

POSITION STATEMENT:

Infection prevention and control program components for long-term care homes

This position statement was developed by IPAC Canada Long Term Care Interest Group.

Chair: Cathy Guitare/Anne Augustin

Principal Authors: Anne Augustin and Clare Barry

Original Publication Date: July 2021

Disclaimer: This document was developed by IPAC Canada based on best available evidence at the time of publication and is meant to provide advice to Infection Prevention and Control Professionals. The application and use of this document are the responsibility of the user. IPAC Canada assumes no liability resulting from any such application or use.

BACKGROUND

Residents of long-term care homes (LTCHs) are a vulnerable population. As a result, there have been many outbreaks with significant morbidity and mortality caused by a plethora of different micro-organisms (influenza A, SARS-CoV-2, Group A Streptococcus, methicillin-resistant *Staphylococcus aureus* [MRSA], Carbapenemase-producing Enterobacteriaceae [CPE], norovirus, *Clostridioides difficile*, extended spectrum beta-lactamase-producing organisms [ESBL], hepatitis B and C) amongst others [1-5]. There are currently no national IPAC recommendations specifically for an IPAC program in LTCHs, although there have been publications recommending IPAC programs and resources [6-10]. LTC and retirement homes have been disproportionately affected by COVID-19 in Canada with 10% of all Canadian COVID-19 cases (about 80,000), resulting in more than 66% of the national deaths (over 14,000 deaths in residents and close to 30 staff) as of February 2021. More than 2,500 homes experienced an outbreak, and the proportion of COVID-19 deaths in Canadian LTC and retirement home residents (69%) exceeds the international average (41%) [5]. As per federal and provincial/territorial legislation, employers shall ensure that the LTC setting is a safe work environment which protects residents and staff [6].

POSITION STATEMENT

The goals of an IPAC program are to protect residents from healthcare-associated infections and to prevent the spread of infections among residents, healthcare providers, staff, visitors, and others in the healthcare environment [6]. Active, evidence-based IPAC programs that are continuously supported by senior leadership and evaluated on a yearly basis have been demonstrated to decrease the morbidity, mortality and financial

burden of outbreaks in LTCH [1,2,6,7]. The IPAC program should include, as a minimum, the following elements:

Human Resources

- One dedicated full-time equivalent (FTE) Infection Prevention and Control Professional (ICP) per 150-200 occupied beds [6-10].
 - o Where an increase in acuity and complexity of resident care exists (e.g., chronic ventilation, dialysis, and specialized programs for spinal cord injuries, psychiatry and cognitive impairment), one FTE ICP per 150 occupied beds is recommended [7,8].
 - o For homes with fewer than 150 beds, where possible, a dedicated FTE ICP is preferred, especially if combined with a related role (e.g., clinical education). The ICP staffing level should be sufficient to ensure that all the components of the IPAC programs are met as outlined in this position statement.

New ICPs are enrolled in an IPAC-Canada-endorsed training program, which includes the core competencies as described in the document *IPAC Canada Core Competencies for Infection Control Professionals* [11]. Training should commence within the first six months of entering the profession. New ICPs are ideally mentored by an experienced, CIC® certified ICP after hire [7,8]. IPAC Canada endorses certification in Infection Prevention and Control through the Certification Board of Infection Control (CBIC) [12].

- The expected number of hours per week that are devoted to infection prevention and control must be clearly stated and protected [8].
- Access to a physician with the expertise of IPAC [7,8] whose professional development in IPAC includes:

- o surveillance and epidemiology
- o microbiology and infectious diseases
- o outbreak management
- o ability to critically review the IPAC literature [7].

Laboratory

LTCHs should have a collaborative relationship with a licensed and accredited microbiology laboratory. There should be a system to alert the IPAC program when targeted microorganisms are isolated or detected and provide laboratory reports in a timely manner [7,8,10].

IPAC Policies/Procedures

Policies and procedures should be developed from current, evidence-based federal, provincial, territorial and Accreditation Canada guidance/recommendations and legislation, and include as a minimum:

- A hand hygiene program, which includes hand skin care, reflecting the IPAC Canada Practice Recommendation on Hand Hygiene [8,13-16].
- Point-of-Care Risk Assessment, Routine Practices and Additional Precautions [6,8,16-18].
- Outbreak management [6,10,19,20]. In the event of a pandemic, LTCHs will abide by the provincial and federal directives.
- Cleaning of the environment shall be as per national and provincial/territorial guidance [6-8,21].
- Cleaning and disinfection of reusable and shared medical equipment shall be as per national and provincial/territorial guidance [6-8,17,18,21-23].

Education and Training

- All healthcare providers (HCPs) and other staff, including contract staff, are to have IPAC training upon hire, on a regular basis, at least annually, and as needed (e.g., based on audit results, during an outbreak or identification of significant organism, or as directed by provincial/territorial legislation) [6-10,20].
- Education/training is to include as a minimum: hand hygiene, point-of-care/personal risk assessment, routine practices, additional precautions, correct donning and doffing of personal protective equipment (PPE), healthy workplace policy, safe management of sharps, immunization, work restrictions due to infectious diseases, equipment cleaning and disinfection, and environmental cleaning [6-9,19].
- IPAC education is also to be provided to residents, families, visitors, sitters/companions and volunteers as indicated, and includes hand-hygiene, Capitals on Routine Practices and Additional Precautions, correct donning and doffing of PPE, and healthy workplace policy [7-9,19].
- The LTCH ICP should be a member of IPAC Canada and their local chapter to support ongoing education and networking [10].

Occupational Health Program

- IPAC collaborates with this program, which includes, at a minimum, a healthy workplace policy, a sharps safety program, review of immunizations, TB screening, a hand skin care program, and a process for monitoring trends for any communicable infections, such as acute respiratory infection and gastroenteritis, in HCPs and other staff [7,8,18-20].
- A Resident Immunization Program (e.g., influenza, pneumococcal vaccine, pandemic vaccines), which follows the National Advisory Committee on Immunization (NACI) recommendations [7,20,24].

Surveillance Program

Process and outcome surveillance is required to ensure data is systematically collected, collated, analyzed, and disseminated to those who require it to take action [6,25]. The surveillance program has a written process, which is evidence-based and is aligned with provincial/territorial legislation requirements for surveillance and reporting, and takes into account local epidemiology [6-8,25-28]. As a minimum surveillance shall include:

- Admission screening, active syndromic surveillance (e.g., respiratory infection and gastroenteritis), and identification of sentinel events (e.g., invasive group A *Streptococcus*, SARS-CoV-2);
- Process audits (e.g., compliance with Routine Practices and Additional Precautions, including hand hygiene, PPE use, environmental cleaning, shared equipment cleaning);
- Antimicrobial stewardship (e.g., asymptomatic bacteriuria/urinary tract infections, *Clostridioides difficile*)

Facility Design, Renovation and Maintenance

The ICP is included as part of the multidisciplinary team/project team. The ICP has an important role in the prevention of infections throughout any construction/renovation/maintenance or facility design project [29-34]. For any renovations or redevelopment, the Canadian Standards Association's (CSA) document, Z8000 *Canadian healthcare facilities*, should be followed with respect to design with the goal to eliminate multi-bed rooms (i.e., ensuring single rooms with a single resident dedicated bathroom and sink). Studies have shown a clear relationship between use of single rooms and the reduction in infection transmission [18,29,32-34]. The CSA Z317-13 document, *Infection control during construction, renovation, and maintenance of healthcare facilities*, should be followed for IPAC measures needed during construction/renovation/maintenance of a facility [29,31].

GLOSSARY/DEFINITIONS

As per the Canadian Standard Association (CSA):

“SHALL” is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the standard.
 “SHOULD” is used to express a recommendation, or that which is advised but not required; and
 “MAY” is used to express an option, or that which is permissible within the limits of the standard, an advisory or optional statement.

Healthcare provider: Any person delivering care to a client/patient/resident. This includes, but is not limited to, the following: emergency service workers, physicians, dentists, nurses, respiratory therapists and other health professionals, personal support workers, clinical instructors, students and home healthcare workers. In some non-acute settings, volunteers might provide care and would be included as a healthcare provider. See also, Staff [7].

Long-term care home: A long-term care home (LTCH) provides care and services for people who are no longer able to live independently, or who require onsite nursing care, 24-hour supervision, or personal support.

Staff: Anyone conducting activities in settings where healthcare is provided, including healthcare providers. See also, Healthcare providers [7].

Stakeholders: LTCH management and healthcare providers, residents, families and visitors and the community at large.

REFERENCES

1. Lee MH, Lee GA, Lee SH, Park Y-H. A systematic review on the causes of the transmission and control measures of outbreaks in long-term care facilities: Back to basics of infection control [Internet]. 2020 Mar [cited 2021 Jul 28]. Available from: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0229911>.
2. Capitano B, Leshem OA, Nightingale CH, Nicolau DP. Cost effect of managing methicillin-resistant *Staphylococcus aureus* in a long-term care facility. *J Am Geriatr Soc*. [Internet]. 2003 Jan [cited 2021 Jul 28];51(1):10-6. Available from: <https://pubmed.ncbi.nlm.nih.gov/12534839/>.
3. Nicolas-Chanoine MH, Jarlier V. Extended-spectrum beta-lactamases in long-term-care facilities. *Clin Microbiol Infect*. [Internet]. 2008 Jan [cited 2021 Jul 28];14 Suppl 1:111-116. Available from: <https://pubmed.ncbi.nlm.nih.gov/18154534/>.
4. Rajagopalan S, Yoshikawa TT. Norovirus infections in long-term care facilities *J Am Geriatr Soc*. [Internet]. 2016 May [cited 2021 Jul 28];64:1097-1103, 2016. Available from <https://pubmed.ncbi.nlm.nih.gov/27225361/> doi: 10.1111/jgs.14085.
5. Canadian Institute for Health Information. The impact of COVID-19 on long-term care in Canada: Focus on the first 6 months. Ottawa, ON: CIHI [Internet]; 2021 [cited 2021 Jul 28]. Available from: <https://www.cihi.ca/sites/default/files/document/impact-covid-19-long-term-care-canada-first-6-months-report-en.pdf>.
6. Ontario Agency for Health Protection and Promotion (Public Health Ontario). Infection prevention and control for long-term care homes: summary of key principles and best practices. Toronto, ON: Queen's Printer for Ontario; 2020 [cited 2021 Jul 28]. Available from: <https://www.publichealthontario.ca/-/media/documents/i/2021/ipac-ltch-principlesbest-practices.pdf?la=en>.
7. Ontario Agency for Health Protection and Promotion. Provincial Infectious Diseases Advisory Committee. Best practices for infection prevention and control programs in all health care settings, 3rd edition. Toronto, ON: Queen's Printer for Ontario; May 2012 [cited 2021 Jul 28]. Available from: <https://www.publichealthontario.ca/-/media/documents/b/2012/bp-ipac-hc-settings.pdf?la=en>.
8. IPAC Canada. Infection prevention and control (IPAC) program standard (2016). Available from: https://ipac-canada.org/photos/custom/pdf/IPAC_PROGRAM_STANDARD_2016.pdf.
9. Provincial Infection Control Network British Columbia: Framework for staffing and core competencies training designed for infection control programs. 2007 Mar [cited 2021 Jul 28]. Available from: https://www.picnet.ca/wpcontent/uploads/Part_Two_Needs_Assessment_Document.pdf.
10. Health Canada, Nosocomial and Occupational Infections Section. Development of a resource model for infection prevention and control programs in acute, long term, and home care settings: Conference proceedings of the Infection Prevention and Control 6 Alliance. *Am J Infect Control* [Internet]. 2004 [cited 2021 Jul 28];32:2-6. Available from: <https://pubmed.ncbi.nlm.nih.gov/14755227/>.
11. IPAC Canada. IPAC Canada core competencies for infection control professionals. 2016 Oct [cited 2021 Jul 28]. Available from https://ipaccanada.org/photos/custom/pdf/2016_IPAC_Canada_CoreCompetenciesforICPs.pdf.
12. Certification Board of Infection Control and Epidemiology (CBIC). Eligibility requirements. [cited 2021 Jul 28]. Available from: <https://www.cbic.org/CBIC.htm>.
13. IPAC Canada: Practice recommendations for hand hygiene in healthcare settings 2017 Jun 19. Available from: https://ipaccanada.org/photos/custom/Members/pdf/17JulHand%20Hygiene%20Practice%20Recommendations_final.pdf.
14. Public Health Agency of Canada: Hand hygiene practices in healthcare settings. 2012 [cited 2021 Jul 28]. Available from: http://publications.gc.ca/collections/collection_2012/aspcphac/HP40-74-2012-eng.pdf.
15. Ontario Agency for Health Protection and Promotion (PHO). Provincial Infectious Diseases Advisory Committee. Best practices for hand hygiene in all health care settings, 4th edition, Toronto, ON: Queen's Printer for Ontario; April 2014 [cited 2021 Jul 28]. Available from <https://www.publichealthontario.ca/-/media/documents/b/2014/bp-handhygiene.pdf?la=en>.
16. Ontario Agency for Health Protection and Promotion (PHO). Provincial Infectious Diseases Advisory Committee recommendations for prevention, detection and

- management of occupational dermatitis for health care workers, Toronto, ON: Queen's Printer for Ontario; October 2019 [cited 2021 Jul 28]. Available from <https://www.publichealthontario.ca/-/media/documents/g/2019/guide-occupational-dermatitis.pdf?la=en>.
17. Public Health Agency of Canada (PHAC). Routine Practices and Additional Precautions for preventing the transmission of infection in health care settings. 2016 [cited 2021 Jul 28]. Available from <https://www.canada.ca/content/dam/phacascpc/documents/services/publications/diseases-conditions/routine-practices-precautionshealthcare-associated-infections/routine-practices-precautions-healthcare-associatedinfections-2016-FINAL-eng.pdf>.
 18. Ontario Agency for Health Protection and Promotion, Provincial Infectious Diseases Advisory Committee. Routine Practices and Additional Precautions in all health care settings. 3rd edition. Toronto, ON: Queen's Printer for Ontario; November 2012 [cited 2021 Jul 28]. Available from <https://www.publichealthontario.ca/-/media/documents/b/2012/bp-rpap-healthcare-settings.pdf?la=en>.
 19. Public Health Agency of Canada (PHAC). Essential resources for effective infection prevention and control programs: A matter of patient safety. A discussion paper. 2015 [cited 2021 Jul 28]. Available from: <http://aceco.ca/wp-content/uploads/2015/03/ps-speng.pdf>.
 20. Accreditation Canada. Qmentum Program: Infection prevention and control standards. 2021 [cited 2021 Jul 28]. Available from: <http://www.accreditation.ca/qmentum>.
 21. Ontario Agency for Health Protection and Promotion (Public Health Ontario), Provincial Infectious Diseases Advisory Committee. Best practices for environment cleaning for prevention and control of infections in all health care settings 3rd edition, Toronto, ON: Queen's Printer for Ontario; April 2018 [cited 2021 Jul 28]. Available from: <https://www.publichealthontario.ca/-/media/documents/B/2018/bp-environmentalcleaning.pdf>.
 22. CSA Group. CSA Z314-18: Canadian Medical Reprocessing. Toronto, ON. CSA Group; 2018.
 23. Ontario Agency for Health Protection and Promotion (Public Health Ontario). Provincial Infectious Diseases Advisory Committee. Best practices for cleaning, disinfection and sterilization of medical equipment/devices. 3rd ed. Toronto, ON: Queen's Printer for Ontario; May 2013 [cited 2021 Jul 28]. Available from: <https://www.publichealthontario.ca/-/media/documents/b/2013/bp-cleaning-disinfectionsterilization-hcs.pdf?la=en>.
 24. National Advisory Committee on Immunization (NACI): Statements and publications. Available from: <https://www.canada.ca/en/public-health/services/canadian-immunizationguide.html>.
 25. Ontario Agency for Health Protection and Promotion (PHO). Provincial Infectious Diseases Advisory Committee. Best Practices for Surveillance in all Health Care Infections in patient and resident populations, Toronto, ON: Queen's Printer for Ontario; July 2014 [cited 2021 Jul 28]. Available from: <https://www.publichealthontario.ca/-/media/documents/b/2014/bp-hai-surveillance.pdf?la=en>.
 26. Stone ND, Ashraf MS, Calder J, et al. Surveillance definitions of infections in long-term care facilities: revisiting the McGeer criteria. *Infect Control Hosp Epidemiol*. [Internet]. 2012 [cited 2021 Jul 28];33(10):965-977 doi:10.1086/667743. Available from: <https://pubmed.ncbi.nlm.nih.gov/22961014/>.
 27. Happe J, Stoll F, Biluk L, Cargill K, Cuff A, Cerkowniak G, et al. Surveillance definitions of infections in Canadian long-term care facilities. IPAC News. Fall 2017 [cited 2021 Jul 28]. Available from: <https://www.patientsafetyinstitute.ca/en/About/PatientSafetyForwardWith4/Documents/Canadian%20LTC%20Surveillance%20Definitions.pdf>.
 28. IPAC Canada Position Statement: Surveillance in Long-Term Care Settings. Sept 2019 [cited 2021 Jul 28]. Available from: https://ipaccanada.org/photos/custom/Members/pdf/IPAC_LTC_Surveillance_Position_Statement_June2019_FINAL.pdf.
 29. IPAC Canada. Position Statement: Health care design and construction. March 2016 [internet]. Available from https://ipaccanada.org/photos/custom/Members/pdf/Heath_Care_Facility_Design_Construction_March2016_English_Disclaimer.pdf.
 30. Ontario Agency for Health Protection and Promotion (Public Health Ontario). Construction, renovation, maintenance and design (CRMD). 2021 [cited 2021 Jul 28]. Available from: <https://www.publichealthontario.ca/en/health-topics/infection-prevention-control/crmd>.
 31. CSA Group. Z317.13: Infection control during construction, renovation, and maintenance of health care facilities. Toronto, ON. CSA Group. 2013.
 32. CSA Group. Z8000-18: Canadian health care facilities. Toronto, ON. CSA Group. 2018.
 33. Wrublowsky R. Design guide for long term care homes. [Internet]. 2018.01 [cited 2021 Jul 28]. Available from: https://www.fgiguilines.org/wpcontent/uploads/2018/03/MMP_DesignGuideLongTermCareHomes_2018.01.pdf.
 34. Ulrich, RP, Quan X, Zimring CP, Joseph A, Choudhary R. The role of the physical environment in the hospital of the 21st century: A once-in-a-lifetime opportunity. The Center for Health Design. 2004 Sept [cited 2021 Jul 28]. Available from: <https://www.healthdesign.org/knowledge-repository/role-physical-environment-hospital-21st-century-once-lifetime-opportunity>. ✳