

FOCUS ON

Cohorting in Respiratory Virus Outbreaks



Published: February 2024

Introduction

Cohorting is one of many <u>layers of protection</u>¹ or control measures available to prevent the spread of infection. Other measures include vaccination, screening, ventilation, hand hygiene, environmental cleaning and use of personal protective equipment (PPE).¹ The document is intended to assist public health units (PHUs) supporting settings with outbreaks and summarizes approaches and options for how long-term care homes (LTCH), retirement homes (RH) and other congregate living settings (CLS), such as shelters, and group homes can cohort residents. These principles may also be applicable in other settings when cohorting may be instituted (e.g., acute care).

This document provides options for possible cohorts, considerations regarding cohorts, and summarizes what PPE staff should wear while providing direct care (e.g., assisting with feeding, washing, bathing, shaving, toileting, turning and managing wounds) within each cohort.

For the purpose of this document the place where individuals are living (e.g., LTCH, RH, other CLS, such as shelters, group homes) will be referred to as settings and the persons residing in the setting will be referred to as residents.

Note: Principles and considerations outlined in this document may not be applicable, appropriate or possible in some outbreaks and settings. They are presented as concepts and options for settings and local PHUs to consider and tailor for the specific setting and outbreak circumstances.

Background

What is cohorting? Per the Provinical Infectious Diseases Advisory Committee's *Routine Practices and Additional Precautions in All Health Care Settings*, cohorting is defined as: "The assignment of a geographic area such as a room or a patient care area to two or more clients/patients/residents who are either colonized or infected with the **same microorganism** [virus], with staffing assignments restricted to the cohorted group of patients."²

Cohorting consists of two components: client/patient/resident cohorting and staff cohorting. Cohorting is applicable in acute care settings for control of transmission of microorganisms or outbreaks. LTCH, RH and other CLS may consider the use of cohorting while understanding that the movement of residents to achieve geographical cohorting may be challenging or cause harm to the resident, e.g., disruption, anxiety or disorientation. In practice, LTCH resident cohorting does not always mean the resident will be moved from their room. Rather, those who already share a room or who share a bathroom and who are infected or colonized with the same microorganism may be treated as a cohort.² Staff cohorting is applicable in all health care settings.²

Purpose of Cohorting?

The goal of cohorting is to minimize interaction of infectious clients/patients/residents with noninfected clients/patients/residents³ as well as reducing the risk of transmission between health care workers (HCW's) and non-infected residents.

Cohorting, which contributes to the control of outbreaks, can be used when single rooms are not available, and should be considered when transmission is documented and continues despite alternative interventions, and when available facilities and staffing allow for the establishment of cohorting.³

Glossary

Congregate living settings (CLS): Living situations where people, most or all of whom are not related, live or stay overnight and use shared spaces (e.g., bedrooms, bathrooms, kitchens, living rooms and/or dining rooms). Congregate living facilities include a wide range of settings such as retirement homes, group homes, correctional and youth justice facilities, children or youth residential settings, shelters, rooming and boarding houses, and dormitories.

Cohort: Group of people who have or may have infectious illnesses or are at similar risk of developing an infectious illnesses.

Cohorting: The assignment of a geographic area such as a room or a resident care area two or more residents who are either colonized or infected with the same microorganism, with staffing assignments restricted to the cohorted group of residents.²

Staff cohorting: The practice of assigning specified health care providers to care only for residents known to be colonized or infected with the same microorganism.²

Outbreak and non-outbreak areas: The outbreak area has active and/or suspect/exposed cases of illness that are linked. The non-outbreak area is the remainder of the facility. In some outbreaks, the whole facility (or multiple areas of the facility) is considered the outbreak area.

Personal protective equipment (PPE): Equipment that is worn to protect an individual from transmission of infection from residents, is selected based on a point-of care risk assessment. This may include gloves, gown, medical mask or N95 respirator (or equivalent) and eye protection (goggles, face shield, mask with visor).⁴

Universal masking: Wearing a mask at all times within a facility for source control (containing respiratory particles) to help prevent transmission of infection to others.

Cohorting

Considerations when Cohorting

Below are a number of factors to keep in mind when making decisions regarding cohorting. These will vary depending upon the type of setting, population served, care provided and the physical design of the building.

- Concurrent outbreaks (i.e., two or more viruses circulating in a setting at the same time).
 - Only cohort residents with the same viral infection (e.g., both residents have been tested for and are positive for Infleunza A)
- Staff assignments within the setting.
- Staff working at different organizations. Is this permitted during the outbreak?
- Ability to move residents within the setting.
- Building infrastructure (i.e., can individuals be isolated, are there single rooms)?
- Use of a shared bathroom.
- Use of a shared kitchen.
- Meals and activities (e.g., in room meals and activities, staggered dining times or walks [inside or outside]).
- Cleaning and disinfection of shared spaces between cohorts.

Defining Outbreak Area and Cohorts

The Outbreak Management Team (OMT)/PHU determine if the whole setting will be considered the outbreak area or if there is a non-outbreak area based on: the number of outbreak cases and exposed individuals and where these cases are located in the setting; the movement of staff and residents within the setting; and the layout of the setting. For example, a small facility may be considered a whole facility outbreak, while a larger facility with clearly defined units/floors, where cases are only occurring on a specific unit/floor may be able to function with non-outbreak areas. It is best to define the outbreak area broadly to ensure maximum protection of residents and staff.

Within each area, a number of cohorts may be defined (see <u>Appendix 1</u>). Cohorting may differ in every outbreak and across different types of settings. The local PHU can help determine the cohorts.

Non-outbreak areas should only be those areas which have clearly had no cases linked to the outbreak, no exposed staff or residents and no mixing of residents or staff with floors/units that have cases or exposed staff or residents (e.g., the non-outbreak area is a completely separate building or wing with no mixing of residents or staff with the outbreak area).

When in doubt, consider declaring the whole setting in outbreak. If there is a non-outbreak area, residents and staff in that area should be monitored closely for signs and symptoms of an infectious illness.

Resident Cohorting

Residents within each cohort should be separated from other cohorts whenever possible. Residents may need to be moved into a different cohort should there be a change in their status e.g., develop symptoms or newly test positive for an infectious illness. See <u>Appendix 1</u> for a list of possible cohorts. Only those residents who are no longer communicable may move from the outbreak cohort to the non-outbreak cohort.⁵

When residents are cohorted, it is important for each cohort to be geographically as far apart as possible, such as in separate wings, floors, units or sections of the setting or using an offsite space (e.g., motel, separate building). The appropriate staffing and supports must be available for residents in each cohort.

Universal resident masking may be recommended in common spaces used by cohorts, if tolerated. This is because some residents may be infected without having symptoms and therefore may have the potential to spread infection to others. See <u>Appendix 2</u> for considerations regarding cohorting.

The priority in cohorting is to:

- Separate the outbreak area from the non-outbreak area (if there is a non-outbreak area).
- Within the outbreak area, separate cohorts into:
 - exposed, well, and not known to have the outbreak infectious illness(es)
 - exposed, ill but not known to have the outbreak infectious illness(es)
 - those with the outbreak infectious illness(es)
 - those with the resolved illness (deemed no longer communicable based on virus and known period of communicability) cohort

If possible:

- The exposed, well and not known to have outbreak infectious illness(es) cohort can be further divided into sub-cohorts of those who had close contact with someone with the outbreak infectious illness (e.g., roommate) and those who did not.
- The **exposed**, **ill but not known to have the outbreak infectious illness cohort** can be further divided into sub-cohorts of those who have tested negative for the specific outbreak-related organism and those with unknown status.

Keeping residents separate from each other within cohorts:

- Whenever feasible, residents should be accommodated in private rooms with private bathrooms.
- If residents cannot be in private rooms, separation can be achieved through measures such as:
 - maintaining maximum distance between residents,
 - ensuring proper ventilation and air cleaning,
 - promoting mask usage (pariticularly by cases).
- Partitions (e.g., curtains or cleanable barrier) can be considered, however they can obstruct airflow and should be used judiciously to minimize this (e.g., do not obstruct supply or return vents) and cleaned regularly. Consider markings on the floor to support physical distancing. See <u>Appendix 2</u> for cohorting considerations.

- Beds can be arranged head to foot or foot to foot to increase the distance between residents' heads. Bunk beds should be avoided.
- Dedicate resident care equipment to individual residents. Where equipment cannot be dedicated, resident care equipment is to be cleaned and disinfected between uses.²

Moving Residents

Prior to moving residents, discussion should occur with the OMT/local PHU to help determine the safest move strategy. It is important to recognize that residents in an outbreak area who may have been exposed to a case but are not currently identified as being a case or contact could potentially be incubating infection which could result in transmission of infections in the new area.

Relocation of residents may be traumatic or disconcerting and consideration should be given to providing additional mental health or emotional supports for residents, as required. Consider opportunities to maintain social interactions between cohorts and between residents and others outside of the setting while maintaining physical distancing (e.g., telephone, video chat).⁶

Meals

If possible, all residents should have their meals in their rooms. If residents must eat in a group, it should only be with their cohort if possible. Using more than one dining room space can be considered. The scheduled order of using a shared dining room should be from the lowest risk cohort to the highest risk cohort (i.e., lowest risk of having/transmitting the outbreak organism to the highest risk of having/transmitting the outbreak organism), if possible (see <u>Figure 1</u>).

Residents **in the dining room should remain as far apart as possible and at least two metres apart.** Physical distancing may be achieved via re-arrangement of furniture so that chairs are two metres apart and residents are not facing each other. Tables, arm rests on chairs and other frequently touched surfaces should be <u>cleaned and disinfected</u>⁷ between cohorts.

Bathrooms

Private bathrooms for each resident are preferred if at all possible, particularly for the cohorts not known to have a confirmed infectious illness. If bathrooms must be shared, each cohort should have their own bathroom, if possible. If different cohorts must share a bathroom, consider each cohort using it at different times for activities that require longer time in the bathroom, such as personal hygiene (e.g., for washing, showering, shaving). If the bathrooms must be shared between cohorts, the order of using the bathroom should be from the lowest risk cohort to the highest risk cohort, where feasible (see <u>Figure 1</u>). If possible, clean and disinfect the bathroom in between cohorts. Limit capacity in the bathroom based on ability to physically distance; residents should remain as far apart as possible at all times and at least two metres apart and remain masked when possible; consider having only one individual use the bathroom at a time, if possible, particularly if the bathroom is small.

Figure 1 below illustrates the lowest to highest risk of a resident having/transmitting the outbreak organism.

Figure 1: Cohort Risk Levels

Ill and infectious with outbreak organism(s)	High Risk
Exposed, ill but causative organism status unknown	
Exposed, ill but negative for outbreak organism	
Exposed and well (if tested, negative for outbreak organism) Close contact of a case	
Exposed and well (if tested, negative for outbreak organism) Not a close contact of a case	
Never exposed and well	
Resolved case with outbreak organism	Low Risk

Staff Cohorting

Staff should ideally work with only one cohort of residents on each shift and over the course of the outbreak, if possible. If staff are required to work with multiple cohorts on a shift, they should move from the lowest risk (e.g., resolved/never exposed and well) to the highest risk (ill/infectious) cohorts (see Figure 1).

PPE and Masking for Source Control

In the Non-Outbreak Area

At the discretion of the OMT/PHU, staff wear a medical mask at all times (except when eating or drinking – when they should stay two metres away from others – or when alone in a private space).

Other PPE will be dependent on the care being provided to the residents and the resident's health status, per PCRA (Routine Practices and Additional Precautions In All Health Care Settings²).

In the Respiratory Outbreak Area

At the discretion of the OMT/PHU, staff may wear a medical mask at all times.

Wear the <u>recommended PPE⁴</u> when providing direct care for residents:

- With suspect or confirmed COVID-19 infection: a medical mask or N95 respirator (fit-tested, sealchecked) (or equivalent), eye protection, gown, and gloves.⁴
- For other suspect or confirmed respiratory illnesses (e.g., influenza, Respiratory Syncytial Virus (RSV). PPE includes medical masks, eye protection, gown, and gloves.²
- Fresh PPE should be worn for the care of each resident and should not be worn between residents within the cohort.² All PPE should be changed in between care of residents and hands cleaned.²
- Gloves must be removed and hands cleaned before removing any facial protection and then hands should be cleaned again. See information on <u>putting on and taking off PPE</u>.⁸
- PPE must always be changed if it becomes wet or dirty during the provison of care.

Appendix 1: Possible Cohorts of Residents

The following tables provide criteria for determining possible cohorts of residents, such as whether the resident has been in close contact with outbreak case(s), presents infectious illness symptoms, and test results. Start by determining the outbreak area (i.e., non-outbreak area or outbreak area) and use the tables to determine possible sub-cohorts that can be applied.

Table A1a: Non-outbreak Area

Possible sub-cohorts	Close contact with outbreak case(s)	Infectious illness Symptoms	Test Results
Resolved case	No new exposure	Absent/Improving	Not testing for cure; Deemed no longer communicable based on the virus and its known period of communicability.
Never exposed and well	No	Absent	No test results or negative

Table A1b: Outbreak Area – Exposed and Well Cohort

Possible sub-cohorts	Close contact with case(s)	Infectious illness Symptoms	Test Results
Not close contact of a case*	No	Absent	No test result or negative
Close contact of a case*	Yes	Absent	No test result or negative

*Close contacts include roommates, dining table mates and others who have spent time within two metres of someone who has the outbreak infectious illness if the contact was not wearing appropriate PPE.⁵ See <u>Appendix 1:</u> <u>Case Definitions and Disease Specific Information</u>⁵ for details on contact exposure assessment.

Table A1c: Outbreak Area – Exposed, Ill but Not Known to Have Outbreak Infectious Illness Cohort

Possible sub-cohorts	Close contact with infectious illness case(s)	infectious illness Symptoms	Test Results
Exposed, ill and outbreak infectious illness negative	Yes or no	Present	Negative
Exposed, ill and outbreak infectious illness status unknown	Yes or no	Present	No test result or results pending

Table A1d: Outbreak Area – Outbreak infectious illness Positive and Infectious Cohort

Cohort	Close contact with infectious illness case(s)	infectious illness Symptoms	Test Results
Outbreak infectious illness positive and infectious	Yes or no	Present or absent	Positive

Appendix 2: Cohort Considerations

The following tables provide criteria for determining possible cohorts of residents, and the potential bed placement/movement within the cohort area that can be applied. Start by determining the outbreak area (i.e., non-outbreak area or outbreak area) and use the tables to determine if further possible sub-cohorts can be applied.

Table A2a: Non-outbreak Area

Possible sub-cohorts	Considerations	Residents bed placement and movement within the cohort area
Resolved illness	Once a resident's infection has resolved (e.g., no longer communicable), remove from the illness positive cohort and place in the non-outbreak area, if possible. ⁵	 May share rooms if needed with residents in the 'never exposed and well' sub-cohort. May use common areas, consider using physical distancing from other residents.
Never	Residents who are well and never	 May share rooms if needed including with residents with resolved illness.
exposed and exposed are to remain in the non- well outbreak area.	 Should remain two metres apart, as recommended for all residents. May use common areas, but should remain two metres apart from other residents. 	

Table A2b: Outbreak Area – Exposed and Well Cohort

Possible sub-cohorts	Considerations	Residents bed placement and movement within the cohort area
May not be able to identify		 Private rooms with private bathrooms. If not possible, as far apart as possible (at least two metres apart at all times).
contact of a case*	contact of a contact with the	 Residents remain in their room as much as possible, except for essential care.
infectious illness case(s).	 May be placed with a resolved outbreak illness residents, remaining in the outbreak area. 	
Close contacts of a case* May not be able to identify these individuals.		 Private rooms with private bathrooms. If not possible, as far apart as possible (at least two metres apart at all times).
	May not be able to identify these individuals.	 Residents remain in their room as much as possible, except for essential care.
	 May be placed with a resolved outbreak illness resident, remaining in the outbreak area. 	

*Close contacts include roommates, dining table mates and others who have spent time within two metres of someone who has the outbreak infectious illness if the contact was not wearing appropriate PPE.⁵ See Appendix 1: <u>Case Definitions and Disease Specific Information</u>⁵ for details on contact exposure assessment for COVID-19 cases.

Table A2c: Outbreak Area – Exposed, Ill but Not Known to Have the infectious Outbreak illness Cohort

Possible sub-cohorts	Considerations	Residents bed placement and movement within the cohort area
Exposed, ill and outbreak	If symptoms persist or worsen, consider	 Private rooms with private bathrooms. If not possible, as far apart as possible (at least two metres apart at all times).
negative	ative causes of their illness	• If possible, should not leave their rooms, except for essential care.
Exposed, ill and		 Remain in current room pending test results, with bed as far apart as possible and at least two metres from others
outbreak Offer testing if not already infectious illness status unknown	 Move to appropriate cohort based on test results and in consultation with local PHU (*see Figure 1) 	
		• Should not leave their rooms, except for essential care.

*Close contacts include roommates, dining table mates and others who have spent time within two metres of someone who has the outbreak infectious illness if the contact was not wearing appropriate PPE.⁵ See <u>Appendix 1:</u> <u>Case Definitions and Disease Specific Information</u>⁵ for details on contact exposure assessment for COVID-19 cases.

Table A2d: Outbreak Area – Resolved Outbreak Infectious Illness Positive (no longer infectious) Cohort

Possible sub-cohorts	Considerations	Residents bed placement and movement within the cohort area
		 May share rooms if needed with the following sub-cohorts:
Resolved Consult with local public Outbreak illness health.		 Resolved outbreak infectious illness residents
	Consult with local public	Not close contact of a case
	health.	Close contacts of a case
		 Confirmed outbreak infectious illness positive and infectious
		 Should remain two metres apart, as recommended for all residents.

Cohort	Considerations	Residents bed placement and movement within the cohort area
		 May share rooms if needed, maintain two metre separation
Outbreak infectious illness positive and infectious infectious	 May be placed with a resolved outbreak illness residents 	
	 Should not leave their rooms, except for essential care 	
		• Activities within the cohort may be considered in consultation with the local public health unit.

Table A2e: Outbreak Area – Outbreak infectious illness Positive and Infectious Cohort

References

- Ontario Agency for Health Protection and Promotion (Public Health Ontario). How to protect yourself and others from respiratory viruses [Internet]. Toronto, ON: King's Printer for Ontario; 2023 [cited 2023 Oct 23]. Available from: <u>https://www.publichealthontario.ca/-</u>/media/Documents/R/2023/respiratory-viruses-protect-yourself.pdf
- Ontario Agency for Health Protection and Promotion (Public Health Ontario), Provincial Infectious Diseases Advisory Committee. Routine practices and additional precautions in all health care settings. 3rd ed. Toronto, ON: Queen's Printer for Ontario; 2012. Available from: <u>https://www.publichealthontario.ca/-/media/documents/b/2012/bp-rpap-healthcare-settings.pdf?la=en</u>
- 3. Minnesota. Department of Health. Resident cohorts for respiratory outbreaks in long-term care [Internet]. St Paul, MN: Department of Health; 2023 [cited 2023 Oct 23]. Available from: https://www.health.state.mn.us/diseases/coronavirus/hcp/ltcipchohort.pdf
- Ontario Agency for Health Protection and Promotion (Public Health Ontario). IPAC recommendations for use of personal protective equipment for care of individuals with suspect or confirmed COVID 19 [Internet]. Toronto, ON: King's Printer for Ontario; 2022 [modified 2022 Oct; cited 2023 Oct 23]. Available from: <u>https://www.publichealthontario.ca/-/media/documents/ncov/updated-ipacmeasures-covid-19.pdf?sc_lang=en</u>
- Ontario. Ministry of Health. Infectious disease protocol. Appendix 1: case definitions and disease specific information. Disease: respiratory infection outbreaks in institutions and public hospitals. Effective: September 2023 [Internet]. Toronto, ON: King's Printer for Ontario; 2023 [modified 2023 Sep; cited 2023 Oct 23]. Available from: <u>https://www.ontario.ca/files/2023-12/moh-ophsrespiratory-infection-outbreaks-en-2023.pdf</u>
- Ontario Agency for Health Protection and Promotion (Public Health Ontario). Coronavirus disease 2019 (COVID-19): physical distancing [Internet]. Toronto, ON: Queen's Printer for Ontario; 2020 [cited 2023 Oct 23]. Available from: <u>https://www.publichealthontario.ca/-</u> /media/documents/ncov/factsheet/factsheet-covid-19-guide-physical-distancing.pdf?la=en
- 7. Ontario Agency for Health Protection and Promotion (Public Health Ontario), Provincial Infectious Diseases Advisory Committee. Best practices for environmental cleaning for prevention and control of infections. 3rd ed. Toronto, ON: Queen's Printer for Ontario; 2018. Available from: <u>https://www.publichealthontario.ca/-/media/Documents/B/2018/bp-environmentalcleaning.pdf?rev=5dfe8f638f01400ea2640910902d789d&sc_lang=en</u>
- 8. Ontario Agency for Health Protection and Promotion (Public Health Ontario). Recommended steps: putting on personal protective equipment (PPE) / taking off personal protective equipment (PPE) [Internet]. Toronto, ON: Queen's Printer for Ontario; 2020 [cited 2023 Aug 17]. Available from: https://www.publichealthontario.ca/-/media/documents/ncov/ipac/ppe-recommended-steps.pdf?la=en

Resources

- Ontario. Ministry of Health. COVID-19 guidance for public health units: long-term care homes, retirement homes, and other congregate living settings [Internet]. Version 11.0. Toronto, ON: King's Printer for Ontario; 2023 [modified 2023 Jun 26; cited 2023 Oct 23]. Available from: https://www.health.gov.on.ca/en/pro/programs/publichealth/coronavirus/docs/LTCH_RH_guidance_PHU.pdf
- Ontario Agency for Health Protection and Promotion (Public Health Ontario). How to handrub [Internet]. Toronto, ON: Queen's Printer for Ontario; 2009 [cited 2023 Oct 23]. Available from: <u>https://www.publichealthontario.ca/-/media/Documents/J/2009/jcyh-</u> handrub.pdf?rev=87165b8a22cc41948bb49a3128743906&sc lang=en
- Ontario Agency for Health Protection and Promotion (Public Health Ontario). How to handwash [Internet]. Toronto, ON: Queen's Printer for Ontario; 2009 [cited 2023 Oct 23]. Available from: <u>https://www.publichealthontario.ca/-/media/Documents/J/2009/jcyh-</u> <u>handwash.pdf?rev=856d221523314b2495b5f49b31360c3c&sc_lang=en</u>
- Ontario. Ministry of Health. Infectious disease protocol. Appendix 1: case definitions and disease specific information. Disease: respiratory infection outbreaks in institutions and public hospitals. Effective: September 2023 [Internet]. Toronto, ON: King's Printer for Ontario; 2023 [modified 2023 Sep; cited 2023 Oct 23]. Available from: https://www.ontario.ca/files/2023-12/moh-ophs-respiratory-infection-outbreaks-en-2023.pdf
- Ontario Agency for Health Protection and Promotion (Public Health Ontario), Provincial Infectious Diseases Advisory Committee. Annex B: best practices for prevention of transmission of acute respiratory infection in all health care settings. Toronto, ON: Queen's Printer for Ontario; 2013. Available from: <u>https://www.publichealthontario.ca/-/media/documents/b/2012/bp-preventiontransmission-ari.pdf?la=en</u>
- Ontario Agency for Health Protection and Promotion (Public Health Ontario), Provincial Infectious Diseases Advisory Committee. Best practices for hand hygiene in all health care settings. 4th ed. Toronto, ON: Queen's Printer for Ontario; 2014. Available from: <u>https://www.publichealthontario.ca/-/media/documents/bp-hand-hygiene.pdf?la=en</u>
- Ontario Agency for Health Protection and Promotion (Public Health Ontario), Provincial Infectious Diseases Advisory Committee. Interim guidance for inf3ec of SARS-CoV-2 variants of concern for health care settings [Internet]. 2nd revision. Toronto, ON: Queen's Printer for Ontario; 2021 [cited 2023 Oct 23]. Available from: <u>https://www.publichealthontario.ca/-</u> /media/documents/ncov/voc/2021/02/pidac-interim-guidance-sars-cov-2-variants.pdf?la=en

Citation

Ontario Agency for Health Protection and Promotion (Public Health Ontario). Focus on: cohorting in respiratory virus outbreaks. Toronto, ON: King's Printer for Ontario; 2024.

Disclaimer

This document was developed by Public Health Ontario (PHO). PHO provides scientific and technical advice to Ontario's government, public health organizations and health care providers. PHO's work is guided by the current best available evidence at the time of publication. The application and use of this document is the responsibility of the user. PHO assumes no liability resulting from any such application or use. This document may be reproduced without permission for non-commercial purposes only and provided that appropriate credit is given to PHO. No changes and/or modifications may be made to this document without express written permission from PHO.

Public Health Ontario

Public Health Ontario is an agency of the Government of Ontario dedicated to protecting and promoting the health of all Ontarians and reducing inequities in health. Public Health Ontario links public health practitioners, front-line health workers and researchers to the best scientific intelligence and knowledge from around the world.

For more information about PHO, visit: <u>publichealthontario.ca</u>.



© King's Printer for Ontario, 2024