronic equipment moves from resident to resident (e.g., infusion pump), while other equipment may stay within one resident's room and be removed if the resident is discharged (e.g., resident's television).

LTCH should purchase electronic equipment that can be effectively and safety cleaned and disinfected with the cleaning and disinfection agents used by the LTCH (for details, see Section 7.2.2.7 Electronic Equipment in this document, or see PIDAC-IPC's *Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings,* Section 1.2.2.3 Electronic Equipment).[176] Using cleaners and hospital-grade disinfectants on electronic equipment that are not approved for use by the manufacturer can create potential risks including damage and malfunction of the equipment as well as potential fire and burn risks.

To avoid hazards:

- Obtain the manufacturer's labelling which may include instructions for cleaning and disinfection; information may be available on the manufacturer's website.
- Review labelling for cautions, precautions or warnings about wetting, immersing or soaking the equipment.
- Review the manufacturer's cleaning and maintenance instructions and ensure all staff who will be cleaning the item are trained.

- Protect equipment from contamination whenever possible:
  - Position equipment to avoid contact with anticipated spatter.
  - Avoid laying contaminated items on unprotected equipment surfaces.
  - Use barriers (e.g., keyboard or tablet skins) on equipment surfaces that you expect to touch with contaminated hands or when contact with spatter cannot be avoided.
- If equipment is contaminated with blood or other potentially infectious material, follow the equipment manufacturer's instructions for cleaning to remove as much soil as possible; it may be necessary to remove the equipment from service for thorough cleaning and disinfection.

Electronic equipment that cannot be adequately cleaned, disinfected or covered should not enter the immediate resident care environment. Plastic coverings may be an effective means to protect keyboards and other devices from contamination but should be cleaned and maintained appropriately.

Electronic equipment should be cleaned on a regular basis, depending upon its use and the risk for resident-to-resident transmission of microorganisms, as follows:

- Electronic equipment that goes from resident to resident within the care environment are to be cleaned and disinfected between residents (e.g., electronic tablet shared by many residents), just like all other medical equipment.
- Electronic equipment used within the resident's environment by staff (e.g., laptop, staff tablet) should be cleaned and disinfected by the user before entry into the resident's environment and after removal from the resident's environment.
- Electronic equipment that is handled by staff in the care areas outside of the resident environment (e.g., keyboard on the medication cart) should be cleaned and disinfected on a routine basis (e.g., daily, twice daily).
- Electronic equipment used within the resident's environment that is difficult to clean and disinfect should be covered with a clean plastic covering before entry into the resident's environment and the cover should be cleaned and disinfected, or discarded, upon removal from the resident's environment.

If an electronic item cannot be cleaned or covered, it should not be brought into the care environment.

These recommendations apply not only to products purchased by the LTCH (e.g., workstations on wheels), but to electronic equipment owned by HCWs (e.g., mobile phones, laptop computers) if these

devices will be handled by residents or used by the HCW when in the immediate care environment. Electronic equipment owned by the resident, and which remains in the resident's room (e.g., a television) does not need to meet these cleaning requirements but should be regularly cleaned and disinfected to the extent possible. If the resident is discharged, the electronic equipment should be removed from the LTCH.

7.5.2.2 Ice Machines and Water Dispensers

Ice machines and water dispensers (e.g., water coolers) have been associated with outbreaks and disease transmission in health care settings. Ice machines and water dispensers that are not properly maintained can become mouldy or harbour *Legionella* spp. More commonly, ice that is improperly stored or handled can become contaminated with bacteria or viruses from the hands of health care staff or others using the machine. To minimize risk, use ice machines that dispense ice directly into a container (e.g., no-touch ice dispensing machines) rather than those that dispense into a large bin. Ice machines requiring scoops are not recommended and should be replaced.

If older machines have not yet been replaced:

- Provide a scoop for dispensing the ice.
- Do not store the ice scoop loose in the ice machine.
- Provide a holder for the ice scoop.
- The ice scoop should be cleaned and disinfected at least once a day and more often if necessary.

Ice machines and ice chests should be cleaned on a regular schedule as defined in the MIFU, including cleaning, de-scaling and disinfection. Water dispensers, or water coolers, can also become contaminated and require regular cleaning as per the MIFU. A cleaning log should document when the cleaning was performed, and who performed the cleaning.

7.5.2.3 Activity Rooms

Activity rooms are heavily used in most LTCHs and involve close interactions between residents, staff and the environment in the room. To minimize infection risk, activity rooms should be cleaned at least daily, but more frequently if the level of use is high. ABHR dispensers should be conveniently located within and immediately outside activity rooms to facilitate hand hygiene.

Items used for activities should be cleanable if possible. Some widely used items and objects may be hard to clean. Where possible, such items could be covered (e.g., laminate or use plastic covers for song sheets). For other items, such as books, this will not be possible. Instead, hand hygiene before and after use should be encouraged.

When activity rooms are used:

- Encourage hand hygiene before and after activity. Clean items on a scheduled basis.
- Regularly assess items that cannot be easily cleaned and discard if soiled.

7.5.2.4 Hydrotherapy Equipment

Whirlpools, spas, bathtubs and physiotherapy pools have been associated with the acquisition of infection. Skin and wound infections may result from direct contact with contaminated water. Inhalation of microorganisms in aerosolized water from whirlpool jets can also result in respiratory infections.

Cleaning of hydrotherapy equipment should, at a minimum, follow the MIFU regarding frequency, and should use a hospital-grade disinfectant. The responsibility for cleaning and disinfection should be clearly designated in the LTCH's policies and procedures. Cleaning and disinfection should be scheduled, and the schedule strictly adhered to regardless of whether tub liners are used. When replacing or purchasing whirlpools, LTCHs should avoid tubs with circulating water and should only purchase tubs and whirlpools with improved cleanability and are meant for use in the health care setting. New tubs purchased for use in the LTCH should be non-jetted.[51] Surfaces should be constructed of a smooth, non-porous material that will allow effective cleaning and disinfection.

Hydrotherapy equipment that is drained, cleaned and disinfected between residents is preferred. PHUs carry out routine inspections of public swimming pools and spas (which can be located in LTCHs), to ensure they meet the standards required by the Reg. 565 (Public Pools) under *Health Protection and Promotion Act* and are operated in a safe and sanitary manner.[30,188] LTCHs are to notify their local PHO if they have a whirlpool, spa or pool that is not filled and emptied between residents to determine their potential regulatory requirements.

Residents with open wounds, rashes, active infections, incontinence or other conditions that may increase the risk of contaminating the water and equipment should not use hydrotherapy equipment until their condition has resolved. For residents colonized with one or more AROs, consult with IPAC to determine if hydrotherapy equipment is sufficiently cleanable to allow use for these residents.

7.5.2.5 Mobility and Transport Equipment

Equipment used for residents with limited mobility (e.g., wheelchairs, walkers) and is used for more than one resident should be reviewed by IPAC prior to purchase or donation and are determined to be cleanable (e.g., no foam). Mobility and transport equipment should be cleaned and disinfected with a hospital-grade disinfectant immediately after use, before use for another resident and when visibly soiled, paying particular attention to high-touch areas (e.g., push handles, chair arms). Transport equipment such as wheelchairs that may have padded areas should be carefully inspected for damage prior to cleaning. Damaged parts that cannot be adequately cleaned should be removed and replaced.

In addition, all transport equipment should be cleaned according to a written schedule. Responsibility for cleaning transport equipment should be clearly designated (e.g., nursing staff, environmental service workers). Transport equipment that is clean should be stored in an appropriate clean area and/or covered to prevent recontamination between uses.

Equipment used to transport a single resident within a facility (e.g., personal walkers, wheelchairs) should be immediately cleaned when soiled or visibly contaminated with blood or body fluids, as well as routinely following a written schedule. For more information see Appendix 14 in PIDAC-IPC's *Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings*.[176]

7.5.2.6 Hand Washing Sinks

Hand washing sinks can become contaminated and result in the transmission of microorganisms if poorly designed, used inappropriately or not regularly cleaned and disinfected. If sink drains become contaminated, decontamination is challenging. To avoid contamination, it is critical hand hygiene sinks are used for hand hygiene only and that body fluids (e.g., urine), solutions (e.g., medications, IV fluid) and drinks (e.g., coffee, pop) should not be discarded in the hand hygiene sink.

Hand hygiene sinks (and other sinks in the LTCH) should be cleaned and disinfected regularly. When cleaning sinks, clean from the least contaminated to the most contaminated area with taps cleaned prior to the rest of the sink. The water outlet should not be touched during cleaning. After cleaning a sink, the cloths used should not be used to clean another sink. Consideration may also be given to using three different cloths to clean the tap, the sink and the area around the tap and sink.

7.6 Cleaning and Disinfection When Residents Are on Additional Precautions

7.6.1 Preparing to Clean the Room or Bed Space of a Resident on Additional Precautions

For residents in Additional Precautions, environmental service workers should be aware of the correct cleaning protocols for the specific infection type as well as the required PPE they should use during cleaning to minimize their risk of acquiring and/or transmitting infection (see Chapter 5. Additional Precautions).

When Additional Precautions are implemented for residents colonized or infected with microorganisms associated with persistent environmental contamination and transmission from contaminated environments, including the rooms or bed spaces that house residents with VRE, *C. difficile*, norovirus, CPE and *C. auris,* additional cleaning measures are required. For further details, see Section 11.1 Cleaning Rooms/Cubicles/Bed Space on Contact Precautions in PIDAC-IPC's *Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings*.[176]

For most other indications for Additional Precautions, routine cleaning practices and routine discharge/ terminal cleaning practices are adequate for the cleaning of rooms, and no special handling or precautions are required for linen. However, cloth privacy curtains, if used, should be changed during discharge/ transfer/terminal cleaning for rooms or bed-spaces of residents who were in Additional Precautions.

Before performing hand hygiene, putting on PPE and entering a room with Additional Precautions, the required cleaning equipment and supplies should be gathered in order to minimize the need to enter and exit the room multiple times. Cleaning carts should be left outside the room, to avoid contaminating the cart itself. After performing hand hygiene and putting on the required PPE, the room can be entered. PPE should be removed, discarded in the designated receptacles and hand hygiene repeated, at the time of room exit. PPE other than masks should never be worn outside the resident room or bed space. All cleaning tools and equipment (e.g., cloths, mop heads/pads) used to clean a room or bed space on Contact Precautions or Droplet Precautions should be cleaned and disinfected after use before being used in another room or bed space to avoid cross-contamination.

Because supplies stored within the room under Additional Precautions may need to be discarded when the resident is discharged/transferred or Additional Precautions have been discontinued, these rooms should be stocked with the minimum required supplies. There should not be more than one day's supplies available within the room.

When cleaning rooms on Additional Precautions, it is also important to ensure that the portable isolation carts and/or built-in holders used to store the PPE are also cleaned, and to designate who is responsible for cleaning these carts and holders.

Cleaning of Additional Precautions rooms requires extra time due to the requirements for PPE and/or additional cleaning procedures that are required in some instances. Sufficient time should be allocated for cleaning and disinfection of the rooms for residents on Additional Precautions, particularly for residents with *C. difficile* and *C. auris*.

For additional information on the control of AROs and *C. difficile* infection please see:

- PIDAC-IPC's Annex A: Screening, Testing and Surveillance for Antibiotic-Resistant Organisms (AROs) in All Health Care Settings.[107]
- PIDAC-IPC's Annex C: Testing, Surveillance and Management of Clostridium difficile in All Health Care Settings.[111]

7.6.2 Cleaning the Room or Bed Space of a Resident on Additional Precautions

There should be a process to ensure there has been adequate cleaning and disinfection of rooms or bed space and shared equipment following a discharge/transfer/terminal clean of a resident in Additional Precautions. This may be accomplished through the use of a task checklist to ensure that all areas and surfaces are cleaned and disinfected, and that post-cleaning inspection of the room or bed space has taken place. For sample cleaning protocols and checklists, see PIDAC-IPC's *Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings* Appendix 4, Appendix 6, and Appendix 22.[176]

For rooms or bed spaces of residents with vomiting or diarrhea, vomit and faeces should be cleaned promptly, items and surfaces in the immediate environment cleaned and disinfected immediately, and the entire room and bathroom should subsequently be cleaned and disinfected with a sporicidal disinfectant. Sporicidal disinfectants are important when cleaning rooms housing residents with diarrhea as they have activity against *C. difficile* and are also effective against viral causes of gastroenteritis.

Note that additional cleaning measures may be required, above and beyond what is described here, in the event that an outbreak occurs with an organism associated with environmental contamination and environmental transmission.

7.6.2.1 *Clostridioides difficile*

Specialized cleaning and disinfection practices are required for *C. difficile*. *C. difficile* is a spore-forming bacterium. These spores are resistant to many hospital-grade disinfectants and can persist in the environment for months. Control of environmental *C. difficile* requires both thorough cleaning (to remove spores) and the use of a sporicidal disinfectant such as sodium hypochlorite (1,000 to 5,000 parts per million) to inactivate spores.

For adequate environmental control of *C. difficile*, the following practices are recommended:

- For residents with *C. difficile* infection, the resident's room and bathroom should be cleaned twice daily with a sporicidal disinfectant.
- For residents in a shared room, where one resident has *C. difficile* and has not or cannot be moved to a private room, residents should not share a toilet. If both residents are mobile, it is preferred to have the resident with *C. difficile* use the toilet in the in-room bathroom, and the other resident use a commode (if the *C. difficile* resident uses the commode, their waste may still be discarded into the in-room toilet, potentially contaminating the toilet and bathroom which will then be used by the non-infected resident).
- A discharge/transfer/terminal clean (see Section 7.4.4.2 Discharge/Transfer/Terminal Resident Room Cleaning) using a sporicidal agent and includes a change of privacy curtains (where privacy curtains are present) should be performed.
  - If a resident with *C. difficile* infection is discharged or transferred (Note: this includes the situation where a resident is identified with *C. difficile* infection and then moved to a private room).
  - Before discontinuing Contact Precautions for a resident with *C. difficile* infection that has resolved, even if the resident is not leaving the room.

If there are multiple cases of *C. difficile* infections on a unit or attributable to a unit:

- When each resident is discharged or transferred, disinfect their bed/bed space with a sporicidal disinfectant, regardless of the resident's *C. difficile* infection status.
- Disinfect all high-touch surfaces on the unit with a sporicidal disinfectant.
- Disinfect all equipment on the unit with a sporicidal disinfectant

For more information, see PIDAC-IPC's *Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings,* Appendix 4 and Appendix 6.[176]

7.6.2.2 Noroviruses and Other Viruses that Cause Acute Gastroenteritis

Noroviruses are nonenveloped viruses that cause acute gastroenteritis in humans and are highly contagious. Environmental contamination plays a significant role in disease transmission. Norovirus can persist on surfaces for at least 12 days and is resistant to some disinfectants. Disinfectants used for rooms occupied by residents with norovirus, or during norovirus outbreaks, should have a label claim indicating activity against norovirus or another non-enveloped virus (e.g., feline calicivirus). Most quaternary ammonium compounds do not have significant activity against norovirus. In some jurisdictions, sodium hypochlorite at 1,000 to 5,000 ppm is recommended.

Health care settings may also consider increasing the frequency of cleaning and disinfecting the bathrooms and toilets on affected units.

7.6.2.3 Carbapenemase-Producing Enterobacteriaceae

CPE are primarily transmitted by direct and indirect contact in LTC settings. Despite the fact that the health care environment can often be contaminated by these bacteria from colonized or infected residents, careful application of routine cleaning practices should be sufficient to remove this pathogen.

Although CPE can be effectively removed from most surfaces and equipment in CPE rooms using routine environmental cleaning practices, sinks and shower drains may act as a reservoir for CPE and persistent colonization of drains can result in CPE transmission to subsequent room occupants. Drains have been documented as source of several CPE and extended-spectrum beta-lactamase outbreaks. As these bacteria form biofilms in moist environments such as the sink drainage system, their eradication has been challenging and may require replacement of the implicated sinks and/or the horizontal drainage system.

Because of the risk of contamination of and transmission from sinks, it is essential that sinks in LTCHs meet CSA standards, that body fluids are never discarded into hand hygiene sinks, and that there are no supplies stored on, near or under sinks. This will reduce the risk of the sink becoming contaminated with a CPE and minimize the risk that a CPE in the sink drain will then transmit to residents. LTCHs may also want to consider enhanced sink and shower cleaning for all sinks and showers on a regular basis, (e.g., twice weekly), and at the time of discharge/transfer/terminal cleaning for CPE rooms (see PIDAC-IPC's *Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings* Appendix 7*)*.[176] When CPE transmission is epidemiologically linked to a specific room, careful assessment of the sink drains and consultation with IPAC is recommended to determine whether testing of the sink for CPE or other mitigation measures are required.

7.6.2.4 *Candidozyma auris (formerly Candida auris)*

C. auris is primarily transmitted through direct and indirect contact in the LTC setting. Persistent colonization of the environment can occur and is hard to eradicate. Enhanced cleaning and disinfection with each case may prevent this from happening. In general, twice daily cleaning and disinfection should be the minimum for rooms housing residents with *C. auris*. Quaternary ammonium compounds are not effective for *C. auris* and LTCHs with one or more residents with *C. auris s*hould select an alternative hospital-grade disinfectant with efficacy against *C. auris* based as per Health Canada for use on any unit where there are residents with *C. auris*, for both rooms and common areas. Additional measures may be needed to eradicate *C. auris* and experience with *C. auris* is evolving rapidly. LTCHs with one or more residents colonized with *C. auris* should consult with their IPAC Lead and review up to date guidance from PHO.

7.7 Cleaning and Disinfection Practices for Special Situations

In this section, cleaning practices for blood spills or gross contamination with other body fluids, flood, construction and renovation are discussed.

7.7.1 Blood Spill or Gross Contamination with Other Body Fluids

Spills of blood and gross contamination of surfaces or items with other body substances, such as urine, faeces and vomit, should be contained, and the area cleaned and disinfected immediately. Not all hospital-grade disinfectants are sufficient for cleaning blood and body fluid spills.

All LTCHs are to have written policies and procedures for immediately dealing with blood and body fluid spills that include assigned roles and responsibilities, a method for containing the spill, identification of the appropriate disinfectant to be used,[†] and method for safe waste disposal. Staff that will be involved in cleaning up blood spills need to be trained on these policies and procedures. A protocol for cleaning blood and body fluid spills is describe in PIDAC-IPC's *Best Practices for Environmental Cleaning or Prevention and Control of Infections in All Health Care Settings* (see Appendix 23 for further details, or Appendix 24 for spills involving carpeting).[176]

7.7.2 Floods

In the event of a flood or other significant water leakage within a LTCH, regardless of the presumed source of the water, the area should be immediately assessed by IPAC to determine the risk of contamination. Until confirmed as a clean water source, all staff should assume that the water is contaminated. Immediate contamination may occur if the source of water harbours pathogenic bacteria (e.g., sewer or toilet overflow). Regardless of the water source, the area will need to be cordoned off until cleaning and disinfection are completed.

Persistent moisture following floods can lead to mould growth on plaster, drywall, carpeting and furnishings. Drywall that remains wet after 48 hours is to be removed and replaced and if gross contamination occurred, should be removed even if it dried within 48 hours.[11] Wet carpets should be removed and not replaced.

If the flooding involves a food preparation area, all food products that have come into contact with water need to be discarded and the PHU notified. PHUs should also be notified if vaccine refrigerators are involved in a flood or if flooding leads to a prolonged power outage that compromises food or

[†] Not all hospital-grade disinfectants are sufficient for disinfection of blood spills. Recommended products include sodium hypochlorite (i.e., bleach) diluted to 500 to 5,000 ppm (i.e., a 1:10 to 1:100 dilution of 5.25% sodium hypochlorite or see PHO's online chlorine dilution calculator for dilution of household bleach to achieve desired chlorine level).[189]

189. Ontario Agency for Health Protection and Promotion (Public Health Ontario). Chlorine dilution calculator [Internet]. Toronto, ON: Queen's Printer for Ontario; 2020 [modified 2020 Nov 26; cited 2024 Aug 14]. Available from: https://www.publichealthontario.ca/en/Health-Topics/Environmental-Occupational-Health/Water-Quality/Chlorine-Dilution-Calculator

vaccine refrigeration. Food service areas cannot re-open until the flood is controlled, the area has been cleaned, disinfected, and approval for food preparation has been obtained from public health.

When a severe flood occurs, mitigation efforts can be complex. In these cases, the LTCH should involve experts with experience managing floods in a health care setting.

See Table 12 for designation of types of floods or leaked water and recommended action for IPAC purposes.

Table 12: Types of Flood Water and Recommended Action for IPAC

Category	Examples	Action
I. Clean water	Broken pipes, tub overflows, sink overflows, many appliance malfunctions, falling rainwater, broken toilet tanks.	Allow materials to dry completely before use. Remove all porous materials (e.g., drywall, cloth furnishings, carpets) that have been wet for more than 48 hours.
II. Grey water. Some degree of contamination present	Overflow from a dishwater, washing machine or a clean toilet bowl.	Allow materials to dry completely before use. Remove all porous materials (e.g., drywall, cloth furnishings, carpets) that have been wet for more than 48 hours.
III. Black water. Heavily and grossly unsanitary	Water containing raw sewage. Includes overflow from a toilet bowl containing faeces, broken sewer line, backed up sewage, all forms of ground surface water rising from rivers or streams.	Remove and discard wet carpet, drywall, furniture and other porous materials.

A sample procedure for dealing with a flood in a health care setting may be found in PIDAC-IPC's *Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings,* Appendix 25.[176]

7.7.3 Environmental Cleaning During Construction Activities

Construction activities generate dust and contaminants that may pose a risk to residents, staff or visitors. IPAC should assess construction and maintenance projects during planning, work and after completion to verify IPAC recommendations are followed throughout the process. Where required, work should be performed under appropriately controlled conditions. IPAC and OHS have the authority to halt projects if there is a safety risk.

Cleaning is of particular importance both during construction and after completion of the construction project. What is considered to be clean may be interpreted differently by contractors and LTCH care staff:

- “Construction clean” is the level of cleaning performed by construction workers to remove gross soil, dust and dirt, construction materials and workplace hazards within the construction zone (Components of Construction Clean). This should be done as frequently as is necessary to avoid accumulation of dust and dispersion of dust to other areas of the facility, and at least daily.
- During construction, but outside the hoarded off area where construction is occurring, cleaning is typically performed by the LTCH’s usual environmental service staff.

It is important that there is good communication between the contractor, environmental services, IPAC and OHS. The level of cleaning expected during construction and at commissioning (i.e., when construction is complete, but prior to use of the area) are to be stated in the contract and the responsibility for cleaning both the job site and adjacent areas are to be clearly defined. Where there is transport of construction materials (both clean and used materials) through the LTCH, a clear plan for traffic flow that bypasses resident care areas as much as possible are to be established and adhered to.[11]

Responsibility for construction clean and routine hotel and health care clean should be clearly defined within the LTC setting:

Components of Construction Clean

Performed by construction workers inside the construction zone/hoarding:

- Floors are swept to remove debris.
- Walk-off mats are vacuumed.
- “Sticky” mats are replaced regularly and as required.
- Construction debris (e.g., large pieces of drywall, wiring) are removed.
- Work surfaces may be wiped clean.

Components of Hotel Clean in Areas of Active Construction

Performed by facility cleaning staff in areas outside the construction zone/hoarding:

- Floors and baseboards are free of stains, visible dusts, spills and streaks.
- Walls, ceilings and doors are free of visible dust, gross soil, streaks, spider webs and handprints.
- All horizontal surfaces are free of visible dust or streaks (includes furniture, window ledges, overhead lights, phones, picture frames, carpets, etc.)
- Bathroom fixtures including toilets, sinks, tubs and showers are free of streaks, soil, stains and soap scum.
- Mirrors and windows are free of dust and streaks.
- Dispensers are free of dust, soiling and residue, and replaced when empty.
- Appliances are free of dust, soiling and stains.
- Waste is disposed of appropriately.
- Identification of items that are broken, torn, cracked or malfunctioning for replacement.

Components of Health Care Clean in Areas of Active Construction

Performed by facility cleaning staff and/or professional staff in resident care areas outside the construction zone/hoarding,

HOTEL CLEAN

+

High-touch surfaces in resident care areas are cleaned and disinfected with a hospital-grade disinfectant.

+

Noncritical medical equipment is cleaned and disinfected between residents.

+

Cleaning Practices are periodically audited and feedback is provided

Resources and tools to support IPCs when undertaking construction, renovation, maintenance and design projects are available for all three phases of the project (i.e., planning, work, commissioning) and can be accessed from PHO's Construction, Renovation, Maintenance and Design web page.[190]

For more information, refer to the following guidelines regarding IPAC related to facility design in LTCHs:

- The Facility Guidelines Institute: Guidelines for Design and Construction of Residential Health, Care, and Support Facilities (2022).[185]
- Health Canada: Construction-related Nosocomial Infections in Patients in Health Care Facilities.[191]
- CSA Group: CAN/CSA-Z317.13-22 Infection Control During Construction, Renovation and Maintenance of Health Care Facilities.[11]

7.8 Facility Laundry and Waste Management

7.8.1 Management of Laundry and Bedding

Serious outbreaks have been associated with the transmission of microorganisms associated with inappropriate management of hospital linens. Such outbreaks have been caused by errors in the washing process, contamination during post-cleaning transportation and inappropriate storage conditions.

Exposure of staff to harmful microorganisms can also occur if soiled linens are not handled appropriately. In most staff exposures, failure to use appropriate PPE and/or inappropriate sorting of linens resulting in aerosolization contributed to the transmission of microorganisms.

Policies and procedures should address the collection, transport, handling, washing and drying of soiled linen, including protection of staff. Published laundry regulations should be followed if the facility does its own laundry.

- See the *Occupational Health and Safety Act*, R.S.O. 1990, c O.1. including *Health Care and Residential Facilities*, O. Reg. 67/93 for legal requirements relating to laundry.[21,24]
- See *General*, O. Reg. 246/22 for legal requirements related to laundry services in LTCHs.[42]
- Please refer to CSA Group's *Z314.10.2-15 Laundering, maintenance, and preparation of multiple-use gowns, drapes, and wrappers for health care settings and laundries*.[192]

7.8.1.1 Laundry Area

Laundry facilities (including LTCHs that do their own laundry) should have policies that will ensure:

- The laundry area is in a dedicated space of sufficient size to accommodate industrial washers and driers and all required laundry activities.
- Staff members do not consume food or beverages in laundry areas.
- Floors and walls are made of durable materials that can withstand the rigors of the laundry area (i.e., water/steam resistant).
- Areas for clean and dirty laundry should be clearly separated, and laundry should flow from the dirty area to the clean area, and then out of the laundry area (without going back into the dirty area).

- The soiled linen area is to be separate from other areas and be at negative pressure relative to surrounding areas.
- Hand hygiene facilities are to be located in all laundry work areas.
- Laundry equipment is used and maintained according to MIFU.
- There is an established procedure to determine when laundry should be sorted in the laundry facility (i.e., before or after washing).

7.8.1.2 Soiled Linen

All linen that is soiled with blood, body fluids, secretions or excretions should be handled using the same precautions, regardless of source or health care setting:

- Remove gross soil (e.g., faeces) with a gloved hand and dispose into toilet or hopper. Never remove excrement by spraying with water.
- Bag or otherwise contain soiled laundry at the point-of-care.
- Do not sort or pre-rinse soiled laundry in care areas.
- Bag personal laundry/ items separately at the point of collection or have it laundered by family members.
- Handle soiled laundry with minimum agitation to avoid contamination of the air, surfaces and persons (e.g., roll up).
- Contain wet laundry before placing it in a laundry bag (e.g., wrap in a dry sheet or towel). Water-soluble bags and double bagging are not necessary and are not recommended.
- Laundry carts or hampers used to collect or transport soiled linen need not be covered unless otherwise required by regulation.
- Containers, including carts, bags and plastic bins, for collecting, storing or transporting soiled linen should be waterproof, leak-proof, nonporous and in good repair, and should be decontaminated after use. In addition, carts should be cleaned and disinfected before being used to transport clean linen.
- Linen bags should be tied securely and not be over-filled. Reusable linen bags should be laundered before re-use.
- Laundry chutes should not be used. If their use is unavoidable, ensure that they are properly designed, maintained, cleaned, disinfected, and used in a manner that minimizes dispersion of aerosols from contaminated laundry:
    - Ensure that laundry bags are securely bagged and tightly closed before placing the filled bag into the chute.
    - Do not place loose items in the chute.
    - Laundry chutes should be maintained under negative pressure and discharge into the soiled linen collection area.
    - Laundry chutes should be cleaned on a regular basis.

- Routine Practices for handling and laundering are sufficient, regardless of the source of the linen. Special handling of linen for residents on Additional Precautions is not routinely required.
- Change PPE when it becomes wet or soiled; remove PPE upon leaving the soiled sorting area.
- Do not hold laundry bag close to the body to avoid potential risk of injuries due to sharps.

7.8.1.3 Washing and Drying Laundry

Resident laundry should be done using an industrial washer and dryer. The use of a domestic washer and dryer is not appropriate. Resident laundry should be done as a separate cycle from environmental cleaning items such as cloths and mop heads. Cloth linen bags should be washed after each use and can be washed in the same cycle as the linen contained in them. Laundered items should be taken out of the washer as soon as feasible to reduce the risk of contaminating the washer and formation of biofilm. There should be posted instructions on washing and drying resident laundry.

The effectiveness of the laundering process in rendering the laundered items hygienically clean[*] depends on the following factors and their interactions:

- Time and temperature
- Mechanical action
- Chemicals used
- Water quality, including pH level, hardness
- Rinsing requirements
- Volume of the load
- Nature and extent of soiling in the items to be laundered
- Model of washers and dryers

LTCHs should take into consideration the recommendations from the manufacturers of the washer and dryer, materials to be laundered and the detergent used when setting their laundry formula. Using a disinfectant (such as bleach) may not offer additional advantage when soiling is at low levels. However, a disinfectant can be used to enhance the overall disinfection of the laundry process when there is heavy soiling of the items to be laundered, or when resettling of microorganisms in the wash or rinse water onto the laundered items is a concern.

7.8.1.4 Clean Linen

Clean linen should be sorted, packaged, transported and stored in a manner that prevents inadvertent handling, contamination by dust or debris, and contact with soiled linens or other soiled or contaminated items during sorting, packaging, transport and storage.

[*] Hygienically clean is defined by the American National standards Institute (ANSI)/Association for the Advancement of Medical Instrumentation (AAMI) as being “free of pathogens in sufficient numbers to cause human illness”.

Each resident floor should have a designated area (e.g., dedicated closet, clean supply room) for sorting and storing clean linen. If a closed cart system is used, storage of clean linen carts in an alcove is permitted if it is out of the path of normal traffic and under staff control.

7.8.1.5 Laundry Staff Protection

Protection of staff in laundry areas includes:

- Training for all HCWs and laundry staff in the procedures for handling of soiled linen that includes IPAC and WHMIS training.
- Dedicated hand washing sink and ABHR that is readily available in laundry areas.
- Provision of appropriate PPE, e.g., gloves, gowns or aprons, face protection, to provide protection from potential cross-infection and sharps injury when handling soiled linen. Disposable gloves are recommended, and these should be sufficiently long to cover the forearm and be tear resistant. If reusable PPE is used, it should be cleaned daily at a minimum and designated to the individual.
- Replacement of PPE when the integrity is compromised.
- Dispose of sharps at point-of-use to ensure there are no residual sharps in linen.[192] Any sharps found in linen are to be reported to management and documented to prevent future incidents from happening.
- Immunization of laundry staff against hepatitis B and tetanus due to the high risk of sharps injury.
- Hand hygiene whenever gloves are changed or removed.

7.8.2 Management of Biomedical Waste

There are different types of waste (e.g., biomedical, pharmaceutical, chemical, general, recycling, etc.) that a LTCH is required to segregate at the point of generation. This section focuses on biomedical waste.

Biomedical waste is contaminated, infectious waste that requires special treatment before disposal, and is required to be separated and handled differently than general or other forms of waste.[186] Biomedical waste includes items contaminated with significant amounts of blood,[†] body fluids visibly contaminated with blood, sharps that have come in contact with blood or body fluid, and live or attenuated vaccines. There are additional materials that may be considered biomedical waste, but are not common in LTCHs (e.g., human anatomical waste). Faeces and urine are not considered biomedical waste (unless contaminated with visible blood).

LTCHs should have written policies and procedures for the management of waste that are consistent with provincial and municipal legislation, and relevant standards. Policies should address collection, storage, transport, handling and disposal of waste and responsibility for waste management to be clearly defined. LTCHs should reduce the amount of waste generated by re-using and recycling when appropriate.

[†] Items (e.g., gauze) are considered significantly contaminated with blood if they would release liquid or semi-liquid blood if squeezed.

7.8.2.1 Collection of Biomedical Waste

Waste is required to be collected in containers that will not break, crack or leak (e.g., leak proof for wet waste) and should not be overfilled.[193] Biomedical waste destined for landfill sites may be placed in single-use or re-usable biomedical waste containers. Reusable containers are required to be puncture resistant and cleanable, and are required to be cleaned and disinfected after use.[194]

Sharps waste may be put in single-use or re-usable containers that are resistant to puncture and leakage. Single-use containers should have a lid that cannot be removed after the container is sealed; re-usable containers should have a lid that is locked when the container is full.

For further details on the management of other forms of waste, or forms of biomedical waste not discussed above, see PIDAC-IPC's Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings.[176]

7.8.2.2 Storage of Biomedical and General Waste

Waste should be placed in appropriate containers at the point-of-care/use and stored in a designated enclosed room with access limited to authorized staff.[193] Refrigerated space at or below 4°C are to be provided for storage of biomedical waste if stored for more than four days.[193,194] Biomedical waste storage areas are required to be locked, except where authorized staff are on hand.[186,193]

Segregated waste should be removed to central holding areas at frequent intervals,[24] and be stored in rigid, secondary leak-proof bins that are cleaned and disinfected prior to re-use.[193] Waste bags for general waste should never be stored directly on the floor. Provincial regulations for specific storage requirements are required to be followed.[24,186,194]

LTCHs are to have a contingency plan for dealing with the storage of refrigerated waste in the event of:[193]

- Excess waste production
- The on-site cold storage unit or treatment equipment becoming inoperative
- Other disruption of disposal services

7.8.2.3 Transport of Waste

All waste should be transported within the LTCH following specified procedure that ensure:

- There are clearly defined transport routes for waste.
- Manual handling of waste is minimized.
- Waste transport routes avoid crossing through clean zones, public areas or resident care units.
- Waste should not be transported in an elevator at the same time as residents, food serving carts or clean supplies or linens.
- Waste is transported in leak-proof carts which are cleaned on a regular basis.

All external transportation of infectious waste are required to comply with Transport Canada's Transportation of Dangerous Goods Act, 1992 (S.C. 1992, c. 34) and Transportation of Dangerous Goods Regulation (SOR/2001-286), and the Environmental Protection Act, R.S.O. 1990, c. E. 19, Part V.[32,37,195] Waste should be transported by a certified waste hauler who provides a certificate of approval.[194] In general, where the primary biomedical waste container is a sharps container or a rigid container with a non-removable lid, additional packaging or containment of the waste is not necessary for off-site transportation. Where the primary container is a plastic bag, the bag is required to be placed into a rigid, leak-proof outer container for transportation off-site.[37,196] For details on the classification, packaging, documentation and training requirements for shipping infectious substances, see Transport Canada's Transportation of Dangerous Goods Bulletin: Shipping Infectious Substances.[196]

7.8.2.4 Protection of Staff Handling Waste

A dedicated hand washing sink should be available to waste handlers.[180,193] It is strongly recommended that non-immunized waste handlers be immunization against hepatitis B,[193,197] and tetanus.[193]

LTCHs are required to provide, and waste handlers are required to wear, PPE appropriate for the risk of the tasks when handling waste.[8,193] Environmental service workers who clean reusable waste containers, carts, final storage areas or biomedical waste treatment equipment are also required to wear PPE appropriate for the tasks. Depending on the task and type of waste, examples of protective equipment may include:

- Gloves to protect from exposure (e.g., nitrile for exposure to blood, body fluids, chemicals; and puncture-resistant gloves for exposure to sharps).[198]
- Coveralls or aprons.[198]
- Facial protection, e.g., face shield.[198]
- Protective footwear to protect against sharps.[193,198]

7.8.2.4.1 Handling of Sharps

Sharps include any device capable of causing a cut or puncture (e.g., needles, lancets, blades). In Ontario, all LTCHs are required to use safety-engineered needles, according to the Needle Safety Regulation, O. Reg. 474/07.[25]

LTCHs are required to have policies and procedures for managing sharps injuries.[24] Environmental service workers are required to be provided with education about the LTCH's procedure to be followed in the event of a sharps injury.

A procedure for safely disposing of a contaminated sharp that has not been correctly disposed of can be found in PIDAC-IPC's *Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings,* Appendix 26.[176] Additional Precautions related to sharps handing are discussed in the chapter on OHS.

7.9 Education, Infection Control and Occupational Health Requirements for Environmental Service Staff

7.9.1 Education

All aspects of environmental cleaning should be supervised and performed by knowledgeable, trained staff. Regular education and support should be provided by LTCHs and contract agencies to help environmental service staff consistently implement safe and effective cleaning as well as other IPAC and OHS practices.

See Chapter 3. Staff Education and Training for general information about effective education and training within the LTCH, for all LTCH staff, including environmental service workers.

IPAC and OHS education should be provided upon hire as part of the orientation process and as ongoing continuing education. Ergonomic considerations and safe management of chemical agents should be emphasized.

Environmental services should provide a training program that includes:

- A standardized curriculum.
- A mechanism for assessing proficiency.
- Documentation of training and proficiency verification.
- Orientation and continuing education when new cleaning products or equipment are introduced.

Education provided by environmental services should include:

- Handling of mops, cloths, cleaning equipment.
- Cleaning and disinfection of blood and body fluids.
- Handling and application of cleaning agents and disinfectants.
- Waste handling (general, biomedical, sharps).
- Techniques for cleaning and/or disinfection of surfaces and items in the health care environment.
- Techniques for cleaning and disinfection of rooms under Additional Precautions.
- Proper use and care of PPE.
- WHMIS training relating to the use of cleaning agents and disinfectants.

IPAC and occupational health education provided to environmental service workers should be given in collaboration with IPAC and OHS, and should include:

- The correct and consistent use of Routine Practices as a fundamental aspect of IPAC in the LTC setting.
- Hand hygiene, including the use of ABHRs and hand washing.

- Respiratory etiquette.
- Signage used to designate Additional Precautions in the LTC setting.
- The appropriate use of PPE including selection, safe application, removal and disposal.
- Prevention of blood and body fluid exposure, including sharps safety.

Management and supervisory staff in environmental service departments should receive training and education that also includes:

- Chain of transmission
- Pest control
- Outbreak response

It is recommended that managers and supervisors in environmental service departments attend, at a minimum, a recognized course directly related to environmental cleaning in health care and obtain certification within a recognized association:

- For courses available in Ontario, see the websites of the Ontario Health-Care Housekeepers' Association (OHHA) and the Centennial College.[199,200]
- For national certification courses, see the CleanLearning website.[201]
- For certification courses offered in French, see the Association Hygiène et Salubrité en Santé (AHSS) website.[202]

7.9.2 Infection Prevention and Control Principles for Environmental Service Staff

LTCHs are required to ensure that:

- All environmental service workers receive education and training in IPAC Routine Practices (see Chapter 4. Routine Practices and Chapter 3. Staff Education and Training).
- PPE is sufficient and accessible for all environmental service workers for Routine Practices, Additional Precautions and for personal protection from chemicals used in cleaning.
- WHMIS training regarding appropriate handling of biohazardous material is provided.
- Individualized training is provided in the correct use, application and removal of PPE.
- Environmental service workers who are required to wear N95 respirators for Airborne Precautions are fit-tested in accordance with a respiratory protection program that is compliant with the requirements of the Ministry of Labour, Immigration, Training and Skills Development and Canadian Standards Association.

7.9.2.1 Gloves and Other PPE Used by Environmental Service Workers

The appropriate use of gloves and other PPE as part of Routine Practices and Additional Precautions are described in Chapter 4, Section 4.6 Personal Protective Equipment for Routine Practices and Chapter 5, Section 5.2.1.3 Personal Protective Equipment used as part of Additional Precautions. As environmental service workers use gloves frequently, it is Important to emphasize that:

- Gloves are never a substitute for hand hygiene—hand hygiene should always be performed before putting on gloves and after gloves are removed.
- Gloves (and all required PPE) should be removed and discarded immediately after completing the activity for which they were used—environmental service staff should not move from one resident environment to another, or between resident care areas and general areas of the LTCH, wearing the same pair of gloves.

The selection of gloves should be based on a risk assessment that considers the task to be performed, and the potential for exposure to chemicals, blood or body fluids. The glove requirements identified in the safety data sheet are to be followed when using a chemical agent.[8] In general:

- Disposable gloves may be used for routine daily cleaning and disinfecting procedures in resident care areas and public washrooms.
- Durable, polymer gloves compatible with the safety data sheet for the product(s) used are recommended for wet work of long duration when durability is required, for discharge/transfer/terminal cleaning and for contact with certain chemical powders and solutions.
- Household utility gloves are only acceptable for cleaning in non-care areas (but should not be used when cleaning public washrooms).
- Puncture-resistant gloves are recommended if the task has a high risk for percutaneous injury (e.g., sorting linen, handling waste).

Gloves are to be removed, and hand hygiene performed upon leaving each resident room or bed space.

Other PPE, such as gowns, masks and eye protection, are not required for most routine cleaning. However, PPE requirements identified on safety data sheets are required to be followed when using chemical agents (e.g., wearing eye protection when mixing chemical agents or when there is a risk of splashing, wearing protective clothing or apron when the chemical may cause skin burns or irritation.).[8]

7.9.3 Occupational Health and Safety Principles and Practices for Environmental Services

LTCHs are required to take steps to ensure the safety of environmental service staff in a similar manner to other staff. This includes IPAC education and training, access to PPE, a staff immunization program, sharps injury prevention program and access to appropriate management in the event of an infectious exposure.[16,27,28,49]

Environmental service workers are also at risk for exposure to chemical agents used for cleaning, and ergonomic stressors related to repetitive movements. The LTCH should also ensure that these risks are minimized.

7.9.3.1 Chemical Safety

Environmental service workers have potential exposures to chemicals and, in some circumstances, may develop symptoms related to these exposures. Exposures occur most commonly via inhalation (respiratory) or direct skin contact. Chemicals can function as irritants or sensitizers that can result in respiratory symptoms or dermatitis.

Cleaning agents acting as irritants may exacerbate symptoms of underlying asthma. Over time, without adequate controls, a sensitizer may cause asthma or chronic bronchitis. Respiratory symptoms increase with increased exposure time and higher concentrations of certain chemicals, such as bleach and ammonia. Certain tasks, such as cleaning of toilet bowls, mirrors, sinks and counter, as well as floor finishing tasks, regularly expose individuals to high concentrations of volatile organic compounds.

Irritants in health care settings associated with skin symptoms (irritant contact dermatitis) include water, soaps and detergents, most frequently in those who have underlying atopic dermatitis (allergy, eczema). Symptoms (dryness, cracking, eczema) are usually worsened during winter months. A smaller number of people will develop allergic contact dermatitis where a particular allergen can cause an inflammatory response, usually hours to days later, which clinically may appear similar to irritant contact dermatitis.

It is important that any HCW who has a significant allergic, asthmatic or dermatitis history, or who develops symptoms that may be related to work exposures, be assessed by OHS.

Exposure to workplace chemicals may be reduced through the use of engineering controls (e.g., good ventilation, improved design of containers and delivery systems), administrative controls (e.g., development and maintenance of policies for the safe use of disinfectants, education and training), and the use of PPE (e.g., proper glove choice when handling chemicals, use of facial protection to prevent inhalation of vapours and splashes of chemicals to the eyes). Caution should be taken when cleaning and disinfection is performed in small and/or poorly ventilated spaces to reduce the risk of irritation to exposed skin and respiratory tract, and to ensure that exposure limits are not exceeded. Facilities should periodically conduct an occupational hazards assessment with respect to cleaning and disinfection of surfaces and equipment. The assessment should evaluate risks, and ensure that the safest cleaning agents, equipment and processes are selected; that appropriate training and access to PPE are in place; and that staff are aware of protocols to be followed in the event of accidents, exposures or injuries.

The use of automated dispensing systems or ready-to-use products is preferred over manual dilution and mixing, as automated systems reduce direct personal contact with concentrated products and reduce inhalation of volatile organic compounds from concentrated products. Automated systems also ensure that correct dilution ratios are obtained and eliminate the need for decanting.

Applications of cleaning chemicals by aerosol or trigger sprays may cause eye injuries or induce compound respiratory problems or illness and should never be used.

Do not apply cleaning chemicals by aerosol or trigger sprays.

Chemicals are required to be stored and handled appropriately.[26] The LTC setting is required to have in place written policies and procedures in accordance with the Workplace Hazardous Materials Information System (WHMIS). All cleaning staff are required to receive WHMIS training and know the location of the safety data sheet for each of the cleaning and disinfecting agents they use. Safety data sheet documentation are required to be available as required by Workplace Hazardous Materials Information System (WHMIS). R.R.O. 1990, Reg. 860.[26] Where appropriate, eyewash stations are required to be available and accessible.

- More information on WHMIS is available from Health Canada.[203]

7.9.3.2 Ergonomic Considerations

Environmental service workers are at risk of injury due to ergonomic hazards. Repetitive movements, awkward work postures, heavy lifting and application of high forces (e.g., when scrubbing) can lead to injury and are exacerbated by poorly designed or inappropriately sized cleaning equipment, lack of training in appropriate cleaning techniques, prolonged tasks and/or insufficient rest periods. Selection of cleaning equipment should follow ergonomic principles. Products that are lighter in weight, easily emptied and having proper handle length help reduce the risk of injury. Additionally, a variety of handle lengths should be available to ensure that differently sized cleaning staff have access to appropriate ergonomically designed equipment. For more information about ergonomic design related to environmental cleaning, visit the Public Services Health & Safety Association website.[204]

7.10 Assessment of Cleanliness and Quality Control

To ensure that environmental cleaning is consistent with LTCH's environmental cleaning policies, it is necessary to regularly assess (audit) both the cleanliness of the LTCH and the cleaning process.

Measures of cleaning and cleanliness can facilitate the following:

- Training environmental service workers (see Chapter 3. Staff Education and Training)
- Standardizing cleaning procedures
- Ensuring that cleaning is performed consistently
- Assessing the adequacy of resource dedicated for environmental cleaning (see Section 3.1.1 Organization and Required Resources for Effective Environmental Cleaning in PIDAC-IPC's *Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings*)[176]
- Improving the efficacy of cleaning

There are different ways to monitor cleanliness and cleaning ranging from visual assessments, performance observation, surveys, to technologies capable of assessing whether specific surfaces were cleaned and disinfected. To be effective, these methods should be standardized, used on a regular basis, and implemented as a collaboration between environmental services and IPAC.

The results of these assessments should be used for education, training and to provide both positive and constructive feedback to front-line environmental service workers. The results of these assessments should not be used in a punitive fashion.

Results of these assessments should be presented regularly to environmental services, IPAC and LTCH leadership. An overview of approaches to monitor cleaning and cleanliness is provided in Table 7 and Table 8 of PIDAC-IPC's *Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings, 3rd Edition*.

LTCHs should conduct regular visual assessments and performance observation. Visual assessments are useful to ensure that a 'hotel' clean has been conducted and should be conducted on a regular basis and using a standardized checklist.

Additionally, environmental service supervisors should regularly observe environmental service workers perform their cleaning tasks, to ensure that the correct cleaning procedures are followed. The biggest impact on improvement will occur if feedback is provided immediately, and in a constructive manner.

Satisfaction surveys of residents and families that enquire about resident and family perceptions of cleanliness at the LTCH may not accurately identify cleaning deficiencies and should not be relied on as a core method for assessing cleaning and disinfection. However, concerns raised by residents and families in these surveys should be addressed.

Neither visual audits nor performance observation fully capture all of the elements required for effective cleaning and disinfection. Other monitoring technologies (e.g., environmental marking, ATP bioluminescence) should be considered to further enhance the efficacy of cleaning and disinfection.

Further details on monitoring the quality of cleaning, including the use of monitoring technologies, can be found in PIDAC-IPC's *Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings*.[176]

7.10.1 Monitoring Cleaning and Cleanliness in the LTCH—Putting It All Together

There are many ways to monitor and assess cleaning. All require a trained individual to do the monitoring/auditing in a standardized manner and with regular feedback of results both to the front-line environmental service staff and to environmental services, IPAC and LTCH leadership.

LTCHs should use a combination of these approaches to monitor cleaning effectiveness. At a minimum, LTCHs should use performance assessment and visual assessments. Resident/family surveys can also be considered. One of either environmental marking or ATP bioluminescence provide significant additional value and should be implemented in consultation with environmental services and IPAC.

Legislative Requirements

56. **LTCHs are required to only purchase, install or use surfaces, finishes, furnishings and equipment (including electronic equipment) that can be effectively cleaned and disinfected.**
57. **Surfaces, finishes, furnishings and equipment for use in the LTCH are required to be cleanable with hospital cleaners, detergents and disinfectants and should be cleanable with the hospital cleaners, detergents and disinfectants used at the LTCH.**
58. **LTCHs are required to adhere to published laundry regulations.**
59. **Soiled utility rooms/workrooms:**
    a. **Are required to be physically separate from other areas, including clean supply/storage areas.**
    b. **Are required to contain a work counter and flushing-rim clinical sink.**
    c. **Are required to not use sprayers attached to the hopper.**
    d. **Are required to contain a dedicated hand washing sink with hot and cold running water.**
    e. **Are required to have adequate space to permit the use of equipment required for the disposal of waste.**
    f. **Are required to contain PPE for staff protection during cleaning and disinfection procedures.**
    g. **Are required to be adequately sized within the unit and located near the point-of-care.**
60. **Clean supply rooms/areas are required to:**
    a. **Be separate from and have no direct connection with soiled areas.**
    b. **Protect supplies from dust and moisture and ensure storage off the floor.**
    c. **Be adjacent to usage areas and easily available to staff.**
61. **Housekeeping closets are required to be provided in all major care areas with a minimum of one closet per 650 square metres.**
62. **Housekeeping closets:**
    a. **Are required to be dedicated for storage of cleaning supplies and the preparation and disposal of cleaning solution; and shall not be used for other purposes.**
    b. **Are required to be maintained in accordance with good hygiene practices.**
    c. **Are required to have a dedicated hand washing sink with hot and cold running water.**
    d. **Are required to have access to an eyewash station.**
    e. **Are required to have appropriate PPE available, including safety eyewear.**
    f. **Are required to have a hot and cold water supply and a floor sink.**
    g. **Are required to be well ventilated and illuminated.**
    h. **Are required to be designed to be at negative pressure in relation to surrounding areas.**

i. **Are required to be easily accessible in relation to the area it serves.**

j. **Are required to be secure with access restricted to clinical and support staff.**

k. **Are required to be appropriately sized to the amount of materials, equipment, machinery and chemicals stored in the room/closet and allow for proper ergonomic movement within the room/closet.**

l. **Are required to not contain personal belongings, food or beverages.**

m. **Are required to have chemical storage that ensures chemicals are not damaged and may be safely accessed.**

n. **Are required to be ergonomically designed so that, whenever possible, buckets can be emptied without lifting them.**

63. **Cleaning agents and disinfectants are required to be labelled with WHMIS information.**

64. **Cleaning agents and disinfectants are required to be stored in a safe manner in storage rooms or closets.**

65. **Written policies and procedures are required for the collection, handling, storage, transport and disposal of biomedical waste, including sharps, based on provincial and municipal regulations and legislation.**

66. **Waste handlers are required to wear PPE appropriate to their risk.**

67. **Waste that is transported within a LTCH:**

    a. **Is required to not be transported through clean zones, public areas or resident care units.**

    b. **Is required to be transported in leak-proof and covered carts that are cleaned on a regular basis.**

Recommendations

68. **Environmental service programs should prioritize resident safety.**

69. **LTCHs should have an individual with overall responsibility for the environmental service program who reports regularly to the LTCH leadership and engages with all stakeholders.**

70. **The environmental service program should work with all stakeholders, including IPAC and OHS, to ensure a safe environment for residents and staff.**

71. **Environmental service programs should have sufficient resources, to ensure effective cleaning at all times, including low- and high-demand periods.**

72. **Environmental service programs should have sufficient staff, based on the size and complexity of the LTCH, to ensure consistent and timely cleaning and disinfection.**

73. **Environmental service programs should have sufficient supervisors to ensure all environmental service staff are trained, supervised, and adherent to occupational health, IPAC and environmental services policies and procedures, including cleaning schedules and protocols.**

74. **LTCHs should have written policies and protocols for cleaning and disinfection of all care areas and equipment that are reviewed and updated regularly.**
75. **Where LTCHs contract out their environmental services, the LTCH is to ensure that the service provided meets all of the requirements of the LTCH, and that their practices are consistent with the IPAC and OHS policies of the LTCH.**
76. **Environmental services, IPAC, and OHS are to be involved in the selection of all surfaces, finishes, furnishings and equipment for use in the LTCH.**
77. **Cloth furnishing should not be used in resident care areas.**
78. **Cloth privacy curtains are to be removed and replaced or cleaned and disinfected following discharge or transfer of the resident (and before a new resident is admitted to that room or bed space), after discontinuation of Additional Precautions, on a regular basis (e.g., monthly, quarterly), and immediately if they are contaminated with blood or body fluids, or are visibly soiled.**
79. **Carpeting is not to be used in the resident care areas of the LTCH.**
80. **LTCHs should have a process to regularly inspect all surfaces, finishes, furnishing and equipment for damage that may impair cleaning; damaged surfaces, finishes, furnishing and equipment should be repaired or replaced.**
81. **Environmental services, IPAC and OHS should be involved in the selection of cleaning products and disinfectants used in the LTCH.**
82. **Cleaning and disinfecting products used in LTCHs are to be used according to the manufacturer's instructions and should be compatible with the surfaces, finishes, furnishings, items and equipment to be cleaned.**
83. **Disinfectants used in the LTCH should be hospital-grade and should have a DIN number.**
84. **LTCHs should select a limited number of hospital-grade disinfectants to minimize training requirements and the risk of error.**
85. **Cleaning schedules are to be developed based on an assessment of the risk of contaminated surfaces resulting in infection in residents and staff.**
86. **All equipment is to be cleaned and disinfected between residents, including transport equipment.**
87. **LTCHs should have policies and procedures for the cleaning and disinfection of noncritical medical equipment that designates the required frequency and method for cleaning, and assigns responsibility for the cleaning.**
88. **The LTCH is to have a clear process to identify and separate equipment that is used ("dirty") from equipment that has been cleaned and disinfected and is ready for use ("clean").**
89. **LTCHs are to have item-specific manufacturer's instructions for the cleaning and disinfecting of all noncritical medical equipment.**
90. **LTCHs are to have policies and procedures for the routine and discharge/transfer cleaning of rooms on Contact and Contact/Droplet Precautions, and which specify any specific microorganism for which enhanced cleaning and disinfection practices are required (e.g., *C. difficile*).**

91. **LTCHs should have policies and procedures for managing floods, water leaks and spills of blood or body fluid, including the required cleaning and disinfection protocols.**
92. **LTCHs should have policies and procedures to ensure laundry is transported, cleaned and stored in a manner that will ensure effective cleaning and avoid recontamination during transportation and storage.**
93. **LTCHs should have designated areas for storing clean linens.**
94. **LTCHs are to provide initial and continuing education for environmental service workers and should document training and proficiency.**
95. **Environmental service workers are to adhere to Routine Practices and Additional Precautions.**
96. **OHS policies for LTCH staff (e.g., immunization programs) are to include environmental service workers.**
97. **Aerosol or trigger sprays for cleaning chemicals are not to be used.**
98. **Ergonomic principles are to be followed when selecting environmental cleaning equipment.**
99. **LTCHs should regularly assess the quality of cleaning and disinfection.**
100. **LTCHs should use at least one measure that directly assesses cleaning (i.e., environmental marking, ATP bioluminescence), in addition to observational assessments (e.g., performance observation, visual assessment).**
101. **Results of cleaning audits should be used for the purposes of training and to provide positive and constructive feedback to environmental service workers.**
102. **Audit and feedback results are to be presented to the environmental service leadership of the LTCH and to the appropriate infection control and/or quality and safety committee (or equivalent).**
103. **Soiled utility rooms/workrooms (in addition to the requirements listed in the legislative requirements section):**
    a. **Should have a hands-free door where this does not pose a risk to residents.**
    b. **Are to include a utility sink if rinsing or gross cleaning of medical instruments or equipment is performed within the room.**
104. **Cleaning carts are to have a clear separation between clean and soiled items.**
105. **Cleaning carts are to never contain personal belonging, food or beverages.**
106. **Waste that is transported within a LTCH:**
    a. **Should be transported following clearly defined transport routes.**
    b. **Should not be transported in an elevator at the same time as residents, food serving carts or clean supplies or linens.**

Summary of the Legislative Requirements and Recommendations

This table provides a summary of the legislative requirements and recommendations PIDAC-IPC provides in their document, *Best Practices for Infection Prevention and Control in Long-Term Care*.

In addition, this table includes three columns that can be used to identify the legislative requirements and recommendations a health care facility compliance, partial compliance and noncompliance with.

Legislative Requirement/Recommendation	Compliance	Partial Compliance	Noncompliance
Chapter 1. Legislation Relating to Infection Prevention and Control Practices in Long-Term Care			
Legislative Requirements			
1. All long-term care homes (LTCHs) are required to be in compliance with legislated federal and provincial requirements regarding health and safety, including legislated requirements for infection prevention and control (IPAC).			
2. All LTCHs are required to be in compliance with the *Infection Prevention and Control (IPAC) Standard for Long-Term Care Homes*.[16]			
Recommendations			
3. LTCHs should develop and support an IPAC program that implements IPAC best practices aimed at minimizing infection risks for residents, staff and all others within the LTCH environment.			
Chapter 2. IPAC Program Structure and Function and Required Resources			
Legislative Requirements			
4. All LTCHs in Ontario are required to develop and maintain an effective IPAC program focused on reducing the risk of health care-associated infections (HAIs) in order to improve resident and staff wellness and safety.[27,102]			

Legislative Requirement/Recommendation	Compliance	Partial Compliance	Noncompliance
5. All LTCHs are required to have an interdisciplinary IPAC team (IDIT) to set goals for IPAC programs and ensures these goals are met.[16]			
6. The IPAC program is required to be led by a trained and certified infection prevention and control professional (ICP).[16,102]			
7. LTCHs are to have sufficient ICPs to allow all core functions of the IPAC program to be effectively implemented. The number of ICPs within the IPAC program should be proportional to the size, complexity, case mix and estimated risk of the population served by the LTCH and are required to meet the minimum requirements for dedicated ICP hours established by the Ontario *Infection Prevention and Control (IPAC) Standard for Long-Term Care Homes* based on number of beds.[1,16]			
Recommendations			
8. Continuing support for the IPAC program is to be an organizational priority.			
9. At the minimum, the IPAC program is to be evaluated annually by the IDIT to reassess the LTCH's needs, whether the goals of the IPAC program are being met and whether additional program elements are required.			
10. LTCHs are to have access to an accredited microbiology laboratory that can process screening specimens for AROs and will alert the IPAC program to microorganisms of importance and provide assistance to the program with surveillance information in a timely fashion.			
11. LTCH IPAC programs should establish formal linkages with IPAC experts outside the LTCH that may include linkages to: certified ICPs in other LTCHs or in acute care; IPAC physicians; public health unit (PHU) or a regional IPAC hub, to help support the LTCH IPAC program and ensure practices remain up to date and evidence-based.			

Legislative Requirement/Recommendation	Compliance	Partial Compliance	Noncompliance
Chapter 3. Staff Education and Training			
Legislative Requirements			
12. All LTCHs are required to ensure that staff receive IPAC training upon hire, and then annually.[4,16,27]			
13. The curriculum for IPAC education and training is required to be developed by the IPAC Lead to meet the needs of the LTCH and is required to be evaluated and updated annually.[16]			
14. Staff training and education is required to be documented for annual education and training compliance being reported to the IDIT.[16]			
Recommendations			
15. Staff IPAC training should be performed by IPAC, or by staff educators trained by IPAC to perform this training and education.			
16. Staff should be taught by IPAC how to educate essential caregivers and visitors on required IPAC practices within the LTCH and should support residents in learning and applying hand hygiene practices and respiratory etiquette			
Chapter 4. Routine Practices			
Legislative Requirements			
17. The LTCH is required to have a respiratory protection program compliant with the Ministry of Labour, Training and Skills Development requirements.[8,10,205]			
18. The LTCH is required have an immunization program for staff that provides education about recommended and required immunizations (e.g., influenza vaccine, COVID-19 vaccine), and facilitates access to vaccine (e.g., time off work to attend vaccine clinic, mobile vaccination cart in LTCH).[16,28]			

Legislative Requirement/Recommendation	Compliance	Partial Compliance	Noncompliance
19. LTCHs are required to have a program to educate and train all staff on Routine Practices, including all of the elements of Routine Practices [e.g., point-of-care risk assessment (PCRA), hand hygiene, respiratory etiquette, personal protective equipment (PPE) use, equipment disinfection, etc.].[16]			
Recommendations			
20. LTCHs are to have a sharps injury prevention program.			
21. The LTCH should have healthy workplace policies that ensure that staff do not come to work when ill with symptoms that may be due to a CID.			
22. LTCHs are to have IPAC policies and procedures that outline Routine Practices and how these should be applied in the LTCH.			
23. LTCHs and LTCH staff are to ensure that the elements of Routine Practices are incorporated into the culture of the LTCH and the daily practice of all staff at all times during the care of all residents.			
24. Education and training of staff on all elements of Routine Practices should be documented and reported back to the manager to become part of the staff's performance review.			
25. LTCHs are to ensure that visitors and essential caregivers are provided instruction on the measures required to prevent infection transmission to or from the resident before visiting.			
26. Health care workers (HCWs) are to perform a PCRA before each interaction with a resident or their environment in order to determine which interventions are required to prevent infection transmission during the interaction.			
27. Staff that have not been trained to conduct a PCRA are to be provided clear instructions on all IPAC procedures required when entering a resident room or providing care to a resident.			

Legislative Requirement/Recommendation	Compliance	Partial Compliance	Noncompliance
28. LTCHs are to implement a comprehensive hand hygiene program that follows the recommendations of PIDAC-IPC's 'Best Practices for Hand Hygiene in All Health Care Settings'.			
29. LTCHs are to provide appropriate PPE that is easily accessible at the point-of-care.			
30. LTCHs are to have a process for evaluating PPE to ensure it meets quality standards where applicable.			
31. Private rooms, with dedicated bathroom and sink, are preferred for the placement of all residents.			
32. Residents who soil the environment or for whom appropriate hygiene cannot be maintained should be prioritized for placement in a private room with dedicated toileting facilities.			
33. The LTCH should implement a program that promotes respiratory etiquette for staff, residents, visitors and essential caregivers.			
34. LTCHs should have sufficient staffing to allow staff to provide optimal resident care while performing all of the elements of Routine Practices in order to minimize infection transmission risk within the home.			
Chapter 5. Additional Precautions			
Recommendations			
35. The LTCH is to have IPAC policies and procedures that outline Additional Precautions and how these should be applied in the LTCH.			
36. The LTCH and LTCH staff are to ensure that the elements of Additional Precautions are consistently applied in the LTCH for residents for whom Additional Precautions are indicated.			
37. LTCHs are to have a program to educate and train all staff on Additional Precautions, including all of the elements of Additional Precautions (e.g., room selection, modification of resident activities, PPE use, equipment cleaning and disinfection, environmental cleaning, communication and signage, etc.).			

Legislative Requirement/Recommendation	Compliance	Partial Compliance	Noncompliance
38. The education and training of staff on all elements of Additional Precautions should be documented and reported back to the manager to become part of the staff's performance record.			
39. The LTCH's IPAC policy should authorize any HCWs working within the LTCH to initiate Additional Precautions if their PCRA identifies that a resident requires Additional Precautions (e.g., resident has developed a new fever and cough), as per the LTCH's IPAC policies and procedures. When initiating Additional Precautions, the resident's most responsible physician and IPAC should be notified.			
40. Residents should only be removed from Additional Precautions in consultation with IPAC.			
41. When a resident requiring Additional Precautions is identified, the placement of the resident should be determined based on the LTCH's IPAC policies and a risk assessment conducted in consultation with IPAC.			
42. When a private room is required for a resident requiring Additional Precautions, but a private room is not immediately available, the feasibility of cohorting residents colonized or infected with the same microorganism should be considered, in consultation with IPAC.			
43. When cohorting, apply Additional Precautions individually for each resident. Do not wear the same gown and gloves when going from resident to resident within the same room. Equipment is to be cleaned and disinfected between residents.			
44. Visitors and essential caregivers that will be in direct contact with, or providing care to, residents in Additional Precautions should be instructed on the appropriate use of all required PPE.			

Legislative Requirement/Recommendation	Compliance	Partial Compliance	Noncompliance
45. Residents requiring Airborne Precautions should be moved to an airborne infection isolation room (AIIR/AIR) as soon as possible. If an a/AIR is not available within the LTCH, this will require transfer to a facility with an AII AIIR/AIR. Until the transfer, the resident is to be restricted to their room and keep the door closed except for medically necessary procedures. Residents in Droplet or Airborne Precautions should wear a mask, if tolerated, when it is necessary for the resident to be outside their room.			
Chapter 6. Medication Safety and Vaccine Management			
Recommendations			
46. Do not re-enter a medication vial with a syringe or needle that has already been used for a resident.			
47. Do not remove medication from a vial with a syringe or needle that has been used for a resident.			
48. Do not reuse syringes.			
49. Do not reuse needles.			
50. Do not reuse single dose vials and do not pool and reuse the leftover contents of single dose vials.			
51. Do not reuse single dose vials and do not pool and reuse the leftover contents of single dose vials.			
52. Do not pre-fill syringes for later use.			
53. Opened multidose medication vials should be discarded according to the manufacturer's instructions or 28 days after opening, whichever is shorter.			
54. The vaccine manufacturer and the Ministry of Health instructions for vaccine storage and handling are to be followed.			
55. Do not share blood glucose monitors and their associated parts between residents.			

Legislative Requirement/Recommendation	Compliance	Partial Compliance	Noncompliance
Chapter 7. Environmental Cleaning			
Legislative Requirements			
56. LTCHs are required to only purchase, install or use surfaces, finishes, furnishings and equipment (including electronic equipment) that can be effectively cleaned and disinfected.			
57. Surfaces, finishes, furnishings and equipment for use in the LTCH are required to be cleanable with hospital cleaners, detergents and disinfectants and should be cleanable with the hospital cleaners, detergents and disinfectants used at the LTCH.			
58. LTCHs are required to adhere to published laundry regulations.			
59. Soiled utility rooms/workrooms: a. Are required to be physically separate from other areas, including clean supply/storage areas. b. Are required to contain a work counter and flushing-rim clinical sink. c. Are required to not use sprayers attached to the hopper. d. Are required to contain a dedicated hand washing sink with hot and cold running water. e. Are required to have adequate space to permit the use of equipment required for the disposal of waste. f. Are required to contain PPE for staff protection during cleaning and disinfection procedures. g. Are required to be adequately sized within the unit and located near the point-of-care.			
60. Clean supply rooms/areas are required to: a. Be separate from and have no direct connection with soiled areas. b. Protect supplies from dust and moisture, and ensure storage off the floor. c. Be adjacent to usage areas and easily available to staff.			

Legislative Requirement/Recommendation	Compliance	Partial Compliance	Noncompliance
61. Housekeeping closets are required to be provided in all major care areas with a minimum of one closet per 650 square metres.			
62. Housekeeping closets: a. Are required to be dedicated for storage of cleaning supplies and the preparation and disposal of cleaning solution; and shall not be used for other purposes. b. Are required to be maintained in accordance with good hygiene practices. c. Are required to have a dedicated hand washing sink with hot and cold running water. d. Are required to have access to an eyewash station. e. Are required to have appropriate PPE available, including safety eyewear. f. Are required to have a hot and cold water supply and a floor sink. g. Are required to be well ventilated and illuminated. h. Are required to be designed to be at negative pressure in relation to surrounding areas. i. Are required to be easily accessible in relation to the area it serves. j. Are required to be secure with access restricted to clinical and support staff. k. Are required to be appropriately sized to the amount of materials, equipment, machinery and chemicals stored in the room/closet, and allow for proper ergonomic movement within the room/closet. l. Are required to not contain personal belonging, food or beverages. m. Are required to have chemical storage that ensures chemicals are not damaged and may be safely accessed. n. Are required to be ergonomically designed so that, whenever possible, buckets can be emptied without lifting them.			
63. Cleaning agents and disinfectants are required to be labelled with WHMIS information.			

Legislative Requirement/Recommendation	Compliance	Partial Compliance	Noncompliance
64. Cleaning agents and disinfectants are required to be stored in a safe manner in storage rooms or closets.			
65. Written policies and procedures are required for the collection, handling, storage, transport and disposal of biomedical waste, including sharps, based on provincial and municipal regulations and legislation.			
66. Waste handlers are required to wear PPE appropriate to their risk.			
67. Waste that is transported within a LTCH: a. Is required to not be transported through clean zones, public areas or resident care units. b. Is required to be transported in leak-proof and covered carts that are cleaned on a regular basis.			
Recommendations			
68. Environmental service programs should prioritize resident safety.			
69. LTCHs should have an individual with overall responsibility for the environmental service program who reports regularly to the LTCH leadership and engages with all stakeholders.			
70. The environmental service program should work with all stakeholders, including IPAC and OHS, to ensure a safe environment for residents and staff.			
71. Environmental service programs should have sufficient resources, to ensure effective cleaning at all times, including low- and high-demand periods.			
72. Environmental service programs should have sufficient staff, based on the size and complexity of the LTCH, to ensure consistent and timely cleaning and disinfection.			

Legislative Requirement/Recommendation	Compliance	Partial Compliance	Noncompliance
73. Environmental service programs should have sufficient supervisors to ensure all environmental service staff are trained, supervised, and adherent to occupational health, IPAC and environmental services policies and procedures, including cleaning schedules and protocols.			
74. LTCHs should have written policies and protocols for cleaning and disinfection of all care areas and equipment that are reviewed and updated regularly.			
75. Where LTCHs contract out their environmental services, the LTCH is to ensure that the service provided meets all of the requirements of the LTCH, and that their practices are consistent with the IPAC and OHS policies of the LTCH.			
76. Environmental services, IPAC, and OHS are to be involved in the selection of all surfaces, finishes, furnishings and equipment for use in the LTCH.			
77. Cloth furnishing should not be used in resident care areas.			
78. Cloth privacy curtains are to be removed, and replaced or cleaned and disinfected following discharge or transfer of the resident (and before a new resident is admitted to that room or bed space), on a regular basis (e.g., monthly, quarterly), and immediately if they are contaminated with blood or body fluids, or are visibly soiled.			
79. Carpeting is not to be used in the resident care areas of the LTCH.			
80. LTCHs should have a process to regularly inspect all surfaces, finishes, furnishing and equipment for damage that may impair cleaning; damaged surfaces, finishes, furnishing and equipment should be repaired or replaced.			
81. Environmental services, IPAC and OHS should be involved in the selection of cleaning products and disinfectants used in the LTCH.			

Legislative Requirement/Recommendation	Compliance	Partial Compliance	Noncompliance
82. Cleaning and disinfecting products used in LTCHs are to be used according to the manufacturer's instructions and should be compatible with the surfaces, finishes, furnishings, items and equipment to be cleaned.			
83. Disinfectants used in the LTCH should be hospital-grade and should have a DIN number.			
84. LTCHs should select a limited number of hospital-grade disinfectants to minimize training requirements and the risk of error.			
85. Cleaning schedules are to be developed based on an assessment of the risk of contaminated surfaces resulting in infection in residents and staff.			
86. All equipment is to be cleaned and disinfected between residents, including transport equipment.			
87. LTCHs should have policies and procedures for the cleaning and disinfection of noncritical medical equipment that designates the required frequency and method for cleaning, and assigns responsibility for the cleaning.			
88. The LTCH is to have a clear process to identify and separate equipment that is used ("dirty") from equipment that has been cleaned and disinfected and is ready for use ("clean").			
89. LTCHs are to have item-specific manufacturer's instructions for the cleaning and disinfecting of all noncritical medical equipment.			
90. LTCHs are to have policies and procedures for the routine and discharge/transfer cleaning of rooms on Contact and Contact/Droplet Precautions, and which specify any specific microorganism for which enhanced cleaning and disinfection practices are required (e.g., C. difficile).			

Legislative Requirement/Recommendation	Compliance	Partial Compliance	Noncompliance
91. LTCHs should have policies and procedures for managing floods, water leaks and spills of blood or body fluid, including the required cleaning and disinfection protocols.			
92. LTCHs should have policies and procedures to ensure laundry is transported, cleaned and stored in a manner that will ensure effective cleaning and avoid recontamination during transportation and storage.			
93. LTCHs should have designated areas for storing clean linens.			
94. LTCHs are to provide initial and continuing education for environmental service workers and should document training and proficiency.			
95. Environmental service workers are to adhere to Routine Practices and Additional Precautions.			
96. OHS policies for LTCH staff (e.g., immunization programs) are to include environmental service workers.			
97. Aerosol or trigger sprays for cleaning chemicals are not to be used.			
98. Ergonomic principles are to be followed when selecting environmental cleaning equipment.			
99. LTCHs should regularly assess the quality of cleaning and disinfection.			
100. LTCHs should use at least one measure that directly assesses cleaning (i.e., environmental marking, ATP bioluminescence), in addition to observational assessments (e.g., performance observation, visual assessment).			
101. Results of cleaning audits should be used for the purposes of training and to provide positive and constructive feedback to environmental service workers.			

Legislative Requirement/Recommendation	Compliance	Partial Compliance	Noncompliance
102. Audit and feedback results are to be presented to the environmental service leadership of the LTCH and to the appropriate infection control and/or quality and safety committee (or equivalent).			
103. Soiled utility rooms/workrooms (in addition to the requirements listed in the legislative requirements section): a. Should have a hands-free door where this does not pose a risk to residents. b. Are to include a utility sink if rinsing or gross cleaning of medical instruments or equipment is performed within the room.			
104. Cleaning carts are to have a clear separation between clean and soiled items.			
105. Cleaning carts are to never contain personal belonging, food or beverages.			
106. Waste that is transported within a LTCH: a. Should be transported following clearly defined transport routes. b. Should not be transported on the same elevator as residents or clean/sterile instruments/supplies/linen.			

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Appendix A: Elements that Comprise Contact Precautions

The following interventions are used in addition to Routine Practices for residents requiring Contact Precautions.

Element	Interventions
Resident Placement	• Placement in a private room (single bed) with dedicated toileting facilities if possible • Door may be open
Modification to Resident Activities and Movement	Residents with a short-term indication for Contact Precautions may be asked to remain in their room, avoid common areas of the long-term care home and refrain from participating in group activities For longer-term indications for Contact Precautions, the above restrictions do not apply, but risk-mitigation strategies are indicated
Transport	• Staff wear appropriate personal protective equipment for direct contact with the resident during transport Clean and disinfect equipment used for transport after use
Gloves	For direct care activities where the health care worker's skin or clothing may come in contact with the resident or items in the resident's room or bedspace
Gown	For direct care activities where the health care worker's skin or clothing may come in contact with the resident or items in the resident's room or bedspace
Equipment and Items in the Environment	• Dedicate if possible • Chart (paper or mobile electronic) should not be taken into the resident environment • Clean and disinfect shared care items after each use
Environmental Cleaning	• Rooms used by residents colonized or infected with Vancomycin-Resistant Enterococci, *Candidozyma auris* or *Clostridioides difficile* require special cleaning • Routine cleaning for other rooms • Remove and launder all curtains (privacy, shower) when visibly soiled and on discharge/transfer cleaning

Element	Interventions
Communication	• Effective precautions are to be communicated to resident, families, other departments, other facilities and transport services prior to transfer.
Signage	• Yes

Appendix B: Elements that Comprise Droplet Precautions

The following interventions are used in addition to Routine Practices for residents requiring Droplet Precautions.

Element	Interventions
Resident Placement	• Door may be open • Resident to remain in room or bed space if feasible, or wear a mask (if tolerated) if coughing within 2 metres of other residents, until no longer infectious • Draw privacy curtain
Modification to Resident Activities and Movement	Residents should remain in their room, avoid common areas of the long-term care home and refrain from participating in group activities
Transport	Resident to wear a mask during transport
Facial Protection	Yes, within 2 metres of resident
Equipment and Items in the Environment	• Dedicate if possible • Routine cleaning
Environmental Cleaning	• Routine cleaning
Communication	• Effective precautions are to be communicated to resident, families, other departments, other facilities and transport services prior to transfer.
Signage	• Yes

Appendix C: Checklist for Safe Medication Practices

Medication Room/Area

- There are facilities for hand hygiene in the medication room/area.
- A puncture-resistant sharps container is accessible at point-of-use.
- There is a dedicated medication/vaccine refrigerator. Food/specimens are not stored in the medication refrigerator.
- Temperatures of refrigerators and freezers used to store vaccines are checked twice daily and recorded.
- There is an alarm on the medication/vaccine refrigerator to warn when the temperature falls outside the recommended range.

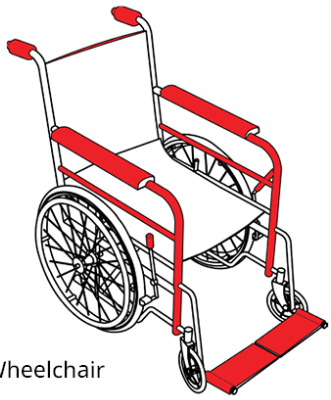
Medications and Vials

- Single dose vials are not reused. Leftover contents are not combined or pooled.
- A sterile syringe and needle/cannula is used when entering a vial.
- All needles and syringes are single resident use only.
- Multidose vials are not used wherever possible.

When the use of multidose vials cannot be avoided, the following requirements are followed each time these vials are used:

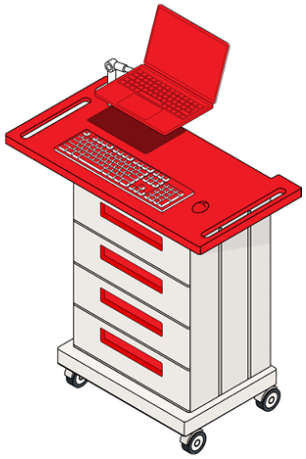
- Each vial is used for a single resident whenever possible and is marked with the resident's name and date of entry, and is discarded at the appropriate time. Vials not marked with the resident's name and original entry date are discarded immediately.
- The vials are accessed aseptically on a clean surface and away from dirty, used or potentially contaminated equipment.
- The diaphragms of the vials are scrubbed using friction and 70% alcohol, and are allowed to dry before inserting a new needle and a new syringe.
- A needle is not left in a vial to be attached to a new syringe.
- The vials are discarded immediately when sterility is questioned or compromised.
- Opened vials are discarded according to the manufacturer's instructions or within 28 days, whichever is shorter, unless the vials are used for a single resident (e.g., allergy shots), the manufacturer's instructions state that the vials can be used for longer than 28 days, AND all of the above requirements are followed.

Appendix D: Examples of High-Touch Items in the LTC Environment



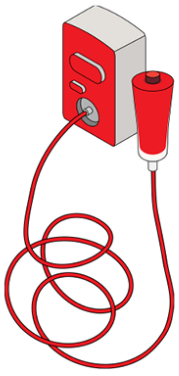
Wheelchair

Walker



Medication / Treatment Cart

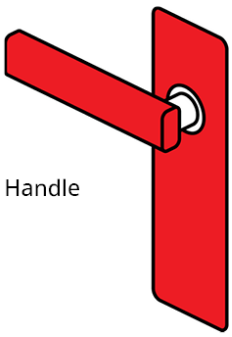
Care Cart



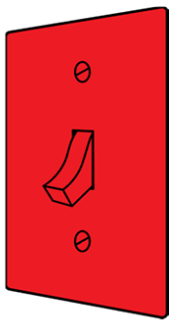
Callbell

Toilet

Door Handle

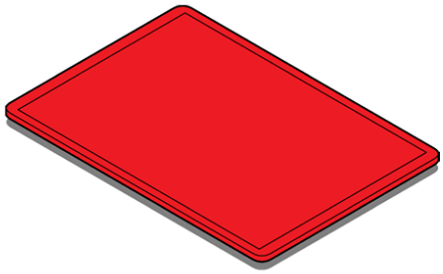


Light Switch

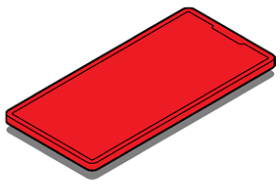


Laptop

Tablet

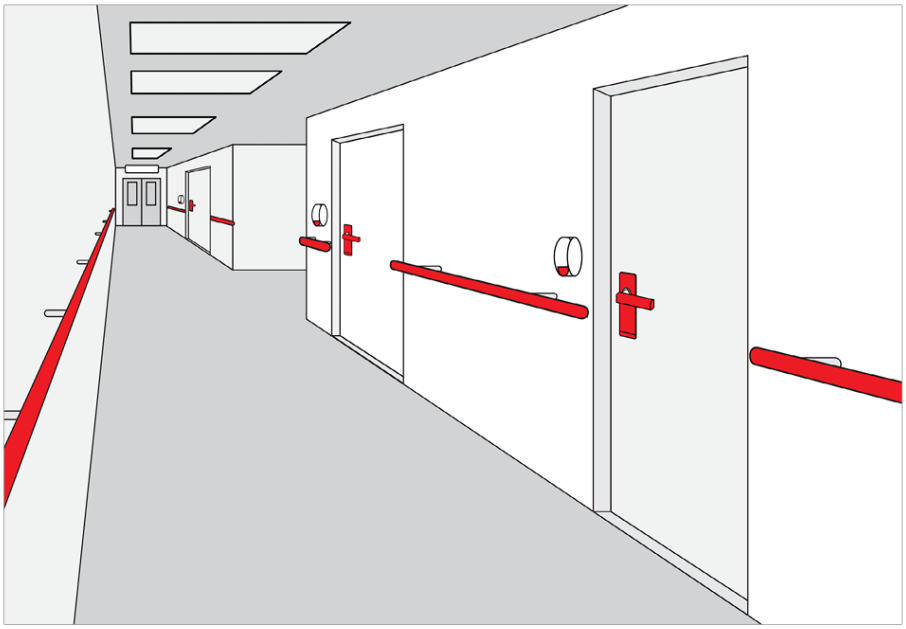


Portable Phone

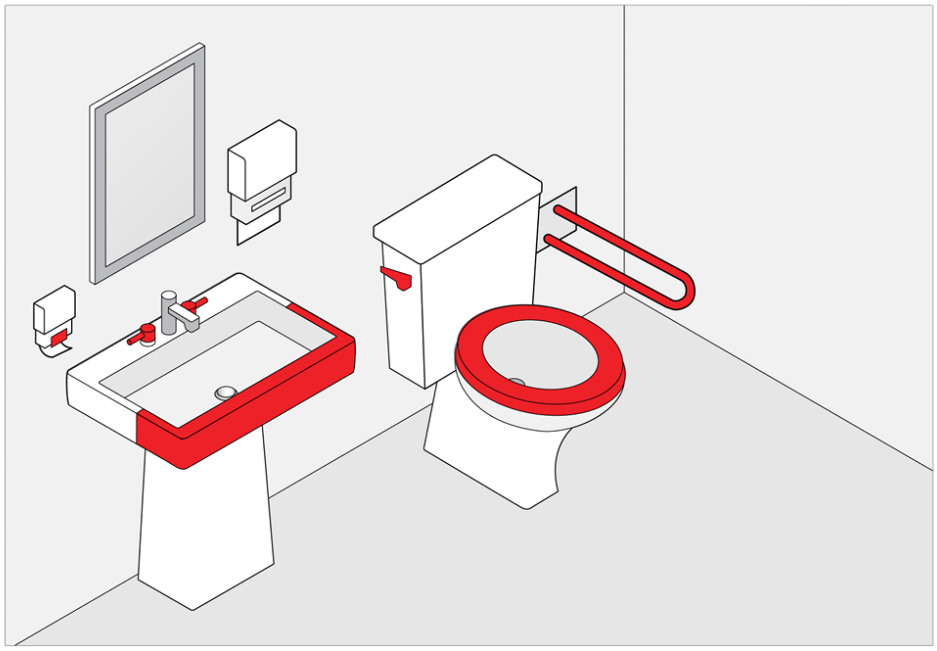


Appendix E: Examples of High-Touch Items and Surfaces in the LTC Environment

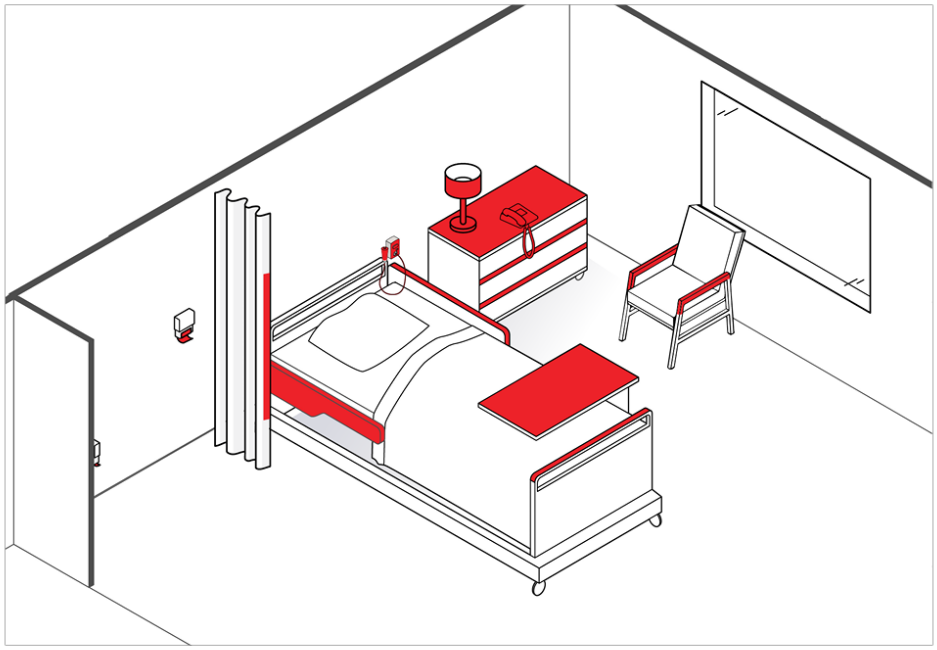
Nurse Station



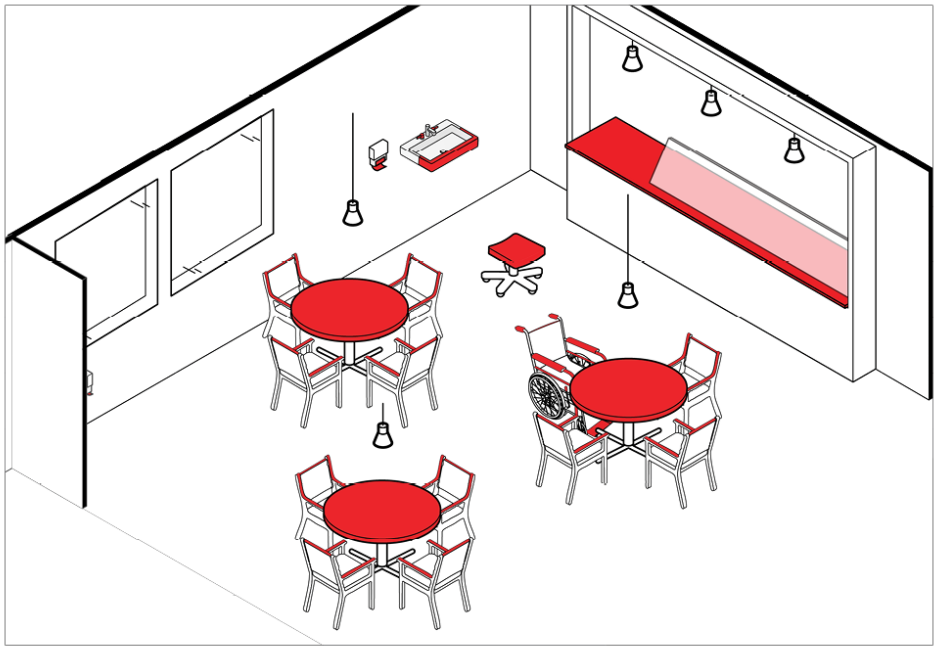
Hallway



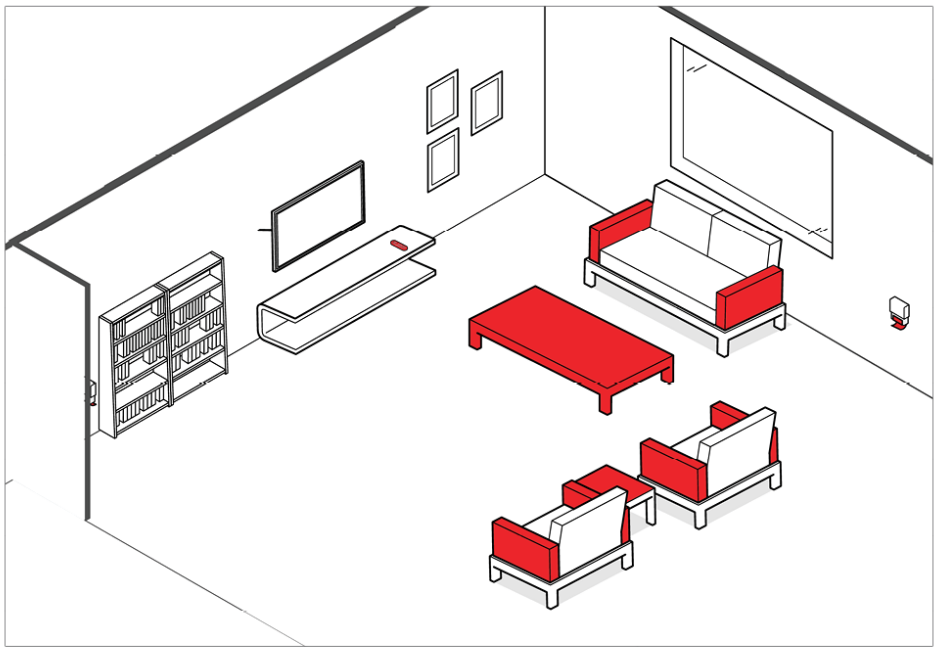
Resident Bathroom



Resident Room



Dining Room



Resident Lounge Area

Public Health Ontario
661 University Avenue, Suite 1701
Toronto, Ontario
M5G 1M12
647.260.7100
pidac@oahpp.ca
publichealthontario.ca