TB Deliberative Dialogue Meeting

March 21-22, 2018

Proceedings

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Acknowledgements

We would like to thank the meeting participants for their interest and insights. We also thank our meeting facilitator François Benoit and the staff who helped with the arrangements and with writing these proceedings.

Foreword

On March 21 and 22, 2018, prominent Canadian researchers and public health practitioners came to Ottawa and met with representatives from a number of federal departments and Indigenous organizations to give their best advice on how to advance towards tuberculosis (TB) elimination in Canada.

As members of the Steering Committee, our main objective was to have these TB experts engage with federal departments having a role to play in TB prevention and control, recognizing that distinct approaches and future discussions may be required to devise approaches with respect to specific needs of Indigenous peoples and foreign-born populations, which are disproportionately impacted by TB in Canada.

This report is a record of that meeting. It summarizes what we heard over that day and a half, and highlights what participants said needs to be done to accelerate TB elimination in Canada. It also sheds light on the inequities that persist in foreign-born populations and among Indigenous peoples, and the challenges associated with overcoming the stigma and discrimination that often act as barriers to care.

Partnerships are vital if we are to reach those members of our society who are at highest risk for TB and to work more collaboratively with the communities most affected to improve testing and treatment outcomes. Community knowledge holders, researchers, clinicians, health care and public health practitioners and policy leaders all play a role in addressing the multitude of factors that are contributing to the incidence of TB in Canada. These efforts are essential to maintaining the capacity and expertise required to prevent the spread of TB and respond quickly to TB outbreaks when they do occur.

The Public Health Agency of Canada is committed to working with partners to reduce the burden of TB in Canada, particularly in populations most susceptible to the disease. A major activity for this Agency is the national surveillance of active TB disease in Canada, based on data voluntarily submitted by provincial and territorial public health authorities. Many organizations and individuals use these data to monitor progress toward the targets set by the World Health Organization in 2015 for low-incidence countries like Canada. The Public Health Agency of Canada performs other important functions in the area of TB prevention and control, including the provision of laboratory reference services and surge capacity support for outbreak management, upon request from any province or territory. Through the governance structure of the Pan Canadian Public Health Network, the Public Health Agency of Canada provides federal public health leadership in ongoing efforts to eliminate TB.

Indigenous Services Canada, a new department created in late 2017, works in partnership with First Nations and Inuit to address TB and close the gap in health outcomes between Indigenous and non-Indigenous communities. In response to the Truth and Reconciliation Commission's Calls to Action, Indigenous Services Canada is committed to collaborating with Indigenous partners to transform the delivery of health services to Indigenous peoples with the ultimate goal of ensuring that the design, delivery and control of those services is led by Indigenous peoples for Indigenous peoples.

Building on these efforts, Canada's research community is bringing new perspectives and new knowledge to the forefront of TB elimination in Canada and abroad. Advances in diagnostic testing, drug therapies and patient-centred services are already having an impact on strategies employed in Canada and around the world for bringing TB to a halt. In partnership with community leaders, and people living with TB, Canadian researchers are exploring innovative and transformative approaches to TB control that go beyond traditional concepts of health. The pursuit of new scientific knowledge at home and abroad will continue to expand the reach of community-based interventions into those parts of the country where the disease remains a threat.

The road to TB elimination does not end with this report. One of our first priorities as the organizers of this particular meeting will be to share this report with senior management of the federal departments playing a role in TB prevention and control. In addition, the report will be shared with the Pan-Canadian Public Health Network – a federal-provincial-territorial forum for collaboration to prevent and control disease and promote evidence-based health practices.

We are very pleased to bring the results of the March 2018 TB Experts Meeting to the attention of decision makers and others engaged in the global fight against TB. We hope this report contributes to future work that will enable us to accomplish our ultimate goal, the elimination of TB in Canada.

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1. Introduction

To achieve elimination, different strategies must be considered.

While Canada has one of lowest TB incidence rates in the world, certain communities and populations experience a disproportionate burden. First Nations, Inuit and Métis peoples, and newcomers from high TB incidence countries (foreign born immigrants and refugees) experience higher rates of active TB disease, compared to Canadian born non-Indigenous populations. Between 1950 and 2000, reported cases of active TB in Canada decreased significantly but since 2000, incidence rates have reached a plateau.

On March 21 and 22, 2018, the Public Health Agency of Canada, Indigenous Services Canada, the National Collaborating Centre for Infectious Diseases and the Canadian TB Elimination Network hosted a deliberative dialogue meeting with a small number of traditional and scientific experts to discuss and inform key directions towards TB elimination in Canada. The meeting steering committee endeavoured to ensure there would be diverse representation among the participants (see Annex 1), based on experience, scope of knowledge and geographical location. In addition to the invited guests, federal civil servants from various departments were invited as observers, because of their departments' importance in contributing to TB elimination.[1]

To ensure that the meeting participants had the same information at the outset of the meeting, a background document was sent to registrants in the weeks preceding the meeting (Annex 1). The document included the most up-to-date epidemiological data from Public Health Agency of Canada (as published in the Canadian Communicable Diseases Report, March 2018), key points that had been raised in previous gatherings on TB from 2017-2018, and the deliberative dialogue format – with discussion topics – to be used during the two days of meeting.

The following is a summary of the March 2018 meeting, and the results should be taken in context of other significant meetings and initiatives, such as the development of a Strategy and Action Plan for Inuit, led by Inuit Tapiriit Kanatami.

[1] By the second day, the observers were invited to participate fully in the facilitated process.

2. Deliberative Dialogue Structure and Topics

A Deliberative Dialogue is a form of group discussion where participants with diverse views and experiences seek a shared understanding of a problem and search for a common ground for action. Deliberative Dialogues are led by a trained facilitator and use an issue discussion guide to present the problem and frame three or four broad approaches to the problem.

The World Health Organization's document, *Towards tuberculosis elimination: an action framework for low-incidence countries*[2], served as the basis for the three organizing topics presented at the meeting (see Annex 4-Backgrounder). Each was intended to facilitate discussions on the different issues raised about TB elimination in Canada. Sources included Health Canada's *Federal Framework for Action*, Public Health Agency of Canada consultations between 2011 and 2016, four priority areas of action presented by the Canadian TB Elimination Network (CTBEN) to the Steering Committee, and knowledge gathered at TB events over the previous twelve months. They were presented only to facilitate the discussion. The three topics had overlaps and could be considered as one way, among many, to summarize the relevant issues.

1) **Increasing support for the prevention and control of active TB disease**
   Actions proposed to make sure that negative outcomes for individuals, communities and priority populations are rapidly mitigated. In order to achieve that, consideration could be given to:

   a. Ensuring that the best information is used by all practitioners and decision-makers by updating common practice guidelines, developing continuous knowledge translation mechanism and strengthening continuous education in epidemiology, outbreak management and TB prevention and treatment.

   b. Strengthening the ability to detect and control outbreaks, including adding on-demand capacity for communities affected.

   c. Developing and/or making available effective combinations of tests and procedures for detection and treatment, or more effective drug combination regimes.

   d. Others, as suggested during deliberation.

2) **Increasing focus on detecting and treating Latent Tuberculosis Infection (LTBI), in order to deplete the LTBI reservoir**
   Drawing from evidence that the majority of active disease cases comes from reactivation and not from contact, consideration could be given to:

[2] World Health Organization, 2014. Framework towards tuberculosis elimination in low-incidence countries. Geneva. ISBN: 978 92 4 150770 7 http://www.who.int/tb/publications/elimination_framework/en/

a. Strengthening the "cascade of care" for LTBI, progressing from detection to initiation to treatment then to completion of treatment by making accessible shorter treatment regimens.

b. Supporting interventions like patient education, compliance (adherence) coaching, support from peer, and culturally safe interventions.

c. Working with other migrant countries of origin to foster LTBI screening.

d. Others, as suggested during deliberation.

3) Focus on developing and supporting whole of government (across government and between government) accountability for TB elimination

Given TB is considered a social disease, significantly influenced by living conditions and other social determinants and the fact that those determinants fall outside of health system control, propose actions in order to:

a. Engage and support all department and agencies, including but not limited to the health portfolio, in a concerted action toward TB elimination

b. Link performance, evaluation and monitoring to support TB elimination

c. Engage communities, organizations and other partners in owning the TB elimination agenda

d. Support and enhance resiliency from individuals, families, communities and populations.

e. Others as suggested during deliberation

For all actions, consideration was given to effectiveness, unintended effects, acceptability, equity and feasibility in order to propose actionable options.

3. What We Heard: Issues and Priorities Emerging from the Deliberative Dialogue

The themes, issues and priorities below represent a collation and distillation of information produced during structured brainstorming and prioritization exercises, as well as large group discussions. (The raw data from the deliberative dialogue staged topics can be found in Annex 3). The themes and priorities below do not represent a singular unified view. A diversity of perspectives and viewpoints were expressed during the dialogue, representing the collective knowledge and experiences of those in the room.

It is important to note that representatives from the Indigenous organizations at the meeting expressed that there was little regard for the colonizing history of TB in Canada during the course of the meeting. They mentioned that the notion of "experts" did not take into account the **traditional knowledge** of community members, and that their presence was essential for an adequate consultation **and future engagement**. It was acknowledged at the meeting that the information provided below reflects only some of the perspectives needed to inform appropriate TB planning and decision making. While these perspectives are very important and are grounded in the participants' breadth and depth of knowledge and experiences with TB programming and TB-affected populations, they cannot be considered by themselves to represent all the necessary perspectives needed to successfully address TB.

Community Self Determination, Engagement and Mobilization

A strong theme that emerged during the idea generation and prioritization exercises – as well as throughout large group discussions – was the importance of community self-determination, engagement and mobilization. Self-determination is a key principle of reconciliation with Indigenous Peoples in Canada. Several participants noted that to successfully eliminate TB in Indigenous communities, all aspects of TB programming will need to be defined and led by the Indigenous communities affected. This will require true partnerships and involvement in decision making related to interventions, research, surveillance, and performance measurement. Attention will need to be paid to community-defined needs and priorities that either underlie or compound the TB burden. This includes addressing basic needs such as housing and food security, and other health, healing, and wellness needs, including cultural and linguistic needs (see Inter-sectoral Action to Address Social Determinants, and Holistic, Culturally Informed and Integrated TB Care – Health System Changes below). As one participant noted, Indigenous communities "don't have the luxury of thinking only about TB". Many communities are burdened by simultaneous health issues and challenges, which all require time, energy and resources to address. Some participants identified Indigenous perspectives and frameworks for healing and wellness, such as the First Nations Mental Wellness Continuum Framework[3], which should play an integral role in informing any TB elimination strategy for Indigenous communities.

Several community engagement and mobilization strategies were discussed during the meeting, with multiple participants mentioning the importance of engaging community leaders, elders and youth in the process, as well as creating paid "local TB Champion" positions. This was a successful approach in Inuit communities involved in the Taima TB research study, and participants considered that it would be especially beneficial in communities where community-wide screening may be necessary to achieve elimination. TB programs should partner with Indigenous communities to develop

[3] http://thunderbirdpf.org/first-nations-mental-wellness-continuum-framework/

community-specific TB elimination strategies that are strength-based and build upon local expertise, skills and knowledge.

While much of the emphasis throughout the two days focused on engaging Indigenous communities, several participants stressed the similar importance of engaging foreign born communities from TB-endemic regions. Strategies to engage migrant and non-permanent resident communities would need to be developed to ultimately achieve success in eliminating TB in Canada's foreign born.

A critical issue for both Indigenous and foreign born communities is the complex challenge of TB stigma. With stigma posing such a widespread barrier to TB diagnosis and treatment, participants were clear that stigma reduction would be an essential element of any community engagement or mobilization strategy.

Inter-sectoral Action to Address the Social Determinants of TB

TB has long been understood to be a "social disease with a medical aspect". Discussions about TB elimination therefore cannot be complete without consideration of strategies to address the social determinants of TB. Inter-sectoral action is seen as critical to address social TB determinants such as poverty, under-housing, un-employment, and inadequate nutrition. For that reason, representatives from government departments outside of the health sector were invited to attend the meeting as observers, and ultimately as full participants (see Introduction).

Key aspects of achieving inter-sectoral action were mentioned throughout the meeting and idea generation exercises. The existence of an intergovernmental policy-making body or committee was considered by some to be a necessary component, but the exact scope, nature, and operationalization of that committee would need further exploration. What was clear was that any committee would need to include Indigenous organizations as equal partners; thus being a Federal-Provincial-Territorial-Indigenous (FPTI) committee. Other points mentioned included the need to uncover common goals shared across departments and governments, as well as the need to ensure that participating departments are knowledgeable regarding TB issues and population-specific needs.

Integrating TB elimination efforts with Canada's immigration system was also a clear priority identified at the meeting. One idea that was supported by some participants was that of a migrant health agency or department that could create an agenda for health promotion among migrants. Again, the nature of this body and how it would work with health and other sectors would need to be determined. Regardless, there was a clear interest by meeting participants who were involved in Canadian immigration to participate in further policy planning discussions on TB elimination.

It was recognized that coordinating inter-sectoral action to address the social determinants of TB would require resources and a commitment by each department involved. It is crucial that this

commitment be ongoing, and engagement regarding TB elimination continue even as the Canadian TB burden declines. Otherwise, Canada may face a resurgence of TB in the future, as has been seen historically in other low-burden countries.

Knowledge Translation, Exchange and Discussion

Participants noted that opportunities and mechanisms for knowledge translation of new evidence, promising practices, and wise approaches will be needed to ensure local, regional, and national practices and policies are based on the best information.

A number of participants throughout the meeting stressed the need to formalize a wider, more inclusive group or forum to facilitate cross-jurisdictional knowledge exchange and discussion to support TB elimination policy guidance at local and national levels. The exact makeup, mandate, and characteristics of such a group would need further consideration, but several ideas were expressed. Beyond the creation of a formal Federal-Provincial-Territorial-Indigenous (FPTI) committee already mentioned, others felt that developing a large community of practice or inter-sectoral network which could support advocacy initiatives would be an effective approach. Some participants referenced the CTBEN as a potential model that could be further refined and expanded.

Another consideration would be the importance of ensuring sufficient space and support for population-specific exchange and discussion. There are several areas of TB programming that are shared across all populations, and would benefit from a shared forum for discussion. However, First Nations, Métis, and Inuit Peoples, as well as different migrant populations, all have unique characteristics to their history, context, TB burden and interactions with the systems that deliver health and social services in Canada. Participants noted that these unique experiences cannot be conflated or misrepresented when discussed. The dedicated time and effort necessitated by population-specific forums should be balanced with the competing priorities that many TB and community knowledge-holders face, as well as those faced by public health decision makers and practitioners. Regardless of the structure or operations of such a group, participants were clear that there would need to be ongoing financial support to allow for regular in-person and virtual meetings for knowledge exchange and discussion.

Education, Training, and Human Resources

Education, training and human resources were prevalent themes throughout discussions and idea generation exercises. Building capacity in TB-affected communities for effective TB prevention, diagnosis, and treatment was seen as imperative in order to achieve TB elimination in Canada. Several ideas were shared and priorities identified.

Firstly, a number of participants noted that the Canadian TB Standards (CTS) – the primary TB practice guideline used by health practitioners in Canada – were last revised in 2014 and needs to be updated. A particular priority was placed on updating the guidance on LTBI diagnosis and treatment, as new evidence has emerged on effective practices. Some highlighted the importance of widely promoting the CTS and supporting knowledge translation activities to encourage uptake of best practices. It was recognized that in order to keep the CTS up-to-date and widely used, stable funding would need to be identified and secured.

Several additional population-specific priorities were presented for education, training and human resources in Indigenous communities. Participants stressed the significant shortages of TB trained Indigenous health care providers (HCPs), and suggested that robust strategies be developed for Indigenous HCP education and training, as well as human resources. A human resource strategy would have to include approaches to increase retention and respond to the high turnover of health care positions in remote communities. Additional positions to support patients such as peer and HCP Navigators, as well as Case Managers and Public Health workers, may also be necessary. Participants expressed how TB education in Indigenous communities should spread beyond HCPs and include community and peer education models. The education of non-HCPs, community leaders, youth and visitors may be just as important as HCP education when trying to eliminate TB. Recent findings in Saskatchewan, for example, indicate that community members may not recognize the differences between active TB and LTBI. Key approaches to be considered in any education and training strategy should include Indigenous-to-Indigenous training approaches, adaptable TB 101 training, and teaching through lived experience.

All education and training materials, regardless of the audience or population of interest, should be culturally appropriate and safe, be provided in multiple languages, and accommodate varying literacy levels.

Diagnostics and Treatment

Access to appropriate and effective TB diagnostic and treatment services is an essential component of any TB prevention and control program. While several advancements in TB diagnostics and treatment have occurred in the past decade, the benefits of these advancements have not yet reached many TB-affected communities in Canada. This was acknowledged at the meeting, with participants providing numerous examples of diagnostic technology and treatment options that should be made more accessible to TB-affected communities.

Participants expressed that access should be improved across the country to Interferon Gamma Release Assay (IGRA), GeneXpert, digital chest X-rays, and sputum induction equipment. Additionally, increased access to mobile diagnostic units and remote health technology such as Telehealth was seen as necessary to support TB elimination in northern communities. Other innovations that tap into digital health and mobile phone technology were also noted as potentially

beneficial. It was mentioned that simply purchasing more equipment will not be sufficient, and that human resources such as training local technicians and community workers will need to accompany such investments for their operation, result interpretation, maintenance, etc.

Alongside the need for improved access to diagnostics is the need for improved access to treatment options. Participants noted that shortages of first and second line TB treatment options should not be an issue in a country as economically developed as Canada, and yet they still occur. This was described as something that needs immediate response. Particular attention should be paid to increasing the availability of second line and short-course treatment options such as Rifapentine. The idea of developing and sustaining a "drug pipeline" for TB medications was suggested. This would likely require several actions to ensure that drugs are low cost, quality assured, and accessible - including bulk purchasing and procurement, international harmonization of regulatory and approval processes, establishment of methods to communicate drug shortages across the country, and mechanisms for sharing drugs across jurisdictions.

Holistic, Culturally Informed, and Integrated TB Care - Health System Changes

Several necessary health care system changes were discussed at the meeting to realistically achieve TB elimination in Canada. First and foremost, TB care systems must be transformed to become more patient centered, holistic, and integrated with other health care services. As a starting point, TB screening and treatment services should be layered and bundled with services for other infectious and non-infectious diseases. In addition, TB care should be integrated with primary care services through regionally nuanced approaches and service provider teams and networks. Partnering with relevant NGOs to support health and social service navigation, as well as health promotion activities, should also be considered essential early steps towards developing integrated and holistic TB care programs. Indigenous wellness models of care will have an important and informative role as TB services are integrated with other health services in Indigenous communities. Some participants highlighted particular refugee and migrant clinics in Canada as examples of effective service integration. These primary care clinics provide post-arrival LTBI care while ensuring a continuum of holistic, language appropriate and culturally informed care for clients. TB service integration should be patient-centered and include a range of patient support, such as social workers, enablers and incentives, financial compensation and social protection packages, and care-closer-to-home options such as residential components for patients in isolation.

Another important health care system priority that was identified is the need to formalize responsibilities, accountability and cost coverage for TB prevention, care and control activities. Several participants noted that Jordan's Principle must be absolutely adhered to for Indigenous populations and that all migrant group categories should receive essential health care coverage at all times; but how these services are provided and who pays for them will need to be further clarified.

Additionally, cost coverage for enhanced LTBI testing and treatment activities, as well as surge capacity during times of high incidence and outbreaks, will need to be determined.

A number of suggestions were proposed regarding improving TB program strategies for screening, diagnosis and treatment. Firstly, there was wide consensus that TB elimination in Canada will not be achievable without enhanced efforts to reduce LTBI pools in the country through active screening and treatment. Participants noted the importance of identifying population groups that may require routine and repeated screening. With the effective use of tools such as algorithms, resources can be more efficiently allocated to higher risk groups. Some studies suggest, for example, that it may be beneficial to focus migrant screening efforts on priority countries with a high TB burden, rather than screen all migrant source countries. Recommendations related to outbreak investigation and contact tracing were also provided, including the development of standardized "tipping points" to initiate outbreak investigation, the utilization of social network approaches for contact investigation, and the exploration of "community-champion-led" approaches to contact tracing. The potential benefits of leveraging mobile phones, social media, and new technologies for treatment such as video directly observed therapy (VDOT) were also highlighted.

One other important consideration that was noted is the need for HCPs to be aware of patient rights, and be conscious about using and promoting appropriate, respectful and de-stigmatizing language as they speak to, and about, people with TB. It was also suggested that investments in TB control globally would have substantial benefits for TB elimination in Canada.

National TB Elimination Plan/Strategy/Framework

There are a number of national and federal TB documents in Canada, including Tuberculosis Prevention and Control in Canada – A Federal Framework for Action, and Health Canada's Strategy Against Tuberculosis for First Nations On-Reserve. Participants at the meeting, however, felt that these were not sufficient for TB elimination in Canada. Many participants expressed that a comprehensive TB elimination plan, strategy or framework at the national level is required. Dedicated funding would be needed for its development and implementation. The document would have to direct action as well as define roles, responsibilities and ownership. Significant consideration would need to be paid to the needs of specific populations. Some participants suggested that separate population-specific plans be developed. As well, development of the plan would have to complement, and not interfere with, strategic planning work that is already underway in many regions in Canada, including the development of a funded Inuit TB Elimination Strategy. It would also be absolutely essential that the plan be informed by true engagement and consultation with TB-affected communities.

Performance Indicators and Targets

Performance measurement was described at the meeting to be a critical element of success for any TB elimination strategy. Participants indicated that a set of national, standardized performance indicators and targets would not only help keep governments and programs accountable, but would allow them to better evaluate their successes and shortcomings. Process and performance indicators should be developed for all levels of programming and government (national, provincial, territorial, regional, and local), be community informed, and adhere to the principles of OCAP (Ownership, Control, Access, and Possession) for First Nations populations. Participants noted that prior to the development of any national performance indicators, success would first need to be defined. At its most basic level, this means deciding between monitoring counts and rates versus year-over-year reductions. At another level, the standard for success needs to align with the health, social, and cultural priorities for each community. This means that performance indicators should move beyond the diagnosis and treatment of active TB and LTBI and into other more holistic areas of health. To promote integrated TB programs, performance indicators should be developed for key social determinants of health, wellness, equity, and lived experiences. Qualitative and quantitative research will also be needed to unpack and supplement such indicators (see Research, Evaluation and Unanswered Questions below), but the indicators themselves will reflect a commitment towards addressing community-centered priorities.

Reporting, Data, and Information Management

Effective performance measurement relies on robust data and timely reporting of that data. A number of suggestions were made by participants at the meeting around needed improvements to reporting, data, and information management systems in Canada to support evaluation, research, and data-informed decision making. One clear need is the one for surveillance of LTBI in Canada. With enhanced efforts being directed towards diagnosis and treatment of LTBI in TB-affected groups, it will be important to track the LTBI clinical cascade. One policy option that was mentioned was to enforce legal reporting of LTBI. Participants also noted that data should be collected on MDR TB in addition to LTBI as drug resistance becomes more of a public health threat.

Better monitoring and tracking of patients through the TB patient pathway, their side effects, contacts, and transmission events were also mentioned as priorities for improved data. The importance of integrated systems, rapid reporting, and data sharing across jurisdictions was highlighted as key pieces to an effective TB response system. As electronic medical records (EMR) develop in Canada, it will be important to ensure that TB information is included and sufficiently accessible to HCPs. Some participants mentioned the potential benefits of having a pan-Canadian data management system to help track TB elimination efforts. Finally, a few participants suggested a further scale-up of whole genome sequencing (WGS) in provinces, territories and nationally. A

national database of WGS for all TB strains could improve treatment outcomes and outbreak response across the country.

Research, Evaluation, and Unanswered Questions

One thing that was made very clear over the course of the meeting was that there are still a number of unanswered questions that require more evidence or deliberation to help ensure that appropriate TB guidance and public health policy is developed. As we begin to increase our focus on reducing the LTBI reservoir in Canada, one key research and evaluation priority will be to improve our understanding of the LTBI cascade for different population groups. It will be important to learn about critical cascade points, as well as the primary reasons for drop-off at each step of the cascade, to better inform interventions. Another critical priority will be to enhance knowledge on the primary risks for TB reactivation. Decisions will need to be made around who to screen and target treatment to, what specific treatment regimen to offer, and, for migrant populations, when and where to offer treatment - in their host or source country of residence. Some participants noted that investing in predictive modelling and the use of artificial intelligence could help answer these questions as well as help map potential outbreaks. Investments in economic modelling and cost-effectiveness research on different testing and treatment strategies will also be needed for effective decision making.

Another high priority area for research that was described was the lived experiences and journeys of patients in different communities and population groups. Learning about the particular challenges, successes and motivations of people affected by TB will provide crucial information for targeted intervention development. Increasing knowledge on stigma and successful stigma reduction strategies will also be a key part of improving patient experiences. This knowledge, in combination with information collected on TB cascades of care, could lead to the identification of missed opportunities for diagnosis and treatment and suggest approaches to minimize them.

With TB so highly prevalent around the world, basic and clinical research is still vital to truly achieve TB elimination, participants noted. Improved diagnostic tests, treatment regimens, and ultimately an effective TB vaccine will all be necessary if Canada and other countries are to achieve TB elimination. Supporting research and innovation in these areas, as well as developing international linkages to foster partnerships and boost recruitment for research and clinical trials will be highly worthwhile endeavors.

Final Roundtable of Comments

Following the final break on the afternoon of Day Two, participants were invited to share final comments regarding TB elimination priorities in Canada. Remarks were varied, and included the following:

- The need for continued in-person meetings, especially with community representatives
- The value of a national, coordinated strategy, with flexibility to accommodate community and geographical differences
- The value of following ITK's example in using the WHO Toolkit to develop and implement a concrete plan of action
- The essential need for continued political will to eliminate TB in Canada
- The need to situate TB in Indigenous populations and communities within the essential, larger context of colonization as well as the acknowledgement and use of affected communities' knowledge about what is best for their families and people

4. Conclusion

The depth of discussion and the breadth of ideas during the meeting demonstrates the on-going commitment of the attendees to TB elimination in Canada. In summary, concerted action in the following areas were identified by the meeting attendees as critical:

- Community self-determination, engagement and mobilization
- Inter-sectoral action to address the social determinants of TB
- Knowledge translation, exchange and discussion
- Education, training and human resources
- Diagnostics and treatment
- Holistic, culturally informed and integrated TB care – health care system changes
- National TB Elimination plan/strategy/framework
- Performance indicators and targets
- Reporting, data, and information management
- Research, evaluation and unanswered questions

Collaborative partnerships and engagement are vital in order to reach communities and members of society who are at highest risk for TB and improve their health outcomes. Researchers, health care and public health practitioners, policy leaders and community advocates all play a role in addressing the multitude of factors that are contributing to the incidence of TB in Canada. These efforts are essential not only to prevent and control the spread of TB and respond quickly to outbreaks, but also to address the underlying social determinants contributing to the TB burden in affected communities.

PHAC is committed to engaging federal departments and the Pan Canadian Public Health Network on these issues and ISC will be engaging with Indigenous peoples to further define how to move forward towards TB elimination.

Annex 1.

Toward Tuberculosis Elimination – Expert Meeting
Agenda for a Deliberative Dialogue
Ontario Room, Lord Elgin Hotel, Ottawa
March 21 & 22, 2018

Objective: Organised as a deliberative policy dialogue, this meeting will engage TB experts from the public health, clinical and academic community as well as officials from key federal departments and agencies in order to suggest concrete actions that could be taken federally, or together with provincial/territorial governments or stakeholders, to move toward TB elimination in Canada.

Steering Committee Members: Dr. Howard Njoo, Public Health Agency of Canada; Dr. Tom Wong, Indigenous Services Canada; Dr. Richard Long, Canadian TB Elimination Network; Margaret Haworth-Brockman, National Collaborating Centre for Infectious Diseases

Day One – Wednesday, March 21, 2018

12:00 pm	**Registration. Please Note: no lunch provided**	
12:30	Opening	François Benoit, Facilitator
12:35	Welcome and Opening Remarks Roundtable introductions	Theresa Tam, Chief Public Health Officer, PHAC All
1:00	Introduction to Deliberative Dialogue: process, rules of engagement, review of objectives and expected outcomes.	Facilitator
1:20	Questions and clarification on the Summary Brief	Steering Committee members
1:30	**Topic 1 – Focus on increasing the support for prevention and control of active tuberculosis disease –** **Overall Discussion**: Strength/weaknesses (effectiveness)	Facilitator and all
2:00	Roving Ideas Brainstorming – 4 stations 1) Ensuring that the best information is available for all. 2) Strengthening the ability to detect and control outbreaks. 3) effective combinations of tests and procedures 4) Others, as suggested during deliberation	All
3:00	Break	
3:15	Feasibility considerations	All
4:15	Acceptability, Equity Considerations, Unintended Consequences	All
5:00	Prioritizing interventions: urgent/ less urgent, important/ less important	All
5:15	Summary for the Day	Facilitator

Day Two – Thursday, March 22, 2018

8:30	Summary of Preceding Day	Facilitator
8:45	**Topic 2: Overall Discussion: Focus on detecting and treating Latent Tuberculosis Infection** Strength/weaknesses (effectiveness) Roving Ideas Brainstorming – 4 stations 1) Strengthening the "cascade of care" for LTBI. 2) Supporting interventions like patient education, 3) Working with other countries of origin to foster LTBI screening 4) Other, as suggested during deliberation	All
9:45	Break	
10:05	Feasibility considerations	All
10:50	Acceptability, Equity Considerations, Unintended Consequences	All
11:15	Prioritizing interventions: urgent/ less urgent, important/ less important	All
12:00	Lunch - provided	
12:45	**Topic 3: Overall Discussion: 3) Focus on developing and supporting whole of government (across government and between government) accountability for TB elimination** Strength/weaknesses (effectiveness) Roving Ideas Brainstorming – 4 stations 1) Engage and support all department and agencies, in a concerted action toward TB elimination 2) Link performance, evaluation and monitoring to support TB elimination 3) Engage communities, organizations and other partners in owning the TB elimination agenda 4) Support and enhancing resiliency from individuals, families, communities and populations. 5) Other as suggested during deliberation	All
1:45	Feasibility considerations	
2:30	Break	All
2:45	Acceptability, Equity Considerations, Unintended Consequences	All
3:45	Prioritizing interventions: urgent/ less urgent, important/ less important	All
4:10	Next Steps Evaluation Concluding Remarks	PHAC NCCID DISC

Annex 2. List of Participants

PARTICIPANTS
Dr. Gonzalo Alvarez Associate Professor, Faculty of Medicine, School of Public Health, University of Ottawa Scientist, Ottawa Hospital Research Institute Head of Respirology, Department of Medicine, The Ottawa Hospital
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Annex 3. Thematic Organization of Meeting Notes

Points tabulated below are as written during the meeting by participants. They have been collated and organized by theme. Colour codes refer to the weight given by participants in the prioritization exercise:

Bolded blue items indicate **highest priority weighting**
Bolded black items indicate **second-to-highest priority weighting**
Un-bolded black items indicate unweighted listed priorities

1	Community Self Determination, Engagement and Mobilization
	Community-defined needs/priorities **Help remote communities develop strategies to remove local stigma** **Address Stigma** ***Community-specific strategy*** ***Need community-specific strategies – not pan-Indigenous approach*** ***Sustained programming that is community based*** ***Community-defined and led outreach and engagement activities*** ***Self Determination*** ***Incentives for individual or to community*** ***Addressing cultural linguistic needs of community*** ***How do Indigenous Peoples understand and conceptualize their experience with TB?*** ***Community Mobilization*** ***Community-wide screening and treatment*** ***Empower Indigenous communities to "own" and address TB*** ***Sharing information with affected communities to increase participation and mobilization*** ***Harnessing non-medical champions – schools, elders, etc.*** ***Indigenous services - involve elders*** ***Relationships with community leaders and elders*** ***Build from a vision of strength - Indigenous knowing; Refugee experience*** ***Youth build resiliency*** *Strength-based approach* *Community are decision-makers vs "stakeholders"* *Self-defined needs* *Addressing the stigma* *Support Healing Process* *Recognizing local expertise (skills) knowledge* *Sharing community expertise, tools, knowledge* *Community engaged in surveillance and diagnosis* *Active ongoing community engage to prep* *Engaging communities in research priority setting* *Community Defined Research* *Engage with communities to "buy in" to performance indicators (treatment cascades)* *Use of media and social media, apps, radio stations, etc. to reach out* *How to engage with "Foreign Born" regarding TB programming* *Non-permanent residents and TB* *The Migrant Communities - How to engage – Who/What/Where*

2	Intersectoral Action to address the Social Determinants of TB
	Address, resolve basic issues: housing, food security **Housing – need to reduce overcrowding** **Migrant Health Agency/Department to create an agenda for health promotion** ***Understanding social determinants as barriers (poverty, food insecurity,…)*** ***Federal Depts -> action oriented; Interdepartmental committee -> coordination*** ***FPT priority -> PHN; FPT <-> Indigenous*** ***Fed Govt <-> NIO's; nation-to-nation*** ***Departments commit to continued work on TB , and ensuring champions/focal points are knowledgeable of cultural specifics - Indigenous and Migrant*** ***Resources ($, HR) to engage and support*** ***Engaging when TB is not on radar*** ***Integration with immigration systems.*** *Moving agenda forward @ UN Summit (Sep 2018)* *Share Common Goals* *Engage other non-health sectors* *Financial support of patient/families affected by TB, LTBI* *Engaging non-health sectors to increase resilience -> poverty, unemployment*
3	Knowledge Translation, Exchange and Discussion
	Establish F/P/T committee/forum where information on TB prevention/control is shared to inform local policy (ongoing) ***Canadian TB Elimination Network (CTBEN) – advocacy; immigrants; Indigenous -> financial support; -> structure and meetings; -> links to F/P/T "core groups"*** ***CTBEN*** ***Knowledge Translation*** *P/T/F community of practice; expert group* *Support for MDR TB "working group" to discuss cases*

4	Education, Training, and Human Resources
	Training of Indigenous HCPs **Culturally appropriate TB Education materials for target populations in multiple languages** **Indigenous-to-Indigenous TB education** **Revised Canadian TB Standards - commit to funding the process** **Need national stable support for CTS (evergreen and updated)** ***Revise TB Standards -> Funded*** ***Indigenous - culturally safe; language; Indigenous HCWs*** ***Qualified local community – Capacity Building*** ***TB Education and Training Strategy for Canada*** ***Consistent training/webinars "TB 101"*** ***Health care / peer education and infrastructure*** ***Language/culture appropriate materials and pictograms*** ***Education of community leaders*** *Up-to-date guideline with better Rx regime (LTBI)* *KT – national associations for practice guidelines* *New Standards - LTBI Dx and Tx - Update Now* *Increase CTS utilization to improve cascade of care* *Standardized care / Standard of Care* *Tech barriers can be addressed, but people on the ground* *Consistent Staffing* *Improve retention and help - "leaves" not supported in all areas -> MOU "Nunavut + Ottawa PH"* *Public health and case-managers increase* *Expert and trained human power - dealing with turnover* *Human resources strategy - tailored to areas; engage "new" clinicians to TB* *Peer educators - Health care navigators* *Peer Navigators* *HCP Navigator* *Patient/Health Provider Navigators* *Health care provider education* *How to make community visitors aware of an outbreak? e.g. repairman visiting for a week* *Literacy level of individual needing services* *Teaching through lived experience* *Youth or school TB education* *Community-based education* *Non-Health care provider education (e.g. occupational staff, etc.)* *Community level education for individuals*

5	Diagnostics and Treatment
	Med availability – especially 2nd line Meds (e.g. regulatory barriers) ***Ensuring a sustained/adequate national supply of 1st/2nd line Rx*** ***Regulatory processes -> International harmonization for TB drugs*** ***Protection against price variability and low access*** ***Access to Rifapentine*** *Medication pipeline - price; access* *Improved medication access - bulk purchasing and procurement; reformed SAP* *Canada is a small TB drug market -> med availability impacts* *National – establish a means of communicating TB drug shortage and sharing mechanisms* *Bulk purchasing and procurement - reformed SAP* *Address Regulatory/Market barriers (Med access)* *Harmonization of Approval Process* *Access to ALL TB Drugs - quality assured; low cost* ***Diagnostic Tools -> access*** ***TST and IGRA*** ***Ensuring IGRA is covered by P/T health plans*** ***IGRA testing can be tracked - TST cannot as not lab based*** ***Access to diagnostics (funding)*** ***Engage industry (diagnostics and therapeutics)*** *Roving mobile diagnostic unit e.g. CXR, Gene Xpert* *Sputum induction and GeneXpert* *Capacity in communities for testing and procedures e.g. sputum* *Ready access to digital films* *Portable dx devices* *Expert interpretation to read x-rays* *"Digital" health – virtual health - adapt systems to turnover of HCW* *Use of Remote Tech e.g. Doc-in-Box* *Results readily available to all txting* GeneXpert - mobility to communities or access to hubs with GeneXpert *Empower remote Indigenous communities with increased diagnostic tools and engage for cultural acceptance* *New/better tests – IGRA+* *Pipeline for rapid TB testing including culture*
6	Holistic, Culturally Informed, and Integrated TB Care - Health System Changes
	Wellness rather than disease model - integrated and primary care **Post-arrival LTBI care - Integrated into other/primary care** ***Integrate TB with other diseases in holistic cascade of care*** ***Need integrated approach to detection and Rx - "One-stop-shop" - Layer with other services***

	Integration to ensure continuum of care for migrant clients ***Refugee/migrant clinics as examples of integrated services*** ***Focus on priority countries - Kahn et al.*** ***Bundle LTBI services with other health screening services*** ***Syndemics approach - Dx and Rx – LTBI/HCV/HBV*** ***If subclinical or asymptomatic, the "system" doesn't kick in.*** ***Social Protection Packages for active TB cases -> significantly reduce catastrophic costs*** ***- Social Worker embedded into TB programs*** ***Engage relevant NGOs to support health system navigation*** ***Enablers and incentives - Financial compensation*** ***Honour Jordan's Principle*** ***Process/system should be culturally appropriate (i.e. safe, etc.)*** ***Language appropriate services, and culturally appropriate*** ***Use of local and social media technology*** *Examine and correct system problems* *Canadian TB infrastructure to support North* *Regionally nuanced approaches to partnership between primary care and specialist TB care* *Regional Primary Care /TB Specialist Networks (for CME)* *Integrated models involving population early in program* *Integration of services* *Embedding care of TB in other health promotion activities* *Making use of when people access the system - e.g. respiratory questionnaires to Dx* *Decrease missed opportunities of Dx* *Routine screening* *Identify target groups* *Consider a strategy to re-test negative individuals in high-risk communities* *Layering multiple investigation data* *"tipping points" to initiate Outbreak investigation -> standardize* *Social network approaches to CI* *Active case finding - contact tracing -> surge capacity* *Contact tracing in community - community-led - e.g. community champion-led* *PPP for: Diagnosis, Treatment, Adherence* *Integrating newer technologies* *Use of technology like video DOT* *Use of remote tech - e.g. V-DOT* *DOPT/SAPT - Adherence to Treatment* *Supported treatment – texting; video; reminders* *Creation of residential component for patients in isolation* *Programs supported by sustained funding rather than time limited proposal/grant* *Coverage of care for other migrant categories until they receive P/T coverage* *Canada to invest in Global TB control* *Think of Pre-Migration as the START of Cascade of Care* *Who pays for LTBI screening?* *Jordan's Principle* *Honour Jordan's Principle* *Culturally Appropriate Delivery*

	Language services - translated patient tools *Resource limitation - linguistic/cultural/staff* *Respect and protect patient/human rights* *Change language used - control -> elimination; suspect -> under evaluation*
7	National TB Elimination Plan/Strategy/Framework
	Funded TB Elimination Plan **Maintain political will/support -> dedicated funding** ***Canadian TB Elimination Plan*** *Agreed upon approach on Framework (to direct action)* *Is Canada committed to the WHO TB Elimination Strategy? - Need a "Canadian TB Elimination Strategy"* *Support development of framework ($)* *Define roles and responsibilities/ownership* *Specific framework for TB elimination for Canada*
8	Performance Indicators and Targets
	National Performance Indicators (OCAP) **Standardized performance indicators** **Wellness Indicators (beyond process or performance)** ***Community informed performance indicators (OCAP)*** ***Indicators at all levels (national -> local)*** ***Define Success -> SDOH; -> %; -> Rate?*** ***Performance Targets*** *Performance measures related to: active TB reduction; LTBI; Contact; social determinants; lived experience; education; equity (~lens)*
9	Reporting, Data, and Information Management
	Make LTBI reportable ***Establish national TB treatment/outcome reporting system with P/T accountability*** ***Reporting – National - LTBI Diagnosis - LTBI Treatment*** ***LTBI legal reporting*** ***Data Sharing - including LTBI; Contacts*** ***Pan-Canadian Data Management system*** ***Monitoring/tracking patients through pathway – patient level and higher*** ***EMR Flags for active/latent TB*** ***EMR and Tech issues*** ***Integrated systems/process for TB data sharing*** ***Faster TB Epi data reporting***

	National Database of WGS for all TB strains *Scale up whole genome sequencing in provinces / territories to detect transmission and share data nationally* *Utilize/link administrative datasets to identify trends* *Sharing info, accountability, transparency, trust to engage* *Pan-Canadian Electronic Medical Record to linked surveys* *Support provincial development of transmission/contact databases -> for performance measurement* *Access by different jurisdictions to records e.g. Southern team access to Northern patients* *Monitoring for Side-effects* *Local data gathering to inform decisions and actions* *Outcome data on migration referrals/categories - System for reciprocity in data* *Consistent health records and access* *Data*
10	Research, Evaluation, and Unanswered Questions
	Dedicated Research Funding **What are the "cascade" points?** **Reasons for drop off in each step of the cascade** **Evidence Needed - What is the impact of LTBI treatment of migrants on Public Health** ***Understand Stigma*** ***Prediction of highest risk to reactivation (migrant populations)*** ***Predictive modelling (e.g. Stats Can economic modelling)*** ***When best to offer testing? Programmatic?*** ***Who?? How to Target - Risk Factors -> Active TB*** ***Research on cost-effectiveness. Program implement research.*** ***TB Vaccine*** ***Lived experience; Patient journey*** ***Use of AI in mapping potential outbreaks (through research)*** *Evaluate cascade of care to inform* *Program evaluation; Economic evaluation* *Economic Modelling to support Access to treatment* *Research/clinical trials -> international linkage to increase numbers/recruitment* *Investments in research for dx methods and implementation of interventions* *Prediction of who would respond to 1st line Rx* *How do we stratify the need - who needs LTBI tx? - Support research around this – funding* *Which test? - TST vs IGRA and where? - Host vs source country* *Treatment - which regimen – 9INH/4Rif/3RiP-INH - and where? – source/host* *Treatment completion? - pre/post arrival? - How to prioritize?* *Cost/Benefit -Testing vs treatment? - Early vs later?* *TB vaccine?* *Research to capture patient experiences* *Focus groups of lay people*

Annex 4. Backgrounder

TOWARD TUBERCULOSIS ELIMINATION – EXPERT MEETING

MARCH 21-22, 2018

SITUATION IN CANADA

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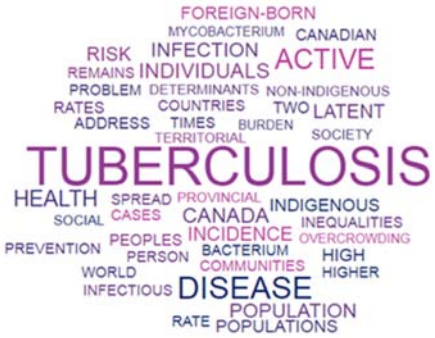
TOPICS FOR DELIBERATIVE DIALOGUE

- Even though the overall Tuberculosis (TB) incidence rate for the Canadian population is among the lowest in the world, certain communities and populations experience a disproportionate burden.

- In Canada, First Nations, Inuit and Métis peoples, and foreign born Canadians from high TB incidence countries (foreign born immigrants and refugees) experience higher rates of active tuberculosis disease, when compared to Canadian born non-Indigenous populations.

- Between 1950 and 2000, reported active TB in Canada decreased significantly but since 2000, incidence rates have reached a plateau.



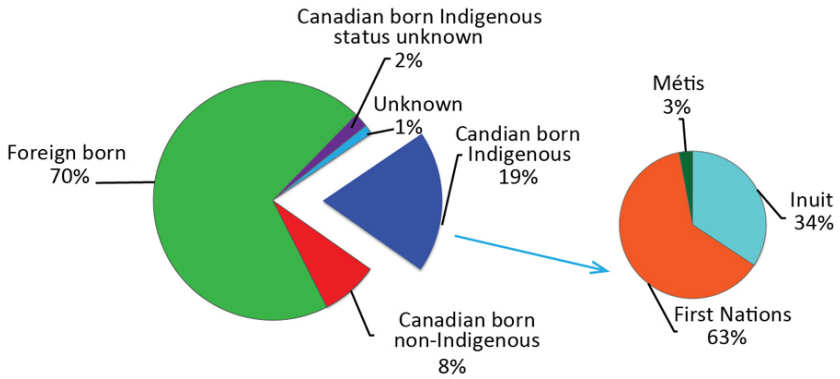
To achieve elimination, different strategies must be considered.

What is the Latest Epidemiology for Canada?

Source: Vachon J, Gallant V, Siu W (2018) Tuberculosis in Canada, 2016. Can Commun Dis Rep. 2018; 44-3/4, March 1, 2018. Retrieved from http://bit.ly/2oRP7Tp

- In 2016, a total of 1,737 cases of active TB disease were reported in Canada, corresponding to an incidence rate of 4.8 per 100,000 population
- In 2016, males and females ages 1 to 44 years had similar TB incidence rates, while males aged 45 years and older had higher incidence rates than females. For those 75 years and older, the incidence rate for males (14.0/100,000 population) was almost twice the rate for females (7.8/100,000 population).
- Of the 1,737 cases reported in 2016, foreign born individuals accounted for 70% (n=1,213) of cases, Canadian born Indigenous people made up 19% (n=333) of cases, and Canadian born non-Indigenous people accounted for 8% (n=135) of cases; 2% (n=34) were classified as Canadian born with an unknown Indigenous status and 1% (n=22) were of an unknown origin
- In 2016, provincial/territorial-specific TB incidence rates ranged from 0.2/100,000 population in Nova Scotia to 142.9/100,000 population in Nunavut. The reported incidence rates in Newfoundland and Labrador, Manitoba, Saskatchewan, Alberta, Northwest Territories and Nunavut were higher than the national rate of 4.8 cases /100,000 population. The three largest provinces, Ontario, Quebec and British Columbia, continued to account for the majority (64%) of all reported cases in 2016.
- Over the past decade the incidence rate for the Inuit population increased from 115.1 to 170.1 per 100,000 population. Among First Nations living on-reserve, an overall downward trend was observed (from 31.5/100,000 in 2006 to 20.4/100,000 in 2015), except for an increase in 2013 (30.8/100,000) and again in 2016 (34.1/ 100,000). In comparison, the incidence rate decreased among First Nations living off-reserve (26.3/100,000 in 2006 to 14.5/100,000 in 2016) as well as among the Métis population (7.2/100,000 in 2006 to 2.1/100,000 in 2016).

- In 2016, the rate of TB in the foreign born population was 26 times the rate in the Canadian born non-Indigenous population. The most prevalent countries of origin among foreign born cases reported in 2016 were India (n=257, 21.2% of all foreign born cases), the Philippines (n=252, 20.8% of all foreign born cases), China (n=105, 8.7% of all foreign born cases), Vietnam (n=68, 5.6% of all foreign born cases) and Pakistan (n=45, 3.7% of all foreign born cases).



Two Priority Populations for Canada

- Although Canada has one of the lowest rates in the world, TB persists in two key populations: Indigenous Peoples and the foreign-born
- The incidence of TB in these populations is closely linked to a variety of factors which influence their vulnerability to infection and subsequent development of disease:

Bacterial agent characteristics

- Virulence and infectiousness

Host characteristics

- Age, sex, HIV co-infection, malnutrition, smoking, diabetes, substance abuse

Environmental factors

For Foreign-born Persons:

- Active TB disease among foreign-born individuals is usually the result of reactivation of a latent TB infection acquired abroad
- In the past 50 years, most new immigrants to Canada have arrived from high-incidence countries
- Stresses post-immigration have been shown to contribute to reactivation

For Indigenous Peoples:

- Social determinants of health play a significant role in health disparities and the effectiveness of health system interventions. For example, TB transmission can be aggravated by conditions such as poverty, overcrowding or poor nutrition.
- Legacy of colonialism and historical injustice could prevent people from seeking medical attention

Despite the low rate of incidence and transmission in the general population, Canada recognizes the need for new targeted strategies both to address the high incidence of active TB disease that persists in Indigenous peoples and foreign born individuals and to achieve the TB pre-elimination goal for low-incidence countries (<1 per 100,000 by 2035).

One of the priority action areas outlined in WHO's Action Framework for low-incidence countries is to undertake screening for latent TB infection in active TB disease contacts and selected high-risk groups, and to provide preventive treatment to persons with LTBI who are at greatest risk of developing active TB disease.

What are the Current Main Guiding Documents on TB?

WHO End TB Strategy

http://www.who.int/tb/post2015_strategy/en/

WHO's Framework Towards Tuberculosis Elimination in Low-incidence Countries

http://www.who.int/tb/publications/elimination_framework/en/

Tuberculosis Prevention and Control in Canada: A Federal Framework for Action

https://www.canada.ca/en/public-health/services/infectious-diseases/tuberculosis-prevention-control-canada.html

Health Canada's Strategy Against Tuberculosis for First Nations On-Reserve

https://www.canada.ca/en/public-health/services/publications/diseases-conditions/summary-health-canada-strategy-against-tuberculosis-first-nations-reserve.html

Guidance for Tuberculosis Prevention and Control Programs in Canada

http://www.phn-rsp.ca/pubs/gtbpcp-oppctbc/pdf/Guidance-for-Tuberculosis-Prevention-eng.pdf

Inuit-Specific Tuberculosis (TB) Strategy

https://itk.ca/wp-content/uploads/2016/07/20130503-EN-FINAL-Inuit-TB-Strategy.pdf

Themes Arising from Recent Meetings and TB Events in Canada

Canadian TB Elimination Network

- Developed a list of over 40 priority areas for TB control and elimination
- Of those, the following four are currently considered the highest priority:
    - the need for an advisory/expert/FPT group from within the CTBEN that would meet annually with the federal entities around TB elimination
    - the need for a national TB monitoring and performance framework
    - the need to explore PHACs commitment to the next edition of the Standards
    - the need to secure a pharmaceutical and diagnostics pipeline

NCCID Towards TB Elimination in Northern Indigenous Communities and ITK Inuit TB Elimination

- Principles of self-determination must be incorporated into all levels of TB programming for Indigenous communities. This includes shared decision-making with Indigenous Leadership, and community-driven programming and reporting.
- Principles of Indigenous health, wellness and healing must be incorporated into all levels of TB programming for Indigenous communities. This includes ensuring that all care is delivered in a culturally safe and trauma-informed manner.
- There is a need to improve local capacity for TB diagnosis, treatment and care. This must include improved access to rapid diagnostics and short-course drug regimens, as well as increased TB education, training and support of local Community Health and Wellness Workers.
- There is a need for focused attention on improving diagnosis and treatment of LTBI in high-incidence communities.
- There is a need for improved integration of TB services with other health and social services to ensure holistic care of patients.
- There is a need to foster partnerships between health and non-health sectors to address essential underlying TB determinants such as housing, infrastructure and food insecurity. This includes departments at all levels of government, and key non-government entities.
- There is a need for increased TB education and stigma-reduction activities at the community level. These activities should be multi-pronged and community-led. They should involve community champions (particularly youth), include incentives, and incorporate harm-reduction approaches
- There is a need for tracking indicators to monitor progress towards TB elimination

How is TB Addressed in Canada?

- A shared responsibility between multiple jurisdictions: federal, provincial, municipal
- Provincial governments are primarily responsible for health care delivery through publicly funded health insurance plans
- Federal government is responsible for delivering health services to groups that fall under its jurisdiction, such as Indigenous peoples, the Canadian Armed Forces, veterans, and inmates in federal penitentiaries
- Federal departments play a role in addressing the underlying risk factors for TB such as: poor housing, food insecurity, poverty, etc.
- Federal, Provincial, Territorial (FPT) governments work together through the Public Health Network (PHN) to strengthen public health in Canada.
- In 2012, a time-limited Tuberculosis Task Group, was created by PHN's Communicable and Infectious Diseases Steering Committee (CIDSC) to identify priority areas for potential FPT collaboration. The priority areas were:
    1. Strategies for addressing latent TB infection
    2. Optimization of screening approaches/protocols for migrant populations
    3. Tools for health care professionals
    4. TB program indicators and targets
    5. Community engagement
- In 2016, a time-limited TB and Migrants Working Group, convened by PHAC and IRCC, proposed the following options to CIDSC for optimizing TB prevention and control for migrant populations along the migration pathway, from pre-departure to post-arrival and resettlement in Canada:
    1. Expand the Immigration Medical Exam to include testing for LTBI
    2. Modify the current pre-entry screening and referral process
    3. Introduce more targeted screening programs for at-risk populations
    4. Enhance TB awareness and promote best practices

    Options are not mutually exclusive and could include pilots or phased-in approaches. All options have implications for the federal government or P/Ts or both.

Federal Activities

- **Public Health Agency of Canada**
    - Conducts national surveillance of active TB disease and TB drug resistance
    - Provides support for TB outbreak management
    - Provides guidance to health care professionals
    - Offers laboratory services (National Microbiology Laboratory in Winnipeg)
    - Engages with other federal departments to address socioeconomic factors that contribute to TB
    - Collaborates with provincial/territorial governments and international partners

- **Department of Indigenous Services Canada (DISC)**
    - Collaborates to improve access to high quality services for First Nations, Inuit and Métis. They work to support and empower Indigenous peoples to independently deliver services and address the socio-economic conditions in their communities.

    - Works to ensure that appropriate and effective TB prevention and control services are available to on-reserve First Nations through Health Canada's Strategy Against Tuberculosis for First Nations On-Reserve

- **Crown-Indigenous Relations and Northern Affairs**
    - Continues to renew the nation-to-nation, Inuit-Crown, government-to-government relationship between Canada and First Nations, Inuit and Métis; modernize Government of Canada structures to enable Indigenous peoples to build capacity and support their vision of self-determination; and lead the Government of Canada's work in the North.

- **Health Canada**
    - Regulates TB drugs and diagnostic tools for use in Canada

- **Canadian Institutes of Health Research**
    - Supports research from discovery to application focusing on better prevention, diagnosis, and treatment for TB, in populations at risk, such as Indigenous communities (e.g., Pathways to Health Equity for Aboriginal Peoples Signature Initiative)

- **Immigration, Refugees and Citizenship Canada (IRCC)**
    - Develops and implements policies, programs and services that facilitate the arrival of people and their integration into Canada in a way that maximizes their contribution to the country while protecting the health, safety and

security of Canadians. TB is an integral part of IRCC's immigration medical examinations for applicants from countries around the world.

- **Correctional Service Canada (CSC)**
    - Works at all levels in close collaboration with community stakeholders such as local public health officials, TB control authorities, community hospitals and clinics, and TB specialists to prevent and control TB among the federally incarcerated population and staff working in institutions.
- **Canadian Northern Economic Development Agency (CanNor)**
    - Works to help develop a diversified, sustainable and dynamic economy across Canada's three territories, while at the same time contributing to Canada's prosperity. CanNor works towards the sustainable expansion of northern businesses and investments in infrastructure to establish a high quality of life for Northern residents.
- **Canadian Mortgage and Housing Corporation (CMHC)**
    - Works closely with First Nations communities, other federal partners, provinces and territories and Indigenous organizations to help improve living conditions for Indigenous people. CMHC also collaborates to provide assistance to low-income households, seniors, people with disabilities and people at risk of homelessness by improving access to affordable housing.
- **Global Affairs Canada (GAC)**
    - Works in collaboration with partners such as the Global Fund to Fight AIDS, Tuberculosis, Malaria, the Global Stop TB Partnership, and the World Health Organization, with a focus on providing quality health care services to individuals with TB in developing countries.

Topics for this Deliberative Dialogue

The WHO End TB framework for low incidence countries (Lönnroth et al, 2015) served as a general inspiration for these three options. Each is intended to facilitate the discussions on the different issues raised recently about domestic tuberculosis elimination in Canada. Sources include Public Health Agency of Canada consultations between 2011 and 2016, the four priority areas of the Canadian TB Elimination Network listed in this document and TB events of the previous twelve months. They are presented only to facilitate the discussion. Those three topics have overlaps; they are one way, among many, to summarize the relevant issues.

1) **Focus on increasing the support the prevention and control for active tuberculosis disease**
   Actions proposed to make sure that negative outcomes for individuals, communities and population are rapidly mitigated. In order to achieve that, consideration could be given to:

   a. Ensuring that the best information is used by all practitioners and decision-makers by updating common practice guidelines, developing continuous knowledge translation mechanism and strengthening continuous education in epidemiology, outbreak management and tuberculosis prevention and treatment.
   b. Strengthening the ability to detect and control outbreaks, including adding on-demand capacity for communities affected.
   c. Developing and/or making available effective combination of tests and procedures for detection and treatment, or more effective drug combination regime.
   d. Other, as suggested during deliberation.

2) **Focus on detecting and treating Latent Tuberculosis Infection**, in order to deplete the TB reservoir
   Drawing from evidence that the majority of active disease cases comes from reactivation and not from contact, consideration could be given to:

   a. Strengthening the "cascade of care" for LTBI, progressing from detection to initiation to treatment then to completion of treatment by making accessible shorter treatment regimens.
   b. Supporting interventions like patient education, compliance (adherence) coaching, support from peer, and culturally safe interventions.
   c. Working with other migrant countries of origin to foster LTBI screening.
   d. Other, as suggested during deliberation.

3) **Focus on developing and supporting whole of government (across government and between government) accountability for TB elimination**

Given TB is considered a social disease, significantly influenced by living conditions and other social determinants and the fact that those determinants fall outside the health system control, propose actions in order to:

a. Engage and support all department and agencies, including but not limited to the health portfolio, in a concerted action toward TB elimination
b. Link the performance, evaluation and monitoring to support TB elimination
c. Engage communities, organizations and other partners in owning the TB elimination agenda
d. Support and enhancing resiliency from individuals, families, communities and populations.
e. Other as suggested during deliberation

For all actions considered, effectiveness, unintended effects, acceptability, equity and feasibility will inform the discussion in order to propose actionable options.