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Lambton Public Health Recommendations for Tuberculosis Screening for Residents of Long-Term Care Homes and Retirement Homes, Version 3

Executive Summary

Legislative requirements under Ontario regulation 246/22 of the *Fixing Long-Term Care Act, 2021, S.O. 2021, c. 39, Sched. 1* and Ontario regulation 166/11 of the *Retirement Homes Act, 2010, S.O. 2010, c. 11,* direct Long-Term Care Homes (LTCH) and Retirement Homes (RH) to screen residents for tuberculosis (TB) within 14 days of admission to the facility unless the resident has already been screened in the 90 days prior to admission and the documented results of this screening are available. The aforementioned legislative requirements do not stipulate what method should be used to screen residents for TB. Additionally, a 2019 Public Health Ontario (PHO) report concluded the overall burden of infectious pulmonary TB among LTCH residents is low.[1]

Ontario's Ministry of Health and Long-Term Care recommends that LTCH/RH refer to the updated Canadian Tuberculosis Standards (CTBS), 8th Edition, 2022, Chapter 14: Prevention and control of tuberculosis transmission in healthcare settings and Chapter 4: Diagnosis of tuberculosis infection for evidence-based TB screening recommendations.[2] Of note, there are a number of changes to recommendations in the CTBS 8th Edition compared to the CTBS 7th Edition from 2014, related to TB skin tests (TSTs) and chest x-rays for screening LTCH/RH residents for TB. These changes are detailed within this document.

Lambton Public Health (LPH) provides the following recommendations for TB screening for LTCH/RH residents in Lambton County, with updates for this document version (Version 2) based on the new CTBS 8th Edition; PHO's 2019 report previously noted; Ministry of Health and Long-Term Care: Ontario Public Health Standards: Tuberculosis Program Guideline, 2018 (p. 39-40); and latest local epidemiology for Lambton County, as described within this document. **LPH recommendations detailed in this document are directed to LTCH/RH residents of Lambton County. LTCH/RH resident TB screening and surveillance in other jurisdictions may have their own guidelines that shall apply in those areas. Each LTCH/RH is responsible for developing and implementing its own facility policies for resident TB screening in accordance with the recommendations provided by LPH.**

LTCH/RH TB Screening Rationale

TB is caused by *Mycobacterium tuberculosis* (MTB) complex. There are two forms of TB: TB disease (infectious) and latent TB infection (LTBI).[3] The goal of TB screening for

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a LTCH/RH facility is to ensure no active TB disease cases enter the facility and potentially infect other residents, staff, and/or family members. As a disease of public health significance, both active TB disease and LTBI must be reported to the Medical Officer of Health, under the *Health Protection and Promotion Act (HPPA),* linked here.

Updated Recommendations from CTBS 8th Edition

The updated CTBS 8th Edition, 2022, Chapter 14, now notes, "Residents of long-term care (LTC) homes are considered to be at the same risk for having latent TB infection as other populations in the community, and have the same risk of developing active TB as persons of the same age in the general population, with the exception of those belonging to identified at-risk groups… However, because of the concern for transmission of TB in LTC homes and the anticipated need for contact tracing should there be an exposure, many guidelines recommend screening newly admitted residents… Across the Canadian provinces and territories, practices around assessment of new admissions for TB vary. In some provinces/territories, pre-admission and admission screening for symptoms and/or risk of active TB are recommended or mandated. In many provinces, screening for latent TB infection is recommended with a TST and/or chest x-ray, but the criteria for testing vary from all new residents to those who are at increased risk for TB. Some jurisdictions stipulate that the decision for screening should be based on a facility risk assessment and local epidemiology." [2]

"Good practice statements:

- An assessment of likelihood of respiratory TB should be done on or before admission to a long-term care home.
- A symptom screen to rule out active TB should be done, preferably prior to, and on admission to a long-term care home.
- A posteroanterior and lateral chest x-ray should be performed if a resident is symptomatic, and the resident should be referred for medical assessment if indicated.
- Routine tuberculin skin testing on (or prior to) admission and periodic tuberculin skin tests (such as annually) are not recommended for residents.
- If a resident has had exposure to respiratory TB, the need for testing should be individualized as part of contact tracing." [2]

CTBS 8th Edition, Chapter 4, also notes, "Performing universal TB infection testing among nursing-home and long-term care residents, prior to or shortly after entry, is discouraged. This is for three reasons. The most important is the high risk of age-related toxicity and the potential for drug-drug interactions in this population, which results in low rates of being offered [TB preventive treatment] (TPT) and, if offered, low rates of treatment completion. Second, the sensitivity of both the TST and [Interferon-Gamma Release Assay] (IGRA) are reduced in older age. Third, available evidence suggests that TB disease risk is low, and transmission is rare in residents of these

facilities who develop TB disease. In situations of exposure to a potentially infectious person with TB disease, testing for TB infection should be performed on a case-by-case basis, considering the balance of individual risks and benefits associated with treatment and the epidemiological context." [2]

PHO 2019 Report

PHO's 2019 report states, "Our estimates of TB burden in LTCHs suggest that a very small proportion of LTCH residents in Ontario develop pulmonary TB and that this represents a small proportion of all pulmonary TB cases in Ontario. Our findings also suggest that the pulmonary TB incidence rate among LTCH residents in Ontario is lower than the rate observed in the general population aged 70 years and older in Ontario. Our genotyping analysis also indicated that transmission among LTCH residents in Ontario was rare, with only the one example of transmission involving three cases. Together, these findings suggest that the overall burden of pulmonary TB among LTCH residents in Ontario is low. A range of approaches to TB screening on admission to LTCH exists across Canada and in other low TB incidence countries. Although there are gaps in the available peer-reviewed literature evaluating the impact of universal chest x-ray screening on admission to LTCH, the findings of the lack of cost effectiveness for both chest x-ray and TST for TB screening on admission to LTCHs in Alberta are relevant for considerations regarding screening for TB on admission to LTCHs in Ontario. In addition to considerations regarding the burden of TB in LTCH residents, considerations related to the screening test(s), the follow up interventions, and implementation in this population and setting are important in the Ontario context. We anticipate that the findings and considerations highlighted in this report will be relevant to decisionmakers considering admission screening for TB in LTCH residents in Ontario… In 2018, the [Ministry of Health and Long-Term Care] (MOHLTC) released an updated Tuberculosis Program Guideline in which the specific recommendation regarding the method of screening (i.e., chest x-ray and TST) has been removed. This revised guidance document now states: Residents must be screened for TB within 14 days of admission, unless the documented results of a TB screen within the last 90 days are available to the licensee of the home." [1, p.5]

Lambton County TB Epidemiology

Summary prepared by Lambton Public Health
Source: PHO Infectious Disease Query, As of Feb 23, 2023

Over the past 5 years (2018 to 2022), LPH has reported on average less than 1 case of active TB disease per year and 32 cases of LTBI per year. The annual incidence rate per 100,000 of active TB disease in Lambton County is **lower** than the provincial rate. Note that there is potential for the local rate to vary considerably from year to year due to low case counts in Lambton. In Ontario and Lambton County, the annual incidence

rate per 100,000 of LTBI appears to be **decreasing**, and the annual incidence rate of LTBI in Lambton County is consistently **lower** than the provincial rate. However, PHO cautions that assessment of LTBI varies by health care providers and public health units, and so comparisons between public health units and the province should be made with caution.

Since Indigenous persons or persons living on reserves with TB in Ontario fall within the federal jurisdiction of Health Canada [First Nations and Inuit Health Branch (FNIHB)], information on these cases may not be consistently reported to public health units or entered into iPHIS when public health units are notified.[4]

TB Screening versus Testing for Active TB Disease

As described in the CTBS 8th Edition, Chapter 3: Diagnosis of tuberculosis disease and drug-resistant tuberculosis, "Testing for TB **using chest radiography [e.g., chest x-ray] for screening, and microbiology for confirmation, is indicated in everyone considered to be at high risk of TB disease or with signs and symptoms of TB**. Chest radiography is an integral part of the TB diagnostic algorithm but is **not** specific for the diagnosis of pulmonary TB." [2]

If a LTCH/RH resident is suspected or confirmed to have infectious TB disease, the CTBS 8th Edition, Chapter 14, strongly recommends initiating airborne precautions immediately in LTCH/RH settings. Further, per the Ministry of Health and Long-Term Care: Ontario Public Health Standards, "Infectious TB cases who reside in congregate settings (e.g., shelters, Long-Term Care Homes (LTCH), correctional facilities), should be removed from these settings and not returned to their congregate setting until they meet the criteria for release from isolation." For a LTCH/RH exposed to infectious TB, the most important follow-up is ruling out active TB disease via careful evaluation of symptoms, chest x-ray, and if indicated, 3 sputum samples taken at least 1 hour apart. [2]

All patients suspected and newly diagnosed with active infectious TB disease should be reported to the local Medical Officer of Health via Lambton Public Health staff.

LPH Recommendations for TB Screening for LTCH/RH Residents

Lambton County LTCH/RH facilities are recommended to use the following algorithm (**see Figure 1**) regardless of age, to determine TB screening for residents being admitted or transferred to their facilities:

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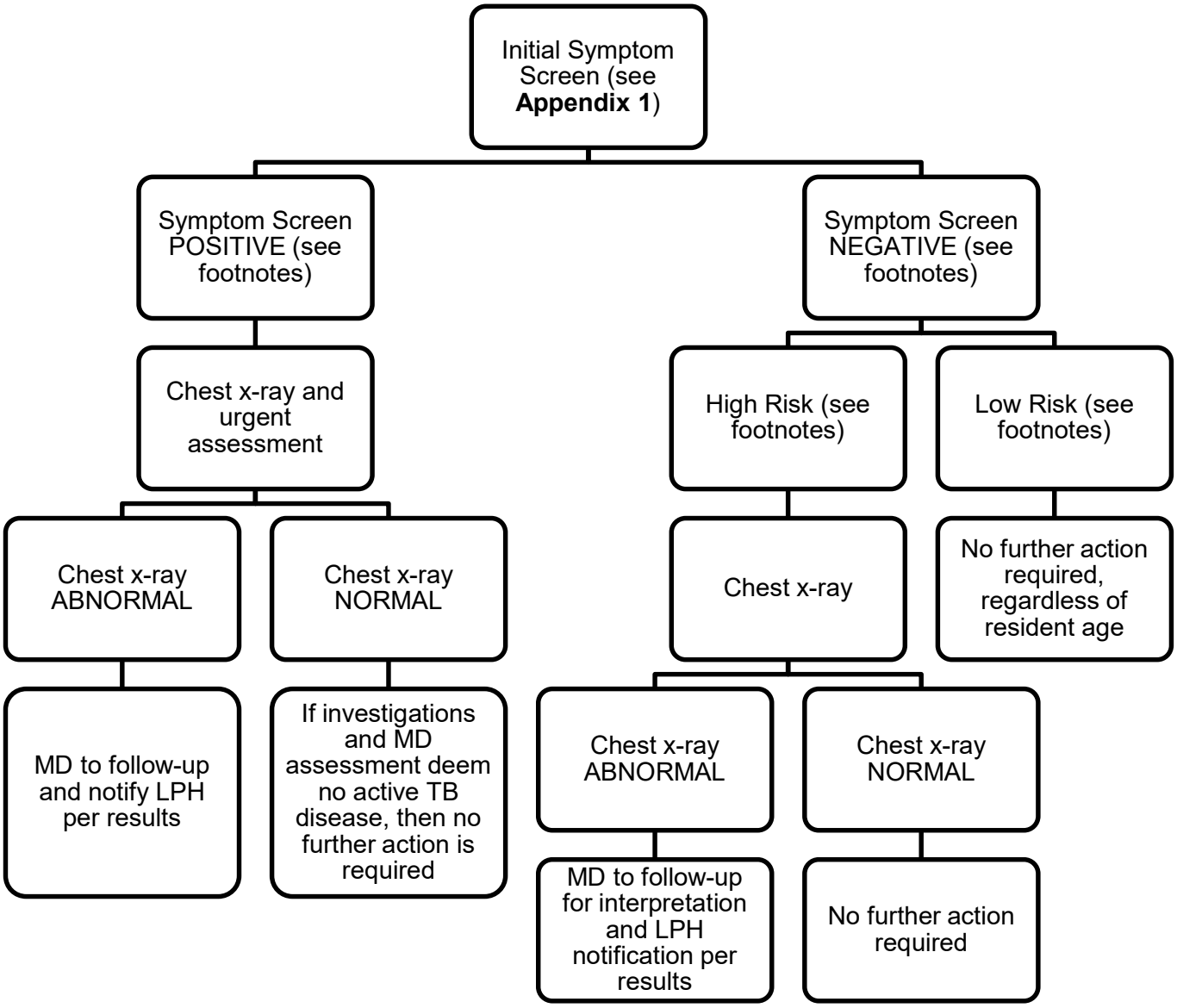
Figure 1: LPH Recommended TB Screening Algorithm for LTCH/RH Residents



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Footnotes:

1. If **symptom screen positive**, as per form in **Appendix 1**, a chest x-ray and urgent medical assessment must be completed. The chest x-ray can be done at Bluewater Health as an outpatient and ordered by the resident's Primary Care Provider or the facility Medical Director of the admitting facility. Note on the requisition form that the chest x-ray is being performed to rule out tuberculosis. Placement of PPE for patient (surgical mask) and care provider (N95) must be initiated, as well as airborne precautions.

2. If **symptom screen negative**, defined as 1 or fewer symptoms noted during the symptom screening as per form in **Appendix 1**, and the resident is not considered "High risk" as per Footnote 3 below, then no further action is required.

3. High risk LTCH/RH residents are defined as an individual who has lived in or visited a country that is listed as a World Health Organization high TB burden country, for 3 months or longer, or those who are immunocompromised (e.g., people living with HIV, silicosis, stage 4 or 5 chronic kidney disease with or without dialysis, transplant recipients, fibronodular disease, receiving immunosuppressing drugs such as TNF-alpha inhibitors or steroids, cancer, diabetes, heavy alcohol use of at least 3 drinks/day, or heavy tobacco cigarette smoker of at least 1 pack/day).[2]

The list of the World Health Organization high TB burden countries, as of 2021, are: Angola, Bangladesh, Brazil, Cambodia, China, Congo, Central African Republic, DPR Korea, DR Congo, Ethiopia, Gabon, Guinea, India, Indonesia, Kenya, Lesotho, Liberia, Mozambique, Myanmar, Namibia, Nigeria, Pakistan, Papua New Guinea, Philippines, Russian Federation, Sierra Leone, South Africa, Thailand, the United Republic of Tanzania, Vietnam, Zambia and Zimbabwe.[5]

The countries listed above may be subject to change. For more information please see: http://www.who.int/tb/publications/global_report/en/

4. Low risk LTCH/RH residents are defined as an individual who does not fall into any of the above noted categories.

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Appendix 1: Tuberculosis Symptom Screening Form for Residents of LTCH/RH in Lambton County LTCH/RH Facilities, including Respite Care Residents

Symptom screening is to be completed by a Physician, Nurse Practitioner, or Registered Nurse within 90 days prior to admission or within 14 days after admission. Symptom screening must also be completed annually.

Last Name: _____ First Name: _____

Date of Birth: Year: _____ Month: _____ Day: _____ Age: _____

The following screen may be answered by the LTCH/RH resident if they are a reliable historian. Otherwise, please ask a representative or care provider to answer the questions on the resident's behalf.

Do you have any of the following symptoms?

A cough lasting for 3 weeks or longer	Yes _____	No _____
Plus, one of the following:	Yes _____	No _____
i. hemoptysis (coughing up blood)	Yes _____	No _____
ii. fever	Yes _____	No _____
iii. night sweats	Yes _____	No _____
iv. significant weight loss	Yes _____	No _____
v. unusual weakness or fatigue	Yes _____	No _____

If the questions are being answered from a representative for the resident, indicate the representative's relationship to the resident: _____

Signature of resident or representative: _____

Print Name: _____

Date of signature: _____

A **positive symptom screen** is identified as "a cough lasting 3 weeks or longer **plus** any 1 (one) of the other symptoms" listed above. If this occurs, a chest x-ray must be completed. This can be done at Bluewater Health as an outpatient and ordered by the resident's Primary Care Provider or the Medical Director of the admitting facility. Note on the requisition form that the chest x-ray is being performed to rule out tuberculosis. Placement of PPE for patient (surgical mask) and care provider (N95) must be initiated, as well as airborne precautions.

Screening form completed by: _____

Date: _____ Designation: _____

References

1. Ontario Agency for Health Protection and Promotion (Public Health Ontario). Tuberculosis screening on admission to long-term care homes in Ontario. Toronto, ON: Queen's Printer for Ontario; 2019.

2. Menzies D, ed. Canadian Tuberculosis Standards. 8th ed. Canadian Journal of Respiratory, Critical Care, and Sleep Medicine; 2022,6,1.

3. Heymann DL, editor. Control of Communicable Diseases Manual. 20 ed. Washington, D.C: American Public Health Association; 2015.

4. Ontario Ministry of Health and Long-Term Care, integrated Public Health Information System (iPHIS) database, extracted by Public Health Ontario [2014/01/15].

   Ontario Ministry of Health and Long-Term Care, IntelliHEALTH Ontario, extracted [2013/09/16].

5. World Health Organization. WHO global lists of high burden countries for tuberculosis (TB), TB/HIV and multidrug/rifampicin-resistant TB (MDR/RR-TB), 2021–2025: background document. 2021 [cited 2023 Mar 8]. Available from: https://apps.who.int/iris/handle/10665/341980