Provincial Tuberculosis Committee: Tuberculosis Quality Care and Elimination Plan 2024-2029

Approach, Development, and Plan

Provincial Health Services Authority

BC Centre for Disease Control
Provincial Health Services Authority

Land Acknowledgement

The members of the Provincial Tuberculosis Committee provide health care services to communities across British Columbia, on the territories of many distinct First Nations. We are grateful to all the First Nations who have cared for and nurtured the lands and waters around us for all time. We are deeply aware of the health inequities caused by current and historical colonization. We acknowledge these inequities and are committed to addressing them. We humbly work to listen and learn from the resilience and strength of Indigenous peoples.

The Provincial Tuberculosis Committee expresses gratitude to everyone who has contributed to shaping this plan, including the First Nations Health Authority (FNHA), regional partners, session presenters, session leads, BCCDC staff, our co-chair collaborators, and Elder Glida. Their dedication, support, leadership, and wisdom have significantly contributed to the development of this plan.

This plan was written at the British Columbia Centre for Disease Control's main office located on the unceded, ancestral, and occupied, traditional lands of the xʷməθkwəyəm (Musqueam), Sḵwx̱wú7mesh Úxwumixw (Squamish), and Səlílwətaʔ/Selilwitulh (Tsleil-Waututh) Nations. As a healthcare organization, we recognize that there is systemic racism within and throughout our institutions and that we have the responsibility and power to create culturally safe and appropriate environments of care.

Prepared by

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Executive Summary

Tuberculosis (TB) remains a significant public health concern globally and within British Columbia (BC), particularly among people born outside of Canada and in some Indigenous communities. Challenges persist due to various factors, including historical trauma, social determinants of health, and systemic barriers. Recognizing the evolving landscape of TB programs and the will to ensure high quality care and move towards elimination, the BC Provincial TB Committee (PTC) embarked on a comprehensive effort to develop a TB Quality Care and Elimination Plan (the *Plan*) for 2024-2029.

Informed by the WHO End TB strategy[1] and in alignment with national and international standards, the *Plan*'s development focuses on local challenges and priorities. The process involved extensive collaboration with stakeholders, including the regional health authorities, First Nations Health Authority (FNHA), and community organizations.

Key themes emerged during the planning days, including the need to enhance screening and preventive treatment for high-risk populations, address root causes of TB within Indigenous communities, strengthen public health interventions targeting marginalized populations, leverage advanced laboratory techniques, and establish measurable indicators for program evaluation.

In September 2023, stakeholders convened for a two-day meeting to shape the goals and accompanying activities and objectives of the *Plan*. The meeting highlighted person-centred care, anti-racism, and equity in TB management. This represents a strategic roadmap for advancing TB prevention efforts in BC, guided by equity, collaboration, and evidence-based practice principles.

The resulting TB Quality Care and Elimination Plan 2024-2029 outlines three overarching goals:

i. Establish and sustain collaborative partnerships to prevent TB transmission and promote health equity.
ii. Optimize the delivery of high-quality, anti-racist, and person-centred care.
iii. Achieve a sustained reduction in TB incidence within target populations.

BC aims to accelerate progress toward TB elimination through concerted efforts and ongoing collaboration and improve health outcomes for all affected populations.

[1] Implementing the end TB strategy: the essentials, 2022 update. World Health Organization; 2022.

Background

TB continues to be a relevant health issue in BC. The provincial rate of TB disease decreased slightly from 6.5 per 100,000 in 2012[2] to about 5.9 per 100,000 in 2022[3] but remains consistently higher than the national average of 5.1 in 2022[4]. Over 76.7% of TB disease is diagnosed in people born, or who have lived, in countries with high TB incidence. Among the Canadian-born non-Indigenous population, the rate of TB disease has decreased from 3.0 per 100,000 in 2009 to 1.0 per 100,000 in 2018, but this reflects only a minority of cases (<15%) and population numbers hide ongoing outbreak activity and disease burden. FNHA, in collaboration with First Nations communities, has made significant progress in reducing the impact of TB among Indigenous peoples in BC. This critical work is ongoing to support communities that remain disproportionately affected by TB for reasons related to the trauma of colonization, inadequate social determinants of health, health care provider/system delays, and continued systemic racism.

Global strategies to combat TB have evolved since the inception of the original provincial TB Strategic Plan (2012-2021)[5]. The Global End TB strategy, endorsed by the World Health Assembly in May 2014, aims to transition from TB "control" to elimination, and to reduce global TB incidence by 90% by 2035. In low TB incidence countries like Canada, the WHO, and European Respiratory Society (ERS) have developed an elimination framework targeting <1 case per 100,000 per year by 2035 (pre-elimination) and <1 case per million per year by 2050 (elimination)[6]. The framework prioritizes eight core areas, encompassing targeted interventions for hard-to-reach populations, improved TB prevention services for immigrants and refugees from high-incidence countries, and enhanced testing and treatment for TB infection. Additionally, it emphasizes the importance of person-centred, anti-racist, and quality care, underscoring that TB elimination cannot be achieved without these principles.

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[2] : TB in British Columbia: Annual Surveillance Report 2020. BC Centre for Disease Control; 2023

[3] Reportable Diseases Data Dashboard. BC Centre for Disease Control; Unpublished

[4] Canadian Tuberculosis Reporting System. Canadian Tuberculosis Laboratory Surveillance System; 2024

[5] BC Tuberculosis Strategic Plan 2012-2021: Final Report. BC Centre for Disease Control; 2021

[6] Towards tuberculosiselimination:an actionframework for low-incidence countries. The European respiratory journal; 2015

Transitioning from global strategies to local implementation, the PTC (see Appendix D) is responsible for coordinating the implementation of actions towards TB elimination in BC. Provincial efforts will be guided and informed by two principal resources: (1) the newly revised Canadian TB Standards (the *Standards*)[7] and its framework for national TB program performance monitoring and (2) BCCDC's strategic priorities and Provincial Health Service Authority's annual areas of focus[8].

The committee acknowledges the importance of reducing TB rates globally. While this is beyond their scope of influence, they continue to advocate for global elimination by producing evidence, guidelines, and training/education. The PTC determined the need to create a provincial quality care and elimination plan to reduce TB transmission, optimize treatment, and expedite prevention strategies across BC. Furthermore, a desire emerged to craft an evergreen work plan delineating priority areas and timelines for the next five years, detailing stakeholders' goals, objectives, actions, and roles and responsibilities.

Approach Towards Creating the TB Quality Care and Elimination Plan

In June 2022, the PTC identified the need for a provincial quality care and elimination plan, outlining targets to be achieved by 2035. This work is designed to align with the frameworks established by the WHO and ERS and to further advance the groundwork laid by the initial provincial TB Strategic Plan (2012-2021). Moreover, the *Standards* introduced practice modifications, including de-isolation guidelines, Rifampin as a primary TB preventative treatment (TPT) option, and national metrics with implications at the provincial level.

To develop the plan, a consultant was enlisted to collaborate with the PTC co-chairs from BCCDC and Island Health. Together, they organized and led two days of planning sessions and discussions involving PTC members, including representatives from all regional Health Authorities, the First Nations Health Authority, the BCCDC Public Health Laboratory, and other key stakeholders (see Appendix A). Prior to these sessions, pre-meetings were held with the PTC co-chairs, consultant, supporting staff, and session leads to draft a detailed agenda (see Appendix A), clarify and streamline content, and strategize for maximizing feedback opportunities. Additionally, pre-reading materials and supporting documents prepared by session leads, PTC co-chairs, and the consultant were distributed in advance.

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[7] Canadian TB Standards, 8th Ed. Canadian Journal of Respiratory, Critical Care, and Sleep Medicine, Volume 6, Issue sup1; 2022

[8] BCCDC Staff Town Hall: Strategic Planning Context. Unpublished internal document; 2024

Elder Glida Morgan, from Tla'amin First Nation, was introduced to the co-chairs before the scheduled meetings to share in the vision for the event. Subsequently, Elder Glida received a formal invitation to participate and generously gave her time to support our sessions. Elder Glida provided opening prayers and closing remarks, actively participated in the sessions, and contributed to grounding and energizing the attendees.

TB Quality Care and Elimination Planning Meeting

In September 2023, a two-day meeting, with four sessions was held in Richmond, BC. A total of 66 attendees participated over the course of two days (see Appendix A).

The intention for the two days was to collaborate and gather expertise and insight to inform the development of the *Plan*, and to seek input on the evergreen work plan that will outline key focus areas for the Provincial TB Committee spanning the upcoming five years. The work plan will include objectives, strategies, assessment methods, timelines, and the duties of participating stakeholders.

The meeting objectives, as outlined on day one, were to develop a provincial quality care and elimination plan to reduce TB transmission, optimize treatment, and accelerate prevention strategies across BC. The sessions were organized to inform key strategic areas for integration into the *Plan*. These included:

- Accelerated and proactive expansion of screening and preventive treatment for individuals born outside of Canada;
- Initiatives aimed at tackling the root causes of TB within First Nations communities and other marginalized populations, addressing issues like stigma, discrimination, and barriers to accessing primary care and housing;
- Tailored public health interventions to curb the spread of TB in communities facing housing instability or homelessness, focusing on prevention and swift response to clusters and outbreaks;
- Incorporation of cutting-edge laboratory methods like genomics and interferon-gamma release assay (IGRA) testing into TB program strategies to enhance their effectiveness; and
- Establishment of measurable indicators and benchmarks to guide the assessment of program performance and outcomes

During the two days, Elder Glida shared her extensive experience, wisdom, and profound understanding of culture, values, and history. She played a pivotal role in aligning our discussions. Her presence infused a sense of stability and calmness into the planning process, fostering a positive and focused atmosphere that greatly enhanced the overall effectiveness of our sessions.

Regrettably, the planning days did not include the lived experience perspective. We acknowledge the importance of incorporating the voices of people with lived experience and remain committed to including this important activity in the development of the *Plan*.

Meeting Proceedings

Four sessions took place within a span of two days. Co-chairs and session chairs worked to ensure priority topics were highlighted to facilitate discussions concerning the formulation of the *Plan*. Below is a summary of the main points from each session.

Session One: Optimizing High-Quality Care

- Increase accessibility of 3HP for TPT and implement the option for self-administration of 3HP as a standard clinical practice
- Shift supportive care beyond DOT/DOPT with a focus on personal autonomy, during TB treatment and beyond
- Rapid evidence-based de-isolation of persons with TB
- Recognize the critical need for and profound impact of immediate and barrier-free financial supports to individuals with TB
- Support for post-TB care including linkage to primary care and PFTs (spirometry)

Session Two: Working Toward Elimination in Priority Populations

- Recognize that elimination strategies must address outbreaks, interrupt local transmission, and will require scale-up of preventative therapy (and to do this, we will need to improve efficiencies/scale back low-yield screening)
- Recognize that current screening guidelines alone (e.g., WHO recommendations) will have no impact on TB incidence in BC; guidelines will need to include TB burden in country of origin
- Recognize the colonial impacts on the health and wellness of Indigenous Peoples, and the ongoing inequities exacerbated by the racist health system; continue to work with communities to address drivers of TB disease in Indigenous peoples
- Collaboration across the system will be key to optimize TB screening and prevention activities in people born outside of Canada
- Public health measures (e.g., tuberculin skin test (TST), IGRA, chest x-ray (CXR), acid-fast bacillus (AFB)) must be targeted to prevent TB transmission in priority populations such as homeless/underhoused
- Ensure services available when clients are ready and where they prefer to receive care; maintain focus on preventing diagnostic delays and premature hospital discharges

Session Three: Laboratory Update

An overview of the IGRA, TB Molecular Diagnostics and TB Whole Genome Sequencing (WGS) was provided including new developments and discussion of opportunities and challenges. Results from an evaluation report entitled, "Tuberculosis genomics in British Columbia: optimizing the use of whole genome sequencing through communication, collaboration, and information sharing" prepared by Stephanie Booth, Field Epidemiologist, were also shared, highlighting opportunities to strengthen and foster the partnerships between BCCDC, regional health authorities, FNHA, and the Yukon (see Appendix C).

Actionable and achievable goals to develop and prioritize for IGRA and molecular diagnostics:

a) improve access in Indigenous, rural/remote communities and underhoused
   - Source TB cartridges for use in COVID deployed GeneXpert
   - Increase and streamline access to IGRA for clients and providers, ongoing evaluation of testing protocols
   - Increase access and capacity for serology and molecular diagnostics
   - Collaboration with regional health authorities (RHAs) (onboarding of molecular TB testing at University Hospital of Northern British Columbia (UHNBC)), NML (direct WGS testing for resistance markers) and hospital labs (Xpert Ultra validation for non-sputum samples
b) improve usability towards elimination goals
   - Expand IGRA access for immigrants and refugees
   - Expand IGRA request access to Medical Health Officers (MHOs)
   - Review the feasibility of GeneXpert in mass screening scenarios

Actionable and achievable goals to develop and prioritize for TB WGS:

a) improve the impact of TB WGS on regional public health work
   - Need to optimize communication, collaboration, engagement, and usability of BCCDC laboratory and surveillance outputs
   - Engage partners to confirm processes for data requests and timely information sharing within their unique systems
   - Explore learning opportunities or education on the use, benefits, and limitations of WGS
   - Socialize "Cluster Investigation" request form and reports including core genome multilocus sequence typing (cgMLST) "tree" and core-single nucleotide polymorphism (SNP) tables
   - Consider how best to measure the impact of WGS on the public health management of TB in BC

Session Four: Program Evaluation and Surveillance Targets

An overview of the Clinical Prevention Services (CPS) TB Surveillance program, including the provincial TB data flow and current routine reports (annual, quarterly), was presented. The routine linkage between laboratory cluster data (i.e., WGS) and epidemiological data was described based on the laboratory session. There were also presentations from the FNHA and Northern Health Authority (NHA) that highlighted the unique surveillance activities of other provincial programs. Finally, the TB elimination indicators and related targets from the *Standards* were reviewed by incorporating an exercise that helped to facilitate participants' interest and obtain feedback regarding prioritization and other valuable metrics (see Appendix B).

Regarding the next steps, participants were asked about their interest in having epidemiology/surveillance team members participate in a provincial working group to achieve specific TB surveillance goals (e.g., indicator development). Some of the main points of discussion included:

- Assessing interest in re-establishing the Provincial TB Surveillance Working Group
- Enhancing structured reporting of linked whole genome sequencing and epidemiological data for TB disease cases
- Additional epidemiologically relevant indicators will be developed, with the help of the Provincial TB Surveillance Working Group, to monitor outcomes of interest and contextualize the findings concerning TB elimination efforts

Development of the TB Quality Care and Elimination Plan 2024-2029

Following the two-day meetings, the co-chairs and BCCDC staff drafted the *Plan* by thoroughly examining the meeting minutes, stakeholder input, and expert presentations to identify critical themes. This detailed review provided valuable insights and informed the development of the *Plan*. In addition, from this analysis emerged the overarching vision and three primary goals of the *Plan*. Within this framework, the PTC-specific tasks, milestones, and resource requirements were identified to help formulate an evergreen work plan to achieve the desired outcome of a comprehensive guiding document.

Overall, the plan's development was a systematic and collaborative effort, guided by a thorough analysis of content, goals and requirements, informed by research and stakeholder input, and documented to ensure clarity and accountability throughout the implementation process.

The vision for the *Plan* is to create a future in BC where TB is effectively and safely managed and ultimately eliminated as a public health threat. This vision encompasses a comprehensive approach that integrates innovative strategies, evidence-based interventions, and collaborative efforts to ensure equitable access to quality TB care and services and significantly reduce TB-related morbidity and mortality. The plan aims to be dynamic, ensuring its ongoing relevance and responsiveness to evolving needs and circumstances related to TB care in the province.

Goals

Three goals were identified during the analysis. Each goal is presented below and accompanied by a list of objectives and supporting activities.

Goal 1: Achieve a sustained reduction in TB incidence within the target populations.

Objectives

1.1 Attain the pre-elimination target of a TB disease case rate of 1 per 100,000 population by the year 2035, through targeted interventions, surveillance, and effective management strategies.

1.2 Identify the feasible processes or systems to share surveillance data with the regional health authorities and FNHA in a timely, consistent, and complete manner.

1.3 Prioritize and systematically address TB incidence among populations identified as at higher risk, through targeted interventions, enhanced surveillance, and tailored healthcare delivery strategies, aiming to reduce TB burden and disparities in affected communities.

1.4 Detect and treat TB cases at an early stage to limit the extent of the disease and prevent transmission.

1.5 Improve accessibility to testing for TB infection and preventative treatment.

Activities

- Develop standardized, evidence-based guidelines for scale-up of TB testing and preventative treatment in primary care (1.4 or 1.5) with a tracking system to support surveillance reporting.
- Establish a robust feedback cycle of the outcomes with the provincial program.
- Develop comprehensive resources to ensure early detection, appropriate treatment and care, and social support for immigrants and refugees to Canada.
- Advocate for funding of labs for comprehensive IGRA testing to ensure testing is readily and widely available (1.5) and increase the reach of TB WGS across jurisdictions.
- Develop targeted client-centric interventions for high-risk groups prioritizing those in congregate settings (1.3).
- Strengthen surveillance systems and promote data sharing to facilitate a better understanding of the epidemiology and trends; reconvene the Provincial TB Surveillance Working Group.

Goal Two: Optimize the delivery of high-quality, anti-racist, and person-centered care across all aspects of TB prevention, diagnosis, and treatment, ensuring equitable access, culturally sensitive approaches, and respectful engagement with affected individuals and communities.

Objectives

2.1 Support evidence-based clinical practice changes including the roll-out of rapid de-isolation of persons with TB and escalation of short-course TPT.

2.2 Identify and target TB services for priority groups at high risk for TB (e.g., government supported refugees, underhoused, other).

2.3 Make effort to obtain the client perspective and explore avenues for integrating the lived experience.

2.4 Ensure that social work support is available to eligible individuals with TB who are most suitable for referral, aiming to prevent financial hardship resulting from TB disease.

2.5 Incorporate post TB health into end-of treatment care including links to primary/speciality care, spirometry, smoking cessation, and care-provider packages.

Activities

- Incorporate the option of self-administered 3HP as a standard of care alongside four months of rifampin for TB infection.
- Implement revised protocols and tools to expedite the reintegration of individuals with TB into the community.
- Develop guidelines and support scale up of screening and treatment of immigrants and refugees including those not identified through immigration medical exam (IME).
- Support scale-up of TB disease case finding (e.g., sputum assessment and/or CXR based screening program) for underhoused people in BC.
- Revise the PTC Terms of Reference to effectively integrate the lived experience/community perspective.
- Address diagnostic delay and continuity of care issues particularly in rural/remote regions.

Goal 3: Establish and sustain collaborative partnerships with stakeholders, including public health agencies, community organizations, healthcare providers, and policymakers, to develop and implement comprehensive strategies for preventing tuberculosis (TB) transmission and promoting health equity across populations at risk.

Objectives

3.1 Continue to participate in multi-jurisdictional collaboration with other provinces and federally, to conduct research, educate and develop awareness of TB.

3.2 Strengthen relationships with primary care partners.

3.3 Re-establish dialogue with regional and FNHA partners to discuss and clarify procedures and share updates on successes and challenges annually, starting in 2024 and continuing after that.

3.4 Foster strategic partnerships with public health agencies, health authorities, community groups, and other stakeholders to implement comprehensive TB prevention initiatives, leveraging collective resources and expertise to reduce TB incidence and transmission rates (e.g., 'TB in immigrants and refugees' working group).

Activities

- Partner with/work with agencies, branches of government, Ministry of Health's research and strategic innovation portfolio, and advocacy groups.
- Collaborate on initiatives targeting the social determinants of health (SDH) that impact priority populations for TB, including immigration and refugee services (e.g., MOSAIC), federal and provincial housing initiatives, substance use and mental health services, and the holistic wellness approach of the FNHA.
- Support SDH related research, refugee pilot projects/proof of concept.
- Create a people with lived experience/family advisory panel.

Next Steps

The upcoming proposed actions in the planning process include:

1. Development of the report and work plan with review by the Provincial TB Committee.
2. Circulate the report and work plan to the British Columbia Communicable Disease Policy Committee (CD Policy) to obtain validation and approval of the plan.
3. Establish clear responsibilities and a timeline for regularly reviewing progress toward goals and ensure that these reviews are incorporated into a tracking template (see Appendix E).
4. Establish quantifiable key performance indicators (KPIs) aligned with the objectives to gauge success, with regular monitoring to evaluate progress.
5. Clarify the advocacy needs and opportunities that facilitate attaining current goals and address broader policy issues, including allocating resources for TB elimination and British Columbia's expertise.

Conclusion

In conclusion, developing the *Plan* for 2024-2029 marks a significant step forward in combating tuberculosis in British Columbia. Through extensive collaboration with stakeholders from various sectors, including health authorities and advocacy groups, the plan reflects a collective commitment to addressing the multifaceted challenges posed by TB. By aligning with global strategies and prioritizing equity, person-centred care, and anti-racist principles, the plan provides a comprehensive roadmap for reducing TB incidence, optimizing care delivery, and fostering collaborative partnerships.

The successful implementation of the *Plan* hinges on sustained commitment, resource allocation, and ongoing collaboration among all stakeholders. Establishing key performance indicators and regular monitoring mechanisms can effectively track and evaluate progress toward TB elimination.

Additionally, continued engagement with affected communities and ongoing refinement of strategies based on emerging evidence and best practices will be essential for achieving the goal of TB elimination and improving health outcomes for all populations affected by TB in British Columbia.

Acknowledgements

The co-chairs of PTC express gratitude to everyone who has played a role in shaping this plan, including FNHA, regional partners, session presenters, session leads, BCCDC staff, our co-chair collaborators, and Elder Glida. Their dedication, support, leadership, and wisdom have significantly contributed to the development of this plan.

Appendix A (Meeting Agenda and Attendance)

Meeting Agenda

DAY ONE: SEPTEMBER 19, 2023	
TIME	**ITEM**
8:00-8:30 AM	**BREAKFAST**
8:30-9:00 AM	**WELCOME AND OPENING PRAYER** *Presenter: Elder Glida Morgan (Tla'amin Nation)*
	INTRODUCTIONS *Presenter: Paul Gallant*
	ICEBREAKER *Presenter: Paul Gallant*
9:00-9:30 AM	**AGENDA REVIEW; ROUTE TO TODAY; OBJECTIVES** *Presenters: Carl Swanson (Island Health), Dr. Victoria Cook (BC Center for Disease Control)*
9:30 AM-12:00 PM	**SESSION ONE: QUALITY CARE** **OPTIMIZING HIGH-QUALITY CARE** *Presenters and Panelists: Carl Swanson, Dr. Victoria Cook, Laura Zerr (Vancouver Coastal Health), Ingrid Mendez de Cruz (Watari Counselling & Support Services Society), Meaghan Thumath (Vancouver Coastal Health)*
12:00-1:00 PM	**LUNCH**
1:00-1:10 PM	**CHECK-IN**
1:10-3:45 PM	**SESSION TWO: ELIMINATION** **1) FNHA TB ELIMINATION STRATEGIES IN PROGRESS** *Panelists: Jennifer Sammartino (TB Services, First Nation Health Authority), Shawna Whitney (TB Services, First Nation Health Authority)* **2) WORKING TOWARDS TB ELIMINATION IN PRIORITY POPULATIONS** *Presenters and Panelists: Jennifer Sammartino, Dr. Jay Johnston (BC Center for Disease Control)*
3:45-4:00 PM	**REVIEW AND CLOSING** *Presenters: Paul Gallant, Elder Glida Morgan*

DAY TWO: SEPTEMBER 20, 2023	
TIME	**ITEM**
8:00-8:30 AM	**BREAKFAST**
8:30-8:55 AM	**WELCOME AND OPENING PRAYER** *Presenter: Elder Glida Morgan (Tla'amin Nation)*
8:55-9:10 AM	**HIGHLIGHTS FROM DAY ONE** *Presenter: Paul Gallant*
9:10 AM-12:15 PM	**SESSION THREE: LABORATORY** **1) TB IGRA UPDATE** *Presenter: Muhammed Morshed (BC Center for Disease Control)* **2) IGRA TESTING FOR FIRST NATIONS COMMUNITIES** *Presenter: Jennifer Sammartino (TB Services, First Nation Health Authority)* **3) TB MOLECULAR DIAGNOSTICS** *Presenter: Dr. Inna Sekirov (BC Center for Disease Control)* **4) TB TESTING IN NORTHERN HEALTH** *Presenter: Maria Monagas (Northern Health Authority)*
12:15-1:00 PM	**LUNCH**
1:00-1:10 PM	**CHECK-IN**
1:10-3:45 PM	**SESSION FOUR: SURVEILLANCE** **1) PROGRAM EVALUATION AND SURVEILLANCE TARGETS** *Presenters: Arina Zamanpour (BC Centre for Disease Control), Venessa Ryan (BC Centre for Disease Control)* **2) OVERVIEW OF TB CASES AMONG FIRST NATIONS POPULATIONS IN BC (2011-2021)** *Presenter: Snehal Vaghela (First Nations Health Authority)* **3) NORTHERN HEALTH: TB CLUSTER RESPONSE PLAN** *Presenter: Dr. Trevor Corneil (Northern Health Authority)*
3:45-4:00 PM	**NEXT STEPS AND CLOSING** *Presenters: Paul Gallant, Elder Glida Morgan, Dr. Victoria Cook, Carl Swanson*

Attendance

The TB Quality Care and Elimination Planning Meeting was attended by:

Special Guest: Elder Glida Morgan

Maulik Baxi	Mark Bigham	Stephanie Booth	Hang Chou
Victoria Cook	Trevor Corneil	Brittany Deeter	Audrey Devito
Anita Endean-Eberle	Stacy Fulton	Mike Gagel	Paul Gallant
Miranda Gallo	Sandi Gentry	Jagdeep Gill	Marina Glasgow
Kamran Golmohammadi	Kristen Hanson	Jessica Harper	Althea Hayden
Mary Hein	Dee Hoyano	Jing Hu	Miguel Imperial
James Johnston	Linda Kirste	Rakel Kling	Andrew Kurc
Adele Lane	Karien Lanenga	Celeste Loewe	Maria MacDougall
Charuka Maheswaran	Jonathan Malo	Marlene Matsuba	Jan McFadzen
Judith McLellan	Ingrid Mendez	Ashlee Menning	Jewel Mitchell
Monica Mitterboek	Maria Monagas	Muhammad Morshed	Leana Rae
Sudit Ranade	Jacqueline Rigby	Kamila Romanowski	Anna Ryan
Venessa Ryan	Brian Sagar	Jennifer Sammartino	Marianne Schwarz
Inna Sekirov	Esther Sigurdsun	Mona Sillje	Jonathan Spence
Carl Swanson	Meaghan Thumath	Nina Tomas	Snehal Vaghela
Shawna Whitney	Isabella Wilson-Beaulieau	Jason Wong	Arina Zamanpour
Laura Zerr			

Appendix B (Results: Indicator Prioritization)

The table below summarizes the collective opinion of the participants at the TB Quality Care and Elimination planning meeting (September 19-20, 2023). Participants completed a prioritization exercise that assessed the twelve key indicators proposed for Canadian TB program evaluation by the authors of the *Standards* across three dimensions: (i) feasibility; (ii) impact; and (iii) related targets. All highly ranked indicators are described here.

# of Responses	Key Indicator	Target	Goals/Objective #
11	Of all people who started treatment for TB disease in the preceding 12 months, the proportion (%) who achieved treatment success (cure or completed)	≥90%	3.4 Case management and treatment
11	Of all close contacts of people with smear-positive, pulmonary TB, proportion (%) completely assessed	≥90%	4.1 Contact management
9	Of all close contacts of people with smear-positive, pulmonary TB with a diagnosis of TBI, proportion (%) completed treatment	≥90%	4.3 Contact management
8	Total annual incidence (crude) rate of tuberculosis, all forms	Pre-elimination target set at an TB disease case rate of 1/100,000 or 10/1,000,000 population by 2035	1.0 Elimination
7	Of all people with smear-positive, pulmonary TB, proportion (%) started on 4 or more anti-TB drugs to which they are likely to be susceptible	≥95%	3.2 Case management and treatment
7	Of all close contacts of people with smear-positive, pulmonary TB with a diagnosis of TB infection (TBI), proportion (%) who began treatment.	≥90%	4.2 Contact management

Appendix C (Results: Tuberculosis Genomics in British Columbia)

Recommendations

Based on the findings above, suggested actions by BCCDC and partners are summarized below.

Review data sharing processes, systems, and contents. It is recommended that the BCCDC and partners collaborate to develop TB data sharing, systems, and processes.

- *Short term*: Identify feasible processes or systems to share genomic results for all TB specimens back to regional authorities and FNHA. Information sharing needs to be consistent, timely, and complete.
- *Short/medium term*: Identify a mechanism or forum for discussion and interpretation of WGS results. Currently, the results are likely to be of limited use for regions without additional context, so it is suggested to create standardized specimen reports or analysis meetings. This recommendation could be fulfilled through a dedicated, specialized staff member as identified by a previous 2022 review[19].
- *Long term*: BCCDC, regions, and FNHA should explore options for an integrated case and contact management system that includes lab, case investigation, and epidemiologic information that can be used by the BCCDC, regional health authorities, and FNHA. This recommendation is complex and would likely require additional capital to create, procure, or customize a system that would work across the province. Of the handful of other countries who do TB genomics many required custom systems to be built to house genomic lab, case, and contact management components.

BCCDC and partners engage to clarify and develop processes. BCCDC and partners are recommended to connect directly regarding surveillance outputs, expectations, and scope. BCCDC and partners would mutually benefit from discussing what sort of surveillance activities they each perform to reduce possible duplication and explore opportunities for specialized analyses or deep dives to be done by regional or FNHA partners.

- The BCCDC and partners can collaborate to develop contextualized TB surveillance results that are of use at the regional level. There may be value in BCCDC and regions working together to explore how different surveillance or epidemiologic activities could be of use in their region and to ensure duplication of work is not occurring.

Education and awareness. Regional and FNHA partners would benefit from increased understanding of:

- Internal BCCDC structures, mandates, and work of the TB lab and surveillance areas. Having reference material on work area interactions, key staff, and different scopes of work is helpful for regional and FNHA partners to understand the work of the BCCDC and optimize their own work in relation to it.
- The use, benefits, and limitations of WGS. Many partners have limited experience in the use of WGS for TB and may require additional support to understand how results are used within the regions and FNHA.

This evaluation sought to understand aspects of TB genomic data usage through the dimensions of usefulness, timeliness, and acceptability, which are key surveillance system attributes. Based on the information found, the following assessments are noted.

Attribute	Definition[24]	Assessment
Usefulness	the ability of a surveillance system to contribute to the prevention and control of...health events	HIGH The majority of partners identified that TB genomic results would be useful for their work in areas of case management, contact management, and surveillance. The usefulness of this information will be increased through training, education, and continued conversations between BCCDC and partners.
Timeliness	the delay between steps in a surveillance system and availability of information for control of the disease under	MEDIUM Lab processes, including culturing, genomic testing, and bioinformatic analysis, take time and these steps are all necessary. Where possible, delays in relaying findings back to partners should be minimized to ensure this information can be used to guide public health action. Establishing pathways for information sharing, as well as

	surveillance when needed	educating partners on the processes required to create this information in the first place, will help minimize the impact of time delays.
Acceptability	the willingness of system partners to participate in a surveillance system	MEDIUM The majority of partners identified that they are interested in using genomic information to supplement their work. However, few partners identified confidence in interpreting or utilizing WGS. The acceptability of partners to use WGS and provide pertinent information back to BCCDC could be enhanced through training, education, and continued collaboration and sharing between groups.

Next Steps

These results will be shared with the BCCDC, with discussions planned to review the results, identify any additional work needed, and discuss next steps. An initial roadmap for this evaluation project posited a second round of data collection, using a survey or additional interviews to collect information from partners on a reporting template or framework (Figure A). Discussions with BCCDC will identify if this is required, or if other activities would be more beneficial to advance this project.

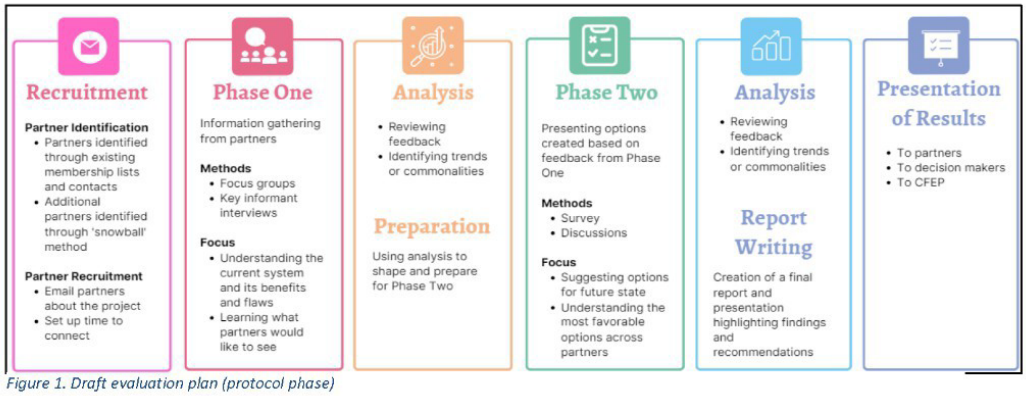

Figure 1. Draft evaluation plan (protocol phase)

A key decision item in initial meetings about this evaluation will be related to sharing results of the evaluation with participating partners, as a number of those interviewed requested to receive the findings. They identified that the findings would be helpful for them to understand how other health authorities undertook TB surveillance and other experiences in utilizing genomic data. Additional knowledge translation products (such as infographics, process maps, or guidebooks) could be explored based on partner needs and next steps identified for the project. It is hoped that findings will be used to inform ongoing quality improvement for programs and processes among the BCCDC and partners.

9

[9] Tuberculosisgenomics in British Columbia: optimizing the use of whole genome sequencing through communication, collaboration, and information sharing. Booth, S.; 2023

Appendix D (Provincial TB Committee—Terms of Reference)

Provincial Tuberculosis Committee
Terms of Reference

Scope
The Provincial Tuberculosis (TB) Committee (the Committee) is responsible for coordinating the implementation of actions towards TB quality care and elimination, including monitoring and evaluating impacts on the health of the population and the health system.

Mandate
The Committee will develop a work plan (to be approved by the Communicable Disease Policy Committee), implement the work plan, and generate progress reports as needed. The Committee will support service partners in their routine work towards TB quality care and elimination in British Columbia.

Accountability and Reporting
The Committee is accountable to the Communicable Disease Policy Committee. The Committee will report to the Communicable Disease Policy Committee at the regularly scheduled CDPC meeting, and will provide progress updates.

Roles
Co-Chairperson: *BC Centre for Disease Control Representative*
Co-Chairperson: *Rotating Health Authority Representative*
Chairs will rotate on a regular basis with acceptable terms of 1-3 years. Health Authority chairs should rotate between each of the six Health Authorities. Co-chairs will identify a delegate should it be necessary.

Responsibilities of the Co-Chairs
The co-chairs will be responsible for setting meeting agendas, sharing of documents, and providing appropriate leadership to meet objectives. The co-chairs will ensure that the structure and timing of any reports are clearly articulated, with draft copies of the report shared with key stakeholders before release. Co-chairs are responsible for ensuring that areas of work under CD Policy's strategic and/or operational mandate are brought to CD Policy for discussion, action, approval, or deferral. These areas of work include but are not limited to:

- Updates to provincial guidelines or standards of practice[1]
- Minimum data standards and/or setting surveillance objectives

[1] Changes to guidelines do not need to be brought forward if there are no significant changes to clinical practice or operational requirements

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- PoUcy or progra m development that hasimplica tions for regiona l req1tirements

Secretariat SHpport/Resotrm::e ReqHirements
Secretariat support for in-person meetings aud teJeconferences wilJbe provided bythe BCCDC..Members a re responsible for ooveringtraveloosts a ssocia ted Viii.th in-person meetings,..Resource requirements wilJ be presented to the appropriate body.

Menr1bership
Membership is comprised of 9 niember agencies, some Vlri.th mulltipJe sub-a gencies. Each agency or s111b-a gency wiJJ be represented by up to two members with expertise in TB quality care anddn1i.nation effort<;and can fully part:idprate in dedsion niakingon beha lf of theirorgp.nizatcfon. Every efl'mt VLrill be made to represent tJhebreadth ofdi.nica l, laboratory, and p111blic hea ltb practice of *IB*. Th.e folJowing agendas and sub-a gencies Vlri.Uprovide representa tion:

Pirs.t Nations Hea lth Aufumity
Pra ser Hea lth Autirndty
lnteri.or Health Autirndty
Northem Hea lth Authority
Va uoouverGoasta J Hea ltb.Aulbhmilly
[sla nd Hea lth Au1tJl.1mity
BC Centre for Disea se C:ontrol-PHSA:

- Provindal TB Services
- Pt11blic Health Microbiology and Reference Laboratory
- Cliinica J Prevention Services
- Surv:eiUance Services

Ministry of Health
Yukon Comnurnicab]e Disea se Control

Decision **Malting**
Members Vlri.ll snive to make dedsions by oom;.ensus.Aquonnn of S0% +1 member m· de]ega te is necessa ry to make a major decision..Quorum is ba sed on tirn 9 repres.ented agencies,note on lbhe membersllip per *s.e,* ie. quorun1 requires 5 of the 9 agencies to be present Every effortwilJ be made m ensure thatno nra jor decision VLri.11 be made VLrithoult the input from a repres.enta tirvefrom each agency.

ff a decision requires a vote, the decision is passed if >80% of members or delegates a re in agreement As.iugile vote Vlri.U be ca st by each agency represented as follows, for a mWof 9 votes:Minis:try ofHeal1tJl.1,BCCDG-PHSA.each of five Regional Hea]th .Authority,First

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Nations Hea lth Authority,. Yukon Communicab]e Disease Control. Agencies 11ot in attendance at themeeting wiUhave 48 hoursfoUowiug Urn meeti11g to slllbm:iit: a vote rothe secretmy.

Establishment of Working Groups

The Comm:iittee may al.so establish *ad hoc*:workinggroups or st11b-workiug groups as necessary, induding h1dividuafa outside of the Committee, to ca rry its objectives.

For a l.I work that will c:ome m CD PoUcy for approva] and requires a new working group undernea th The Comn1itte e Viii.th participation from both provindal and regional representa.tives, the workinggroup nrnst be approved by CD Policy ptior to formation and renewed as needed.

New requests for workinggroups should identify Urn ra tiona]e for formation, including reference to the CD PoUcy work pla n, proposed sc:ope of the work estiniat:ed time oommitment and proposed terms of reference.

Newly formed workinggroups underneath the The Committee should be c:o-cbaired by a provincial and regj.onal representative.

Cond ict of Meetings

a) Frequency - CUITent meeting frequency is quarterly and virtua]. F'a ce m face nieetings wiH be held once per year where feas:ilble to ooincide Viii.th other planned provi.ncia] meetings,..

b) Attendance -Committee members a re expectedto attend but. may *send* de]egates to meetings when unforeseen circumstances arise.

c), Participa tion of others - the co ch.airm **may include** other **guests as** necessmy to achieve the Committee's purpose:..

Duration

The terms of this committee wiU be reviewed on a n a m m a l ba sis,.

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Appendix E (Work Plan/Tracking Template)

Excerpted from TB Quality Care and Elimination Work Plan

Goal I: Achieve a sustained reduction in TB incidence within target populations				Y1 (2024-25)				Y2 (2025-26)				Y3 (2026-27)				Y4 (2027-28)				Y5 (2028-29)			
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
No.	**Activity**	**Lead**	**Progress**	*expected commencement*				*work in progress*				*expected completion*											
1.1	**Attain pre-elimination target**																						
1.1.1	Monitor annual incidence																						
1.1.2	Develop epidemiologically relevant indicators to monitor outcomes of interest and contextualize the findings concerning TB elimination efforts																						
1.2	**Share surveillance**																						
1.2.1	Strengthen surveillance systems and promote data sharing to facilitate a better understanding of the epidemiology and trends																						
1.2.2	Increase the reach of TB WGS across jurisdictions and measure impact																						
1.2.2.1	Enhance structured reporting of linked WGS and epidemiological data for TB disease cases																						
1.2.3	Optimize communication, collaboration, engagement, and usability of BCCDC laboratory and surveillance outputs																						
1.2.3.1	Socialize “Cluster Investigation” request form and reports																						
1.2.4	Establish a robust feedback cycle of the outcomes with the provincial program																						
1.2.5	Reconvene the Provincial TB Surveillance Working Group																						
1.3	**Address incidence in priority populations**																						
1.3.1	Develop targeted client-centric interventions for high-risk groups prioritizing those in congregate settings																						
1.3.1.1	Prevent diagnostic delays and premature hospital discharges																						
1.4	**Early detection**																						
1.4.1	Develop comprehensive resources to ensure early detection, appropriate treatment and care, and social support for immigrants to Canada																						
1.5	**Increase TPT**																						
1.5.1	Advocate for funding of labs for comprehensive IGRA testing to ensure testing is readily and widely available																						
1.5.2	Develop standardized, evidence-based guidelines for scale-up of TB testing and preventative treatment in primary care																						
1.5.2.1	Tracking system to support surveillance reporting																						