



2020

Response to the Public Health Modernization Discussion Paper

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APHEO's response to the Public Health Modernization Discussion Paper

The Association of Public Health Epidemiologists in Ontario (APHEO) respectfully submits the following response to the Public Health Modernization [Discussion Paper](#). Since its inception in 1991, APHEO has supported excellence in professional practice and promoted the integration of epidemiological practice and evidence into public health decision-making.

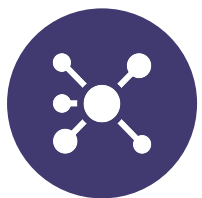
This response was developed in consultation with APHEO members.¹ It is intended to be complementary to the individual responses of its members and their organizations, and not a summary or a substitute.

Overarching recommendations

APHEO makes three overarching recommendations for public health modernization:



Retain sufficient epidemiological capacity in local public health agencies, to keep the vital data-community knowledge connection.



Strengthen provincial data infrastructure and centrally organize certain activities to improve overall coordination of efforts across the public health sector.



Ensure centralized functions involve active engagement and are responsive to the needs of the local entities they are intended to support.

APHEO has over

300

members

From

67

different
organizations

Including 34 public health units,
2 First Nations Health Authorities,
and 31 other health, academic, and
private sector organizations

58%

of members work
in Ontario Public
Health Units

Epidemiology is foundational to local public health practice

Epidemiology is the practice of collecting, measuring, analyzing and interpreting health-related data and information to monitor trends, identify emerging issues, investigate public health problems, and facilitate effective decision-making, planning and evaluation.



Similar to how a clinician uses a diagnosis to develop a treatment plan for a patient, epidemiology identifies health issues in the population and supports local public health programs to improve the health and well-being of communities.

Effective public health practice is only possible with epidemiology. It is a foundational science behind the delivery of public health programs, and it encompasses essential functions primarily addressed under the Population Health Assessment Foundational Standard of the Ontario Public Health Standards (OPHS).

Epidemiologists, analysts, research associates and other professionals with data and analytic expertise are herein referred to as population health assessment staff. These staff fulfill the epidemiology function in local Public Health Units (PHUs).

Retaining sufficient local epidemiology capacity will help ensure public health programs are planned and delivered based on local context and needs. It will keep the vital link between epidemiological evidence and mobilizing it into actionable knowledge in local communities.

Public health modernization offers an opportunity to strengthen the provincial data infrastructure, the essential tools and supports for PHUs to fulfill their mandate.

In this response, APHEO offers a number of opportunities to provincially coordinate or standardize some tools and activities, which would increase efficiency and improve coordination of efforts across PHUs. Such improved efficiencies will enable stretched and overburdened local population health assessment staff, and in turn, local agencies overall, to more effectively achieve their mandate.

As changes occur, existing or enhanced provincially centralized functions need to be informed by on-going, active engagement with local public health agencies. Centralized functions are only effective when they are responsive to the needs of the entities they are meant to support.

We expand upon our overarching recommendations below, responding to the four key challenges identified by the Discussion Paper.

Insufficient capacity

Recommendations

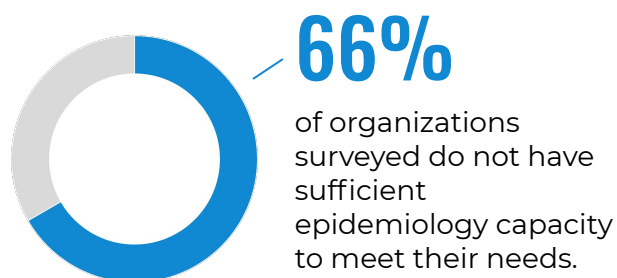
1. Enhance provincial coordination to support capacity building such as sharing tools and resources, and development and training opportunities.
2. Actively engage with affected parties during any restructuring or redefining of epidemiology roles.

Many aspects of epidemiology in the public health sector are working well

What is currently working well	Examples
A community to connect epidemiologists and other population health assessment staff across the province	Local population health assessment staff connect across Ontario through APHEO: to collaborate; to share information and methodologies; to standardize public health indicators through APHEO's Core Indicators project; to participate in various working groups; and to join in professional development opportunities. APHEO facilitates collaboration through digital infrastructure, including a shared, cloud-based document management system.
Collaboration and sharing between public health units and Public Health Ontario	Public Health Ontario (PHO), through consultation with population health assessment staff across Ontario, provides resources and reporting of common public health indicators (e.g., Snapshots, Query). PHO also collaborates with local staff on various projects, and plays an important role in infectious disease surveillance, outbreak management and provision of technical expertise to PHUs.
Involvement of local population health assessment staff in community collaborations	Local population health assessment staff work as a collective on shared, local issues to improve the health of Ontarians. They are also uniquely positioned to contribute to multi-sectoral collaborations and to integrate population health data into broader partnerships (see Misalignment of Health, Social and Other Services section).
Training and professional development opportunities offered by Public Health Ontario or others	PHO's Rounds, The Ontario Public Health Convention, the National Collaborating Centres network, online learning modules, and the Public Health Training for Equitable Systems Change (PHESC) online learning series. ² APHEO has also hosted annual conferences since 1993, and is also launching a mentorship program.

However, epidemiology capacity varies across public health units, with different underlying issues contributing to insufficient capacity

In a recent APHEO survey of PHUs and First Nations Health Authorities in Ontario,³ 23 of 35 participating organizations (66%) indicated that they had insufficient epidemiology capacity to meet their population health assessment and surveillance needs.



Reasons for insufficient capacity include:

- A large and increasing volume of internal and external requests for local epidemiological support
- Insufficient epidemiology staff, with some PHUs having a sole epidemiologist or no dedicated population health assessment staff due to funding constraints
- Insufficient staff in other positions supporting the Foundational Standards (e.g., evaluation and continuous quality improvement). This often results in epidemiology staff taking on other functions outside of the traditional scope of epidemiology
- For some PHUs, challenges in filling epidemiology vacancies

Due to insufficient epidemiology capacity, organizations noted the following potential challenges:

- Difficulty meeting OPHS requirements
- Routine analyses gets delayed or deprioritized due to outbreaks, emerging issues or ad-hoc requests, and this impacts program planning
- Insufficient time or resources for more complex epidemiological analyses (e.g., geospatial, modelling) that would yield valuable insights
- Challenges keeping aware of and conducting surveillance on emerging issues (e.g., opioids, vaping)
- Limited time for knowledge translation and dissemination, despite this being a critical step in the population health assessment cycle
- Limited time for professional development that enable staff to continue to strengthen skills and knowledge

Opportunities exist to strengthen and better support local epidemiology capacity

- **Improved data access, quality and infrastructure** (see Duplication of Effort section).
- **Software acquisition and licensing by the Province** to ensure equitable access for all PHUs, to facilitate opportunities for training and sharing of resources. (e.g., statistical, data visualization and geographical information systems (GIS) software, a standard province-wide electronic medical or public health record system.
- **Professional development and training opportunities.** PHO could expand on existing training opportunities to ensure local population health staff remain current on topics such as emerging public health issues, advanced methodologies, and software skills.
- **Provision of, or more formal processes for, sharing tools and resources to support local analysis** (e.g., centralized research support, standardized reports from provincial databases, data quality support for provincial databases (iPHIS/PEAR) and standard statistical syntax for key public health indicators). Sharing of resources, tools and capacity could be achieved through formal service agreements between less resourced PHUs and a central body or other PHUs
- **Strengthening skills and capacity in roles that complement** and facilitate epidemiological work, such as health informatics, data science, spatial analytics and health economics, including return on investment work.
- **Review funding arrangements** to ensure that resources are distributed equitably (e.g., revised funding arrangements that are more suitable for Northern, remote, or rural PHUs, and those with limited transportation options or challenges with recruitment or retention of population health assessment staff).

Any restructuring or redefining of epidemiology roles **needs to involve active engagement** with affected parties.

Restructuring must consider local communities' **abilities to respond to emergent issues** and public health emergencies (i.e., surge capacity, pandemic/outbreak responses).

Duplication of effort

Recommendations

1. Strengthen provincial data infrastructure to improve data access and coordination of efforts across the public health sector.
2. Enhance access to good quality, consistent, timely, relevant, inclusive, local data that accurately describe the health of local communities.
3. Provincially support standardized methodologies and core indicators, such that local population health assessment staff can focus more effort on in-depth analyses that are customized for local priorities.

It is imperative to have sufficient local epidemiological expertise

Population health assessment staff serve a critical role in local public health. They act as an intersection between the knowledge of data and the community needs and issues.

Population health assessment staff in local public health units:



Combine data analysis and interpretation with an in-depth understanding of the nuances of the local geography and unique community needs that are **otherwise missed through centralized or provincial analytic processes** (e.g., features like long term care homes, correctional facilities, First Nations reserves, nuclear power plants). Customized local analyses can account for such nuances.



Identify priority populations and the distribution of health inequities **to tailor programs and services** to neighbourhoods and populations with the greatest needs.



Build relationships with public health staff, clients, municipalities and community partners to facilitate understanding of local health issues by translating data into knowledge. **Locally built relationships foster trust**, enabling public health staff to reach out, request data, and more effectively use epidemiological information.



Collaborate with municipal and community partners (e.g., school boards, police, and social services) to integrate other data sources and **develop more informed and meaningful stories of community health**.



Have a finger on the pulse of the health of communities to **detect emerging public health threats**, such as opioid overdoses and novel infectious diseases, to facilitate appropriate and timely action when and where it's needed.



Uniquely positioned to **support the development and implementation of Ontario Health Teams** with their existing, population health expertise, skills and resources.

Improving data quality, access and provincial infrastructure will drive local improvements and strengthen the public health sector

It is essential for public health professionals to understand local issues and priorities. Having neighbourhood-level data is critical to inform actions aimed at **improving the wellness of communities**. Existing challenges to local data acquisition, including those related to relevance, timeliness, consistency, inclusivity, and affordability,⁴ can be resolved with adequate provincial support.

Opportunities to strengthen provincial data infrastructure

Either PHO or the Ministry of Health could be empowered to perform certain functions that would strengthen provincial data infrastructure, to yield a more efficient and effective sector.

Enhanced functions of PHO or the Ministry of Health	Description
Act as a public health sector data broker to improve data access and improve coordination of efforts	<ul style="list-style-type: none">• Improve timeliness and access to data sources and promote linkages between systems where appropriate, e.g., electronically linking physician immunization records with Panorama.• Support centralized data sharing agreements, and data purchases, with entities such as school boards, local police and emergency health services, the Office of the Chief Coroner of Ontario, and other provincial Ministries.• Focus on improving data acquisition processes for federal and provincial data sources to be more strategic, more timely and more automated. Coordinate input from PHUs to prioritize new data acquisitions or to identify which existing sources are in most need of improvement• Improve technical support and more timely data refreshes and standard reports in existing data systems (e.g., IntelliHealth).

Opportunities to strengthen provincial data infrastructure (continued)

Enhanced functions of PHO or the Ministry of Health	Description
Centrally acquire and distribute data tools and software to the sector, to save money, reduce redundancy and ensure equitable access	<ul style="list-style-type: none"> • Bulk purchase licenses for prevalent software packages such as statistical analysis software (e.g., Stata, SAS) and the PCCF+. • Bulk purchase custom Census or other Statistics Canada data tables. • Provide guidance or technological solutions on technical issues affecting all PHUs (e.g., Accessibility for Ontarians for Disabilities Act (AODA) compliance issues for population health data reporting).
Coordinate APHEO's flagship initiative, the Core Indicators project ⁵	<ul style="list-style-type: none"> • The Core Indicators project, currently managed and maintained entirely on a volunteer basis, is a long-standing and valuable resource in the public health sector. It can be strengthened by providing more sustainable capacity to administer it, allowing more timely updates to the standardized indicator methodologies and resources.
Enhance access to high quality data	<ul style="list-style-type: none"> • Consistent provincial funding for flexible, timely, local and adaptable provincial surveillance systems which collect information on the health of local populations. Such systems should draw on the strengths of existing systems (CHSCY,⁶ OSDUHS,⁷ RRFSS⁸). • Additional provision of provincial datasets at standardized sub-PHU geographies,⁹ which will promote better comparisons below the PHU level, which is of particular importance in rural and Northern communities where data access is consistently challenging. • Enhancements for PHO's Snapshots.¹⁰ <ul style="list-style-type: none"> ◦ Formalized integration and collaboration with Core Indicators, including active, on-going engagement with PHU staff. ◦ Development and sharing of data infrastructure (e.g., syntax and methodology), enabling PHUs to eliminate redundant analytic work, and instead build on PHO Snapshots work when customized local analytics are needed.
Manage knowledge exchange, knowledge transfer and mobilization	<ul style="list-style-type: none"> • Create a robust centralized repository (e.g., in SharePoint) of best practices, literature reviews, evidence reviews, grey literature, historical methodologies, current research, PHU program evaluations, locally developed communication campaigns, such that the entire sector can access this body of work.

Misalignment of health, social & other services

Recommendations

1. Enable cross-sectoral data sharing for better alignment between public health and other sectors.
2. Support local population health assessment staff to continue serving as key collaborators and data brokers in cross-sectoral initiatives.

Better infrastructure that facilitates cross-sectoral data sharing will enable greater alignment between public health and other sectors

- Implement, for example, **the Children Count Provincial Task Force [recommendations](#)**¹¹ that outline how provincial Ministries can create a coordinated and cost-effective system for measuring the health and well-being of children and youth.
- **Break down cross-sectoral barriers that prevent data sharing, knowledge transfer, collaboration and cost-effectiveness** in siloed data systems (e.g., [School Climate Surveys](#)¹² or the [Early Development Instrument](#)¹³). This would include, is not limited to, facilitation of data sharing agreements (see Duplication of Efforts section).
- Reassess the nuances in **privacy legislation and policies that can limit or prohibit data sharing between public sector agencies** (e.g., PHUs, school boards and social services)
- Consider the case for more coordinated provincial data systems that **seamlessly integrate public health service delivery with the health care system** (e.g., via use of provincial health card numbers).

Local population health assessment staff serve as key partners, facilitating cross-sectoral collaborations, particularly through data sharing

Examples of effective collaborations among public health, health care, education and social services agencies include:

- Community Safety and Wellbeing Strategies.
- PHU support of Ontario Health Team applications, development of key priorities, evaluation and performance measurement.
- Multi-sector community collaborations, such as Halton Region's [Our Kids Network](#)¹⁴; the [Waterloo Region Integrated Drugs Strategy](#)¹⁵; and the [Ottawa Neighbourhood Study](#)¹⁶
- Local municipal collaborations, such as the Peel Public Health initiative to address obesity through the built environment.⁴
- Partnerships with Indigenous communities that abide by OCAP® (Ownership, Control, Access and Possession) principles (e.g., opioid overdose surveillance and reporting among Indigenous peoples on reserves).

Inconsistent priority setting

Recommendations

1. Actively engage PHUs as part of public health sector priority setting.
2. Strengthen existing structures for collaborative work and shared priority setting, such as APHEO's Core Indicators project, which would benefit from formal provincial support.

APHEO facilitates shared priority setting across public health units

- The Core Indicators for Public Health in Ontario is the product of many epidemiologists and other public health professionals working collaboratively over the past 20 years. The Core Indicators project website contains detailed definitions for over 120 key public health indicators, which promotes accurate, standardized reporting across the sector.
- APHEO has other work groups where public health professionals collaborate to address shared priorities, share information and identify or develop best practices while also allowing resources to remain adaptable to local needs. (e.g., BORN Public Health; Opioid/Overdose Surveillance Working Group; Small, Rural and Northern Health Units).

Existing structures for collaboration and shared priority setting could be strengthened with provincial support

- **Actively engage and consult** with PHUs to inform provincial work plans and provincial strategic priorities related to population health assessment and surveillance activities. While broad provincial priorities are needed, regions also need to have flexibility to define local priorities.
- Provide more formal **administrative and technical support** to APHEO work groups that promote collaboration to address shared priorities.
- **Supply technological solutions, resources, guidance documents and professional development** that supports shared priority setting and operational planning.
- Continue to centrally organize **evidence-gathering activities** to improve coordination across PHUs (e.g., PHO could produce and share evidence reviews so that sound local and regional decisions can be made).
- Continue to provincially coordinate and support **responses to emerging issues** (e.g., opioids), cross-jurisdiction investigations (e.g., infection prevention and control lapses), and public health emergency issues (e.g., pandemic/outbreak responses).

Conclusion

Our response highlights the importance of retaining sufficient local epidemiology capacity, while also presenting options to centralize certain functions and strengthen public health data infrastructure in the province. Such changes will help achieve the goal of coordinating efforts and yield a modern public health sector that is both efficient and effective, as well as responsive to emerging issues and local needs.

We appreciate the opportunity to provide input into this consultation process. We recognize the pivotal opportunity this modernization process presents to make foundational, structural improvements to the public health sector, for the betterment of the health of all communities across Ontario, and APHEO stands ready to engage with the Modernization Team into the future as a concrete plan for modernizing public health is developed and implemented.

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