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Disclaimer: Please use at your own discretion; our apologies for any errors or omissions.

PLEASE NOTE: This document was initially drafted in 2016 and elements may be out of date. It was circulated for feedback to individuals attending the Public Health Physicians of Canada (PHPC) Continuing Professional Development (CPD) Day in May 2018. It was approved by the Residents' Council in Aug 2019. It is intended as a draft for information only; information may be incomplete or out-of-date.

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INTRODUCTION

The organization of Canada's health system is framed by provisions within the Constitution and can be "described as an interlocking set of [1 federal], ten provincial, and three territorial health systems." [1] The dynamic nature of these systems makes it difficult to maintain a current inventory of each jurisdiction, and health policy efforts often focus on healthcare, not public health structures. This report represents a snapshot of the 10 provincial and three territorial public health systems within Canada. The Public Health Physicians of Canada (PHPC) residents' council identified a need and opportunity to prepare this summary.

There are limitations to this work. In the time since the project was initiated, reforms and changes to the structures have occurred. While efforts have been made for it to be current and accurate, many provinces and territories continue to implement reforms that affect the structure and delivery of public health services within their province, and there are changes and updates that may not be reflected in this report. Data from Canadian Institute for Health Information (CIHI) on public health spending are included but may not accurately reflect spending on public health.

Provinces and territories (P/Ts) oversee delivery of most of Canada's health services, including planning and implementation of public health initiatives. [1] Although there are differences in public health between P/Ts, almost all have public health specific legislation that governs how public health services are delivered. Responsibility for public health is generally split between the provincial department/ministry and health units/authorities. Staff include public health nurses, public health investigators, health promotion specialists, administrative staff, and public health physicians. There is generally a lead provincial/territorial public health physician and local public health physicians, typically termed Medical Officers of Health.

Structures for healthcare and public health service delivery vary greatly between provinces. Over the past several decades, many provinces have transitioned to regional or single health authorities that incorporate public health functions with the exception of Ontario which has approximately 35 local public health units operating at the municipal level. This has changed public health service delivery in these jurisdictions. Some provinces, particularly those with larger populations, have province-wide agencies relevant to public health such as the BC Centre for Disease Control (BCCDC), Public Health Ontario (PHO), and the Institut national de santé publique du Québec (INSPQ).

The complex structure and ongoing changes in public health systems in Canada make it difficult to build accurate comparisons. A number of calls have been made to prioritize the public health system as an object of research and assess the impact of these changes on the effectiveness of public health service delivery and ultimately on health outcomes and inequities.

1. Reference: Government of Canada. Canada's Health Care System. Available from: canada.ca/en/health-canada/services/health-care-system/reports-publications/health-care-system/canada.html

Table 1. Brief Summary of Provincial and Territorial Public Health Legislation

Note: These structures may change and the information above may not be up-to-date.

Province or Territory	Approximate Population	Legislation	Title of Provincial or Territorial Chief Medical Officer of Health	Chief Medical Officer of Health Reports
British Columbia	4,751,612	Public Health Act, SBC 2008 c 28	Provincial Health Officer	Can make a report to the public (s. 66(2))
Alberta	4,200,000	Public Health Act, RSA 2000 c P-37	Chief Medical Officer of Health	Not indicated
Saskatchewan	1,000,000	The Public Health Act, SS 1994, c P-37.1	Chief Medical Health Officer	Not indicated
Manitoba	1,339,308	Public Health Act, SM 2006 c 14	Chief Provincial Public Health Officer	Report to Minister every 5 years (s.14(1))
Ontario	13,800,000	Health Protection and Promotion Act, RSO 1990 c H7	Chief Medical Officer of Health	Can make any reports to the public (s.81(7))
Québec	8,000,000	Public Health Act, RSQ 2001 c S-2.2; Act Respecting the Minister of Health and Social Services c M-19.2	Director of Public Health and Assistant Deputy Minister Ministry of Health and Social Services	Prepares report, submitted to the Minister and made public (S-2.2, s.10)
New Brunswick	750,000	Public Health Act, SNB 1998	Chief Medical Officer of Health	Not indicated
Nova Scotia	921,727	Health Protection Act, SNS 2004	Chief Medical Officer of Health	Not indicated
PEI	140,204	Public Health Act, RSPEI 1988 c P-30.1	Chief Medical Officer of Health	Not indicated
Newfoundland & Labrador	520,000	Public Health Protection and Promotion Act, SNL 2018, c P-37,3	Chief Medical Officer of Health	See act for details
Nunavut	36, 488	Public Health Act, SNu 2016, c 13	Chief Public Health Officer	Prepares report to Executive Council every 2 years (s.44(6)) Can make reports directly to legislature (s.44(6))
Northwest Territories	44,541	Public Health Act, SNWT 2007, c 17	Chief Public Health Officer	Not indicated
Yukon	35,874	Public Health and Safety Act, RSY 2002, c 176	Chief Medical Officer of Health	Not indicated

Structural Profile at a Regional Level for all Provinces and Territories

Please see the Structural Profile summary maintained by the National Collaborating Centre for Healthy Public Policy, available here: ncchpp.ca/en/structuralprofile.aspx.

BRITISH COLUMBIA

Dr. Geoff McKee & Dr. Sian Tsuei

INTRODUCTION

British Columbia (BC) is Canada's most western province and the third most populous with a population of 4,751,612.[1] The province's health system is made up of the Provincial Health Services Authority, the First Nations Health Authority and five regional health authorities - Northern Health, Interior Health, Fraser Health, Vancouver Coastal Health, and Vancouver Island Health Authority, each of which is responsible for the provision of health services (health care and public health) within their respective jurisdictions.

HOW IS PUBLIC HEALTH GOVERNED?

The Ministry of Health provides the mandate for the provision of public health services in British Columbia. The Ministry of Health is comprised of **six branches**, of which two are primarily responsible for the delivery of public health services. These include the Office of the Provincial Health Officer and the health services branch (division of population and public health). The Provincial Health Officer reports directly to the Deputy Minister and is responsible for monitoring the health of the population and providing independent advice to senior public officials on issues related to public health. The Office of the Provincial Health Officers includes two deputy provincial health officers.

Public health services are governed by a range of legislation, chief amongst which is the *Public Health Act* that was enacted in 2009. This legislation replaced the original *Public Health Act*, 1893, with the aim to modernize public health legislative powers and improve the ability to respond to public health emergencies. [4] This Act provides the primary legislative mechanism for the provision of public health services in British Columbia, outlining the powers and responsibilities of the Provincial Health Officer (described above), Medical Health Officers, and Environmental Health Officers.

Medical Health Officers in BC are responsible for supporting the delivery of the six core functions of public health (e.g., population health assessment, health surveillance, health protection, health promotion, disease prevention, and emergency preparedness and response). In addition, the Medical Health Officers oversee several unique portfolios compared to those in other Canadian provinces. For example, licensing of childcare and some long-term care facilities falls under the purview of the medical health officers as per the Community Care and Assisted Living Act. [9] Medical Health Officers are also responsible for drinking water protection, acting as drinking water officers under the Drinking Water Protection Act or delegating their legislative powers to others. [5]

Environmental Health Officers (EHOs) act in a similar capacity to public health inspectors in other provinces, with legislative authority delegated by the medical health officer. Their responsibilities typically include enforcement of standards for food safety (e.g., restaurant inspections, etc.), drinking water quality, and safety of recreational water facilities, as well as management of other potential environmental hazards.

In addition to the *Public Health Act*, the *BC Society Act* governs the Provincial Health Services Authority which coordinates the delivery of provincial programs and specialized services, including 10 provincial agencies such as the British Columbia Center for Disease Control and BC Cancer Agency, as well as BC Children's and Women's Hospitals. [3]

Additional legislation supports various public health roles in British Columbia, including:

- Drinking Water Protection Act [5]
- Food Safety Act [6]
- Tobacco and Vapour Products Control Act [7]
- School Act [8]
- Community Care and Assisted Living Act [9]
- Environmental Management Act [10]
- Community Charter [11]
- Local Government Act [12] and
- Integrated Pest Management Act [13]

HOW IS PUBLIC HEALTH FINANCED?

According to CIHI NHEX, 10.6% of provincial spending was on public health in 2017. [2] A 2013 report from the BC Auditor General estimated spending on 'Public Health and Wellness' in 2011/12 to be much lower at 4.2% of total healthcare spending. [14] There have been two Select Committee reports in the 2000s recommending that public health funding be increased to 6% of total healthcare spending, but spending actually declined in some health authorities between 2008/09 and 2011/12. [15]

HOW ARE PUBLIC HEALTH SERVICES DELIVERED?

Public health divisions within the regional health authorities are responsible for the majority of public health service delivery in British Columbia; however, implementation structures differ considerably between organizations.

In addition, the Provincial Health Services Authority oversees ten specialized agencies, of which three directly link to public health, including: BC Cancer Agency, BC Centre for Disease Control (BCCDC), and BC Mental Health and Addictions Services. Among these agencies, the BCCDC is most active in public health services delivery and manages numerous provincial public health programs for surveillance, disease control and prevention, and several specialty services. These programs provide surveillance and consultation regarding communicable disease control, environmental health services, and harm reduction. The immunization program is responsible for planning, monitoring, and implementation of services at the provincial level, as well as the purchase and distribution of vaccines, and drugs for tuberculosis and sexually transmitted infections. Tuberculosis and sexually transmitted infection services are centralized through the BCCDC, unlike the local model that is seen in Ontario.

Recently, the BCCDC has expanded its scope beyond communicable diseases, with the incorporation of the PHSA population health team and the creation of the new BC Observatory for Population and Public Health. While still under development, the Observatory aims to provide provincial and regional surveillance for non-communicable diseases, injuries and risk/protective factors.

The First Nations Health Authority (FNHA) also plays a key role in the delivery of public health services and assumed control of service provision for First Nations in BC in 2013, replacing the role of the First Nations Inuit Health Branch. [3] FNHA has taken over responsibility for the delivery of Non-Insured Health Benefits and has renamed the services as First Nations Health Benefits. The specific range of services provided to all First Nations individuals in BC are listed here: fnha.ca/Documents/FNHA_Programs_Compendium.pdf. Some of these services include but are not limited to Community Health and Wellness, Environmental Public Health Services, Surveillance Services & Data Analytics, Mental Wellness Services, and Communicable Disease Control. This organization is the first of its kind in Canada as it gave control of planning, management, service delivery and funding of health programs to First Nations communities.

► Public Health Workforce

The majority of the public health workforce is comprised of front-line providers such as public health nurses, environmental health officers, and public health dietitians. In addition, the province has approximately thirty medical health officers, as well as a number of other public health physicians working in other capacities. [1] Public health physicians also hold positions outside of the traditional Medical Health Officer role. For example, physician epidemiologists are involved in academic and consultation roles with the BCCDC. Several public health and preventative medicine trained physicians provide public health and clinical services in occupational medicine for WorkSafeBC (the Workers' Compensation Board of British Columbia). Others are involved in clinical roles with a focus on vulnerable populations (e.g., addictions, etc.)

► Public Health Services

Core public health services are outlined in BC's Guiding Framework for Public Health [14], and include:

- Health improvement (healthy living, wellness and chronic disease prevention, maternal and child health)
- Prevention of disease, injury and illness (communicable disease and prevention of harm; injury prevention)
- Environmental health (health in built and natural environments)
- Public health emergency management

While these core services are integrated into all health authorities in BC, the management and delivery structures vary.

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ALBERTA

Dr. Lisa Freeman

INTRODUCTION

Alberta is a prairie province located in the west of Canada between British Columbia and Saskatchewan and has the fastest growing population in Canada, with approximately 4.2 million residents. [1] The province is unique in that Alberta comprises a single, integrated, regional health authority [5] - Alberta Health Services - which was created in 2008 under the Regional Health Authorities Act. Alberta Health Services is responsible for the operationalization and delivery of health services (including public health) to people living in Alberta. Alberta Health Services is administratively organized into five geographic zones (Edmonton, Calgary, North, Central, and South). [5]

HOW IS PUBLIC HEALTH GOVERNED?

Alberta Health is the Ministry of Health and provides the mandate for the provision of public health services in Alberta. Alberta Health is comprised of **10 divisions**, of which two are primarily responsible for the delivery of public health services. These include the Office of the Chief Medical Officer of Health and the Public Health and Compliance division (health protection and health and wellness promotion). The Chief Medical Officer of Health reports directly to the Deputy Minister of Health and is responsible for providing public health advice to support health surveillance, population health, and disease control initiatives. The Office of the Chief Medical Officer of Health includes two Deputy Medical Officers of Health and at the time of writing, one Executive Director, and the Opioid Implementation Team.

The second division that plays a governance role in public health is the Public Health and Compliance division, specifically the Health Protection and Health and Wellness Promotion departments. The division is led by the Assistant Deputy Minister (ADM) of Public Health and Compliance who reports to the Deputy Minister of Health, and is responsible for providing strategic direction and leadership in compliance monitoring, communicable diseases, immunization, environmental health, emergency preparedness, and health promotion.

While Alberta Health decides on general priorities and policies, Alberta Health Services determines how to operationalize and achieve these priorities. Under the *Regional Health Authorities Act*, a board governs Alberta Health Services which is responsible for the operationalization and delivery of health care services, including Public Health, to people living in Alberta.

Public health is governed by a range of legislation, chief amongst which is the *Public Health Act* which outlines the powers of the Chief Medical Officer of Health, Medical Officers of Health, and others working within public health.

Medical Officers of Health in Alberta are responsible for supporting the delivery of the six core functions of public health. Each of the five geographic Zones has a lead Medical Officer of Health to whom the other Medical Officers of Health report. The lead Medical Officers of Health report to a Senior Medical Officer of Health who is the provincial lead for public health within Alberta Health Services. In Alberta the role of Medical Officer of Health tends to be less administrative and managerial, and more focused on collaboration and consultation. This is done by pairing Medical Officers of Health with dyad partners who have administrative oversight over various public health programs. [5,6]

Environmental Health Officers act in a similar capacity to public health inspectors in other provinces, with legislative authority delegated by the Medical Officer of Health. Their responsibilities typically include enforcement of standards for food safety (e.g., restaurant inspections), drinking water quality and safety of recreational water facilities, as well as management of other environmental hazards. Environmental Health Officers also have a role in inspecting personal service settings (e.g., tattoo studios) and orders, disclosures and illegal drug operations.

Additional legislation (acts and regulations) supports various public health roles in Alberta, including:

- Alberta Health Act
- Mandatory Testing and Disclosure Act
- Public Health Act
- Skin Cancer Prevention (Artificial Tanning) Act
- Tobacco and Smoking Reduction Act

HOW IS PUBLIC HEALTH FINANCED?

CIHI estimated that 6.9% of provincial healthcare spending was on public health in 2017. [2] In 2017, Alberta spent over $7300 on health care per person, one of the highest amounts in Canada. [2] There are approximately 30-40 [3] public health specialist physicians in Alberta, or 0.8 per 100,000 people [3,4].

HOW ARE PUBLIC HEALTH SERVICES DELIVERED?

Alberta Health Services Population and Public Health are responsible for the delivery of most public health services; however, each zone has some discretion about what services are provided and how they are delivered to best meet community health needs. While services are typically delivered at a zone level, there are provincial Alberta Health Services portfolios that consider the province's needs as a whole.

► Public Health Workforce

The majority of the public health workforce is comprised of front-line providers, such as public health nurses, environmental health officers and public health dietitians. In addition, the province has approximately 30 medical officers of health, as well as a number of other public health physicians working in other capacities. Public health physicians also hold positions outside of the traditional medical officer of health. For example, Medical or Scientific Director of a clinical setting.

► Public Health Services

In general, AHS Population and Public Health delivers services within the following areas [10]:

- **Health surveillance and population health status assessment**
  - AHS Public Health Surveillance collaborates to support Environmental Public Health, Communicable Disease Control, and Emergency/Disaster Preparedness. [11]
- **Communicable disease control (health protection)**
  - Alberta Health Services Communicable Disease Control prevents and responds to communicable diseases which are notifiable under the Communicable Disease Regulations of the *Public Health Act*. [12] This includes provincially-funded immunizations for infants, children, and adults (including school-based programs), contact tracing and follow-up of cases of infectious disease, outbreak management and support in long-term care and supported living sites, and surveillance of notifiable disease. [12] Medical officers of health work closely with public health and communicable disease control nurses. [12]
- **Environmental public health (health protection)**
  - Alberta Health Services environmental public health works to provide, protect, and promote safe and health environments through inspections, education, and enforcement. [13]
  - Environmental health inspectors working for Alberta Health Services inspect public places to ensure safety of food and water, safe personal services, safe social services, and safe lodging with authority under the *Public Health Act* and applicable regulations. [13]

- **Health promotion**
  - Alberta Health Services provides education and support to individuals, organizations, and communities to enable people to make health lifestyle choices especially around tobacco cessation, injury prevention, healthy eating, physical activity, and sun safety. [14]
  - Alberta Health Services advocates for policies and environments that are supportive of health, and works at whole-population and sub-population levels [10] and works closely with schools. [14]
- **Emergency and disaster preparedness** focus specifically on Alberta Health Services to ensure business continuity, as well as collaborating with others to ensure attention to health in planning, preparing, and responding to an emergency. [15]

With respect to Indigenous populations, the First Nations and Inuit Health Branch of Indigenous Services Canada (FNIHB-ISC) works collaboratively with First Nations in Alberta to provide on-reserve public health protection (includes communicable disease control, environmental public health services, and health assessment and surveillance) and health promotion and disease prevention (includes mental wellness, health child development and healthy living). [16] In addition, FNIHB supports First Nations communities that contract with Alberta Health Services in the provision of Public Health nursing services including communicable disease control services. Alberta Health Services conducts contact tracing for STIs on-reserve and also does off-reserve immunization. [17] FNIHB also contracts with Alberta Health Services – Tuberculosis Control Services to work with Nursing in communities in the management of TB cases on-reserve. The FNIHB Medical Officers of Health in Alberta are designated officers under the Provincial Public Health Act. All communicable disease control activities are seamless with the provincial public health system. Public Health services to Metis peoples of Alberta are also delivered by Alberta Health Services.

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SASKATCHEWAN

Dr. Rotimi Orisatoki

INTRODUCTION

Saskatchewan is a prairie province in central Canada with a population of approximately one million. As of the 4th December 2017, the province's health system consists of a Ministry of Health and the Saskatchewan Health Authority, which is a recent amalgamation of the twelve Regional Health Authorities (i.e., Cypress Regional Health Authority, Five Hills Regional Health Authority, Heartland Regional Health Authority, Keewatin Yatthé Regional Health Authority, Kelsey Trail Regional Health Authority, Mamawetan Churchill River Regional Health Authority, Prairie North Regional Health Authority, Prince Albert Parkland Regional Health Authority, Regina Qu'Appelle Regional Health Authority, Saskatoon Regional Health Authority and Sun Country Regional Health Authority). [9]

HOW IS PUBLIC HEALTH GOVERNED?

The provincial Ministry of Health has a mandate to support Saskatchewan residents in achieving their best possible health and well-being. The Ministry of Health is comprised of ten branches of which two, the Population Health Branch and Primary Health Services Branch, are responsible for the delivery of public health services. The Population Health Branch is composed of the Office of the Chief Medical Health Officer, Disease Prevention, Environmental Health, Surveillance and Central Support, and Tobacco Litigation. [2] The Office of the Chief Medical Health Officer reports directly to the deputy minister and is responsible for monitoring the health of the population and providing independent advice to senior public officials on issues related to public health. The Office of the Chief Medical Health Officer includes one Chief Population Health Epidemiologist and one Deputy Chief Medical Health Officer.

The second branch that plays a governance role in public health is the Primary Health Services Branch, particularly the division of health promotion. The division is responsible for applying health promotion strategies to improve the wellbeing of the population. In addition, the Saskatchewan Health Authority recently appointed their own Chief Medical Officer, not to be confused with the Chief Medical Health Officer. The Chief Medical Officer is responsible for leading and working with healthcare providers, which could include public health professionals.

Public health services are primarily governed by two pieces of legislation, the *Saskatchewan Public Health Act* and the *Tobacco Control Act*. The *Saskatchewan Public Health Act* provides the primary legislative mechanism for the provision of public health services in Saskatchewan, outlining the powers and responsibilities of Minister of Health, Chief Medical Health Officer, Medical Health Officer and Environmental Health Officers with respect to health protection, such as water supply and drainage, food, environmental health and inspections, to name a few. [5]

Medical Health Officers in Saskatchewan are responsible for supporting the delivery of the six core functions of public health. Environmental Health Officers act in a similar capacity to public health inspectors in other provinces, with legislative powers delegated by a local authority.

HOW IS PUBLIC HEALTH FINANCED?

According to CIHI public health spending accounted for 8.4% of total provincial healthcare spending in 2017. This represents as slight increase of 7.5% in 2000. [12]

HOW ARE PUBLIC HEALTH SERVICES DELIVERED?

Public health services are primarily delivered by the Saskatchewan Health Authority and are prescribed in the *Public Health Act*. [3] As in other provinces, public health is responsible for communicable disease follow-up, environmental health concerns, health promotion programs, and population health assessment and surveillance. In Saskatoon, direct service provisions include Street Health Mobile Outreach Services (7-11pm) and STI clinical services. The Saskatchewan Cancer Agency provides organized programs for the screening and detection of cancer.

There is also a Public Health Observatory established in 2008 as a partnership of the Population Health Surveillance department, Public Health Services and the Population Health Research Unit of the Office of the Chief Medical Health Officer. Its role is to bring research and data into health policy and public health practice. [10]

With respect to Indigenous populations, public health officials within the Ministry of Health and Saskatchewan Health Authority work collaboratively with their partners in First Nations and Métis communities and organizations to ensure appropriate public health service provision across the province. [7] In addition, Northern Intertribal Health Authority provides education and technical support to partners in the area of communicable disease control, epidemiology, and health status monitoring. This is the only organization of its kind across Canada and was formed through a partnership with Health Canada's First Nations and Inuit Health Branch and Meadow Lake Tribal Council, the Lac La Ronge First Nations, the Peter Ballantyne Cree Nation and the Prince Albert Grand Council. [4]

Finally, in the most northern part of Saskatchewan, the population is served by the Athabasca Health Authority which is not part of the Saskatchewan Health Authority. [8]

► Public Health Workforce

There are about twenty public health physicians in Saskatchewan. Most tend to work as medical health officers, while some have a mixture of administrative positions with teaching and research roles.

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MANITOBA

Dr. Rabia Bana

INTRODUCTION

Manitoba is a prairie province in central Canada with a total population of 1,339,308, 13.6% of whom are Indigenous. [9] In 2012, the Government of Manitoba reduced the number of regional health authorities from 11 to 5. [8] The province's health system is now made up of five regional health authorities - Northern Health, Interlake Eastern Health, Prairie Mountain Health, Winnipeg Regional Health Authority, and Southern Health, who are responsible for the provision of health services (health care and public health) in their respective jurisdictions. [4] There are 22 public health physicians in Manitoba including a Chief Provincial Public Health Officer, Central Medical Officers of Health, and Regional Medical Officers of Health. [8]

HOW IS PUBLIC HEALTH GOVERNED?

The Government of Manitoba is comprised of 15 departments. [7] The department of Health, Seniors and Active Living is responsible for the delivery of public health services. The department operates under the legislation and responsibilities of the Minister of Health, Seniors and Active Living. [5] Two branches within this department are responsible for the provision of public health services - the Office of the Chief Provincial Public Health Officer and the Public Health branch. The Office of the Chief Provincial Public Health Officer is responsible for monitoring the health status of the population and providing support to government departments and other partners on issues related to public health. [6]

The Public Health branch provides leadership and coordination for public health programs and services and consists of three units:

1) Communicable Disease Control,
2) Environmental Health and,
3) Epidemiology and Surveillance. [6]

Public health services are governed by a range of legislation, chief amongst which is the *Public Health Act*, which was enacted in 2009. [5] The *Act* provides the primary legislative framework for the provision of public health services in Manitoba, and outlines the powers and responsibilities of the Minister, Chief Public Health Officer, and Medical Officers of Health. [8]

Each regional health authority is governed by a Board of Directors, which is appointed by the Minister of Health, Seniors and Active Living according to the Regional Health Authorities Act. Health authority boards are accountable to the Minister of Health, Seniors and Active Living with regard to the mandate, resources, and performance of the health authority. [4]

Medical Officers of Health in Manitoba are responsible for supporting the delivery of the six core functions of public health (e.g., population health assessment, health surveillance, health protection, health promotion, disease prevention, and emergency preparedness and response).

HOW IS PUBLIC HEALTH FINANCED?

About 7.5% of total provincial healthcare funding was spent on public health in 2017. This represents an increase from 6.2% in 2000. [1]

HOW ARE PUBLIC HEALTH SERVICES DELIVERED?

Core public health functions in Manitoba include: population health assessment, health surveillance, disease and injury prevention, health promotion, and health protection. [6] Public health divisions within the regional health authorities are responsible for delivering the public health services related to these core functions; however, implementation structures differ between the health authorities. Public Health services on First Nations reserves are delivered predominantly by the First Nations and Inuit Health Branch of Health Canada, as well as local band-run services.

At the provincial level, the Ministry of Health, Seniors and Active Living oversees a number of branches/units within the Public Health branch that are also involved in public health service delivery. These include: Communicable Disease Control, Environmental Health, Epidemiology and Surveillance, and the Office of the Chief Provincial Public Health Officer. [9] Population health assessment functions are primarily the responsibility of the Chief Provincial Public Health Officer and are partially carried out at the regional level. [6]

The two entities responsible for health surveillance functions are the Epidemiology and Surveillance Unit within the Public Health Branch and the Provincial Laboratory. The Epidemiology and surveillance Unit receives, analyzes, and reports on data regarding communicable diseases and non-communicable diseases. [6]

Public health inspectors are responsible for carrying out health protection functions and are housed within the Health Protection unit of the Environmental Health branch. [6]

The First Nations Health and Social Secretariat was created in 2014 so First Nations in Manitoba have increased opportunities to participate in the planning and delivery of health services, including public health services such as maternal and child health, mental health, and social determinants of health. [3]

ACKNOWLEDGMENTS

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ONTARIO

Dr. Jia Hu

INTRODUCTION

Ontario is Canada's second largest province by area and largest province by population, with 13.8 million in 2015. [1] As Canada's largest province, there is a diverse array of populations in Ontario.

HOW IS PUBLIC HEALTH GOVERNED?

There are three major actors in public health –the Ministry of Health and Long-Term Care (MOHLTC), Public Health Ontario (PHO), and 35 local health units (governed by Boards of Health) through which public health services are delivered. The MOHLTC has overall responsibility for setting public health standards under the legislation through its Population & Public Health Division. This Division is led by an Assistant Deputy Minister who reports to the Deputy Minister. The MOHLTC also contains the Chief Medical Officer of Health (CMOH) who reports directly to the deputy minister. The CMOH is a separate office which is charged with providing expert health advice to the MOHLTC and government. [3] Public Health Ontario is an arms-length Crown agency that provides scientific and technical support and does research on a range of public health issues. It is somewhat analogous to BCCDC in British Columbia and INSPQ in Québec.

Unlike many other provinces that have regionalized public health services, Ontario public health is still primarily delivered locally through 35 public health units. There is significant variation in the size and population of these public health units. For example, Toronto Public Health, while geographically small, serves a population in excess of 2 million people. Other health units, like Porcupine or Thunder Bay (both located in rural and remote Northern Ontario), are geographically large but serve much smaller populations. The governance of public health units is described in the Health Protection and Promotion Act (HPPA). Each health unit has a Board of Health and a Medical Officer of Health. [4] There are different board structures, including boards that are integrated into municipal structures, regional boards (i.e., Peel which covers Mississauga, Brampton, etc.), and autonomous boards of health.

HOW IS PUBLIC HEALTH FINANCED?

CIHI estimated public health spending to account for 8.4% of provincial healthcare spending in 2017. [2] However, a 2017 report from the auditor general estimated that public health spending was about $1 billion annually for the last 10 years, or about 2% of overall provincial health expenditures. [6]

Public health funding is generally split between the province, responsible for approximately 75% of expenditures, and municipalities, responsible for approximately 25% of expenditures. Some programs are funded exclusively by the province. In practice, many municipalities cover more than 25% of public health funding. Recently there has been a push towards revisiting the funding that different health units receive on the basis of population needs and complexity.

HOW ARE PUBLIC HEALTH SERVICES DELIVERED?

Services that public health is responsible for are delineated in the Ontario Public Health Standards (OPHS), which are "guidelines for the provision of mandatory health programs and services" (from the HPPA) that every Board of Health is meant to comply with. [4]

Service domains outlined by the OPHS include:

- Drinking Water Protection Act [5]
- Chronic disease and injury prevention
- Family health, including reproductive and child health
- Infectious diseases, including general infectious disease prevention and control, rabies prevention and control, sexual health and blood-borne infection, tuberculosis, and vaccine preventable diseases
  - Note: Vaccines are generally provided by family physicians rather than public health in Ontario.
- Environmental health, including food and water safety
- Public health emergency preparedness

In a health unit like Toronto Public Health, the largest number of full-time equivalents will be devoted to activities such as visiting newborn families, engaging in communicable disease control through outbreak management and contact tracing, and inspecting restaurants and other facilities for health protection purposes.

According to Scott's Medical Database, there were 140 public health physicians in Ontario in 2015. [5] As with other provinces, the majority of public health physicians work as Medical Officers of Health (MOHs) or Associate Medical Officers of Health (AMOHs). Each health unit has one MOH and may have several AMOHs. In addition to traditional public health duties, MOHs in many public health units also have a large administrative role as the CEO of the board of health. These MOH/CEOs are responsible for the budget and human resource issues. AMOHs generally have fewer administrative duties and focus more on public health-specific issues. Public health physicians generally tend to be government employees in Ontario. It is also estimated that there are approximately 7,500 public health full-time equivalent employees working in local health units in 2016. [6]

Outside of local public health units, PHO also employs a significant number of public health physicians who work in providing scientific and technical expertise. Ontario also has many public health physicians working in research, consulting, and other fields.

► Provision of Care to Indigenous Populations

Public Health services for First Nations on-reserve in Ontario are provided through a complex interplay of various systems. There is an overall agenda toward increasing First Nations control over Public Health and other health services in Ontario. Work is also underway in the province to ensure such services are culturally relevant and sensitive. Currently, there are several models of how public health services are provided to First Nations in Ontario.

One model involves a Section 50 provision under the Provincial *Public Health Act*, which has the local health unit providing Medical Officer of Health and related public health services to the First Nations who enters into this agreement. Another model which is currently being developed is for a First Nations Health Authority or Provincial Territorial organization to assume control of the public health services.

The Sioux Lookout First Nations Health Authority is exploring the possibility of having the authority to manage their own services for public health, including the future possibility of engaging their own Medical Officer of Health. The most common model, with change happening all the time, is for First Nations to have direct control over aspects of public health (for example public health nurses or environmental health officers or even epidemiologists) yet to still refer to the First Nations and Inuit Health Branch medical officer for Medical Officer of Health-type services.

Federal medical officers are not Medical Officers of Health under the provincial public health act, so when legislation needs to be applied, close collaboration with neighboring Medical Officers of Health in local health units is required. For other indigenous populations such as the Metis or First Nations living off-reserve, services from local health units cover the population.

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QUÉBEC

Dr. David-Martin Milot & Dr. Sidonie Penicaud

INTRODUCTION

Québec is the second most populous Canadian province with a population of approximately eight million. It has a primarily French-speaking population. [1]

HOW IS PUBLIC HEALTH GOVERNED?

In Québec, the MSSS (Ministère de la santé et des services sociaux (MSSS) manages all aspects of health, including public health. Some provincial organizations whose directors have been appointed by the MSSS advise the Ministry. [2]

Significant changes were made to the organization of public health in 2015. Prior to 2015, public health expertise and services were delivered within a health system structured into provincial, regional and local organizational levels. In 2015, the regional tier was abolished, leaving a provincial and a newly created territorial level, within which public health expertise and services now have to be re-deployed. Along with these changes, public health budgets at the regional level were cut by 33%, but were unchanged at the local and provincial levels.

The previous Liberal government appointed a Minister responsible for rehabilitation, the protection of youth, public health and healthy lifestyles (Ministre déléguée à la Réadaptation, à la Protection de la jeunesse, à la Santé publique et aux Saines habitudes de vie) who acts under the Minister of Health. [2]

There also exists a Commissioner of Health and Well-being (Commissaire à la santé et au bien-être) which is an independent authority that can evaluate projects carried out by the MSSS and hold the MSSS accountable for its actions.

At the regional level, integrated health and social services centers (Centre intégré de santé et de services sociaux (CISSS)) are in charge of health services within their respective health regions. Some health regions exceptionally have more than one CISSS, due to the size of the population or of their territory. The university health centers are integrated to some CISSS, resulting in entities called Integrated University Health and Social Services Centres (Centre intégré universitaire de santé et de services sociaux (CIUSSS). [5]

At the local level, multiple health service providers and partner organizations (e.g., medical clinics, pharmacies, prehospitalization services, rehabilitation centers for those with intellectual disabilities, local centers for community services, etc.) have formal service agreements with the CISSS of their territory. The public health authorities (Directions de santé publique (DSP)) have territorial and sometimes supra-territorial mandates and operate within the CISSS. Each DSP has a Director appointed by the Minister of Health who is in charge of all public health matters on their territory. [5]

Québec has two main laws concerning public health and a third for occupational health.

» **LSSSS (Loi sur les Services de Santé et les Services Sociaux/Law on Health and Social Services)** defines the structure of the health care system in Québec and articulates a population-level responsibility for the healthcare system. This law was created in 1970. [6]

» **LSP (Loi sur la Santé Publique/Public Health Law)** articulates the four essential functions of public health in Québec: protection, prevention, promotion and surveillance. More specifically, it outlines the duty of the regional public health director (equivalent of a medical officer of health) to carry out a health vigil to protect the population from real or potential threats and confers power to the regional public health director to enact measures to protect the health of the population such as inquiries and quarantines. It also outlines the duty of the national public health director and the minister of health. This law was created in 2001. [7]

» **LSST (Loi Santé et sécurité au travail)** articulates the legal mandate for occupational health.

Québec also has other laws relating to social determinants of health (e.g., tobacco law, housing laws, daycare laws, etc.).

HOW IS PUBLIC HEALTH FINANCED?

According to CIHI, Québec spent 2.2% of its total provincial healthcare budget on public health in 2017. [11] A 2016 report from the Health Commissioner of Québec estimated spending to be similar at around 2.8% of the total healthcare budget. [12] These estimates were after a series of 30-40% cuts to Québec's regional public health department budgets in April 2015.

HOW ARE PUBLIC HEALTH SERVICES DELIVERED?

Public health authorities (Directions de santé publique) are responsible for several aspects of public health within their territory such as protection (infectious diseases, occupational health, and environmental health), surveillance, clinical prevention and health promotion as well as planning and management. [6] Of note, food (responsibility falls under the Ministry of Alimentation) and water safety (responsibility falls under the Minister of the Environment) are not within the public health mandate. In densely populated regions, public health physicians will be assigned to one sub-field or portfolio of public health, while in regions with a low population density, a public health physician will be responsible for many public health sub-fields.

Québec has a provincial public health centre of experience, the INSPQ (Institut National de Santé Publique du Québec/National Institute of Public Health of Québec). Its role is to develop expertise in several domains of public health based on population health needs. The INSPQ collaborates with reference laboratories such as the LSPQ (Laboratoire de Santé Publique du Québec/Public Health Laboratory of Québec) and the CTQ (Centre de Toxicologie du Québec/Centre of Toxicology of Québec). [9]

In addition to the INSPQ, a second provincial organization offers expertise in topics related to public health, mostly in clinical prevention, the INESSS (Institut National d'Excellence en Santé et en Services Sociaux/National Institute of Excellence in Health and Social Services). Its role is to promote clinical excellence by developing clinical guidelines and promote effective use of resources by doing performance evaluations. [8]

Professionals working within Directions de santé publiques (DSPs) report to the Director of the DSP (similar to a Medical Officer of Health) and interact with several partners at different levels such as municipalities, community organizations, companies, the commission for norms, equity health and safety at work (Commission des normes, de l'équité, de la santé et de la sécurité au travail), provincial public health organizations (e.g., INSPQ, INESSS, etc.), or provincial ministries. (2)

It is important to note that the vast majority of doctors, including public health and preventive medicine specialists, are self-employed. They bill the public corporation in charge of health insurance in Québec (Regie d'assurance maladie du Québec (RAMQ)). As specialized doctors, Public Health and Preventive Medicine specialists in Québec are practicing doctors who work within health care institutions (ex. a Centres Intégré de Santé et de Services Sociaux (CISSS)). They are members of the clinical department of their institution and report to the chief of their clinical department. A distinct arrangement exists for public health clinical departments; the chief of the clinical department reports to the Director of public health and to the Council of Doctors, Dentists and Pharmacists of their health care institution.

There are approximately 200 public health doctors in Québec. Public health doctors can work in several positions:

» **At the territorial or supra-territorial level:** A public health physician can work as a public health director (Directeur de santé publique) which is the equivalent of a medical officer of health. These directors are appointed by the Minister of Health to defined terms. Directors are responsible for budgeting, human resource issues, and overall management of the department. Directors are accountable to the CEO of the CISSS/CIUSSS. A PH physician can also work as a medical officer (médecin-conseil), a role similar to the associate Medical Officers of Health. As a medical officer, the physician can have a generalist practice encompassing a variety of public health domains or a specialized practice focusing on one area of public health. Approximately 30% of public health physicians provide direct clinical services to individual patients. Some PH physicians also hold university positions and carry out research.

» **At the provincial level:** A public health physician can work for a provincial public health organization (INSPQ) or the MSSS as an advisor.

» **The PREM system:** To work in Québec, physicians from all specialties must obtain a position in conformity with a regional PREM (Plans régionaux d'effectifs médicaux/regional plan for the medical workforce). (2) The PREM guarantees a contract with the Québec Health Insurance Service (RAMQ), without which a physician cannot bill for services offered. The PREM outlines the number of physicians in each specialty who can work in each of the 18 health regions in Québec. The PREM are determined by the MSSS according to the estimated health needs of all the regions in Québec based on population density and characteristics. The goal of the PREM is to ensure that the population of each region has equitable access to care and to ensure equal distribution of physicians across the Québec regions. If all the PREM for their specialty are occupied in a region, a physician cannot apply to work in that region. The PREM system has existed since 1997. Once a PREM is awarded it cannot be lost and PREMs cannot be split into part-time positions.

► Provision of Care to Indigenous Populations

On-reserve, Health Canada's First Nations and Inuit Health Branch (FNIHB) provides health promotion and disease prevention services. There is one public health physician responsible for FNIHB's Québec region. They play a primarily consultant role and do not have the legal powers of a public health director under the provincial public health law.

Off-reserve, the regional public health department has the same responsibility for the health of Indigenous people as it does for any other person living in the territory. There are no specific legislative requirements to consider this population in public health or health service planning.

However, there are exceptions: In the Cree and Inuit communities of northern Québec, as a result of the 1975 James Bay Northern Québec Agreement health services are governed and managed by regional Boards (one for the Cree, one for the Inuit). Each region has its own public health director with essentially the same powers and responsibilities as other regions. (10) Health Canada has no role in service delivery in these communities.

Finally, at the provincial level, the INSPQ has a small Aboriginal health sector which provides expertise and support to other regions.

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NEW BRUNSWICK

Dr. Mila Luchak

INTRODUCTION

There are about 750,000 people in New Brunswick, over half of which live in the three major cities of Moncton, Saint John, and Fredericton and their surrounding areas. [2]

HOW IS PUBLIC HEALTH GOVERNED?

Public health structure and functions are divided between the provincial government and the regional health authorities.

The Public Health structure has two levels: the provincial government and the regional health authorities. Under the provincial Department of Health, there is the Office of the Chief Medical Officer of Health, which plans, funds, and monitors public health programs in the province. Within the OCMOH are all provincial public health staff, provincial and regional medical officers of health, and regional health protection staff (i.e., regional directors of health protection, public health inspectors and administrative support). [3] There are four public health regions ('units') and regional offices – north, south (including Saint John), east (including Moncton) and central (including Fredericton).

There are two regional health authorities in the province – Horizon Health Network (Anglophone) and Reseau de sante Vitalite (Francophone). [4] Over 10 years ago, the province transferred some public health service provisions to the RHAs. The boundaries of the RHAs mostly align very well with the previously mentioned public health regions, such that the north and east regions 'fit' within the Vitalite area, and the central and south regions 'fit' within the Horizon area. RHA regional staff work in the same offices as the OCMOH regional staff. The RHA has public health regional directors and managers, public health nurses, public health nutritionists, and administrative staff.

HOW IS PUBLIC HEALTH FINANCED?

According to CIHI, 4.7% of total provincial healthcare spending was on public health in 2017. [5] Funding comes entirely from the provincial Department of Health. Some funding is administered directly through the Office of the Chief Medical Officer of Health and regional health protection teams, while the rest is transferred to the regional health authorities who deliver certain public health services directly.

HOW ARE PUBLIC HEALTH SERVICES DELIVERED?

The regional health protection teams provide the following services and more:

- Health surveillance and population health status assessment
- Food, restaurant and facility inspections (e.g., daycares, care homes, etc.)
- Surveillance (i.e., monitoring public water supplies)
- Communicable disease control and prevention (e.g., pertaining to food, water, and zoonotic sources, etc.)
- Investigation and management of health hazards under the Public Health Act
- Environmental health programs (i.e., heat alert advisories) [3]

The regional health authority teams provide the following services:

- Health promotion (i.e., breastfeeding programs, prenatal programs, nutrition advice, sexual health programs, injury prevention)
- Communicable disease control and prevention (i.e., immunizations, STIs, infection prevention and control) [3]

On-reserve health services are linked with Health Canada and First Nations and Inuit Health Branch. Although health services on-reserve are largely provided by Health Canada, administration on the reserves are striving to operate more independently. Such services include primary care, immunizations, STI screening, and mental health/addictions resources.

Public health physicians are largely employed as Medical Officers of Health and each represent a region of the province. Most MOHs in the province are specialty trained with a residency in Public Health and Preventive Medicine. There are seven Medical Officers of Health in New Brunswick of which four are regional and three are provincially-based.

CONCLUSION

The public health system in New Brunswick involves both the provincial Department of Health and Regional Health Authorities. The Office of the Chief Medical Officer of Health plans, funds and monitors the public health programs among four public health regions. In addition, there are two regional health authorities with services provided by either the provincial or regional health authority teams.

There are a number of emerging public health issues in New Brunswick including the surveillance of tick-borne disease, identifying the health inequalities associated with poor social economic status and new legislation banning the sale of flavoured tobacco as of January 2016. Furthermore, the current government that was elected in 2014 has a platform commitment to increase the independence of MOHs in the province. With the various new topics and discussions about public health structure in the province, New Brunswick continues to work on and improve its public health structure.

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NOVA SCOTIA

Dr. Jennifer Cram

INTRODUCTION

Nova Scotia is a maritime province in eastern Canada with a population of 921,727. [1] It is one of the smallest Canadian provinces and the second most densely populated province. [1]

HOW IS PUBLIC HEALTH GOVERNED?

The public health system in Nova Scotia is comprised of both a governmental level, primarily through the Department of Health and Wellness (DHW), and a local level, where public health is integrated into the Nova Scotia Health Authority (NSHA), which has four administrative zones. Since April 2015, both the health authority and the DHW have undergone redesign.

The Government of Nova Scotia, through the NSHA, finances public health services. Nova Scotia municipalities do not financially contribute directly to public health services.

► Government Level

On April 1st, 2016 the DHW implemented a redesign. The intent of the DHW redesign is to align the departmental structure with its new mandate in setting strategic direction, policy and standards, funding, and monitoring accountability, alongside the operational, service delivery role of the new NSHA. With structures and processes still in development, the public health system in NS is currently in a state of significant transition.

Public Health (PH) at DHW resides within a newly created Office of the Chief Medical Officer of Health (OCMOH), as well as in other DHW branches. There is a separate health promotion unit in the DHW that is formed by the health communities and research and evaluation staff from the former PH branch along with health promotion staff from the former Active Living and Mental Health & Addictions branches. Public health epidemiologists are now located within a health system information management unit of the DHW.

The OCMOH is comprised of the Chief Medical Officer of Health (CMOH), Deputy Chief Medical Officer of Health (DCMOH), and zone Medical Officers of Health (MOHs) (consultants to the NSHA), as well as provincial communicable disease staff. The CMOH is part of the DHW Executive team and in the new structure, both the CMOH and DCMOH will be expected to have leadership roles in discussions across the continuum of health care as well as in cross-government issues.

Public health inspectors are housed within the Department of Environment (Nova Scotia Environment). However, there is a close working relationship with the DHW supported by a MOU, and authorities of the MOHs under the Health Protection Act.

► Nova Scotia Health Authority

On April 1, 2015, the Government of Nova Scotia devolved the 9 regional health authorities into a single provincial health authority - the NSHA (as well as the IWK, Children's Hospital, as a separate health authority). The NSHA is responsible for delivery and implementation of public health services based on the provincially set Public Health Standards and Protocols. The NSHA PH program is a province-wide program that is headed by a Senior Director of public health, and reports to the Vice-President, Integrated Health Services Program Primary Health Care and Population Health. Public Health staff report to Public Health Directors in each of four administrative zones within the NSHA. Each zone has a director of public health as well as a responsible Medical Officer of Health. The aim is to deliver consistent programs throughout the province with zonal flexibility to tailor to local needs.

Public Health Legislation and Key Documents

» Health Protection Act (2004)
nslegislature.ca/legc/statutes/health%20protection.pdf

» Public Health Standards (2011)
novascotia.ca/dhw/publichealth/documents/Public_Health_Standards_EN.pdf

» Public Health Protocols
novascotia.ca/dhw/publichealth/phs-reports.asp

HOW IS PUBLIC HEALTH FINANCED?

CIHI estimated that 1.9% of total provincial healthcare spending is on public health in 2017. [2] Other estimates suggest public health spending is only about 1.3% of total healthcare spending, much less than target investments of 4-5% suggested by a 2005 review. [3]

HOW ARE PUBLIC HEALTH SERVICES DELIVERED?

Public Health Services

The Public Health Standards and the Public Health Protocols determine the work of Public Health in Nova Scotia. [4, 5] These are set by the Department of Health and Wellness (DHW) to define public health services, which are delivered by the Nova Scotia Health Authority (NSHA). The Standards include a cross-cutting Foundational Standard and four 'focus area' standards. The Foundational Standard sets requirements for Understanding (assessment and surveillance), Health Equity and Social Justice, Workforce Development, Public Health Emergency Management, and System Infrastructure Development. [4]
The focus area standards are Healthy Development, Healthy Communities, Prevention and Control of Communicable Disease, and Environmental Health. [4] The Public Health Protocols then describe the expectations for public health related to the requirements of each standard. [5]

Healthy Communities

Healthy Communities aims to reduce chronic disease and prevent injuries. Key activities include health policy development and community action on healthy eating, injury prevention and control, reducing health disparities and inequities, harmful use of alcohol, sexual health and tobacco control. [6] Cancer screening is organized through Cancer Care Nova Scotia and their partners rather than through public health. [7]

Healthy Development

The Healthy Development program aims to reduce health inequities in children and youth. Focus areas are pregnancy and early childhood and school age children and youth. Key efforts are the universal screening of families, Healthy Beginnings enhanced home visiting program, targeted pre and postnatal supports, a provincial breastfeeding policy,

nutrition support to Licensed Child Care Facilities, health promoting schools (including youth health centers), Food and Nutrition Policy for Nova Scotia Public Schools, Enhanced Vision Screening Program, the Fluoride Mouth Rinse Program, and the School Based Immunization Program (routine childhood vaccinations are provided by primary care). [8] Many services draw on partnerships with other stakeholders such as schools, early-years centers, primary care, and Family Resource Centers. With the exception of the Fluoride Mouth Rinse Program dental care falls outside of public health's domain.

Communicable Disease Prevention and Control

CDPC aims to prevent and control communicable disease through the assessment and surveillance of communicable diseases and their determinants and through the provision of the publicly funded immunization program, which are provided by primary care except for school based immunizations which are delivered by PH. [9]

Environmental Health

Important legislation includes the Health Protection Act, Tanning Beds Act, Snow Sport Helmet Act, Tobacco Access Act, Smoke-free Places Act and the Safe Body Art Act. [10]

Public Health Inspectors, through Nova Scotia Environment, work with the DHW and Medical Officers of Health to ensure that health hazards are appropriately investigated, assessed, and mitigated in a timely fashion under the mandate of the Health Protection Act. Unlike many other jurisdictions in Canada, public swimming pools are not routinely inspected but rather are only investigated when a complaint arises.

Provision of Services to Indigenous populations

In addition to the regular Public Health services available to all residents of Nova Scotia, Public Health services to First Nations are delivered through a combination of services from the FNIHB, the Province and the First Nations Mi'kmaq communities. A tripartite forum consisting of a partnership between the Mi'kmaq community, the Province, and the federal government strives to work together to provide linkages amongst these levels through a Health Working Committee. [11] The Health Protection Act has jurisdiction on First Nations reserves, and at the local level, partnerships exist between Mi'kmaq communities, Community Health nurses and local Public Health staff.

The Role of Public Health Physicians

Each zone of the NSHA has an appointed PHPM-trained MOH who works in a consulting role. While the MOH works within the NSHA, they are appointed and employed by the DHW. The MOH is responsible for carrying out orders under the Health Protection Act, as well as acting as a consultant for the zone public health workforce. The zonal MOHs also have a strong leadership role as part of PH senior leadership team in NSHA, as part of zonal Medical Advisory Committees, and with local partners such as municipal governments and school boards.

The CMOH and DCMOH are also PHPM-trained physicians and all of the MOHs, including the CMOH and DCMOH share responsibility to provide 24/7 Public Health on-call coverage.

There are 7 MOHs in Nova Scotia, including the Chief Medical Officer of Health and the Deputy Chief Medical Officer of Health.

CONCLUSION

Both the Department of Health and Wellness and the structure of Health Authorities in Nova Scotia have recently undergone major transformation, which has significant impact on the structure of Public Health. Moving forward, the public health system hopes to utilize these changes to create more consistency across the province, while maintaining flexibility to adapt to local needs and resources.

ACKNOWLEDGMENTS

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PRINCE EDWARD ISLAND

Dr. Mila Luchak

INTRODUCTION

Prince Edward Island is the smallest Canadian province with a population of about 140,204. [1] The administration of health in Prince Edward Island falls under the Ministry of Health (Department of Health & Wellness) as well as the Health Authority (Health PEI).

HOW IS PUBLIC HEALTH GOVERNED?

The public health system in PEI is divided under the Ministry of Health and the Health Authority called Health PEI. There are two MOHs in the province: the Chief Public Health Officer and the Deputy Chief Public Health Officer. The province is not divided up into separate regions or units for the provision of public health services but rather via province-wide initiatives and public health nursing units.

PEI has a single Health Authority. Public health services are provided by Public Health Nursing units across the province. These clinics fall under the jurisdiction of the Health Authority.

HOW IS PUBLIC HEALTH FINANCED?

According to CIHI, 6.3% of total provincial healthcare spending was on public health in 2017. [3]

HOW ARE PUBLIC HEALTH SERVICES DELIVERED?

Public health related departments are the following:

- Immunizations are coordinated through the Public Health Nursing units across PEI. The MOH may be consulted as needed.
- Food inspections are the responsibility of the Ministry of Health.
- Harm reduction strategies and programs such as the needle exchange program are coordinated through the Health Authority.
- Environmental health (i.e., air and water quality), health promotion initiatives and population health assessments/ surveillance fall under the Ministry of Health.

There are three partners that deliver health services to the indigenous populations of PEI. This includes local efforts on-reserve, and provincial and federal involvement. Prince Edward Island may be considered unique compared to some other provinces in that reserves are not necessarily remote. There may be greater access to urban services, thus health care delivery is shared among multiple groups. Certain on-reserve health services are linked with Health Canada and First Nations and Inuit Health Branch. Other services such as immunizations are provided through provincial efforts and the Ministry. Health care service administration on the reserves may also operate independently. Such services include primary care, STI screening, and mental health/addictions resources. Individuals may be eligible for Non-Insured Health Benefits including drug and dental benefits.

Prince Edward Island has two MOHs who work closely with the Ministry of Health. In addition to the MOH role, there are also physicians who have an interest in key areas of public health and provide public health contributions in a non-MOH role.

ACKNOWLEDGMENTS

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NEWFOUNDLAND AND LABRADOR

Dr. Jessica Jackman

INTRODUCTION

Newfoundland and Labrador is Canada's most easterly province and it comprises of the island of Newfoundland and Labrador to the northwest, with an area of approximately 405,000 square km. The capital and the biggest city is St. John's situated in Avalon Peninsula. Newfoundland and Labrador has a population of approximately 520,000, more than half of whom live on the Avalon Peninsula.

HOW IS PUBLIC HEALTH GOVERNED?

Four regional health authorities (RHAs) administer public health services in Newfoundland and Labrador (NL): Central Health, Western Health, Eastern Health, and Labrador-Grenfell Health. Public health service delivery in each RHA is accountable to the Minister of Health and Community Services through the Associate Deputy Minister of Population Health. [1,2] There are 2.5 regional Medical Officer of Health (MOH) positions that are led by the province's Chief Medical Officer of Health (CMOH). Each MOH reports to the CMOH but also works collaboratively with the Vice Presidents in each RHA who are responsible for public health.

HOW IS PUBLIC HEALTH FINANCED?

According to CIHI, 4.2% of total provincial healthcare spending in 2017 was on public health. The Government of NL finances public health services through the regional health authorities as well as through other provincial departments (for environmental health services).

HOW ARE PUBLIC HEALTH SERVICES DELIVERED?

Public Health in NL is a division of the Department of Health and Community Services (DHCS). The Public Health division is responsible for: Communicable Disease Control (CDC), Environmental Health, Health Emergency Management, and Pandemic Planning and Response. The DHCS is also responsible for setting mental health promotion priorities and priorities for the NL tobacco cessation program. [7] The Health and Community Services Act and Community Services Act outline mandatory public health activities related to CDC, such as the reporting of communicable diseases. [8] The Newfoundland and Labrador Public Health Laboratory is a division of Eastern Health and is essential to communicable disease surveillance. [9] Service NL is responsible for environmental health activities, such as public health inspections; Environmental Health Officers (EHOs) are a line management group of Service NL and are responsible for these activities. Responsibilities of MOHs and EHOs pertaining to environmental health activities are outlined by the: Personal Services Act, Health and Community Services Act, Food and Drug Act, Tobacco Control Act, Smoke-Free Environment Act, Sanitation Regulations, Public Pools Regulations, Food Premises Regulations, and Smoke-free Environment Regulations. [10] The Health Emergency Management program supports RHAs in the event of a public health threat and is responsible for coordinating the activities of provincial organizations during such threats. The Pandemic Planning and Response program is responsible for planning activities related to pandemic influenza. [11,12]

The Department of Seniors, Wellness and Social Development set priorities for the Health Promotion and Wellness division; these

priorities include healthy eating, physical activity, tobacco control, injury prevention, and child and youth development. [7] RHAs are responsible for the direct delivery of services pertaining to these priority areas.

Provincial organizations also contribute to public health service delivery in NL. The Newfoundland and Labrador Lung Association, through its smokers' helpline, provides counseling and guidance for smoking cessation. [3] The Newfoundland chapters of the Canadian Cancer Society and the Heart and Stroke Foundation contribute to public health through the provision of educational information and tools, as well as local events that foster community engagement. [4,5,6]

► Provision of Care to Indigenous Populations

The provision of care to NL's Indigenous populations is varied. Labrador's Southern Inuit live in NunatuKavut, a territory that is unrecognized by any land claim agreement. They do not receive assistance from the federal government or Health Canada's First Nations and Inuit Health Branch (FNIHB) for public health programs. Instead, public health programs offered by RHAs are available to the Southern Inuit. [13] Labrador's Innu populations live in two First Nations communities, Mushuau Innu First Nation and Sheshatshiu Innu First Nation. Collectively these two communities are known as the Innu Nation. [14] They receive funds for public health programs from FNIHB but have control of the delivery of those services. [13] Labrador's Inuit population is represented by the Nunatsiavut Government (NG). The NG's Health and Social Development Department provide a variety of health programs that receive some funding from FNIHB but are controlled by the NG. Provincial, regional (Labrador-Grenfell RHA) and NG policy govern the NG's CDC program with respect to TB management and control, immunizations, and pandemic planning. [15,16]

Newfoundland's Indigenous populations include the Mi'kmaq and Metis. Qalipu Mi'kmaq First Nation, a landless band, represents Mi'kmaq who reside primarily in western and central Newfoundland. [14,17] Miawpukek First Nation in Conne River is the only First Nations community in Newfoundland. [18] Members of the Qalipu Mi'kmaq First Nation have access to public health services that are available from RHAs in the communities where they live. However, through FNIHB's non-insured health benefits program, they are also eligible for coverage of other health services that improve their health. [19] Miawpukek First Nation, through Conne River Health and Social Services, is responsible for the design and delivery of public health programs in Conne River. FNIHB contributes some funds to public health programs offered by Miawpukek First Nation. [13,18]

► Role of Public Health Physicians

Public health physicians in NL work as MOHs. Within their assigned RHA, MOHs are involved in: policy development, the development of strategies and programs for population health protection and health promotion, disease and injury surveillance, and population health risk assessment. MOHs work collaboratively with other public health professionals, such as EHOs and public health nurses. They also work with employees of the Public Health Laboratory and various government departments, including the Department of Seniors, Wellness and Social Development and the Department of Environment and Conservation. They are expected to provide advice on issues pertaining to health protection and promotion, communicable and non-communicable disease control and prevention, environmental health, and mental health and addictions. Within their specific regions, MOHs lead the preparation and response to public health emergencies. The CMOH is responsible for these roles at the provincial level and also provides leadership during public health emergencies.

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YUKON TERRITORY

Dr. Alexander Summers

INTRODUCTION

The Yukon has a population of 38,000 people, making it one of the smallest provinces or territories by population in Canada. A majority of the population (~25,000) resides in the territorial capital of Whitehorse. The territory was formed 1898 in response to an increase in population triggered by the Klondike Gold Rush. The territory gained independent governance in 1979 following devolution of power from the federal government.

Approximately one quarter of the population identifies as Indigenous. Eleven of the fourteen First Nations have negotiated settlements with the federal government. As a result, these communities are self-governed, and interact with territorial and federal authorities via a government-to-government protocol.

There are currently two public health physicians practicing in the territory; a chief medical officer of health and a deputy chief medical officer of health.

HOW IS PUBLIC HEALTH GOVERNED?

Public health is the responsibility of the territorial government. A municipality has the legislated opportunity to form a board of health, however none currently exists. There are no regional health authorities. Public health activities are funded exclusively by the territorial government and administered primarily through the Health Services branch of the Department of Health and Social Services. The Public Health and Safety Act (PHSA) provides the legislative direction regarding public health.

The Office of the Chief Medical Officer of Health (CMOH) is responsible for the Department of Health and Social Services' legislated responsibility to protect and promote the publics' health. The CMOH is appointed by the territorial Cabinet, and, as legislated, functions as an arms-length government authority. The CMOH and deputy CMOH act in a consultant role with the programs, officials, and analysts embedded in the Health Services branch as well as with other government agencies. The Office of the CMOH is able to spearhead initiatives as needed; however, it does not have its own budget. Funding for programmatic initiatives is found through other relevant directorates within the government. Staff may report to the CMOH for programmatic concerns, but not for administrative issues.

The relationships of the CMOH and the territorial government with the self-governing First Nations governments are negotiated on a government-to-government basis. Many health protection activities (e.g., communicable disease control, environmental health) are performed by the territorial government; however, a First Nations community may choose to administer a number of public health programs. For example, the Kwanlin Dun First Nation operates the Kwanlin Dun Health Centre which offers home visiting, health promotion, and immunization services. In the absence of a mandated agreement for a First Nations government to provide a public health service, jurisdictional responsibility reverts to the territory.

HOW IS PUBLIC HEALTH FINANCED?

According to CIHI, 14.1% of total territorial healthcare spending was on public health in 2017. [4]

HOW ARE PUBLIC HEALTH SERVICES DELIVERED?

There are currently two public health physicians practicing in the territory; a chief medical officer of health and a deputy chief medical officer of health. There are four environmental health officers who operate with delegated authority from the CMOH, and there are no epidemiologists.

Specific public health programs administered by the territorial government include a Children's Dental Program, Mental Health, Environmental Health Services, Health Promotion, Communicable Disease Control (CDC), and an Immunization Program. Health promotion primarily focuses on sexual health, tobacco cessation, and healthy nutrition. Some public health activities, such as home visits and the administration of vaccines, are embedded within a community nursing program. This is critical for smaller communities in the territory for which community nurses function as the sole health care resource.

Population health surveillance occurs via a number of different avenues. Communicable disease surveillance is coordinated through the CDC program. The territorial cancer registry is housed in British Columbia whereas other components of chronic disease surveillance do not exist. There is no comprehensive cancer screening program in the Yukon. Cancer screening is developed by disease and is coordinated by different stakeholders. Public health, through the efforts of the CMOH, has been involved in the development of a colorectal cancer screening. This is the first organized population level screening program with a designated coordinator. Cervical cancer screening is opportunistic and performed by individual practitioners. Reminders and results are coordinated by the British Columbia Cancer Agency. Mammography for breast cancer screening is arranged through the hospital with reminders coordinated by imaging staff.

In the consultant role, the CMOH participates in emergency preparedness and response by collaborating with other territorial government agencies. The CMOH has legislated authority to declare a public health emergency. The CMOH also plays an important role in population health assessment and is expected to report on the health status of Yukoners every three years.

CONCLUSION

Public health in the Yukon is the responsibility of the territorial government and is administered by a collection of government departments and programs. The Office of CMOH has a legislated responsibility to protect and promote the public's health, and functions as a consultant for these departments and programs.

Many of the same public health issues facing other provinces and territories exist in the Yukon. However, the capacity to address each issue can be challenging given the small number of public health professionals. Potential areas of development include the expansion of surveillance programs, the modernization of public health regulations in areas such as food safety, and the development of comprehensive emergency plans.

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NORTHWEST TERRITORIES

Dr. Jennifer Cram

INTRODUCTION

The Northwest Territories is the most populous territory in Canada with a population of about 44,000. [1] Aboriginal people constitute about 50% the population, with a rich diversity of Aboriginal groups including the Dene, Inuvialuit, and Metis people. [1,2] Within the Dene First Nation there are several distinct tribal groups including the Chipewyan, Gwich'in, North Slavey, South Slavey Lake, Sahtu and Tli Cho. [2] There are eleven official languages. [1,2] There are two dedicated public health physicians in the NWT – the Chief Public Health Officer and the Deputy Chief Public Health Officer. On the advice of the Chief Public Health Officer, the Minister of Health & Social Services appoints other physicians as Public Health Officers as needed.

HOW IS PUBLIC HEALTH GOVERNED?

Government

The role of public health at the territorial government level is to set standards and create policy. [4] This work is the responsibility of the Office of the Chief Public Health Officer (OCPHO), which resides within the Department of Health and Social Services (HSS). Supporting the Chief Public Health Officer, the Population Health Division is comprised of the Communicable Disease Control Unit, an Environmental Health Unit, an Epidemiology and Surveillance Unit and a Disease Registries Unit, which all perform key roles in surveillance. Emergency Preparedness and Planning occurs within the Department of HSS via the Territorial Health Services Division. The OCPHO has significant input into emergency preparedness, especially regarding pandemic planning. Most health promotion and prevention work are housed within the Aboriginal Health and Community Wellness Division. Having said that, the OCPHO does have the authority to set policy on cancer screening. There is no external cancer society in the NWT.

Important Public Health Legislation includes the Public Health Act of 2009 and its supporting Regulations, available at justice.gov.nt.ca/en/files/legislation/public-health/public-health.a.pdf

Health & Social Services Authorities

On August 1, 2016 Health & Social Services in the NWT underwent significant reorganization. The eight health & social services authorities were devolved into three authorities, with the eventual goal to further reduce to two health & social services authorities by amalgamating the Hay River Health and Social Services Authority into the Northwest Territories Health & Social Services Authority (NTHSSA). The Tlicho First Nation maintains a self-governing structure within their lands and will continue to operate the TliCho Community Services Agency (TCSA), separate from the territory wide authority

The Health & Social Services Authorities are responsible for public health operations and service delivery.

HOW IS PUBLIC HEALTH FINANCED?

The federal government finances public health throughout the territory. According to CIHI, in 2017, 7.3% of territorial health spending was to be on public health. [3]

HOW ARE PUBLIC HEALTH SERVICES DELIVERED?

There are core programs and services mandated by the public health act and other legislation. Delivery methods are individualized by communities to reflect what works best for their populations. A key goal of the amalgamation is to provide greater consistency, while still maintaining local flexibility.

Public health nurses in some of the regional centers perform childhood immunizations and well child visits. In smaller communities, community health nurses, who also do primary care, are responsible for routine vaccinations.

One reason for the variability seen within the former Health & Social Services Authorities is to target services to the specific needs of the Aboriginal communities within each geographic area. The Aboriginal Health and Community Wellness Division further supports health services to the Aboriginal populations. As described earlier, the Tlicho First Nation has its own self-governing structure with direct control over its health & social services activities and programs, many of which (including Public Health) are contracted to the NTHSSA while the TCSA works to build operational capacity.

There are two public health physicians in the NWT, the Chief Public Health Officer, and the deputy Chief Public Health Officer. Their primary roles are in policy setting and enforcement of the public health act. They work closely with other public health staff to provide support as needed.

CONCLUSION

The Northwest Territories Health & Social Services Authority is undergoing a major transformation to improve patient / client care and efficiency. The distribution of services and programs by public health will become clearer in the following months.

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NUNAVUT

Dr. Jasmine Pawa

INTRODUCTION

Nunavut is a northern territory with a population of 37,174 that has been inhabited for several thousand years. [1] The territory was created in 1999 as the outcome of a land claims agreement; the area was previously part of the Northwest Territories. It includes some of the most remote parts of Canada and covers one fifth of the country. [2] Individuals from the territory are known as Nunavummiut and greater than 80% of the population identifies as Inuit. The Government of Nunavut, including the Department of Health, highlights that their work is guided by traditional Inuit values, termed Inuit Qaujimajatuqangit (IQ). [3]

There are 25 remote communities (accessible only by air, boat in the summer, or limited snowmobile travel in the winter); each with a health facility called a community health center (CHC). The capital city of Iqaluit has a hospital and the hamlets of Rankin Inlet and Cambridge Bay have regional health centers (although the latter do not admit patients). [4] Nunavut is divided into three regions: Kitikmeot, Kivalliq, and Qikiqtaaluk. Healthcare referral patterns out of Nunavut are north-south depending on the region; for additional care, patients are typically flown to Yellowknife or Edmonton; Winnipeg; or Ottawa. [4]

HOW IS PUBLIC HEALTH GOVERNED?

The Department of Health oversees the delivery of health care and public health services in Nunavut. The office of the Chief Medical Officer of Health includes one Deputy Chief Medical Officer of Health position. The Chief Medical Officer of Health reports to the Deputy Minister and sits on the senior management committee for the Department.

The primary legislation governing public health services is the *Public Health Act*. The previous legislation dated from 1957 and has recently been revised and passed in the past year. It will be adopted once the supporting regulations are completed. [8] Nunavut is working on a new public health action plan; its previous public health strategy (2008-2013) outlined eight strategic priorities. [9]

HOW IS PUBLIC HEALTH FINANCED?

The Government of Nunavut health funding comes almost entirely from five federal areas: Non-Insured Health Benefits (NIHB) Program for First Nations and Inuit, Territorial Formula, Canada Social Transfer, Canada Health Transfer, and Department of Indian Affairs and Northern Development (DIAND) agreements. [4] The overall budget for health is approximately 300 million dollars. [7] According to CIHI, 7.5% of total territorial health spending was on public health in 2017. [10]

HOW ARE PUBLIC HEALTH SERVICES DELIVERED?

Local

Nurses make up the largest proportion of the healthcare workforce in Nunavut and staff the CHCs. Each CHC has approximately 1-5 nurses depending on the size of the community. They are expected to provide some public health services in addition to clinical care (including well baby visits, immunizations, and communicable disease follow up). There are Public health nurses in some of the regional centers who perform childhood immunizations and well child visits.

Community Health Representatives (CHR) are typically Inuit and serve the community they come from. Their work is focused on health promotion in the community (for example with respect to sexual health or breastfeeding). Each community also has a local Community Health and Wellness Committee that identifies issues in the communities and develops programs (such as a nutrition program) with funding from the department.

Regional

There are 1-2 regional communicable disease coordinators (RCDCs) in each region who work with nurses in the communities to follow up on public health issues. There are five regional environmental health officers (EHO); each community is intended to have two EHO visits per year. This role includes food premise inspections, concerns about water quality, and support for rabies exposure follow-up.

Central or departmental

The Government of Nunavut, including the Department of Health, is based in Iqaluit. The department's public health functions are divided into a health protection division (including communicable disease, environmental health, emergency preparedness, surveillance), health promotion (includes maternal and child health, chronic disease and injury prevention, school health, tobacco reduction and sexual health), and population health information.

There is a Chief Medical Officer of Health (CMOH) as well as a Deputy CMOH position. For health protection, there are two territorial Communicable Disease Specialists and two Environmental Health Specialists. Among others, there are 3-4 epidemiologist positions (senior epidemiologist, communicable disease, chronic disease and injury prevention, and mental health), public health nutritionists, and a number of individuals with MPH or other public health-related qualifications.

There are challenges for providing health and public health services. The geography leads to significant difficulties serving remote communities including challenges with weather. There are major problems with recruitment and retention of staff. As of 2008, it has been estimated that almost half of the nursing and CHR positions were vacant. (4,5)

In summary, Nunavut covers a vast area with a population that is mostly Inuit. Health and public health services are organized at local (community), regional, and central levels. There are significant socio-economic and health challenges in serving the population.

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