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CANADIAN TUBERCULOSIS STANDARDS—8TH EDITION

Chapter 13: Tuberculosis surveillance and tuberculosis infection testing and treatment in migrants

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KEY POINTS

- All foreign-born persons immigrating to Canada and certain temporary residents undergo a mandatory medical immigration examination before arrival. This examination includes a chest x-ray for all applicants ≥11 years of age. Those found to have active pulmonary or laryngeal tuberculosis (TB) must be treated prior to arrival to ensure they are no longer infectious.
- Immigration, Refugees and Citizenship Canada requires individuals found during their immigration medical examination to have previously treated TB, inactive pulmonary TB, extra-pulmonary TB, recent household/close contact with a person with active TB or TB infection with a high risk of reactivation to undergo subsequent provincial/territorial TB surveillance within a specified timeframe following arrival.
- Only a small proportion (<3%) of all active TB diagnoses among the foreign-born population made after arrival in Canada are identified during the immigration post-landing surveillance program. This underscores the need for additional approaches to identify foreign-born persons with TB infection who are at increased risk of TB reactivation after arrival.
- The selection of people for targeted TB infection testing and treatment should be considered in the context of their prior and/or ongoing risk of TB exposure and their risk of reactivation, including demographic and medical risk factors, balanced against the likelihood of safe completion of TB preventive treatment, including the risk of adverse events.
- There is substantial attrition of individuals throughout the TB infection testing and treatment cascade. Improvements in the implementation, uptake and completion of TB infection testing and treatment will require investment in TB education programs for patients and providers, as well as addressing setting-specific barriers to care to ensure the delivery of culturally-sensitive TB prevention and care.

1. Overview of TB among migrants

Canada is a leading destination for migrants, both in numbers received and on a per-population basis, receiving on average more than 250,000 immigrants and refugees each year. As a result, there are now approximately 7.5 million foreign-born persons living in Canada, accounting for 21.9% of the population.[1] Over the past 50 years, there has been a major demographic shift in the source countries of new migrants to Canada. Before the 1970s, most individuals immigrating to Canada originated from Western European countries. Since that time, the proportion of immigrants originating from intermediate or high TB-incidence countries such as in Asia, Africa and Latin America has increased. In the 2016 census, an estimated 68% of migrants to Canada originated from countries with an intermediate or high TB incidence.[1]

The two main administrative classifications of migrants arriving in Canada are 1) permanent residents who come to Canada to resettle; and 2) temporary residents who are visiting, studying or working in Canada on a time-limited basis. Permanent and temporary residents are further classified into several subgroups based on their immigration status (see Table 1). In addition, Canada receives millions of international visitors each year; in 2019, 32 million non-resident travelers arrived in Canada.[2] Most immigrant groups apply for permission to come to Canada while still living in their countries of origin, although asylum seeker claimants who apply upon or after arrival in Canada are an important exception. As well, there are a substantial number of undocumented migrants living in Canada, estimated to be anywhere from 20,000 to 500,000 persons.[3]

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Table 1. Classification of international migration to Canada (arrivals in 2019).

Immigration category	Number of persons[a]
Permanent residents[b]	
Economic class	197,000
Family reunification	91,000
Humanitarian and compassionate	5,000
Refugees and protected persons	49,000
Total	**342,000**
Temporary residents[b]	
International students	402,000
Foreign workers (Temporary Foreign Worker Program and International Mobility Program)	405,000
Total	**807,000**
Nonresidents - visitors or travelers	**32,000,000**

Data from Government of Canada – Immigration, Refugees and Citizenship Canada and Statistics Canada.[2,4]
[a]Numbers rounded to nearest 1,000.
[b]For permanent residents, the number of persons admitted. For temporary residents, the number of new work/study permits issued.

Tuberculosis in Canada has increasingly become concentrated in specific population groups such as the foreign-born, Indigenous populations, and people with medical, social and/or behavioral risk factors, such as human immunodeficiency virus (HIV) infection, homelessness and injection drug use.[5] In 2019, foreign-born persons accounted for 74.2% of all active TB diagnoses in Canada, and had an overall 40-fold higher incidence of TB than the non-Indigenous, Canadian-born population (15.8 vs 0.4 cases/100,000 population), although rates are much higher in certain subgroups of immigrants.[6] Among foreign-born TB patients with a known immigration status at the time of diagnosis, approximately three-quarters of diagnoses occurred among citizens and permanent residents, and 15% occurred among temporary residents (i.e., students, foreign workers and visitors).[6] Most TB in the foreign-born population in Canada occurs as a result of reactivation of TB infection that was acquired in their country of origin. TB infection prevalence increases depending on the country of origin, with interferon-gamma release assay (IGRA) positivity ranging from 2.9% (95% CI 0.2-31.7) for foreign-born persons from countries with TB incidence <30 cases per 100,000 people to 36% (95% CI 26.3-41.7) for those from countries with ≥200 cases per 100,000 people (range 19.9-41.6% for tuberculin skin test (TST) positivity).[7,8]

2. TB-related immigration screening requirements

2.1. Pre-entry examination and TB screening

Immigration, Refugees and Citizenship Canada requires all individuals applying for permanent residency and certain individuals applying for temporary residency to undergo an immigration medical exam. This exam includes screening for active TB with a chest radiograph in all persons ≥11 years of age, and testing for TB infection in certain high-risk groups (see Table 2).[9,10] For temporary residents, the requirement for an exam is dependent on the intended duration of stay in Canada, type of employment and duration of residency in TB-endemic countries.[12] The objective of pre-entry TB screening is to detect prevalent active pulmonary TB in migrants prior to arrival to ensure that they are treated and no longer infectious when they enter Canada.[9] TB infection screening in certain groups at high risk for reactivation was added in May 2019 (see Table 2).

If active pulmonary TB is diagnosed it must be treated in accordance with recognized guidelines (such as the Canadian TB Standards).[13] Before being given permission to enter Canada, applicants must submit proof of successful treatment completion, 3 negative sputum smears and cultures and stable and/or improving chest radiographs. Persons at high risk of progression to active disease found to have a positive test for TB infection (TST ≥5mm or positive IGRA) must be referred for post-landing provincial/territorial TB medical surveillance.[13] In 2019, 885 cases of active TB (0.10%) were identified in 893,000 immigration medical assessments (i.e., 0.03% of 258,000 immigration medical exams done in Canada and 0.13% of 635,000 immigration medical exams done overseas).[14]

2.2. Post-landing surveillance

The primary purpose of the post-landing medical surveillance program in Canada is to follow persons identified during the pre-landing exam to be at high risk of developing active pulmonary TB, and thus to prevent subsequent TB disease and transmission in Canada. Approximately 2-2.5% of those who undergo pre-arrival TB screening are targeted for medical surveillance (Table 3).[15,16] Referred persons must report to, or be contacted by, a public health authority within 30 days of landing for inactive TB or within 7 days of landing for urgent cases of inactive TB or extra-pulmonary TB.[17]

Implementation of post-landing surveillance varies among the provinces and territories, some having a centralized process and others having a decentralized or hybrid system. Provincial or territorial public health authorities must contact referred immigrants to facilitate medical surveillance and follow-up and, subsequently, must inform Immigration, Refugees and Citizenship Canada of compliance with medical surveillance. Most migrants are responsible for their own healthcare funding until they are eligible for provincial/territorial health insurance, which may be up to three months after arrival. Compliance, defined as keeping the first appointment for a clinical assessment, is low (49%)

Table 2. Required pre-arrival screening for active TB and TB infection.

All persons applying for permanent resident status and selected nonpermanent residents undergo the following screening for TB during the immigration medical exam:[13]

- All applicants ≥11 years of age: a chest radiograph
- Applicants <11 years who are in a defined TB high risk group (see below): a chest radiograph
- All individuals in a TB high-risk group (see below):
  - If ≥2 years of age: IGRA testing (or TST if IGRA unavailable)
  - If <2 years of age: TST

The TB high-risk group refers to the following individuals (as of May 2019):

- Close contact with an active TB case in the previous 5 years
- HIV-positive serology
- History of certain head and neck cancers within the previous 5 years
- Dialysis or advanced CKD (eGFR <30 mL/min/1.73 m^2)
- Solid organ or bone marrow transplant and on immunosuppressant therapy

Abbreviations: TB, tuberculosis; IGRA, interferon-gamma release assay; TST, tuberculin skin test; HIV, human immunodeficiency virus; CKD, chronic kidney disease; eGFR, estimated glomerular filtration rate.

Table 3. Criteria for referral following the immigration medical examination to post-landing medical surveillance.[17,18]

- Previously treated TB
- Inactive pulmonary TB on chest x-ray (after investigations to exclude active pulmonary TB)
- Extra-pulmonary tuberculosis
- Household/close contacts of persons with active TB within the previous five years
- Individuals with a reactive pre-landing IGRA or TST who are at high risk for TB reactivation (eg, CKD, HIV, history of certain head and neck cancer in previous 5 years, solid organ or bone marrow transplant recipients who are on immunosuppressive therapy)

Abbreviations: TB, tuberculosis; IGRA, interferon-gamma release assay; TST, tuberculin skin test; CKD, chronic kidney disease; HIV, human immunodeficiency virus.

and has been shown to improve by addressing language barriers, eliminating waiting periods for provincial/territorial health insurance, improving clinic capacity through pre-screening, centralization, extended clinic hours and facilitating appointments with incentives or enablers.[19,20] The post-landing surveillance program is limited by the fact that only a minority of those referred (0.8-2.8%) are identified as having active TB.[15,16,21] Additional efforts must therefore be invested in identifying and treating TB infection in non-referred migrants after arrival in Canada, as outlined in the following section.[15,20,22]

2.3. Non-mandated post-arrival TB infection testing for immigrants

Despite the high prevalence of TB infection among foreign-born persons in Canada (see chapter overview), there are no routine post-arrival domestic TB infection testing and treatment programs. Risk factors associated with the highest rates of active TB among foreign-born populations include:[15,23–40]

- The global country or region of origin, especially sub-Saharan Africa, Asia and the Western Pacific regions (see Chapter 1: Epidemiology of Tuberculosis in Canada)
- Immigration category (refugees have roughly double the risk compared to other immigrants after arrival in host country)[28]
- Time since arrival in the host country (5 to 10 times higher in the first year and 2 times greater 1 to 4 years after arrival, as compared to 5 years or longer after arrival)[30,32,34]
- Underlying medical co-morbidities (see Chapter 4: Diagnosis of Tuberculosis Infection)

Most TB cases among foreign-born persons occur due to reactivation of previously acquired TB infection. However, based on evidence from studies of genetic clustering, 10-30% of cases may be due to infection acquired after arrival.[41–45] The possibility of transmission within Canada should therefore be considered in the assessment of foreign-born TB patients, their family members (including those born in Canada) and other contacts, given the need for prompt diagnosis to limit the risk of onward transmission (see Chapter 11: Tuberculosis Contact Investigation and Outbreak Management).[46] Current diagnostic tools for TB infection (IGRA and TST) do not sufficiently predict the likely occurrence or timing of reactivation.[47] Only 5-10% of persons with TB infection will develop active TB, with 50% of this risk occurring (or having already occurred) within the first two years after infection.[48] Shorter course rifamycin treatments are the preferred tuberculosis preventive treatment (TPT) regimens (see Chapter 6: Tuberculosis Preventive Treatment in Adults). Serious adverse events occur in <1% of those less than 65 years of age who take 4 months of rifampin; the rate increases in persons over 65 years of age and those with underlying medical co-morbidities.[49–52]

2.3.1. Targeted testing and treatment for TB infection among the foreign-born population in Canada

The probability that persons being considered for TB infection testing will have a positive test for TB infection and will develop active TB depends on the likelihood of TB exposure, the timing of exposure and the presence of risk factors for developing active TB. The decision to offer TB infection testing should consider the balance of benefits and risks to the patient. Only those who will benefit from

treatment should be tested, so a decision to test presupposes a decision to treat if the test is positive. To make recommendations for TB infection testing among migrants, we chose a threshold of risk of developing active TB of 1% within 5 years among those with a positive test. We recognize that patients may have different values and preferences when considering the level of risk that may prompt a decision to initiate treatment. We estimated the risk of developing TB in different groups of immigrants based on age, TB incidence in the country of birth, time since arrival, immigration status (eg, refugees) and underlying medical co-morbidities, using a large cohort of immigrants who arrived in British Columbia between 1985 and 2012 who were followed for a median of 10 years.[28,53] The immigrant groups that met the 1% threshold included those with underlying medical conditions with a high risk of TB reactivation and certain groups of refugees and recently arrived foreign-born persons with specified TB incidence in source country, age and time-since-arrival. Individualized TB infection testing may be considered for persons who do not belong to the groups listed below for whom this is recommended, after discussing the risk of reactivation and adverse events with the patient.

Recommendations

- **We strongly recommend TB infection testing in all people (all ages) born outside of Canada with conditions associated with a very high risk* of TB reactivation** (*good evidence*).
- **We conditionally recommend TB infection testing in all foreign-born persons (all ages) originating from countries with a TB incidence ≥50/100,000† and with conditions associated with a high risk* of TB reactivation** (*poor evidence*).
- **We conditionally recommend TB infection testing in refugees originating from countries with TB incidence ≥50/100,000† who are aged ≤65 years as soon as possible after arrival and up to two years after arrival. Testing for those aged >65 years can be considered in the context of their individual reactivation risk profile and risk of adverse events** (*poor evidence*).
- **We conditionally recommend that TB infection testing may be considered for persons born outside Canada, originating from countries with a TB incidence >200/100,000,† who have low to moderate risk of TB reactivation and are aged ≤65 years as soon as possible and within five years of arrival. Screening for those aged >65 years can be considered in the context of their individual reactivation risk profile and risk of adverse events. At the individual provider-patient level, providers should discuss and emphasize the benefits vs risks of TB infection testing and treatment** (*poor evidence*).
- **We conditionally recommend against routine TB infection testing for people born outside Canada who have come from countries with a TB incidence of <50/100,000† and who have no risk factors for reactivation** (*poor evidence*).

*See Table 2, Chapter 4: Diagnosis of Tuberculosis Infection.

†For TB incidence in individual countries see the World Health Organization TB country, regional and global profiles (https://worldhealthorg.shinyapps.io/tb_profiles/).[54]

2.4. Important considerations in TB infection testing and treatment among the foreign-born population

2.4.1. TB infection care cascade

TB infection testing and treatment involves numerous steps (known as the care cascade), including testing, receiving a result, referral if test positive, recommendation for treatment and treatment initiation and completion.[55] Loss of individuals can occur at any step along the care cascade, and many TB infection testing and treatment programs among immigrants perform poorly due to losses throughout the care cascade.[55–59] In two systematic reviews and meta-analyses of studies of TB infection testing and treatment in immigrants after arrival, 55-69% of migrants who tested positive for TB infection initiated treatment; 73-74% of those who started treatment completed it, with higher initiation and completion in more recent years.[55,56] The overall TB infection care cascade among immigrants is weak; one review of the final steps of the care cascade found that only 52% of migrants receiving a medical evaluation initiated and completed treatment. Another review of the entire cascade found that only 14% of all migrants estimated to be positive for TB infection completed treatment.[55,56] For a strong cascade, physicians/providers need to be educated to test patients, offer treatment and encourage treatment completion, and patients need to accept and complete testing and treatment when offered.

2.4.2. Barriers to accessing TB infection testing and treatment

Immigrants and refugees may encounter significant barriers at the patient, provider and system levels when accessing TB infection testing and treatment. General barriers to accessing primary healthcare among immigrant populations in Canada have been summarized in a systematic review.[60] Several barriers mentioned in that review are relevant to TB, including cultural barriers, communication barriers (such as language discordance), socioeconomic factors (financial and work-related), concerns about confidentiality and lack of patient knowledge or trust involving the Canadian healthcare system.[60] There are also structural barriers, especially related to a lack of interpreter services in many healthcare settings, that can result in patient-provider miscommunication and compromise the quality of healthcare delivery and patient safety.[61] Key additional patient, provider and system-level barriers are detailed in Table 4.

2.4.3. Strategies to improve TB infection testing and treatment uptake and completion

Strategies are needed to improve TB infection testing and treatment uptake and completion among at-risk foreign-born persons. Such strategies should focus on addressing

Table 4. Barriers for TB infection testing and treatment.

Patient-level	References
• Fear of stigma and/or discrimination	62–67
• Concerns of unfair targeting, racism, perpetuation of stereotypes	62,65,68
• Privacy and confidentiality issues	62,64
• Language barriers	64,66,69–71
• Competing priorities	68,71
• Low level of education	72,73
• Economic factors (travel and other costs, missed work opportunities, precarious employment)	62,63,65,71,74–76
• Difficulties navigating and interacting with the healthcare system	63,64,66,69,76,77
• Lack of family support	73
• Long treatment duration and side effects	63,71,74,75,78,79
• Reluctance to undergo venipuncture	69,80
• Lack of knowledge and/or confusion about TB infection, impact of prior BCG and TST	63–66,68,70,71,75,76,81–83
• Perception of low risk of progression to active TB	62,63,80
Provider-level	
• Lack of knowledge/experience in TB infection screening and treatment procedures	75,78,84,85
• Non-adherence to screening guidelines and low prioritization of TB infection	75,78,86–88
• Resource limitations (eg, need for more/longer appointments, extra and/or specialized staff)	84
• Concerns about potential re-infection during patient travel	74,75
Structural-level	
• Lack of interpreters	69,70

Abbreviation: TB, tuberculosis; BCG, Bacillus Calmette-Guérin; TST, tuberculin skin test.

context-specific barriers such as those described in the previous section (see Table 4). Facilitators of testing and treatment implementation and completion at the patient and provider level are detailed in Table 5. Engagement with community members and community-based organizations and offering services in diverse settings such as integrated care in a primary care setting or community centers have been successful. Language-concordant encounters between immigrants and health care workers, use of cultural case managers and community engagement and education are key to successful programs.[68,89–92] Programs that take a syndemics approach and provide integrated multi-disease screening of high-prevalence conditions such as TB infection, viral hepatitis and HIV have been acceptable to migrants and have led to increased detection of infections, including TB infection.[88,93–96] Several interventions have been found to improve completion of steps along the TB infection care cascade, including patient incentives, health care worker education, home visits, digital aids and patient reminders.[97] Educating primary care providers to identify, promote and deliver testing and treatment services among migrants at risk have been shown to increase screening uptake and diagnosis of active TB disease and TB infection.[84,98,99]

Good practice statements

- **TB infection testing and treatment programs should aim to provide linguistically tailored, culturally sensitive and trauma-informed care that is sensitive to the barriers patients may face in accessing care and completing testing and treatment requirements.**
- **Programs able to assure a high level of provider and patient adherence and support are best placed to initiate TB infection testing and treatment activities; any such programs should carefully document both costs and clinical outcomes.**

2.4.4. Travel-associated TB

Travel to TB-endemic countries poses a risk for TB infection, which is of relevance for foreign-born populations returning to their countries of birth to visit friends and relatives (VFR travelers). However, the magnitude of TB risk in this group is not precisely known. Travel-associated TB infection and active TB risk among health care workers, military personnel and general travelers/volunteers was estimated in a recent systematic review.[108] Among these 3 groups, the cumulative incidences of TB infection for travel durations up to 6 months were estimated at 4.3% (95% CI 2.8-6.7), 2.5% (95% CI 2.0-2.9) and 1.6% (95% CI 1.0-2.5), respectively, with health care workers having the greatest risk.[108] The incidence of active TB was estimated to be 120.7 cases per 100,000 travelers for all studies in the analysis reporting active TB associated with travel (ie, travel durations up to 24 months).[108]

Determining the risk of TB among migrants due to travel is a challenge, as only a minority (20-30%) seek pre-travel advice and there are no prospective pre-/post-travel screening studies that estimate this risk.[109–111] Several small observational studies suggest that VFR travel is associated with increased risk of TB and report that 15-50% of active TB cases in some foreign-born populations are due to recent return travel to their countries of origin.[112–116] This is supported by a study of ill travelers presenting to 16 European clinics (EuroTravNet) in the GeoSentinel network between 2008-2010, which found that VFR travelers had a more than 15-fold higher risk (3.67% [91/2477] vs 0.23% [33/14,140] vs 0.24% [4/1,686]) of being diagnosed with active TB after travel as compared to other short-term travelers or expatriate travelers respectively.[112] The risk of TB among immigrants who travel also increases with trip duration. In a case-control study in the Netherlands, the travel-associated odds ratio (OR) for active TB among Moroccan immigrants with less than three months of travel

Table 5. Facilitators and strategies to improve TB infection testing and treatment uptake and completion.

Facilitators and strategies to improve uptake	References
• Addressing language barriers (eg, with interpreters)	62,69,70,89,90
• Engaging with local communities (eg, collaboration with community leaders, community-based organizations and members, community health workers and other support workers) in delivering TB services	62,64,68,77,91,100–102
• Ensuring consistent care and sensitive/supportive patient-provider relationships	64,69,70,92
• Providing patient education and awareness raising, and providing culturally sensitive materials and care	63,64,68,69,81,92
• Family support	103
• Education, training and support of screening providers	81,84,97–99
• Improved provider resources and funding	84
• Reminder systems	97,99
• Expanded screening approaches (eg, additional reviews, clinics run by alternative providers, offering services in diverse settings)	78,82,104
• Multi-disease screening programs	88,93–95
• Shorter treatment regimens	50,57,73,79,105–107

to Morocco was 3.2 (95% CI 1.3–7.7), and increased to 17.2 (95% CI 3.7–79) when the cumulative duration of travel exceeded three months.[116] Health care practitioners should also consider the possibility of TB infection among VFR children and Canadian-born children who travel to the country of origin of their foreign-born parents. In two studies in the United States, the OR for a positive TST after travel to a TB-endemic country was 1.9 among Mexican-American children and 1.8 in a mixed cohort of children living in New York City, 78% of whom were Hispanic.[117,118]

The optimal strategy to test for TB infection among VFR travelers is still to be determined. A cost-effectiveness analysis of TB infection testing among moderate and high TB-incidence countries found that the most effective (preventing the most active TB cases) and cost-effective strategy for detecting travel-associated TB infection was a single post-trip TST. Testing became more cost-effective as trip duration and the TB incidence of the country visited increased, but was reduced if there was poor treatment adherence.[119] New TB infection should be considered among foreign-born persons who have recently traveled to an intermediate or high TB-incidence country based on their duration of travel and the TB incidence in the country visited. Those who have engaged in healthcare work are at the highest risk for TB infection.

Recommendation

- **We conditionally recommend that the risks and benefits of TB infection testing and treatment be discussed with particular attention to travelers visiting friends and relatives (including Canadian-born children of foreign-born parents); people engaging in higher-risk travel such as travel for healthcare work; and/or persons born in low TB-incidence countries who have lived in moderate or high TB-incidence countries for prolonged periods of time. The following should be considered high risk when counseling travelers to moderate or high TB-incidence countries:**
  - **Any travel with very high-risk contact, particularly direct patient contact in a hospital or indoor setting, and also potentially work in prisons, homeless shelters, refugee camps or inner-city slums.**
  - **≥3 months of travel to TB-incidence country ≥400/100,000 population^**
  - **≥6 months of travel to TB-incidence country 200-399/100,000 population^**
  - **≥12 months of travel to TB-incidence country 100-199/100,000 population^**

  (*poor evidence*)

^For TB incidence in individual countries see the World Health Organization TB country, regional and global profiles.[54]

2.4.5. Limitations of migrant testing and treatment for TB infection

Several studies have assessed the effectiveness and cost-effectiveness of TB infection testing and treatment among migrants in the pre-arrival, post-landing surveillance and post-arrival settings.[22,53,119–123] On the one hand, widely applied post-arrival TB infection testing and treatment among immigrants is not a cost-effective strategy and could have an enormous impact on primary-care infrastructure as well as on healthcare budgets.[121] On the other hand, narrowly focusing TB infection testing only on those with medical risk factors who have a high risk of developing active TB disease, such as persons with HIV infection, close TB contacts, or using tumor necrosis factor antagonists would only detect infection in a tiny minority of the migrant population, who account for a small proportion of TB disease. Among more than a million migrants who took up permanent residence in British Columbia between 1985 and 2012, only 1.5% had or developed such risk factors and this strategy would require testing 136 persons to prevent 1 case and only prevent 4.2% of all TB cases in this cohort.[53] Targeted testing based on TB disease incidence in migrants' source countries, age and presence of underlying medical co-morbidities is the approach taken in this chapter and is supported by some data. In the same BC cohort of immigrants, TB infection testing of all migrants with high-risk medical co-morbidities as well as those aged less than 65 years from countries with annual TB incidence >200 per 100,000 would require testing ~30% of the population (about 10,000 annually), amounting to testing 204 persons to prevent 1 case of TB, and would prevent 50% of potentially preventable TB disease in the cohort.[53]

3. Conclusions

Canada is home to a large number of foreign-born people, accounting for more than 20% of the total population. Canada has a low incidence of TB, but about 70% of TB diagnoses occur among foreign-born persons. Only a minority of active TB cases among the foreign-born population are identified during post-landing surveillance programs; as a result, additional TB preventive strategies are required. The recommended approach is targeted TB infection testing and treatment that balances risks and benefits: considering the risk of prior TB exposure and of progression to active disease vs. the risk of adverse effects and the likelihood of treatment completion. Post-arrival TB infection testing and treatment are limited by substantial attrition in the care cascade. The impact of TB infection testing and treatment will be optimized among the foreign-born population if programs address patient and provider barriers and are linguistically- and culturally-sensitive.

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