



National Collaborating Centre
for Determinants of Health
Centre de collaboration nationale
des déterminants de la santé



National Collaborating Centre
for Infectious Diseases
Centre de collaboration nationale
des maladies infectieuses

PUBLIC HEALTH ACTION ON TUBERCULOSIS IN HOMELESS SHELTERS: A CURATED LIST

Tuberculosis (TB) is a persistent public health issue in Canada. It is a clear example of how the social determinants of health (SDH) intersect to create inequities that increase the risk of contracting and transmitting a disease.¹ Inadequate housing conditions, poverty and food insecurity are among the structural inequities that result in an inequitably high burden of TB for some populations in Canada.¹ Substance use and HIV also contribute to higher rates of the disease.^{2,3}

Homeless shelters are a setting in which women and men who are already at risk of TB are even more vulnerable to TB infection, progress and transmission due to the close living quarters.⁴ Homeless shelters are therefore an important setting for public health TB prevention and control.

Equity-based approaches to TB prevention and control

While there is strong Canadian guidance for addressing TB broadly,^{2,3} most guidance on TB and shelters focuses on technical and administrative procedures for infection control. As a result, the guidance does not provide an explicit equity-based approach to prevent and control TB in homeless shelters.

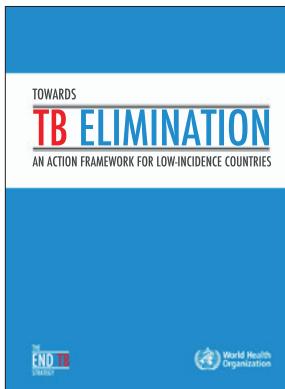
To provide a quick reference, the National Collaborating Centre for Infectious Diseases (NCCID) and the National Collaborating Centre for Determinants of Health (NCCDH) have compiled this curated list of resources that consider TB risk and transmission in homeless shelters as public health settings, with attention to addressing SDH and health inequities.

This list builds on a previous work by the National Collaborating Centres, including a discussion of public health roles to address TB and the social determinants of health⁵ and equity-focused strategies to address TB.⁶⁻⁸

The 14 resources are organized under four sections: (1) **guidance for TB prevention and elimination**, (2) **TB prevention and management in homeless shelters**, (3) **case examples of TB initiatives in homeless shelters** and (4) **TB resource repositories related to homeless shelters**. The resources represent a selection of key documents and are not intended to be an exhaustive list.

PREVENTION AND ELIMINATION

Key international and Canadian documents that guide efforts to prevent and eliminate TB in Canada.



Towards TB elimination:
An action framework for
low-incidence countries

World Health Organization.
[2014].

Canada is one of several countries that have committed to the World Health Organization's

(WHO) post-2015 global TB strategy, with a target of ending the worldwide TB epidemic by 2035. The WHO created a framework for TB elimination in low-incidence countries such as Canada, where the burden of disease is experienced disproportionately across specific populations.⁹ In Canada, these populations include people living in northern Inuit, First Nations and Métis communities; people born in TB-endemic countries; people with concurrent health conditions such as HIV, diabetes and substance use disorders; and people experiencing homelessness. The framework outlines eight priority areas for action to guide TB policy and programming at national and sub-national levels. Priority Action Area 2 describes key social protection interventions that are necessary not only to create a conducive environment for effective TB treatment and care, but also to diminish underlying TB risk factors in groups vulnerable to infection. While not specific to shelters, this resource can provide public health staff, decision-makers and partners with insight on how their local roles and actions fit in the larger context of global TB elimination.

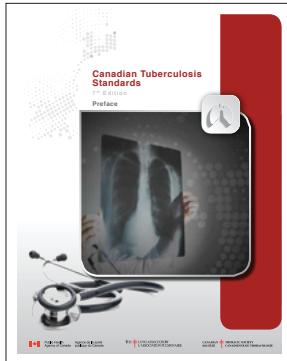


The time is now -
Chief Public Health Officer
(CPHO) spotlight on
eliminating tuberculosis
in Canada

Public Health Agency of Canada. [2018].

While the *WHO action framework for low-incidence*

*countries*⁹ provides the global context for TB elimination, the chief public health officer (CPHO) spotlight report for 2018 focuses on the Canadian context of TB.¹⁰ It offers readers a short description of the disease, its history and its burden, as well as Canada's current public health priorities for action. The report contextualizes the disproportionate TB burden experienced by First Nations, Métis and Inuit communities and among individuals born in TB-endemic countries. This document, while not specific to shelters, highlights key strategies for elimination and underscores the importance of coordinated action to address health inequities and the social determinants of TB.

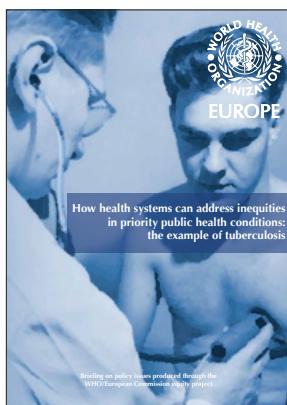


[Canadian tuberculosis standards, 7th edition](#)

Health Canada. [2014].

Since 1972, the Canadian TB Standards (CTS) have provided comprehensive, evidence-based clinical and public health

guidance for health professionals in Canada.² The CTS are intended to complement jurisdiction-specific legislation, regulations, professional guidelines and policy and practice requirements. There are three chapters specific to TB prevention and control in homeless shelters. Chapter 12 provides guidance on contact investigations and outbreak management in congregate settings such as shelters, as well as for cases experiencing homelessness or drug addictions. Chapter 13 provides information on targeted latent TB infection (LTBI) screening among people experiencing homelessness and people using injection drugs. In addition, Chapter 15 describes measures that can be taken to prevent and control TB transmission within residential and community care settings such as homeless shelters and drop-in centres.



[How health systems can address inequities in priority public health conditions: The example of tuberculosis](#)

WHO Regional Office for Europe. [2010].

In this report, the WHO identifies TB as one of 13

priority health conditions affected by the SDH, resulting in an inequitable burden of disease for some population groups.¹ This document offers a review of the social determinants of TB, including how socioeconomic position

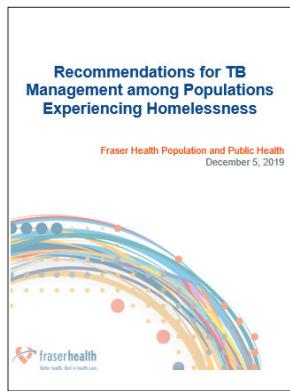
influences the differential exposure to risk factors. It also points out that with increased exposure comes increased vulnerability to disease, greater negative health outcomes and a higher risk of long-term consequences of illness. The resource explores the implications for socioeconomic policies, social protection mechanisms, health care financing, access to primary and preventive TB healthcare and intersectoral action. Issues of stigma, discrimination and social empowerment are also touched on. This report builds a strong case for combining current practices to address TB with strategies that directly tackle inequities in the SDH as the primary way to prevent and treat TB in public health and other settings.

[ADDITIONAL RESOURCES](#)

- [Guidance for tuberculosis prevention and control programs in Canada](#)³
Pan-Canadian Public Health Network. [2012].
- [Drivers of tuberculosis epidemics: The role of risk factors and social determinants](#)¹¹
Lönnroth K, Jaramillo E, Williams BG, Dye C, Raviglione M. [2009].
- [The enduring plague: How tuberculosis in Canadian Indigenous communities is emblematic of a greater failure in healthcare equality](#)¹²
Hick S. [2019].
- [Inuit tuberculosis elimination framework](#)¹³
Inuit Tapiriit Kanatami. [2018].
- [Proximate determinants of tuberculosis in Indigenous peoples worldwide: A systematic review](#)¹⁴
Cormier M, Schwartzman K, N'Diaye DS, Boone CE, Dos Santos AM, Gaspar J, et al. [2019].

PREVENTION AND MANAGEMENT IN HOMELESS SHELTERS

Practice guidance and recommendations to inform public health TB programming and policy in homeless shelters

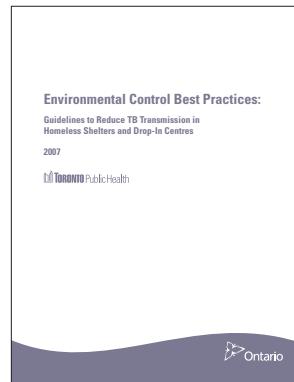


Recommendations for TB management among populations experiencing homelessness

Fraser Health Authority. [2020].

In response to a 2018 TB outbreak among people experiencing homelessness,

the Fraser Health Authority of British Columbia conducted an extensive evidence review and consulted public health partners across the country to develop program and practice recommendations for homeless shelters.¹⁵ The resulting resource provides evidence-informed recommendations for infection prevention, contact investigation, screening and long-term management. This resource also speaks to equity considerations while providing useful information on partnership-building with shelter providers, using incentives and enablers to improve screening and treatment outcomes and to reduce stigma related to TB. Supplementary checklists, tables and form templates are appended to the document, as well as a detailed list of references.



Environmental control best practices: Guidelines to reduce TB transmission in homeless shelters and drop-in centres

Toronto Public Health. [2007].

Following two outbreaks in homeless shelters

from 2000 to 2006, Toronto Public Health developed best practice guidelines to reduce TB transmission in homeless shelters and drop-in centres using environmental controls. The document includes both basic information on TB transmission and prevention in shelters (including administrative and work practices) and technical information on environmental control measures, such as ventilation, ultraviolet germicidal irradiation (UVGI) and filtration.¹⁶ It also features a practical implementation guide and cost estimates, and has been written for diverse audiences, including homeless shelter and drop-in centre managers, ventilation engineers, TB program managers, designers, funding agencies and other health and social service providers. The document is a good example of a resource aimed to support multisector collaboration to improve shelter quality. The document can be found on the [TB & Homeless Service Settings webpage of the Toronto Public Health website](#).¹⁷

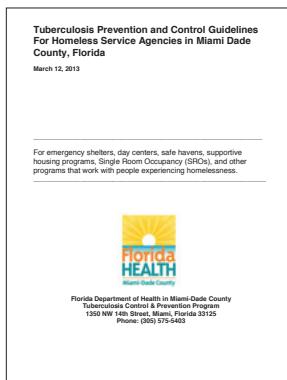


Guidelines for preventing and controlling tuberculosis in Atlanta homeless housing facilities

Georgia Department of Public Health. [2016].

The Georgia Department of Public Health (US) developed a comprehensive, easy-

to-read set of recommendations to help service providers for homeless populations prepare their facility staff and clients for airborne diseases like TB.¹⁸ Several tools are included to support TB prevention, including checklists; educational posters; and templates for logs, forms and other administrative documents. One equity-based tool of interest in this resource is a template for a “homeless verification letter,” which could be used by public health staff to connect patients experiencing homelessness to social services. Public health program managers and staff in Canada could easily adapt the tools and information in this resource to meet their local needs.



Tuberculosis prevention and control guidelines for homeless service agencies in Miami Dade County, Florida

Florida Department of Health. [2013].

The Florida Department of Health in Miami Dade

County (US) developed a detailed resource on TB prevention for homeless service agencies.¹⁹ The package includes an assessment table to help agencies determine their organizational level of risk for TB transmission, an outline for a shelter staff orientation and training curriculum and a section on TB and the law to ensure that managers and

staff are aware of TB reporting obligations. It also features a description of the diverse demographics and characteristics of people experiencing homelessness in the Miami Dade region, including conditions that may have contributed to their homelessness. The document describes the varying contexts and conditions of those facing homelessness and can be a reminder of potential further inequities that exist within a population that already experiences marginalization.

ADDITIONAL RESOURCES

- Effectiveness of service models and organisational structures supporting tuberculosis identification and management in hard-to-reach populations in countries of low and medium tuberculosis incidence: A systematic review²⁰
Heuvelings CC, Greve PF, de Vries SG, Visser B, Belard S, Janssen S, et al. [2018].
- Tuberculosis prevention and control guidelines for homeless service agencies in Seattle & King County, Washington²¹
Public Health Seattle and King County. [2015, updated 2019].
- Preventing tuberculosis (TB) in homeless shelters: A guide for preventing and controlling TB and other aerosol transmissible diseases in Los Angeles County facilities. Second edition²²
Los Angeles County Department of Public Health Tuberculosis Control Program. [2013].
- Tuberculosis contact investigations in congregate settings: A resource for evaluation²³
New Jersey Medical School Global Tuberculosis Institute. [2004].

CASE EXAMPLES AND PROMISING INITIATIVES

Examples of how TB has been managed in people who are homeless can serve as models for addressing TB in homeless shelters.



This qualitative case study describes the social environment and experiences of people managing homelessness at a shelter in Atlanta, Georgia (US).²⁴ The study describes homeless groups' experience of TB treatment and care in the shelter, such as the impact of the shelter context on health and behaviour, how homelessness influences the way people experience disease, the role of acute health care services, how shelter-based interventions influence homeless groups and where people living with homelessness get their information about TB. The social context of shelters contributed to a preference for seeking health education from community sources instead of traditional healthcare settings. Stigma, discrimination and social isolation associated with experiencing homelessness are also discussed as barriers to health.

Homeless shelter context and tuberculosis illness experiences during a large outbreak in Atlanta, Georgia

Connors WJ, Hussen A, Holland DP, Mohamed O, Andes KL, Goswami ND. [2017].

This image is a screenshot of a web page from the New England Journal of Medicine (NEJM) website. The article title is 'Tuberculosis among the Homeless — Preventing Another Outbreak through Community Action'. It is a perspective piece by Vin Gupta, M.D., Nancy Sugg, M.D., M.P.H., Marite Butners, J.D., LL.M., Gillian Allen-White, B.A., et al. The page includes the NEJM logo and a brief summary of the article's content, which discusses the development of a new incentives-based directly observed therapy (DOT) program in Seattle, Washington.

Tuberculosis among the homeless — preventing another outbreak through community action

Gupta V, Sugg M, Butners M, Allen-White G, Molnar A. [2015].

This case study explores the development of a new incentives-based directly observed therapy (DOT) program in Seattle, Washington (US).²⁵ A shorter-course treatment regimen, 3HP, was considered to be more easily managed than longer regimens by patients who experience homelessness. The resource describes cost-analysis (savings per patient), patient engagement barriers and community involvement as essential components of the program. The authors describe the incentives offered to participants to address basic needs, including gift certificates for meals at local businesses and cold-weather clothing. This article also explores factors such as collaboration with community organizations to support financial costs, program delivery logistics and the role of this initiative to prevent latent TB from progressing to active TB. An audio interview with the case study's author is downloadable from the same link provided in this reference.



Active Tuberculosis among Homeless persons, Toronto, Ontario, Canada, 1998-2007

Khan K, Rea E, McDermid C, Stuart R, Chambers C, Wang J, et al. [2011].

This case report describes a study of homeless persons in Toronto, both Canadian

born and those born in TB-endemic countries, who had a diagnosis of active TB between 1998 and 2007.²⁶ Among the patients studied, 95% reported that they had stayed in a shelter, that they were often highly contagious by the time that their TB was diagnosed and that they received nearly all healthcare services in hospital. The study includes data that outline the need to address TB transmission within homeless shelters, with results illustrating increased rates of illness and death from TB in homeless populations. The authors recommend prevention efforts for shelters such as improved ventilation systems, smaller shelter sizes, the elimination of length of stay restrictions and expansion of sustainable housing programs for homeless people. In addition, the resource notes numerous factors that contribute to inequitable TB rates among homeless populations, such as lack of access to primary care, concurrent physical and mental health problems the need to prioritize basic needs like food and shelter over treatment, and cultural and language barriers.

ADDITIONAL RESOURCES

- Tackling tuberculosis in London's homeless population²⁷ *Burki T. [2010].*
- Tuberculosis outbreak associated with a homeless shelter – Kane County, Illinois, 2007-2011²⁸ *Dobbins C, Marishta K, Kuehnert P, [2012].*
- Tuberculosis transmission in a homeless shelter population – New York, 2000-2003²⁹ *Hudson J, Van Zetta S, Brissette B, [2005].*
- A clonal outbreak of tuberculosis in a homeless population in the interior of British Columbia, Canada, 2008-2015³⁰ *Cheng JM, Hiscoe L, Pollock SL, Hasselback P, Gardy JL, Parker R. [2015].*
- Tuberculosis and homelessness in Montreal: A retrospective cohort study³¹ *Tan de Bibiana J, Rossi C, Rivest P, Zwerling A, Thibert L, McIntosh F, et al. [2011].*

RESOURCE REPOSITORIES

Online resource repositories provide research, tools, and strategies that support public health planning and implementation of programs to address TB in homeless shelters.



The screenshot shows the homepage of the Curry International Tuberculosis Center. At the top, there is a navigation bar with links to Home, Intro, General Info, Healthcare Providers, Service Providers, Connections, and Search. Below the navigation bar, the text 'Curry International Tuberculosis Center' is displayed. Underneath this, a section titled 'Homelessness and TB Toolkit' is shown. The toolkit section includes a sub-section titled 'Basic TB Facts' and a 'Photo gallery' featuring several small images related to homelessness and TB.

The homelessness and TB toolkit

Curry International Tuberculosis Center. [2015].

The Homelessness and TB Toolkit is an online resource from the [Curry International Tuberculosis Centre](#) that provides links to resources on TB for both healthcare providers and service providers that work with people who experience homelessness.³² The toolkit is a 'living document,' continuously updated with new resources and research. Items of interest include templates for developing working agreements between shelters and health departments, a searchable repository, factsheets, guidelines and recorded presentations and webinars. The repository offers information on housing and income policy to address TB, improving overall health of homeless people and ultimately ending homelessness. Some of the topics touched on are access to healthcare, connections to community and social resources and concurrent health problems. The repository also features an 18-minute video and viewer guide, [*Shelters and TB: What staff need to know*](#),³³ which explores topics such as preventing the spread of TB, determining roles for shelter staff, working with health departments and developing TB policies for shelters. Other products and services provided include training for healthcare providers and clinical practice guidance for TB.



The screenshot shows the 'TB in the Homeless Population' page from the Centers for Disease Control and Prevention (CDC). The page has a navigation bar with links to Home, Intro, General Info, Healthcare Providers, Service Providers, Connections, and Search. The main content area is titled 'TB in the Homeless Population' and includes a sub-section titled 'Background'. The background section discusses the high incidence of homelessness in the United States and the increased risk of TB among homeless individuals due to factors like substance abuse, HIV infection, and congregation in crowded shelters. There is also a sidebar with links to 'Basic TB Facts', 'Personal Stories', 'Testing & Diagnosis', 'Treatment', 'Drug-Resistant TB', and 'Research'. A small image of a person sitting on a bench is visible on the right side of the page.

TB in the homeless population

Centers for Disease Control and Prevention. [2018].

TB in the Homeless Population is a website created as part of the US-based [Centers for Disease Control and Prevention](#) (CDC)'s broader work on the issue of TB³⁴ including prevention and control. The site provides links to research, resources and practice stories dedicated to addressing TB risk and transmission in people who experience homelessness.³⁵ The collection's areas of focus include public health partnership and collaboration, concurrent health conditions and access to healthcare. Among the resources in this repository is a handbook titled [*Administrative controls: TB control in overnight homeless facilities quick reference guide*](#).³⁶ The guide provides information on collaborative measures between shelters, community and health organizations around TB risk assessment and preventing transmission among shelter users. In addition, a report titled [*Workshop on tuberculosis and homelessness: Infection control measures in homeless shelters and other overnight facilities that provide shelter*](#),³⁷ describes the outcomes of a 2015 event that brought together public health officials, homeless shelter staff and other stakeholders. The workshop was designed to address challenges related to TB transmission and infection control in shelters.

The report includes comments from participants about opportunities, barriers, resources and strategies including infection control, stigma reduction, contact investigation, partnership establishment and data management. Homelessness reduction is presented as an equity-based approach to TB prevention.

The Homeless Hub

Canadian Observatory on Homelessness. [2019].



The Homeless Hub is a Canadian online curated research library. Developed by the Canadian Observatory on Homelessness, a collaborative research and policy partnership located at York University in Toronto, Ontario, the Homeless Hub contains numerous resources that support research, best practices, homelessness prevention, service integration, housing options, policy and priority populations at risk of homelessness.³⁸ While not specific to the issue of TB in homeless shelters, the Homeless Hub can support intentional efforts to address TB in homeless shelters by recognizing groups at high risk of both TB and homelessness and the extent of homelessness in Canada. Its resources can also help practitioners understand the relationship between homelessness and social determinants of health such as poverty, racism, discrimination, precarious housing, food insecurity, mental illness and other sources of health inequities.

ADDITIONAL RESOURCES

- Stop TB Canada³⁹
Stop TB Canada. [no date].
- Find TB Resources⁴⁰
Centre for Disease Control and Prevention. [2019].

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