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Protecting and promoting the health of Ontarians

ANNUAL REPORT 2016–17

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Message from the Board of Directors

On behalf of Public Health Ontario's (PHO) Board of Directors, we are pleased to present PHO's 2016-17 Annual Report. This year's report demonstrates our ongoing dedication to protecting and promoting the health of all Ontarians and reducing inequities in health. It presents PHO's important activities and achievements in the 2016-17 fiscal year, with stories that illustrate the work we've done, a status report on key deliverables, and a year-end view of our financial performance.

PHO provides expert scientific and technical advice and support that helps our partners and clients – government, public health practitioners, hospitals and other health care facilities, community laboratories, front line health workers and researchers – play their own part in safeguarding the health of Ontarians. We study and evaluate what makes people healthy and how we can help Ontarians live healthier lives. We remain vigilant for current and emerging threats to health. In all that we do, we consider the implications of social determinants of health on population health.

We play a critical role in Ontario's public health and health care systems. Our strong relationships with Ontario's Chief Medical Officer of Health, the Ministry of Health and Long-Term Care, public health units and health system providers allow us to collectively strengthen Ontario's public health and health care systems. Our *Strategic Plan 2014-19: Evidence, knowledge, and action for a healthier Ontario*, continues to ensure our work and collaborative activities support our mandate, the public health sector, and the government's priorities.

Working together, with our partners, PHO supports the government's health system transformation agenda. Our public health leaders are playing a key role in the modernization of the Ontario Public Health Standards and we continue to explore opportunities to support local public health units with their evolving responsibilities in monitoring and communicating population health information.

On behalf of the Board of Directors, we thank our leadership team and our staff for their tireless work in times of fiscal constraint, and we thank our partners at the Government of Ontario for their vision and support.

We are proud of all that PHO has accomplished in 2016-17 as it continues to build on its strong foundation and make a vital contribution to improving the health of Ontarians.



Pierre Richard
Chair, Board of Directors



Robert Kyle
Vice-Chair, Board of Directors

Highlights of our 2016-17 Annual Report



2,259
scientific and
technical support
activities completed
in response to
client requests



More than
5.5
million
laboratory tests

We are delighted to highlight some of the stories that are described in greater detail later in this report. Building on the significant accomplishments since beginning operations in 2008, PHO continues to deliver sound information, data and advice to advance public health in Ontario, at both the provincial and local levels.

Keeping Ontarians safe: From persisting problems to new and emerging public health threats, PHO monitors and detects current or potential infectious disease outbreaks and environmental incidents. With an integrated provincial approach to surveillance, outbreak management, laboratory testing, environmental health assessment and field support, we prevent disease and minimize threats before they cause harm to the public. We support coordinated and effective responses by Ontario's Chief Medical Officer of Health, the Government of Ontario, public health units, and health care institutions and providers. The breadth and scope of our efforts this year – from opioid addiction and overdose to antibiotic resistance and Zika virus, to the environmental burden of cancer – underscore the critical role PHO plays in keeping Ontarians safe.

Making Ontario healthier: PHO is committed to finding ways to help Ontarians live active, productive, healthier, and ultimately longer lives. Creating supportive systems and environments, removing barriers to healthy living, and increasing awareness are examples of ways to help people make changes that promote health and prevent chronic disease and injury. We know that a focus on health inequities must be maintained and applied across all work streams. The ability to identify, understand and mitigate the disparities in the determinants of health, health behaviours, access the health services and health status, which exist across population groups, is critically important to achieving Ontario's health potential. Some highlights of our efforts in 2016-17, which are profiled in this report, include the development of a Perinatal Mental Health Toolkit with the Healthy Human Development Table, evaluating the Healthy Kids Community Challenge in Indigenous communities, and a comprehensive report with up-to-date evidence aimed at reducing tobacco use in Ontario.



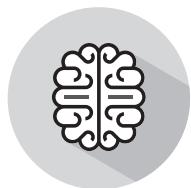
295

knowledge products produced



126

new student placements



114

education sessions offered to groups of external clients



196

peer-reviewed journal publications



966,000

website visitors

Information and innovation: We strive to bring together traditional public health and health care data from many sources to create a strong foundation of information that deepens our understanding of the factors that impact the health of Ontarians. We continually seek novel approaches to make information more accessible by presenting it in ways that are easy to understand and relevant to public health needs. Stories in this report profile new and recently enhanced data and analytic tools, such as our new interactive *Reportable Disease Trends in Ontario* tool; a data exploration tool for health-care associated infections (HAI) called *HAI Query*; and the *Immunization coverage report for school pupils in Ontario*, for the first time using data from Ontario's Digital Health Immunization Repository, known as Panorama.

Professional development and capacity building: PHO continues to build Ontario's public health and health care workforce and support the next generation of public health professionals with our ongoing focus on professional development and education. Our dynamic educational and training programs provide public health professionals, health care providers, scientists and policy-makers with the latest research and literature, essential information, and opportunities for networking. We continue to expand our general education sessions and expertise-specific capacity building opportunities for clients across Ontario. In 2016-17, in collaboration with the Canadian Institute of Public Health Inspectors (CIPHI), we introduced a new educational offering called *CIPHI Ontario Series*. We continue to support public health units across the province to build capacity at the local level for efficient and effective response to public health issues of importance, such as local environmental health concerns. Our diverse range of student placement opportunities in all of our public health program areas provided enriching and engaging educational experiences.

Leading public health research: Our research generates knowledge that impacts clinical and public health practices, and public health programs and policy to better protect and promote the health of Ontarians. Our internationally-renowned researchers lead and collaborate in both investigator-driven and directed projects, responding to the needs of our stakeholders and in support of our mandate. We generate and share knowledge in a wide range of disciplines and topics of public health importance. Examples of our work in 2016-17 include exploring the link between living near major roadways and the risk of dementia, the impact of warning labels on alcohol products, immunization programs, infection screening programs in hospitals, and antibiotic resistance. We continue to disseminate our research findings broadly, with 196 articles published in peer-reviewed journals relevant to public health in 2016-17.

Organizational overview

Who we are

PHO was created by legislation as a board-governed provincial agency. The *Ontario Agency for Health Protection and Promotion Act, 2007* defines PHO as:

“An agency to provide scientific and technical advice and support to those working across sectors to protect and improve the health of Ontarians, and to carry out and support activities such as population health assessment, public health research, surveillance, epidemiology, planning and evaluation.”

With our 984 staff, our scientific expertise spans the following domains: chronic disease prevention, emergency preparedness, environmental and occupational health, health promotion, injury prevention, infectious disease and microbiology.

As set forth in our legislation, we focus on:

- Providing scientific and technical advice and support
- Providing advice and operational support in emergency or outbreak situations with health implications
- Delivering laboratory services
- Advancing and disseminating knowledge, best practices, and research
- Serving as a model to bridge infection control and occupational health and safety
- Contributing to policy development
- Enhancing data development, collection, use, analysis and disclosure
- Providing education and professional development
- Conducting public health research

We play a critical role in Ontario’s public health and health care systems and serve as a bridge between the health sector and other sectors that influence the broader determinants of health. We recognize that it takes many partners, working together, to help Ontarians live healthier lives. We link public health practitioners, front-line health care workers and researchers to the best scientific intelligence and knowledge from around the world. Our public health laboratory and Regional Support Teams, formerly known as Regional Infection Control Networks (RICNs), extend our reach to all areas of the province, supporting both provincial and local service needs.

Our key role is to enable informed decisions and actions that protect and promote health and contribute to reducing health inequities - whether that is for a clinician working with a patient, a medical officer of health seeking to improve the health of the local population or a government representative developing policy.

Our work is responsive to the challenges and opportunities presented by Ontario’s changing demographics and constrained fiscal environment. It reflects the needs of the province’s health system as well as ongoing and emerging public health issues at all levels from local to global.

Our work sheds light on what affects health, and quantifies the burden of disease. Working with our partners, we will continue to keep Ontarians safe and healthy.



Vision

Internationally recognized evidence, knowledge and action for a healthier Ontario.



Mission

We enable informed decisions and actions that protect and promote health and contribute to reducing health inequities.



Mandate

We provide scientific and technical advice and support to clients working in government, public health, health care, and related sectors.

Primary clients

- Ontario's Chief Medical Officer of Health
- Ministry of Health and Long-Term Care and other ministries
- Public health units
- Health system providers and organizations across the continuum of care

In addition to these clients, PHO's partners for health can also include academic, research, not-for-profit, community-based and private sector organizations and government agencies—working across sectors—that contribute to Ontarians achieving the best health possible.

Strategic directions

As the world in which PHO operates continues to evolve, we have to respond to the changing environment, anticipate needs, and remain a leader in promoting optimal health and preventing disease. Our five strategic directions, set out in our 2014-19 Strategic Plan, focus on our alignment with the sector, our mandate to transform data into knowledge, our enabling role, our research agenda, and our people:

1. Provide scientific and technical expertise to strengthen Ontario's public health sector and support the achievement of its goals.
2. Accelerate integrated population health monitoring.
3. Enable policy, program and practice action.
4. Advance public health evidence and knowledge.
5. Great people, exceptional teams building a stronger PHO.

Enablers for success

To achieve the goals set out in our strategic plan, key supports help us to be agile and responsive as we continue to evolve our organization and implement change to advance public health knowledge and practice:

- governance, accountability and performance
- change management
- privacy, information management and information technology
- strategic partnerships and alliances
- better integration of regional perspectives and diverse capacity
- organizational capacity, systems and infrastructure investments

Delivering on our mandate

Working closely with the Ministry of Health and Long-Term Care and other partners, PHO is an integral part of the province's health system, delivering on our mandate to provide scientific and technical advice and support for those working to protect and promote the health of Ontarians. The examples that follow demonstrate our contributions in the following five domains: keeping Ontarians safe, making Ontario healthier, information and innovation, professional development and capacity building, and leading public health research.

Keeping Ontarians safe



Every day, our teams of world class medical, clinical, scientific and technical experts work diligently—with each other, our partners and our clients—to protect and promote the health of Ontarians. With a multi-disciplinary and integrated provincial approach, we monitor, analyze, detect and respond to current or potential infectious disease outbreaks, as well as environmental incidents, to prevent disease and minimize threats before they cause harm to the public.

Our laboratory is an indivisible component of our organization with close connections on every infectious disease issue we address, including an ever-increasing role in using genomic methods to identify previously unrecognized links between cases of infectious disease. In 2016-17, our laboratory conducted more than 5.5 million diagnostic, confirmatory and reference tests to meet the dynamic needs of Ontario's health system.

PHO supports the daily business of Ontario's public health system, participating in a forum each morning to discuss new, emerging and high profile issues with our public health partners. We support coordinated and effective responses by Ontario's Chief Medical Officer of Health, the Government of Ontario, public health units, and health care institutions and providers.

Our efforts this year on a wide range of fronts – including preparing for, monitoring, coordinating, supporting and educating on issues such as Seoul virus, mumps, Hepatitis A, foodborne outbreaks, and institutional outbreaks of disease – underscore the critical support we provide to keep Ontarians safe.

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Working together to prevent and respond to opioid addiction and overdose

Opioid addiction and overdose is a multifaceted health and social issue with devastating consequences for communities, families and individuals. Following the increase in public health and health care concerns about opioid-related harms in Ontario and beyond, understanding and addressing this issue became a provincial priority. In October 2016, Ontario announced the implementation of its first comprehensive opioid strategy to prevent opioid addiction and overdose by enhancing data collection, modernizing prescribing and dispensing practices, and connecting patients with high quality addiction treatment services.

PHO plays a key role in supporting Ontario's Chief Medical Officer of Health in his role as the Provincial Overdose Coordinator, as well as the Ministry of Health and Long-Term Care, the Office of the Chief Coroner



Following the increase in public health and health care concerns about opioid-related harms in Ontario and beyond, understanding and addressing this issue became a provincial priority.

for Ontario, public health units, and other health sector stakeholders. To get a better understanding of morbidity and mortality related to opioid toxicity, there is a focused effort to improve the collection and analysis of data on opioid-related harms in Ontario. PHO developed an interactive opioid surveillance tool to provide accurate information to stakeholders, including public health units and Local Health Integration Networks, on long-term population-level trends in opioid related morbidity and mortality. To standardize and enhance the data collected, PHO is working closely with Ontario's Chief Coroner to develop a new data collection tool for all Ontario coroners. The tool will provide more timely and consistent data on opioid overdoses in order to better understand the problem in the province.

PHO partnered with Kingston, Frontenac and Lennox & Addington Public Health, among others, to host a full-day workshop, bringing together more than 95 officials, on how to prepare for, respond to, and manage, a mass casualty event due to illicit opioids in south-eastern Ontario. Responding to frequent requests from several public health units, PHO also synthesized the latest evidence on resuscitation from opioid-related cardiac arrest. Other evidence briefs to support public health response to opioid addiction and overdose are in development.

PHO's ongoing contribution to the province's opioid strategy is one example of how our wide range of expertise supports Ontario's health system to protect and promote the health of Ontarians.



Exploring the environmental burden of cancer

Cancer is a complex group of diseases with many possible causes. One of the known causes of cancer is carcinogens: substances or exposures that damage cellular function. Understanding the amount of cancer caused by known carcinogens, such as those in our environment, is an important first step in improving the health of Ontarians and can be useful in informing exposure reduction strategies, policy interventions and the evaluation of these interventions.

In 2016-17, in partnership with Cancer Care Ontario, PHO explored for the first time, the impact of environmental carcinogens in a report entitled, *Environmental Burden of Cancer in Ontario*. The report estimates how many new cancer cases occur each year in the province as a result of cancer-causing agents that Ontarians are exposed to every day simply by breathing, eating, drinking and being in the sun. The report ranks 23 environmental carcinogens according to the estimated annual number of new cancer cases in Ontario associated with each (at current exposure levels). Environmental carcinogens were found to be responsible for roughly twice the cancer burden attributable to alcohol consumption and about one-half the burden attributable to smoking.

The analysis makes a significant contribution to policy, providing decision-makers with the information and evidence they need to set priorities. With a stronger focus on prevention and coordinated efforts and expertise from all levels of government, scientists, industry experts, and non-governmental organizations, we can reduce the environmental cancer burden in Ontario.

In 2016-17, in partnership with Cancer Care Ontario, PHO explored for the first time, the impact of environmental carcinogens in a report entitled, *Environmental Burden of Cancer in Ontario*.

Reducing antibiotic harms in long-term care



Urinary tract infections (UTI) are the most common bacterial infection in the elderly, and they are also the most misdiagnosed infections. Older people are often given antibiotics for what health care providers and other caregivers assume to be UTIs. While it is common to find bacteria in the urine of elderly residents in long-term care homes, it does not always mean they have a UTI. The use and misuse of antibiotic drugs accelerates the emergence of drug-resistant strains – an increasingly serious threat to public health in Ontario and worldwide. As more antimicrobial drugs become ineffective and fail to treat a growing number of infections, those infections persist and increase the severity of disease, poor health outcomes and possible death.

PHO is taking action to address the growing concerns about the overuse of antibiotics for presumed UTIs in residents in long-term care homes (LTCHs) and the associated antibiotic-related harms. In 2016-17, PHO launched a UTI Program to support LTCHs to improve the management of UTIs for non-catheterized residents in their homes and help them implement the organizational and individual practice changes required. The three phases of the UTI Program – assess, plan, and implement – are designed to help LTCHs adopt and sustain best practices for managing and treating UTIs. Each phase is supported by tools and resources that were developed based on current evidence in infection prevention and control, antimicrobial stewardship and clinical practice. Twelve LTCHs across Ontario are participating in the pilot program, and other LTCHs are using PHO's resources.

Understanding the threat of Zika virus in Ontario

Global transmission of infectious disease looms as an ever-present risk in our increasingly interconnected world and requires ongoing vigilance. Recent events such as the spread of Middle East Respiratory Syndrome Coronavirus (MERS-CoV) to South Korea, the persistence of the West African Ebola outbreak, and the emergence of Zika virus in Brazil serve as stark reminders of the importance of global surveillance and public health preparedness and response.

PHO has been actively monitoring the Zika virus situation in Ontario and abroad since the emergence of the virus as a public health concern in South America in 2015. Using the Incident Management System established to coordinate PHO's cross-functional responses, we collaborate with the Ministry of Health and Long-Term Care, the Office of the Chief Medical Officer of Health and the Public Health Agency of Canada to provide current surveillance and epidemiological data, technical advice and support, and updated guidance to our stakeholders. To understand the Ontario-specific risk, we completed an initial Rapid Risk Assessment in 2015, and three subsequent updates in 2016 as our understanding of Zika virus and its health effects evolved.

In September, the West Nile Virus surveillance program at the Windsor-Essex County Health Unit discovered multiple *Aedes aegypti* larvae at one of its trapping locations. This was the first time the exotic mosquito species, responsible for the majority of human cases of Zika virus infections in the Caribbean, South America and Florida, had been discovered in Canada. PHO experts travelled to Windsor to assist Windsor-Essex County and Brock University with conducting a risk assessment of the area and support the associated public communications and media relations. Continued surveillance of mosquito species is important to prevent and mitigate their establishment in Ontario. PHO, the Windsor-Essex County Health Unit, the Ministry of Health and Long-Term Care, and the Public Health Agency of Canada, are developing a surveillance program to detect, and if necessary, monitor these mosquito species over the coming year.

Our laboratory continues to work closely with the Public Health Agency of Canada's National Microbiology Laboratory to update the guidelines for laboratory testing of Zika virus in Ontario, and to conduct molecular testing. With the expertise of PHO staff across the organization, we continue to provide timely, informative web content for public health units and health care providers, media interviews to inform the public, and scientific and technical advice to the Ministry of Health and Long-Term Care. Working with our partners, we will continue to monitor the situation in Ontario and around the world.



PHO has been actively monitoring the Zika virus situation in Ontario and abroad since the emergence of the virus as a public health concern in South America in 2015.

Making Ontario healthier

Ultimately, PHO finds ways for more Ontarians to be healthier longer, and to live active and productive lives.

The province's *Patients First: Action Plan for Health Care* strives to "support Ontarians to make healthier choices and help prevent disease and illness." PHO provides the evidence, analysis and expertise needed for Ontario to do just that. Creating supportive systems and environments, removing barriers to healthy living, and increasing awareness about healthy lifestyles are examples of ways to help people make changes that prevent chronic disease and injury. The more we can identify and assess issues that impact our health and quality of life, the better we can address some of our greatest public health challenges today and in the future.

Our work sheds light on what affects health and identifies opportunities to reduce preventable disease and injuries. Ultimately, we find ways for more Ontarians to be healthier longer, and to live active and productive lives. We consider determinants of health and health inequities to assess the needs of the local population and identify those sub-populations that would benefit most from particular public health programs and services.



Optimizing healthy human development

Healthy babies are more likely to grow up to be healthy children, teens, adults and seniors. Optimizing healthy human development through a focus on early years and early childhood development is the goal of the Healthy Human Development Table.

Supported by PHO, the Table is uniquely comprised of representatives from the Ministry of Health and Long-Term Care; the Ministry of Children and Youth Services; eight different public health units, including medical officers of health; and academic and community leaders in early child development. Bringing a range of public health sector representatives along with other partners and experts together, the Table creates a shared multi-sector approach to optimizing healthy human development.

With strong evidence to show that the mental health of caregivers can significantly affect child development outcomes, the Table has prioritized the area of parental mental health. For mothers who experience poor mental health around the time of their child's birth, also called the perinatal period, the ability to nurture and meet their child's basic care needs can be compromised. There is also increasing recognition of the importance of including

fathers in maternal and child health interventions since the mental health of any primary caregiver affects child development and the early years' environment.

Working with public health units, the Table is developing a Perinatal Mental Health Toolkit for public health professionals in Ontario that work with perinatal women, as well as those working with community partners to improve services to this client population. The intent of the toolkit is to promote the use of evidence-based best-practice information and resources in perinatal mental health programs across the province. In addition to addressing a comprehensive public health approach to perinatal mental health, the toolkit includes a public health care pathway designed to provide guidance for the assessment, prevention, screening and interventions for individuals who experience, or who are at risk of experiencing, symptoms of perinatal depression.

By strengthening perinatal mental health services in Ontario, mothers and families will receive the support they need to optimize the healthy growth and development of their children.

Bringing a range of public health sector representatives along with other partners and experts together, the Table creates a shared multi-sector approach to optimizing healthy human development.

Focusing on the health of Indigenous children

The Healthy Kids Community Challenge (HKCC) is a key part of Ontario's Healthy Kids Strategy, a cross-government initiative to promote children's health. The HKCC focuses on promoting health behaviours in children and youth, with local program initiatives around key themes such as physical activity and healthy eating. PHO provides essential support to the Ministry of Health and Long-Term Care by evaluating the implementation process and impact on health outcomes of the HKCC program, at child, parent, community and provincial levels.

Forty-five communities across the province receive funding to participate in the HKCC. Six of these are Indigenous communities that use HKCC funding to initiate new and enhance existing culturally appropriate programs to improve the health of Indigenous children. Recognizing the unique contexts of these communities, PHO hosts the HKCC's Aboriginal Stream Scientific Sub-Committee, a sub-committee of the HKCC's Scientific Reference Committee. The sub-committee consists of Indigenous health practitioners and experts that provide research, evidence, and guidance to support the implementation and evaluation of the HKCC in Indigenous communities.

With funding from the Canadian Institutes of Health Research, PHO collaborates on the evaluation of the HKCC in the six Indigenous communities. The full engagement of each community in the evaluation

PHO provides essential support to the Ministry of Health and Long-Term Care by evaluating the implementation process and impact on health outcomes of the Healthy Kids Community Challenge program, at child, parent, community and provincial levels.

is supported by collaborative agreements that reinforce partnership as a core tenet of the evaluation. The collaborative agreements, which outline the roles and responsibilities of both the communities and PHO ensure that local culture and values are engrained in the evaluation, and that each community owns and can use their own data collected as part of the evaluation.

Indigenous peoples have a higher prevalence of obesity and diabetes at both the adult and child level compared to non-Indigenous peoples, so understanding the impacts of the HKCC is critical towards reducing health inequities. Little evidence exists on the effectiveness of public health interventions in Indigenous contexts, and the evaluation of the HKCC in Indigenous streams will begin to shed light on this important issue.

Ensuring effectiveness of health promotion programs

Health promotion is the process of enabling people to increase control over, and to improve, their health through the implementation of social and environmental interventions in settings such as workplaces, schools, clinics and communities. Health promotion practitioners can use any number of structured programs to arrive at desired health outcomes. To improve the nutritional status of low-income families, for example, activities could include establishing community gardens, providing shopping skill classes or healthy cooking demonstrations. While those may all be important components, the success of the program depends on more than just the right program elements.

To understand whether, and how, health promotion programs are working, we need to have the right information. An essential element of designing, implementing and strengthening health promotion efforts is program evaluation. Effective evaluation involves clarifying the program, engaging stakeholders, assessing resources, developing evaluation questions, gathering and analyzing data, and utilizing the results.

Our health promotion experts have developed a collection of evaluation resources to assist health promotion practitioners to design and implement evaluation projects that will do just that. Topics ranging from planning, evaluation, health communication, policy development in general, and alcohol policy development specifically, are covered in the recently released resources. Also included is a workbook describing the ten steps involved in evaluating health promotion programs with supporting worksheets, and a series of audio presentations designed to build capacity for evidence-informed health promotion practice. PHO's health promotion consultants also conduct on-site training to improve the evaluation skills of public health organizations.

Evaluations of public health promotion programs provide evidence of their effectiveness that can be used not only to improve the quality of programs now and in the future, but also inform public health decision-making.



Reducing tobacco use in Ontario

Two million individuals currently smoke in Ontario and tobacco use is responsible for over 13,000 deaths per year in the province, the equivalent of 36 deaths per day. Some groups continue to be particularly vulnerable, such as those who identify as Indigenous, and those with low socio-economic status.

While the province's *Smoke-Free Ontario Strategy* has greatly reduced tobacco use and lowered health risks to non-smokers in Ontario, the Ministry of Health and Long-Term Care identified the need for a comprehensive report to address the changing tobacco landscape in Ontario and to support ongoing developments of the strategy. The Ministry's request to PHO was framed

as a specific question: "Which interventions or set of interventions will have the greatest impact on reducing tobacco use in Ontario?"

PHO convened a committee of scientific experts in the tobacco control field from Ontario and beyond – the Smoke-Free Ontario Scientific Advisory Committee – to provide a comprehensive assessment of the best available research evidence and the Ontario context, to identify which tobacco control interventions would have the greatest potential contribution to reduce tobacco use in Ontario.

The committee's report, *Evidence to Guide Action: Comprehensive Tobacco Control in Ontario*, provides up-to-date evidence on the effectiveness of more than 50 interventions to reduce the use of, and exposure to, tobacco products. Interventions that target relatively new products, such as e-cigarettes as a potential cessation aid, were also examined. The report provides strong evidence for a number of high-impact interventions to substantially reduce tobacco use and identifies several innovative interventions that have potential to transform the tobacco control landscape in Ontario.

Building on the province's current comprehensive tobacco control strategy is essential to save lives and improve the health of Ontarians. The findings from this report will help guide policy-makers, public health units, health care providers, and research organizations to make important evidence-informed decisions on tobacco control program planning and evaluation, developing tobacco policies, and identifying opportunities for future tobacco research.

Evidence to Guide Action:

Comprehensive Tobacco Control in Ontario (2016)

Smoke-Free Ontario Scientific Advisory Committee



April 2017

The report provides strong evidence for a number of high-impact interventions to substantially reduce tobacco use and identifies several innovative interventions that have potential to transform the tobacco control landscape in Ontario.

Information and innovation

One of PHO's key functions is to transform data into information and knowledge to support evidence-based decision-making. To do this, PHO:

- Integrates data from diverse sources and sectors;
- Develops and applies analytic and presentation methodologies that inform population health monitoring; and
- Increases the accessibility of data to create novel linkages, at a level relevant to public health needs.

Our strong base of information and knowledge that we derive from the data spurs individuals, communities and governments to action by deepening our understanding of the factors that affect the health of Ontarians. By leveraging emerging technology and innovative digital products and tools, we help our clients make the right decisions by ensuring they can easily understand, use and interpret complex information.

Tracking reportable disease trends

Every year, data is collected on more than 60 reportable diseases in Ontario, such as influenza, tuberculosis and mumps. PHO's annual *Reportable Disease Trends in Ontario* report summarizes key statistics, temporal trends, laboratory data, age, sex, and geographic distribution of these diseases. For the first time in 2016-17, the report was developed in the format of an interactive tool, putting more information into the hands of users.

The new interactive *Reportable Disease Trends in Ontario* tool provides data from the last ten years and allows users to search, customize and export the information. The new interface gives users more options and flexibility, helping them to conduct surveillance on the diseases and to better understand trends such as geography and demographics. Benefits and features of the new report format include:

- Big picture trends – users can now see trends going back to 2005;
- Interactive maps to view geographic spread of diseases, by health unit;
- Highly customizable experience – select, sort and download data according to specific needs; and
- Timely access to the latest information – updates can be made more quickly and efficiently than before.

Monitoring a population's health status and the factors determining health is a long-standing and essential public health function. This innovative report is just one of many contributions we make to the provincial infectious diseases surveillance system.

PHO's annual *Reportable Disease Trends in Ontario* report summarizes key statistics, temporal trends, laboratory data, age, sex, and geographic distribution of these diseases.



Exploring data on health care-associated infections

Ontarians trust that health care facilities are clean and safe places that will help them get better when they are sick. Despite great effort, health care-associated infections (HAIs) that can cause illness, complications or even death occur in modern health care settings around the world. Prevention and control of these infections in hospitals, long-term care homes and clinics is a priority for Ontario and is key to keeping patients safe. A major part of fighting these infections is finding out where and why they happen.

PHO recently launched *HAI Query*, a dynamic data exploration tool that provides local and province-level information that will help guide public health decision-making on health care-associated infections.



Data on HAIs is collected from hospitals in Ontario as part of mandatory reporting on patient safety quality indicators. Using this data, PHO recently launched *HAI Query*, a dynamic data exploration tool that provides local and province-level information that will help guide public health decision-making on this important issue. The tool enables a focused exploration of data on various HAIs, including *Clostridium difficile* infection (CDI), Methicillin-resistant *Staphylococcus aureus* (MRSA), and Vancomycin-resistant *Enterococcus* (VRE) bacteremias. Public health professionals can easily access the information online and perform interactive data exploration and analysis, with data that is refreshed monthly (CDI) or quarterly (MRSA and VRE). By manipulating the HAI data, users can make custom comparisons and explore historical trends, instantly producing results to inform public health action.

Expanding access to data and population health status



PHO continues to develop engaging ways to present data, which in turn supports better decision-making for public health practitioners. Our website is a gateway to our knowledge products – a vital resource for advice and technical support – and we continue to enhance and expand our online presence with new tools and resources. Combining new and emerging sources of data deepens our understanding of health and what's affecting health in Ontario.

Some recent examples of how PHO has enhanced and expanded our data and analytic tools to support public health practitioners include:

- **Oral Health Snapshot:** Oral health is a critical public health issue that requires continued attention. *Oral Health Snapshot* is an interactive data tool that uses data from the Canadian Community Health Survey. The collection of dynamically linked tables, graphs and maps with pre-calculated statistics help public health professionals to understand geographic and temporal trends in behaviours and outcomes related to oral health, such as dentist visits, and insurance for dental visits. The information will help inform population health decision-making and planning.
- **Municipal Alcohol Policy Map:** A municipal alcohol policy outlines the safe, appropriate use of alcohol on municipally-owned or managed property, places, spaces and events. Municipal policies support existing provincial alcohol policies, and build on them to reflect the local government's view. The *Municipal Alcohol Policy Map* allows users to search and identify municipalities in Ontario that have reported having policies that are available for review, serving as a resource for public health units working with their communities to develop and implement alcohol policies and programs.

Combining new and emerging sources of data deepens our understanding of health and what's affecting health in Ontario.



Strengthening our ability to monitor immunization coverage

Immunization is one of the most important and cost-effective public health innovations. Ensuring a high proportion of the population in Ontario is appropriately immunized against vaccine-preventable diseases is essential to prevent outbreaks of these illnesses. In Ontario, immunization coverage assessment is supported by provincial legislation and the dedication and commitment of public health professionals across Ontario's 36 public health units, immunization providers, schools, parents and families.

From 2013 to 2016, Ontario implemented a Digital Health Immunization Repository, called Panorama, an integrated, electronic public health record management system. With the implementation of Panorama, we are able to calculate up-to-date immunization coverage – the proportion of a population that has received the recommended number of doses of a certain vaccine by a certain age – aligning our methodology with nationally recommended best practices and advancing the accuracy of Ontario's coverage estimates. In 2016-17, PHO produced its *Immunization coverage report for school pupils in Ontario*, for the first time using three years of Panorama record-level data for more than 1.5 million students across all 36 public health units. The report provides provincial and public health unit-specific immunization coverage estimates for 14 publicly-funded childhood immunization programs and Ontario's school-based immunization programs. The coverage estimates in this report should be considered as a new baseline for monitoring the province's vaccine programs going forward.

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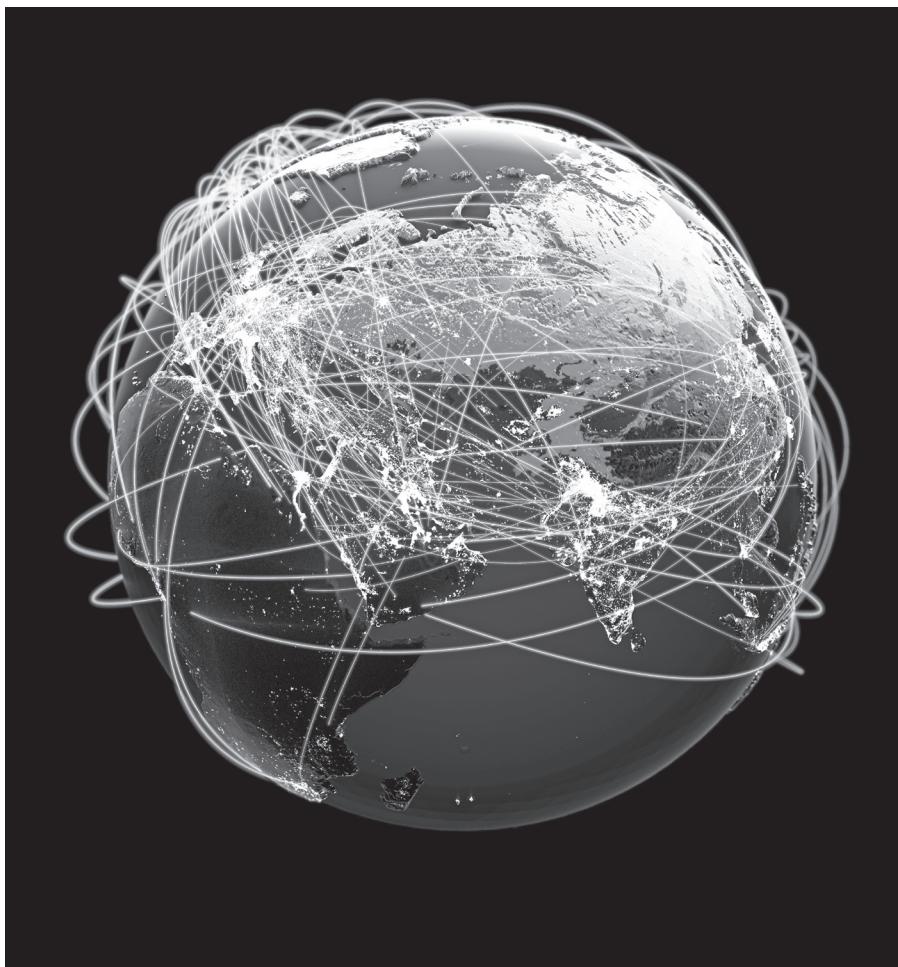
Access to accurate and timely immunization coverage information is necessary to predict population-level susceptibility to vaccine-preventable diseases, identify sub-populations with inadequate coverage that may be at risk of disease outbreaks, assess coverage trends over time, and evaluate immunization programs. The implementation of this repository and the information shared through PHO's report, give Ontario the tremendous opportunity to improve our ability to evaluate and monitor immunization programs and to inform solutions to increase the number of Ontario children fully protected against vaccine-preventable diseases.

Sharing information on vaccine safety

When parents and caregivers are looking for credible information about whether vaccines are safe for their children, the first place they often look is the Internet. In recent years, websites providing misleading, unbalanced, and alarming vaccine safety information have been established, proliferating anxiety and unwarranted fears. The World Health Organization's Vaccine Safety Net is a global network of vaccine safety websites that provide parents, caregivers, and health care professionals with easy access to accurate, reliable, and trustworthy information about vaccines. All member websites have been evaluated by the World Health Organization using criteria defined by the Global Advisory Committee on Vaccine Safety.

PHO is a member of this important network, and our online vaccine safety information page is posted along with other member websites on the Vaccine Safety Net portal. As of March 2017, the network had 47 member websites in 12 languages. It is estimated that more than 173 million users access Vaccine Safety Net websites every month to obtain credible vaccine safety information.

PHO's experts in immunization and vaccine-preventable diseases provide technical expertise and resources to guide public health practice, and conduct impactful, responsive research and evaluation in Ontario. Our participation in the Vaccine Safety Net further disseminates our internationally-recognized evidence and knowledge on the safety of vaccines.



PHO's experts in immunization and vaccine-preventable diseases provide technical expertise and resources to guide public health practice, and conduct impactful, responsive research and evaluation in Ontario.

Professional development and capacity building

Keeping pace with new research and changing practice requires a comprehensive professional development and continuing education program; one that brings the best of local, provincial and international researchers, clinicians and practitioners together. Our dynamic educational and training programs provide public health professionals, health care providers, scientists and policy-makers with the latest research and literature, essential information, and opportunities for networking.

We continue to expand and enrich our professional development and capacity building programs and services. Our diverse range of educational opportunities offers both general education as well as targeted sessions for expert groups within public health: epidemiologists, inspectors and microbiologists, to name a few. Our annual collaboration with the Ontario Public Health Association and the Association of Local Public Health Agencies (alPHa) to deliver the Ontario Public Health Convention (TOPHC) offers a face-to-face training opportunity. Throughout the year, we provide comprehensive programming and access through online learning and webinars. More than 100 hospitals across Ontario download our online learning programs into their organizational systems so that all staff have access to foundational training in infection prevention and control.

To enhance skills and competencies in Ontario's health workforce and to inspire and develop the next generation of professionals, PHO offers a diverse range of student placement opportunities in collaboration with academic partners. That includes medical resident rotations, masters and doctoral supervision, and practicum placements. Students are closely supervised to meet educational objectives and to ensure meaningful projects and learning experiences that benefit the students and PHO. In 2016-17, 126 students worked alongside PHO staff. Our ongoing focus on professional development and education continues to build Ontario's public health and health care workforce and support the next generation of public health professionals.



Collaborating with public health units for physician outreach

With the rapid pace of new and updated information and guidelines, effective strategies must be in place to ensure primary care providers, including physicians and nurse practitioners, are equipped with the best information available to help their patients live their healthiest lives. Public health units across the province work closely with local primary care providers, and have staff who specialize in managing and facilitating this important relationship.

PHO hosts a community of practice for public health unit staff that have a role in engaging with primary care providers. Meeting twice a year, public health practitioners in this network have the opportunity to share knowledge and experiences for interacting, informing, educating, consulting and collaborating with primary care providers. In addition to facilitating the meeting, PHO provides the network with access to centralized resources. The community of practice is an opportunity for PHO to gain insight from these public health practitioners on how to more strategically tailor knowledge products to better meet the needs of primary care providers.

With the rapid pace of new and updated information and guidelines, effective strategies must be in place to ensure primary care providers, including physicians and nurse practitioners, are equipped with the best information available to help their patients live their healthiest lives.

As we continue to build this community of practice there is great opportunity for PHO to gain a deeper understanding of the needs of our health sector partners and share information that is meaningful, easily understood, and relevant. This collaboration with public health units allows PHO to better support health system providers across the continuum of care as they help Ontarians to live healthier lives.



Expanding PHO rounds

Knowledge exchange and professional development are pivotal to the work of PHO. We provide a wide range of educational sessions for our clients, at no cost and generally available by webinar to ensure access regardless of location. Offering approximately 80 lectures each year, our PHO Rounds have become a central component of the continuing education activities in Ontario's public health units and professional groups, bringing our partners together to share knowledge on public health issues of importance. *PHO Grand Rounds* are approved for continuing medical education from the Royal College of Physicians and Surgeons of Canada and we are working with other regulatory colleges and professional associations to jointly craft continuing education programs that meet the accreditation requirements of their members and support collaboration, information sharing, and practice development.

In 2016-17, in collaboration with the Canadian Institute of Public Health Inspectors (CIPHI) we introduced a new series called *CIPHI Ontario Series*. These targeted rounds focus on priority topics in the field of health inspection, such as food safety, drinking water systems, and recreational water facilities, and support collaboration, practice development and scientific exchange between public health inspectors and environmental health professionals at PHO and across Ontario. Delivered in person from PHO's Toronto locations, and via webinar, these rounds are attended by a diverse group of stakeholders across the province and beyond, including public health inspectors, environmental health officers and public health practitioners.

Public health units often call on PHO's environmental and occupational health experts for help to better understand local environmental concerns.



Building capacity to manage local environmental health issues

Many emerging and evolving public health issues revolve around local environmental health issues, such as water quality, indoor air quality, ambient air pollution, Wi-Fi, or physical hazards. PHO's experts support public health units, other members of the health system, and the Ontario government to assess and respond to these issues. In addition, PHO provides training and lends equipment for public health units to collect local environmental measurements.

Public health units often call on our environmental and occupational health experts for help to better understand local environmental concerns. PHO support typically involves providing specialized advice on unusual situations or questions encountered by public health units to increase their capacity to meet commitments under the *Ontario Public Health Standards*.

Highlights of the areas where our environmental and occupational health experts provide support include:

- **Air quality monitoring** – PHO worked closely with Oxford County Public Health in response to community concerns about dust levels associated with quarry operations in the area. Together, PHO and health unit staff prepared a work plan to address these concerns. PHO collected initial data to identify short-term peaks of particulate matter. The health unit will continue to monitor air quality to better understand the frequency and duration of these 'dust events.'
- **Safe water systems** – *Legionella* bacteria are widespread within the natural water environment and in most soils

and mud. It is also a health concern because it grows and spreads in human-made water distribution systems (that include fixtures such as showers, faucets and hot water tanks) or cooling towers for large buildings. The bacteria can cause Legionnaires' disease, a serious respiratory illness, when people breathe in small droplets of water in the air that contain the bacteria. In 2016, at the request of Ottawa Public Health, PHO experts conducted a well-received workshop on *Legionella*. PHO also held a follow-up Grand Rounds presentation that was fully subscribed online. We continue to offer the workshop to interested health units.

- **Risk communication** – When environmental issues arise that involve risks to health, people may be faced with complex information that can be hard to understand. There is broad consensus on the need for public health professionals to be able to communicate effectively; the Public Health Agency of Canada identifies communication as a core competency for public health practitioners. Risk communication is an evidence-based approach to communicating effectively with the public in times of concern. PHO's expertise in the area of risk communication is one of the most frequently requested topics for capacity-building by public health units. Most recently, PHO experts have provided training at the Porcupine Health Unit and the Sudbury and District Health Unit.

As a central resource for all 36 public health units, PHO builds the capacity of our stakeholders and other health system partners at the local level so they can efficiently and effectively respond to local environmental health concerns.

Locally driven collaborative projects – special edition

Our Locally Driven Collaborative Projects (LDCP) program fosters collaboration between public health units and academic, community and research partners, to conduct applied research and program evaluation on a range of critical public health topics, interventions, and programs. Through these projects, public health units come together to tackle critical public health issues of shared interest that will help them meet the requirements of the *Ontario Public Health Standards*.

With broad system transformation underway, including the passage of the *Patients First Act*, the LDCP was realigned to these strategic initiatives. Under the *Patients First Act* is new legislation that requires public health units to work with Local Health Integration Networks and use a population health approach to plan health services that meet the health needs of the entire community. The Ministry of Health and Long-Term Care has also been leading an initiative to modernize the *Ontario Public Health Standards*. Recognizing the increased demands on public health units from these shifts in the public health landscape, PHO launched a special edition of the LDCP program in 2016. The special edition program has a strategic focus on three topic areas and received more than 30 project ideas from 20 health units across the province. Three projects are now underway:

- **Meeting the new expectations for Medical Officers of Health and Boards of Health as set out under the *Patients First Act*** – Led by Niagara Region Public Health, this project explores collaborations that already exist between public health units and Local Health Integration Networks in Ontario to gain an understanding of the expectations the groups have of each other and what each group is able to contribute to shared population health work. The information and insights will help to identify key elements for success for collaboration under the new *Patients First* legislation.
- **Further enshrining equity in public health programs and approaches to reducing health inequities in Ontario** – Led by Ottawa Public Health, this project utilizes a collaborative approach that encourages leadership among community partners and fosters sustainable data sharing opportunities between local public health agencies and their partners. The aim of this project is to identify an optimal method to select, analyze, interpret and distribute key data that will enable community partners to better advance health equity for the populations that they serve.

- **Exploring models and approaches for local public health agencies' potential role in working with**

First Nations – Led by Sudbury and District Health Unit, this project explores best practices, principles and strategies for engagement with First Nations to improve community health. Public health in Ontario has a need for guidance on how to approach engagement with First Nations in a way that is respectful, mutually beneficial and is part of an ongoing dialogue with respect to relationships. The intent of this project is to develop engagement models for local boards of health and First Nations communities in northeastern Ontario.



Recognizing the increased demands on public health units from shifts in the public health landscape, PHO launched a special edition of the Locally Driven Collaborative Projects program in 2016.

Leading public health research

Research conducted by PHO scientists generates knowledge that has broad impacts on clinical practice, public health programs, and policy to better protect and promote the health of Ontarians. Our internationally-renowned researchers work in a wide range of disciplines and fields, conducting research that delivers on our mission and mandate. Priorities for PHO research are filling gaps in knowledge where health needs persist, and implementation science, to overcome barriers that prevent existing evidence from being applied.

Responding to the needs of our stakeholders and our mandate, PHO researchers lead and collaborate in both investigator-driven and directed projects. As a member of Ontario's vibrant and growing research community, our scientists expand the scope and reach of their work through collaborations with universities, hospitals and other health service organizations. We continue to disseminate our research findings broadly, with 196 articles published in peer-reviewed journals relevant to public health in 2016-17. Almost three-quarters of these publications were published in priority journals internationally and for Ontario's public health community.

PHO's strong track record of securing highly competitive grants from third party funders, such as the Canadian Institutes of Health Research and Health Canada, enables us to grow our research impact. In 2016-17, PHO-based investigators were awarded grants worth more than \$2 million for multi-year research projects.





Research implications and applications

The findings of our research and evaluation have helped partners in public health and government make important progress in a number of ways. PHO research has helped to inform public health policy, transform clinical practice, and apply advances in laboratory science to improve disease management and outbreak control. We recognize the importance of putting our research findings into the hands of our clients: public health practitioners, health care professionals and policy-makers. We apply our research findings to support the development of knowledge products for use in public health applications, such as clinical guidelines, statistical reports, evaluation reports, and through the technical and scientific advice we provide to our partners.

Advancing the application of the knowledge generated by our research is a priority for PHO. We actively share our findings on a broad range of topics of public health importance with our health and public health sector partners.

- **Exploring the impact of warning labels on alcohol products:** Alcohol use contributes to over 200 health conditions including alcohol dependence, liver cirrhosis, cancer and cardiovascular disease, yet there is a low public awareness of the link between alcohol use and health. It is estimated that the total cost of alcohol-related harms to Canadians is over \$14 billion per year. A series of PHO studies is exploring health warning labels on alcohol containers and their impact on knowledge and behaviour. An online survey found the most effective warning labels to enhance drinkers' knowledge of safer drinking limits and to enable drinkers to accurately estimate their alcohol intake contain a health message, Canada's national low-risk drinking guidelines, and a number of standard drinks per container. With research grant funding from Health Canada, PHO will be conducting the first study in Canada to assess the effectiveness of warning labels on actual alcohol containers sold in liquor stores in one jurisdiction. With many countries around the world, such as the United States and France, requiring alcohol labels to contain health warnings, it is expected that the findings of these studies will be shared with decision-makers in Canada to inform policy action.

We recognize the importance of putting our research findings into the hands of our clients: public health practitioners, health care professionals and policy-makers.

- **Uncovering an association between living near major roads and the risk of dementia:** One of our studies led by PHO environmental and occupational health scientists, in collaboration with the Institute for Clinical Evaluative Sciences, explored the association between living near major roadways and the incidence of dementia. The findings of the study, published in *The Lancet*, found that people who lived within 50 metres of high-traffic roads (like Ontario's Highway 401) had a seven per cent higher likelihood of developing dementia compared to those who lived more than 300 metres away from busy roads. As urban centres become more densely populated and more congested with vehicles on major roads, the findings of this study could be used to help inform municipal land use decisions as well as building design to take into account air pollution factors and the impact on residents. This study generated significant media attention across Canada and internationally.
- **Improving immunization programs:** PHO evaluations of population health interventions continue to fill knowledge gaps in areas that are fundamental to the success of high-impact population health interventions. The findings of our evaluation of the early population impact of Ontario's school-based human papillomavirus (HPV) vaccination program, published in *Vaccine*, suggest the school-based HPV vaccination program has had an early population impact in Ontario, with a significant decline in anogenital warts and total physician visits relating to anogenital warts in program-eligible females following the introduction of the school-based immunization program. Our publication in *PLoS One* measured the impact of Ontario's rotavirus immunization program, launched in August 2011, and found hospitalizations in Ontario due to rotavirus infection were reduced by 71 per cent, and emergency department visits dropped by 68 per cent, following the launch of the program. Evidence of herd immunity (the reduction of disease in non-immunized people due to less circulating virus) was also found. These are just two examples of how PHO evaluations are generating evidence to inform and improve immunization programs and schedules in Ontario.

• **Informing infection screening protocols in hospitals:**

Enterococci are bacteria that live in the intestine, on skin, and are often found in the environment. Generally these bacteria do not cause illness; however when illness does occur it can usually be treated with antibiotics. If the bacteria become resistant to antibiotics, such as vancomycin, they can cause serious infections, especially in people who are ill or weak. Rates of Vancomycin-resistant *Enterococcus* (VRE) blood stream infection have been publicly reported in Ontario since 2009. There is debate about the best ways to prevent VRE infections in hospitals including hospital patient screening and isolation. Some hospitals discontinued their screening protocols in 2012. PHO, in collaboration with Health Quality Ontario, the Institute for Quality Management in Healthcare, and our health care sector partners, has been monitoring the Ontario rates of VRE blood stream infections and comparing the rates seen in hospitals that continue to screen and isolate their VRE positive patients and those that have discontinued this policy. Data shows that VRE blood stream infections have been on the rise in Ontario, however, the rates of increase have been much higher in those hospitals that discontinued screening. Further analysis has shown that transplant, cancer, and intensive care unit patients are most at risk to develop a blood stream infection with VRE. The data will help inform the hospital sector regarding their VRE screening and isolation protocols and will be applied in updated Ontario provincial practice guidelines.

• **Enhancing testing for antibiotic resistant bacteria:**

Enterobacteriaceae are a family of bacteria, many of which live naturally in our bowels. Carbapenemase-producing *Enterobacteriaceae* (CPE) produce carbapenemase enzymes that can break down many types of antibiotics, including those that are considered the last line of defense, making treatment of infections with CPE very difficult. CPE cases have been increasing over the last five years and caution is needed to prevent their increase and spread. PHO's laboratory has developed a highly sensitive testing process that has been able to detect 15 per cent more CPE cases than the process recommended by the Clinical and Laboratory Standard Institute. As our testing process is able to detect more cases, the potential impact on clinical practice to control and prevent CPE from becoming endemic in Ontario's health care system is substantial. Our testing process has already been implemented for the detection of CPE in Quebec, which has experienced a significant number of CPE cases.

Directives issued by the Chief Medical Officer of Health

Under section 24(1) of the *Ontario Agency for Health Protection and Promotion Act, 2007*, the Chief Medical Officer of Health may issue directives in writing to Public Health Ontario to provide scientific and technical advice and operational support to any person or entity in an emergency or outbreak situation that has health implications. During the 2016-17 fiscal year, no written directives were issued by the Chief Medical Officer of Health.

Report on 2016-17 deliverables and performance

Status of 2016-19 Annual Business Plan priority initiatives for principal program areas, as of March 31, 2017

Laboratory

Priority Initiatives	Complete	Multi-year: on track	Not completed within target timeframe
Work closely with the Ministry of Health and Long-Term Care in efforts to optimize quality and value in the laboratory system		✓	
Continue to work on a service delivery strategy for the north		✓	
Prepare for the relocation of London laboratory services to PHO's new southwest Ontario hub		✓	
Prepare for the relocation of the Toronto-based Operational Support Facility/Biorepository and associated decommissioning of the Resources Road facility			✓ ¹
Support the modernization of the Ontario Public Health Standards as required		✓	
Review options for electronic test ordering including potentially using Ontario laboratories information system (OLIS)		✓	
Enhance the laboratory-based surveillance and data management program to support surveillance initiatives, including exploring the use of OLIS system data and further development of web-based tools for PHO clients		✓	
Further develop the public health microbial genomics and bioinformatics program to ensure timely, relevant and high quality testing to support outbreak detection and response		✓	
Enhance the development of public health research programs in surveillance and tools to combat antimicrobial resistance, pathogen discovery for outbreak response, and test method development and validation for optimal clinical and public health delivery		✓	
Implement a laboratory transformation initiative with a focus on culture, employee engagement, structure and processes.		✓	

¹The relocation of the Operational Support Facility/Biorepository is delayed due to reassessment by the Ministry of Health and Long-Term Care and the resubmission of a new design for the facility to address recommendations made by the Ministry of Health and Long-Term Care.

Key Ongoing Initiatives (representative sample):

- Deliver effective clinical and reference laboratory services.
- Provide a laboratory-based infectious disease surveillance and monitoring program.
- Operate laboratory incident and outbreak management services.
- Operate technical and customer service centre.
- Maintain quality management system including Ontario Laboratory Accreditation, Ministry of Environment licensure for drinking water testing, and the Canadian Association of Laboratory Accreditation.
- Advance public health testing and reporting through development of laboratory methods, evaluation of existing diagnostic practice, and translation of new recent findings to improve clinical testing reporting.

Communicable Diseases, Emergency Preparedness and Response (CDEPR)

Priority Initiatives	Complete	Multi-year: on track	Not completed within target timeframe
Support the modernization of the Ontario Public Health Standards		✓	
Provide scientific and technical support for Immunization 2020		✓	
Continue to support the policy, program development, evaluation and modernization of the Universal Influenza Immunization Program (UIIP) in collaboration with the Ministry of Health and Long-Term Care		✓	
Continue to support the policy and program development of health care worker influenza immunization	✓		
Develop the first annual Immunization Coverage Report for School Pupils using Panorama record-level data	✓		
Provide scientific and technical support upon request for the provincial strategy for sexually transmitted infections		✓	
Complete the evaluation plan for the control of gonorrhea, focussed on the uptake and impact of the 2013 guidelines for the testing and treatment of gonorrhea in Ontario, and the evaluation plan for the control of bacterial sexually transmitted infections in Ontario	✓		
Provide scientific and technical support for the planning and implementation of a provincial framework and action plan for vector-borne diseases		✓	
Provide scientific and technical support upon request for the government's work on tuberculosis policy and drug procurement		✓	
Support PHUs in conducting investigations of outbreaks with new resources and tools such as electronic questionnaires, surveys and case report forms		✓	
Implement the Rapid Risk Assessment Tool to provide scientific and technical advice to the Ministry of Health and Long-Term Care for new or emerging issues	✓		

Communicable Diseases, Emergency Preparedness and Response (CDEPR) (continued)

Priority Initiatives	Complete	Multi-year: on track	Not completed within target timeframe
<p>Continue to conduct mandate-driven research activities in relevant CDEPR areas and disseminate findings:</p> <ul style="list-style-type: none"> • Complete phase 1 of 2 of <i>Advancing Performance Measures for Public Health Emergency Preparedness in Canada</i> study • Complete data collection and analysis; develop a West Nile virus disease history and economics model for <i>The cost-effectiveness of West Nile virus intervention strategies. A computer simulation model</i> study • Complete costing for <i>C. difficile</i>, <i>S. pneumoniae</i>, and Hepatitis B. for <i>Estimating longitudinal healthcare costs for infectious diseases using administrative data</i> study. 	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>		

Key Ongoing Initiatives (representative sample):

- Support routine case/contact/outbreak management for reportable/emerging diseases by providing scientific/technical information and support to stakeholders.
- Develop and maintain scientific and technical guidance documents in support of the prevention and control of infectious disease.
- Prepare knowledge products (literature reviews, knowledge syntheses) in response to client requests.
- Operate provincial communicable disease surveillance programs.
- Operate provincial vector-borne disease surveillance programs including West Nile Virus and Lyme Disease.
- Support the development of provincial data standards for immunization and communicable diseases.
- Design and implement research projects for the surveillance, prevention and control of communicable diseases and pathogens of concern for institutional infection control.
- Provide scientific and technical consultation and field support to immunization programs on immunization issues and vaccine safety.
- Design and implement program evaluations for public health interventions.
- Provide scientific and technical consultation and field support to emergency preparedness and response issues to the Chief Medical Officer of Health; the Population and Public Health Division of the Ministry of Health and Long-Term Care, specifically Emergency Management Branch; and at the local level.
- Maintain a professional development program for emergency preparedness and response.

Infection Prevention and Control (IPAC)

Priority Initiatives	Complete	Multi-year: on track	Not completed within target timeframe
Support the modernization of the Ontario Public Health Standards		✓	
Optimize regional service delivery by implementing the recommendations from the IPAC review	✓		
Complete an update of the existing Infection Prevention and Control Best Practices for Personal Service Settings OPHS guidance document. Develop personal service settings tools and resources for PHUs based on the updated document, and support a community of practice on personal service setting issues	✓		
Continue to support the Ministry of Health and Long-Term Care to enhance the surveillance of healthcare-associated infections to support the development of a streamlined surveillance system in Ontario that provides useful, timely surveillance data to inform infection prevention and control practice		✓	
Continue to provide support to provincial efforts to identify novel ways to monitor and measure the level of antimicrobial resistance in Ontario through surveillance activity, working with the Laboratory and in collaboration with other laboratories across the province		✓	
Continue to build capacity to incorporate an implementation science approach to field support and to develop evidence-based theory-driven programs to promote sustained change in the adoption of infection prevention and control best practices		✓	
Develop with stakeholders a comprehensive Antimicrobial Stewardship Program which expands to long term care and the community	✓		
Continue to conduct mandate-driven research activities in relevant IPAC areas and disseminate findings: <ul style="list-style-type: none"> • Analyze and disseminate the findings of the provincial study on Vancomycin-resistant enterococci; review and revise current guidelines based on findings as appropriate • Initiate research to identify reservoirs of <i>C. difficile</i> in the community. 	✓	✓	

Key Ongoing Initiatives (representative sample):

- Maintain the capacity to deploy an Infection Control Resource Team to provide expert assistance to health care settings that are investigating and managing outbreaks.
- Maintain the Infection Prevention and Control Core Competency online learning program.
- Maintain a field presence to support the adoption of infection prevention and control best practices.
- Complete knowledge syntheses and conduct research on relevant IPAC topics to provide up-to-date knowledge to the field.

Environmental and Occupational Health (EOH)

Priority Initiatives	Complete	Multi-year: on track	Not completed within target timeframe
Support the modernization of the Ontario Public Health Standards		✓	
Draft the Environmental Burden of Illness report for Ontario focusing on non-cancer outcomes		✓	
Provide scientific and technical support to inform the review and modernization of Food Safety and Recreational Water Legislation in Ontario.	✓		

Key Ongoing Initiatives (representative sample):

- Provide scientific and technical consultation and field support to environmental health issues at the local level including support in the investigation and control of environmental health incidents and emergencies.
- Develop and implement a professional development program for environmental health.
- Maintain professional development program related to environmental health skills and competencies.
- Maintain environmental assessment equipment loan program for public health units.

Health Promotion, Chronic Disease and Injury Prevention (HPCDIP)

Priority Initiatives	Complete	Multi-year: on track	Not completed within target timeframe
Support the modernization of the Ontario Public Health Standards		✓	
Support government efforts to address childhood obesity by providing scientific, technical and evaluation support to the Healthy Kids Community Challenge (HKCC), which includes: providing scientific and technical advice to the Ministry of Health and Long-Term Care upon request; hosting and providing secretariat support to the multi-year HKCC Scientific Reference Committee and Aboriginal Stream Scientific Subcommittee; providing capacity-building services and training to HKCC communities; undertaking the multi-year process and outcomes evaluation; and, supporting the implementation and evaluation of HKCC aboriginal components		✓	
Complete an update of the Smoke-Free Ontario Scientific Advisory Committee report	✓		
Support a survey of all PHUs related to current implementation strategies supporting the Low Risk Alcohol Drinking Guidelines initiatives and report findings to the Ministry of Health and Long-Term Care	✓		
Lead an evaluation of the Rethink Your Drinking health communications campaign in partnership with Perth District Health Unit	✓		
Commence planning for an evaluation of the Healthy Smiles Ontario program, which includes planning for a population health repository and research/knowledge structure to support oral health policy development		✓	
Complete advanced data analysis of Healthy Babies Healthy Children evaluation data	✓		
Support the sector-wide Healthy Human Development Collective Impact Table		✓	
Implement recommendations from the Ministry Accountability Improvement Project and oversee the evaluation of PHO's four Health Promotion Resource Centres and plan outputs based on five years of evaluation data collection	✓		
At the request of government, provide scientific and technical support to the community of Grassy Narrows First Nation and the local PHU as they develop and implement a community health assessment survey; support efforts to generate, analyze or interpret public health data.		✓	

Key Ongoing Initiatives (representative sample):

- Provide scientific and technical consultation and field support at the local level.
- Develop and maintain scientific and technical guidance documents in support of HPCDIP health programs.
- Continue to provide support to clients and stakeholders to address health inequities, through:
 - Knowledge generation and knowledge exchange activities, including research projects on the application of Health Equity Impact Assessment (HEIA) tools.
 - Knowledge synthesis activities that analyze health inequity in PHO topic specific reports.
 - Capacity building efforts including the integration of marginalization and deprivation indices in analytic products.
- Provide oversight for four Health Promotion Resource Centres (HPRC), and continue with the coordination and service delivery of technical support for planning; communications, information and knowledge exchange actives for PHO products; and the planning and delivery of training and capacity building workshops, consultations and referrals.

Knowledge Services

Priority Initiatives	Complete	Multi-year: on track	Not completed within target timeframe
Support the modernization of the Ontario Public Health Standards		✓	
Explore how PHO could support interchanges between organizations for professional development and training of the public health workforce		✓	
Develop a public health informatics strategy for PHO, including a data framework; optimized processes to organize, integrate and analyze data; and innovative and dynamic approaches to data presentation and analytics	✓		
Assess and plan the migration of the PHO website to a new platform for improved access, usability, and innovation in the delivery of online services, data, and knowledge products, in order to improve client awareness of and access to PHO resources.	✓		

Key Ongoing Initiatives (representative sample):

- Provide specialized services in the areas of analytics, biostatistics, data visualization, epidemiology, geospatial services and population health assessment and surveillance (including support to access, analyze and link to existing data or new data sets).
- Support the planning, production, promotion, dissemination and evaluation of PHO products, services and expertise to maximize client awareness and usage.
- Organize and deliver comprehensive professional development and education offerings, including PHO rounds, visiting speakers, seminars, workshops, and Continuing Medical Education (CME) accreditation.
- Coordinate and support the provincial Shared Library Services Partnership and the Locally Driven Collaborative Projects program.
- Deliver the Ontario Public Health Convention (TOPHC) on an annual basis.

2016-19 Annual Business Plan volumetric commitments

This table shows the core activities for which PHO has established annual volume targets for 2016-17. Where applicable, specific topics of focus were guided over the course of the year by the priorities established by the Joint Liaison Committee; requests from the Chief Medical Officer of Health, ministries, and other clients; and our analysis of emerging issues and work plans.

Volume Targets for Core Activities

Core Activity	2016-17 Target	2016-17 Actual
Laboratory tests	5.3 million	5.5 million
Production of surveillance reports		
Daily issues summary and situation reports	250	250
Bi-weekly iPHIS notices	26	26
Weekly respiratory pathogen report ¹	38	41
West Nile Virus surveillance reports (seasonal)	15-20	19
This Week in Public Health	50	52
Monthly surveillance reports	12	12
Annual surveillance report on Reportable Disease Trends in Ontario	1	2 ²
Annual Immunization Coverage Report for School Pupils	1	1
Annual Report on Vaccine Safety	1	1
Development of knowledge products to support clients and stakeholders		
Review of literature, including knowledge synthesis reports, in response to requests to summarize a body of published evidence	11-13	33
Major population and environmental health technical reports	1-2	19
Clinical guidelines to support provider and patient decisions about appropriate health care	1-2	6
Evaluation reports to support program or policy review	5-7	12
Jurisdictional/environmental scans	4-6	1 ³
Best practice or guidance document	12	79
Statistical reports or data requests	60	145

¹The *Bi-Weekly respiratory pathogen report* (*more frequent in peak season*) and the *Weekly Ontario respiratory pathogen bulletin* have been integrated into a single report called the *Weekly respiratory pathogen report*.

²The 2014 report was released in April 2016 and the 2015 report was released in March 2017.

³Includes standalone scans only. Additional scans may be completed as components of other PHO knowledge products.

Volume Targets for Core Activities

Core Activity	2016-17 Target	2016-17 Actual
Development of peer-reviewed abstracts and research protocols, and events to support knowledge exchange		
Abstracts (either as presentations, posters, or workshops) at scientific conferences	150	257 ⁴
Develop research proposals for third party funding to address important priorities in public health programs and public health laboratory science	20	25
Co-sponsor professional development events for public health professional associations and other professional groups	15	28
Deliver training sessions for infection control in health and community settings	200	168 ⁵
Planning and delivery via the Health Promotion Resource Centres		
Training and capacity building workshops	85	123
Consultations	550	801

⁴Primarily due to both the 2016 and 2017 Ontario Public Health Conventions (TOPHC) occurring in 2016-17.

⁵This measures in-person training and PHO has been changing our delivery model for this type of training, increasing the use of e-learning modules relative to face-to-face sessions.

PHO Quarterly Performance Scorecard:

2016-17 year-end view

The Scorecard summarizes PHO's performance related to its mandate and the five strategic directions of our *2014-19 Strategic Plan: Evidence, knowledge and action for a healthier Ontario*. Using traditional quantitative methods, it provides an assessment of PHO's performance in relation to a defined set of indicators and associated performance measures chosen because they are expected to be dynamic on a quarterly basis. A brief overview of each indicator and its associated measures is also provided.

	Indicator	Type	Quarterly Target	Quarterly Average ¹	Annual Status ²	Q1 Actual	Q2 Actual	Q3 Actual	Q4 Actual
SD 1 Provide expertise to strengthen Ontario's public health sector	2.1 Use of web-based Query tool 2.1.1 Number of unique visits to the Infectious Diseases Query tool	Descriptive	N/Ap	1,021	N/Ap	995	823	1,192	1,073
	2.1.2 Number of unique visits to the STI Query tool	Descriptive	N/Ap	292	N/Ap	260	254	263	391
	2.2 Use of web-based Snapshot reports 2.2.1 Number of indicators available in Snapshot	Descriptive	N/Ap	204	N/Ap	189	200	213	213
	2.2.2 Percent current within 6 months of release of information	Directional	>80%	100%	●	100%	100%	100%	100%
	2.2.3 Number of unique visits to the Snapshot tool by external users	Descriptive	N/Ap	4,353	N/Ap	3,569	3,202	5,624	5,018
	2.3 Availability of laboratory information systems 2.3.1 Laboratory Information System (LIS) uptime	Service Standard	99.5%	99.7%	●	99.0%	99.7%	100%	100%
	3.1 Responsiveness to client requests 3.1.1 Number of knowledge products completed as a result of client requests	Descriptive	N/Ap	45	N/Ap	61	45	42	32
	3.1.2 Number of scientific and technical support activities completed as a result of client requests	Descriptive	N/Ap	565	N/Ap	697	499	555	508
	3.2 Responsiveness to urgent client requests 3.2.1 Number of urgent requests completed	Descriptive	N/Ap	12	N/Ap	15	12	6	15
	3.3 Responsiveness to clients-timeliness 3.3.1 Percentage of knowledge products completed within target turnaround time	Directional	95%	89.8%	∅	91.8%	82.2%	88.1%	96.9%
SD 2 Accelerating integrated population health monitoring	3.3.2 Percentage of scientific and technical support activities completed within target turnaround time	Directional	95%	99.5%	●	99.9%	99.6%	99.1%	99.4%
	3.4 Laboratory performance 3.4.1 Percentage of laboratory tests completed within target turnaround time	Directional	90%	95%	●	96%	98%	92%	94%
	3.5 Website usage 3.5.1 Number of visits by external users	Directional	160K	242K	●	212K	245K	244K	265K
	3.5.2 Number of product downloads by external users	Directional	50K	72K	●	65K	72K	72K	79K
	3.5.3 Number of unique visits by external users	Directional	100K	140K	●	123K	142K	142K	153K

	Indicator	Type	Quarterly Target	Quarterly Average ¹	Annual Status ²	Q1 Actual	Q2 Actual	Q3 Actual	Q4 Actual
SD 1 Provide expertise to strengthen Ontario's public health sector	3.6 Client education 3.6.1 Number of education sessions offered to external clients	Directional	30	29	∅	31	24	29	30
	3.7 Client satisfaction with educational sessions 3.7.1 Percentage of client education sessions achieving a client rating of at least 3.5 out of 5	Directional	90%	88.7%	∅	88.0%	88.0%	94.7%	84.2%
	3.8 Student placements 3.8.1 Number of new student placements at PHO	Directional	N/Ap ³	32	●	37	29	26	34
	3.9 Number of laboratory tests	Directional	1.33M	1.39M	●	1.43M	1.41M	1.34M	1.36M
SD 4 Advance public health evidence and knowledge	4.1 Staff publishing 4.1.1 Number of articles published in peer-reviewed journals relevant to public health and to which PHO contributed	Directional	32-35	49	●	42	49	45	60
	4.2 Knowledge dissemination 4.2.1 Proportion of peer-reviewed articles published in priority journals	Directional	75.0%	72.4%	∅	73.8%	67.9%	71.1%	76.7%
	4.3 Third party funding 4.3.1 Dollar value of funding awarded to PHO researchers from third-party funders	Directional	>\$400K	\$509K	●	\$376K	\$525K	\$565K	\$568K
	4.4 Media mentions 4.4.1 Number of media mentions of PHO	Descriptive	N/Ap	765	N/Ap	554	586	556	1,364
SD 5 Great people exceptional teams	5.1 Recruitment efficiency 5.1.1 Average number of days to fill permanent and temporary staff positions	Directional	≤60	52	●	48	50	52	57
	5.2 Employee absenteeism 5.2.1 Average number of paid sick days/employee	Industry Standard	2.0	2.5	∅	2.5	2.4	2.8	2.5
	5.3 Staff turnover 5.3.1 Voluntary and involuntary permanent employee turnover rate	Descriptive	N/Ap	2.02	N/Ap	1.37	2.08	2.21	2.43
	5.4 Laboratories staff certification and credentials 5.4.1 Percentage of medical and clinical microbiologists and medical laboratory technologist credentials/certifications are in place	Industry Standard	100%	100%	●	N/Ap	100%	N/Ap	100%

Notes:¹Quarterly averages are calculated based on the full year's underlying data.²Annual status is based on the quarterly average value for each measure.³Quarterly target is based on the actual number of placements in the same quarter of the previous year.**Legend**

● Target met or exceeded

∅ Somewhat missed target

N/Ap Not Applicable

PHO Quarterly Performance Scorecard: 2016-17 year-end view (continued)

	Indicator	Type	Quarterly Target	Quarterly Average ¹	Annual Status ²	Q1 Actual	Q2 Actual	Q3 Actual	Q4 Actual
SD1 Provide expertise to strengthen Ontario's public health sector Organizational foundations and enablers	6.1 Financial performance 6.1.1 Year-to-date percent variance between actual and budgeted expenses	Directional	+/-1.5%	N/Ap	● ⁴	4.9	3.9	0.9	1.4
	6.2 Complaints 6.2.1 Number of complaints about PHO services or products	Directional	≤5	5	●	2	9	2	6
	6.3 Availability of enterprise technology systems 6.3.1 General IT infrastructure uptime	Service Agreement	99.5%	99.7%	●	99.0%	100%	100%	99.8%
	6.4 Laboratories external quality assessment 6.4.1 Overall annual average score on Quality Management Program – Laboratory Services (QMP-LS) testing program	Industry Standard	>90%	99.5%	●	N/Ap	99.4%	N/Ap	99.6%
	6.4.2 Overall annual score on the Canadian Association for Laboratory Accreditation (CALA Z-score)	Industry Standard	>70%	89.6%	●	N/Ap	89.5%	N/Ap	89.7%

Notes:¹Quarterly averages are calculated based on the full year's underlying data.²Annual status is based on the quarterly average value for each measure.⁴Annual status is based on the Q4 year-to-date result of 1.4.**Legend**

● Target met or exceeded

○ Somewhat missed target

N/Ap Not Applicable

Description of Current Measures

2.1.1 Number of unique visits to the Infectious Diseases Query tool and **2.1.2 Number of unique visits to the STI Query tool** count the total number of people accessing these web-based dynamic data exploration tools that allow users to drill down and explore record-level data by public health unit and other demographics to improve the management of infectious diseases in Ontario.

2.2.1 Number of indicators available in Snapshot; 2.2.2 Percent of indicators current within 6 months of release of information are measures of the amount of content and currentness of these key population health indicators used to visualize trends in a web-based, interactive dashboard format. Indicators are refreshed regularly as new or updated data becomes available and new indicators are added as needed and data are available. **2.2.3 Number of unique visits to the Snapshot tool by external users** counts the number of unique users accessing this material in a 3 month time period.

2.3.1 Laboratory information system (LIS) uptime is a measure of availability of the LIS, which is crucial to operations at the PHO laboratories. Service is provided under contract with the provincial government's service provider.

3.1.1 Number of knowledge products completed as a result of client requests and **3.1.2 Number of scientific and technical support activities completed as a result of client requests** together provide a count of the number of knowledge activities completed by PHO staff as a result of a client request. Types of activities include literature reviews, statistical and technical reports, clinical guidelines, best practice and guidance documents, and scientific and technical support such as consultations and fact checking.

Description of Current Measures (continued)

3.2.1 Number of urgent client requests completed includes requests that PHO needs to respond to within 24 hours. This is a subset of 3.1.1 and 3.1.2.

3.3.1 Percentage of knowledge products completed within target turnaround time and **3.3.2 Percentage of scientific and technical support activities completed within target turnaround time** indicates the percentage of knowledge activities completed within the requested timelines.

3.4.1 Percentage of laboratory tests completed within target turnaround indicates the percentage of laboratory tests completed within the industry standard turnaround time for each test.

3.5.1 Number of website visits by external users and **3.5.2 Number of product downloads by external users** indicate the number of times external users access PHO's external website and/or download material from the website.

3.5.3 Number of unique visits by external users is the number of unique visitors to the website within a three-month period.

3.6.1 Number of education sessions offered to external clients tracks the number of PHO Rounds, educational series, operational or procedural training and workshops offered to external clients or groups of five or more.

3.7.1 Percentage of client education sessions achieving a client rating of at least 3.5 out of 5 reflects the number of education sessions where the average evaluation score by participants met or exceeded 3.5 out of 5 divided by the total number of sessions offered.

3.8.1 Number of new student placements at PHO counts the number of student placements at PHO and includes medical residents, masters, doctoral, and laboratory technologist students.

3.9 Number of laboratory tests captures the total number of tests performed at the PHO laboratories, excluding tests performed for research purposes.

4.1.1 Number of articles published in peer-reviewed journals counts the total number of articles written by PHO staff members as part of their work at PHO that are published in a peer-reviewed journal or a journal edited by an expert editorial board and/or affiliated with an authoritative organization

4.2.1 Proportion of peer-reviewed articles published in priority journals captures the proportion of journals in measure 4.1.1 that are published in journals that are priority journals internationally and/or for Ontario's public health community. This indicator helps to ascertain the degree to which PHO research is entering the base of public health evidence and knowledge.

4.3.1 Dollar value of funding awarded to PHO researchers from third-party funders shows the amount of third-party funding that has been awarded to PHO, distributed over the length of the grants.

4.4.1 Number of media mentions of PHO counts the number of times PHO, its staff, products, services or research are cited in popular media, excluding social media.

5.1.1 Average number of days to fill permanent and temporary staff positions shows the average number of calendar days it takes to fill a position from the date the position was posted to the date PHO received a signed employment agreement.

5.2.1 Average number of sick days per employee shows the average number of paid sick days for full-time and part-time employees.

5.3.1 Voluntary and involuntary permanent employee turnover rate shows the percentage of permanent employees who leave the organization (excluding retirements) related to the total number of permanent employees.

5.4.1. Percentage of medical and clinical microbiologist and medical laboratory technologist credentials/certifications in place measures the proportion of medical microbiologist staff registered in good standing with the College of Physicians and Surgeons of Ontario and the proportion of medical laboratory technologist staff registered in good standing with the College of Medical Laboratory Technologists of Ontario.

6.1.1 Percent variance between actual and budgeted expenses indicates PHO's level of actual expenses relative to budgeted expenses and is reflective of PHO's financial position relative to its budget.

6.2.1 Number of complaints about PHO services or products is a count of the number of external complaints related to PHO products or services.

6.3.1 Technology infrastructure uptime is the percentage of time the general IT infrastructure, including key systems such as Finance, SharePoint, Email and Microsoft Lync, are up and running.

6.4.1 Overall annual score on Quality Management Program – Laboratory Services (QMP-LS) testing program and **6.4.2 Overall annual score on the Canadian Association for Laboratory Accreditation (CALA Z-score)** measure the percentage of proficiency testing specimens, provided by proficiency testing programs QMP-LS (for clinical tests) and CALA (for environmental tests), that meet acceptance criteria.

Financial performance

Financial performance

PHO acknowledges the funding received from the Ministry of Health and Long-Term Care and has managed its resources in a prudent and careful manner. PHO ended the year in a balanced operating position and has fully utilized all operating funding received from the ministry in respect of the 2016-17 fiscal year. With respect to the \$157.190 million of operating funding received from the ministry, \$156.533 million was used to cover annual operating expenses with the balance of \$.657 million used to cover expenditures on minor equipment and other assets in support of PHO's base operations.

Funds provided by the Ministry of Health and Long-Term Care have allowed PHO to further develop its programs and advance various initiatives. PHO also receives revenue from third parties, which is reflected in the audited financial statements as other grants revenue. As in prior years, reported expenses include expenditures equivalent to other grants revenue (with these expenditures funded exclusively from the revenue received from third parties).

Management Responsibility Report

PHO management is responsible for preparing the accompanying financial statements in conformity with Canadian public sector accounting standards for government not-for-profit organizations as established by the Public Sector Accounting Board (PSAB) of the Chartered Professional Accountants of Canada (CPA).

In preparing these financial statements, management selects appropriate accounting policies and uses its judgment and best estimates to report events and transactions as they occur. Management has determined such amounts on a reasonable basis in order to ensure that the financial statements are presented fairly in all material respects. Financial data included throughout this annual report is prepared on a basis consistent with that of the financial statements.

PHO maintains a system of internal accounting controls designed to provide reasonable assurance, at a reasonable cost, that assets are safeguarded and that transactions are executed and recorded in accordance with PHO policies for doing business.

The Board of Directors is responsible for ensuring that management fulfills its responsibility for financial reporting and internal control, and is ultimately responsible for reviewing and approving the financial statements. The Board carries out this responsibility principally through its Audit & Finance Standing Committee. The Committee meets at least four times annually to review audited and unaudited financial information. Ernst & Young LLP has full and free access to the Audit & Finance Standing Committee.

Management acknowledges its responsibility to provide financial information that is representative of PHO operations, is consistent and reliable, and is relevant for the informed evaluation of PHO activities.



Cathy Campos, CPA, CA
Chief Financial Officer



Dr. Peter D. Donnelly, MD
President and Chief Executive Officer

Ontario Agency for Health Protection and Promotion**[operating as Public Health Ontario]**

March 31, 2017

Independent auditors' report

To the Members of

Ontario Agency for Health Protection and Promotion

We have audited the accompanying financial statements of **Ontario Agency for Health Protection and Promotion [operating as Public Health Ontario]**, which comprise the statement of financial position as at March 31, 2017, and the statements of operations and changes in net assets and cash flows for the year then ended, and a summary of significant accounting policies and other explanatory information.

Management's responsibility for the financial statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Canadian public sector accounting standards, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditors consider internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements present fairly, in all material respects, the financial position of **Ontario Agency for Health Protection and Promotion [operating as Public Health Ontario]** as at March 31, 2017, and the results of its operations and its cash flows for the year then ended in accordance with Canadian public sector accounting standards.

Toronto, Canada

June 20, 2017


Chartered Professional Accountants
Licensed Public Accountants

**Ontario Agency for Health Protection and Promotion
[operating as Public Health Ontario]**

Statement of financial position

[in thousands of dollars]

As at March 31

	2017	2016
	\$	\$
Assets		
Current		
Cash	28,612	22,196
Accounts receivable [note 3]	2,149	10,693
Prepaid expenses	1,453	2,110
Total current assets	32,214	34,999
Restricted cash [note 4]	7,072	8,782
Capital assets, net [note 5]	88,800	97,420
	128,086	141,201
 Liabilities and net assets		
Current		
Accounts payable and accrued liabilities	26,150	29,736
Total current liabilities	26,150	29,736
Deferred capital asset contributions [note 6]	91,041	100,345
Deferred contributions [note 7]	3,068	2,904
Accrued benefit liability [note 8]	3,616	4,432
Other liabilities	4,211	3,784
Total liabilities	128,086	141,201
Commitments and contingencies [note 11]	—	—
Net assets	128,086	141,201

See accompanying notes

On behalf of the Board:

**Ontario Agency for Health Protection and Promotion
[operating as Public Health Ontario]**

Statement of operations and changes in net assets

[in thousands of dollars]

Year ended March 31

	2017	2016
	\$	\$
Revenue		
Ministry of Health and Long-Term Care		
Base operations	152,960	151,437
Health Promotion Resource Centre	3,573	3,573
Amortization of deferred capital asset contributions [note 6]	6,932	7,873
Other grants	1,746	1,705
Miscellaneous recoveries	1,787	876
	166,998	165,464
Expenses [note 8]		
Public health laboratory program	102,690	100,514
Science and public health programs	43,361	42,578
General and administration [note 9]	14,015	14,499
Amortization of capital assets	6,932	7,873
	166,998	165,464
Excess of revenue over expenses for the year	—	—
Net assets, beginning of year	—	—
Net assets, end of year	—	—

See accompanying notes

**Ontario Agency for Health Protection and Promotion
[operating as Public Health Ontario]**

Statement of cash flows

[in thousands of dollars]

Year ended March 31

	2017	2016
	\$	\$
Operating activities		
Excess of revenue over expenses for the year	—	—
Add (deduct) items not affecting cash		
Amortization of deferred capital asset contributions	(6,932)	(7,873)
Amortization of capital assets	6,932	7,873
	—	—
Changes in non-cash operating items		
Decrease (increase) in accounts receivable [note 10]	5,701	(2,810)
Decrease (increase) in prepaid expenses	657	(58)
Increase in deferred contributions	164	487
Increase in other liabilities	427	1,345
Decrease in accounts payable and accrued liabilities [note 10]	(57)	(28)
Net change in accrued benefit liability	(816)	(542)
Cash provided by (used in) operating activities	6,076	(1,606)
Capital activities		
Net acquisition of capital assets [note 10]	(1,841)	(12,858)
Cash used in capital activities	(1,841)	(12,858)
Financing activities		
Contributions for capital asset purchases [note 10]	471	11,400
Decrease in restricted cash	1,710	132
Cash provided by financing activities	2,181	11,532
Net increase (decrease) in cash during the year	6,416	(2,932)
Cash, beginning of year	22,196	25,128
Cash, end of year	28,612	22,196

See accompanying notes

Ontario Agency for Health Protection and Promotion
[operating as Public Health Ontario]

Notes to financial statements

[in thousands of dollars]

March 31, 2017

1. Description of the organization

Ontario Agency for Health Protection and Promotion [“OAHPP”] [operating as Public Health Ontario] was established under the *Ontario Agency for Health Protection and Promotion Act, 2007* as a corporation without share capital. OAHPP’s mandate is to enhance the protection and promotion of the health of Ontarians, contribute to efforts to reduce health inequities, provide scientific and technical advice and support to those working across sectors to protect and improve the health of Ontarians and to carry out and support activities such as population health assessment, public health research, surveillance, epidemiology, planning and evaluation.

Under the *Ontario Agency for Health Protection and Promotion Act, 2007*, OAHPP is primarily funded by the Province of Ontario.

OAHPP, as an agency of the Crown, is exempt from income taxes.

2. Summary of significant accounting policies

These financial statements have been prepared in accordance with Canadian public sector accounting standards as established by the Public Sector [“PS”] Accounting Board of the Chartered Professional Accountants of Canada. OAHPP has elected to follow PS 4200-4270 in the Public Sector Accounting Handbook.

Revenue recognition

Contributions are recorded in the accounts when received or receivable if the amount to be received can be reasonably estimated and collection is reasonably assured. Unrestricted contributions are recognized as revenue when initially recorded in the accounts. Externally restricted contributions are recorded as deferred contributions or deferred capital contributions when initially recorded in the accounts and recognized as revenue in the period in which the related expenses are incurred.

**Ontario Agency for Health Protection and Promotion
[operating as Public Health Ontario]**

Notes to financial statements

[in thousands of dollars]

March 31, 2017

Capital assets

Capital assets are recorded at acquisition cost. Contributed capital assets are recorded at fair market value at the date of contribution. Amortization is provided on a straight-line basis based upon the estimated useful service lives of the assets as follows:

Building service equipment	5-30 years
Other equipment	5-10 years
Furniture	5-20 years
Leasehold improvements	Over the term of the lease

Inventory and other supplies held for consumption

Inventory and other supplies held for consumption are expensed when acquired.

Employee future benefits

Contributions to multi-employer, defined benefit pension plans are expensed on an accrual basis.

Other employee future benefits are non-pension benefits that are provided to certain employees and are accrued as the employees render the service necessary to earn these future benefits. The cost of these future benefits is actuarially determined using the projected unit credit method, prorated on service and management's best estimate of expected salary escalation and retirement ages of employees. Net actuarial gains and losses related to the employee future benefits are amortized over the average remaining service life (13 years) of the related employee group. Employee future benefit liabilities are discounted using the average interest cost for the Province of Ontario's net new debt obligations with maturities that correspond to the duration of the liability.

Allocation of expenses

The costs of each function include the costs of personnel and other expenses that are directly related to the function. General support and other costs are not allocated.

Contributed materials and services

Contributed materials and services are not recorded in the financial statements.

**Ontario Agency for Health Protection and Promotion
[operating as Public Health Ontario]**

Notes to financial statements

[in thousands of dollars]

March 31, 2017

Financial instruments

Financial instruments, including accounts receivable and accounts payable, are initially recorded at their fair value and are subsequently measured at cost, net of any provisions for impairment.

Use of estimates

The preparation of financial statements in conformity with Canadian public sector accounting standards requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenue and expenses during the reporting period. Significant estimates and assumptions used in these financial statements require the exercise of judgment and are used for, but not limited to, salary and benefit accruals, employee future benefit plans [severance credits] and the estimated useful lives of capital assets. Actual results could differ from these estimates.

3. Accounts receivable

Accounts receivable consist of the following:

	2017	2016
	\$	\$
Ministry of Health and Long-Term Care [note 5]	822	9,645
Harmonized Sales Tax	532	530
Other	795	518
	2,149	10,693

**Ontario Agency for Health Protection and Promotion
[operating as Public Health Ontario]**

Notes to financial statements

[in thousands of dollars]

March 31, 2017

4. Restricted cash

[a] Restricted cash consists of the following:

	2017	2016
	\$	\$
Ministry of Health and Long-Term Care [note 4[b]]	6,969	8,633
Sheela Basrur Centre [note 7[a]]	103	149
	7,072	8,782

Restricted cash from the Ministry of Health and Long-Term Care ["MOHLTC"] represents funding received in connection with the liability assumed by OAHPP in connection with severance [note 8[b]], other credits [primarily accrued vacation pay] related to employees who transferred to OAHPP [Ontario public health laboratories in 2008 and Public Health Architecture in 2011] and unspent cash pertaining to capital projects. Funds associated with severance and other credits are drawn down when transferred employees leave employment with OAHPP. Funds associated with capital projects are drawn down when capital assets are purchased.

[b] The continuity of MOHLTC restricted cash is as follows:

	2017			
	Severance credits \$	Other projects \$	Capital credits \$	Total \$
Restricted cash, beginning of year	4,231	1,477	2,925	8,633
Interest earned [note 6]	36	13	38	87
Restricted cash drawdown [note 8[b]]	(950)	(79)	(722)	(1,751)
Restricted cash, end of year	3,317	1,411	2,241	6,969

**Ontario Agency for Health Protection and Promotion
[operating as Public Health Ontario]**

Notes to financial statements

[in thousands of dollars]

March 31, 2017

	2016			
	Severance credits \$	Other projects \$	Capital credits \$	Total \$
Restricted cash, beginning of year	4,873	1,505	2,357	8,735
Funding received	—	—	1,536	1,536
Interest earned [note 6]	45	14	59	118
Restricted cash drawdown [note 8[b]]	(687)	(42)	(1,027)	(1,756)
Restricted cash, end of year	4,231	1,477	2,925	8,633

5. CAPITAL ASSETS

Capital assets consist of the following:

	2017		
	Cost \$	Accumulated amortization \$	Net book value \$
Building service equipment	369	302	67
Other equipment	31,764	27,559	4,205
Furniture	3,838	2,925	913
Leasehold improvements	96,789	15,537	81,252
Construction in progress	2,363	—	2,363
	135,123	46,323	88,800

**Ontario Agency for Health Protection and Promotion
[operating as Public Health Ontario]**

Notes to financial statements

[in thousands of dollars]

March 31, 2017

	2016		
	Cost \$	Accumulated amortization \$	Net book value \$
Building service equipment	369	266	103
Other equipment	30,850	25,540	5,310
Furniture	3,818	2,566	1,252
Leasehold improvements	99,354	11,019	88,335
Construction in progress	2,420	—	2,420
	136,811	39,391	97,420

In 2015, OAHPP completed leasehold improvements for a new laboratory facility. During 2017, costs of \$2,665 were determined to be those of the landlord and not OAHPP. As a result, OAHPP removed leasehold improvements from capital assets with a cost of \$2,665 and a corresponding amount from accounts payable and accrued liabilities as these costs were unpaid.

As funding was no longer due from the MOHLTC related to these leasehold improvements, OAHPP reduced accounts receivable from the MOHLTC [*note 3*] and deferred capital asset contributions [*note 6*] by \$2,665 and further reduced accounts receivable and deferred capital contributions for amounts accrued in excess of costs incurred of \$304. The remaining unspent deferred capital contributions of \$145 related to these leasehold improvements was removed from deferred capital contributions and recorded as due to the MOHLTC.

6. Deferred capital asset contributions

Deferred capital asset contributions represent the unamortized amount of contributions received for the purchase of capital assets. The amortization of deferred capital asset contributions is recorded as revenue in the statement of operations and changes in net assets.

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The continuity of the deferred capital asset contributions balance is as follows:

	2017	2016
	\$	\$
Deferred capital asset contributions, beginning of year	100,345	104,252
Contributions for capital purposes	704	3,907
Adjustment to deferred capital assets contributions [note 5]	(3,114)	—
Interest earned on unspent contributions [note 4[b]]	38	59
Amortization of deferred capital asset contributions	(6,932)	(7,873)
Deferred capital asset contributions, end of year	91,041	100,345
Unspent deferred capital asset contributions [note 4[b]]	(2,241)	(2,925)
Deferred capital asset contributions spent on capital assets	88,800	97,420

Restricted cash includes \$2,241 [2016 – \$2,925] [note 4[b]] related to unspent deferred capital asset contributions.

7. Deferred contributions

[a] Deferred contributions consist of unspent externally restricted grants and donations for the following purposes:

	2017	2016
	\$	\$
Severance credits	671	783
Sheela Basrur Centre [note 4[a]]	103	149
Third party funds	2,294	1,972
	3,068	2,904

The continuity of deferred contributions is as follows:

	2017	2016
	\$	\$
Deferred contributions, beginning of year	2,904	2,417
Amounts received during the year	2,022	2,254
Amounts recognized as revenue during the year	(1,858)	(1,767)
Deferred contributions, end of year	3,068	2,904

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[b] Deferred contributions for severance credits represent the difference between the restricted cash held for severance credits [note 4[b]] and the portion of the accrued benefit liability associated with service prior to the transfer of employees of the laboratories to OAHPP [note 8[b]].

[c] Deferred contributions for the Sheela Basrur Centre [the “Centre”] represent unspent funds held by OAHPP restricted for the Centre’s outreach programs. In addition to these funds, \$278 [2016 – \$257] is held by the Toronto Foundation for the benefit of the Centre and its programs.

Named after the late Dr. Sheela Basrur, a former Chief Medical Officer of Health for the Province of Ontario, the Centre was created to become a prominent provider of public health education and training.

8. Employee future benefit plans

[a] Multi-employer pension plans

Certain employees of OAHPP are members of the Ontario Public Service Employees Union [“OPSEU”] Pension Plan, the Healthcare of Ontario Pension Plan [“HOOPP”] or the Ontario Public Service Pension Plan [“PSPP”], which are multi-employer, defined benefit pension plans. These pension plans are accounted for as defined contribution plans. OAHPP contributions to the OPSEU Pension Plan, HOOPP and PSPP during the year amounted to \$2,043 [2016 – \$2,081], \$3,915 [2016 – \$3,473] and \$511 [2016 – \$518], respectively, and are included in expenses in the statement of operations and changes in net assets.

The most recent valuation for financial reporting purposes completed by OPSEU as of December 31, 2016 disclosed net assets available for benefits of \$19.0 million with pension obligations of \$17.3 million, resulting in a surplus of \$1.7 million.

The most recent valuation for financial reporting purposes completed by HOOPP as of December 31, 2016 disclosed net assets available for benefits of \$70.4 million with pension obligations of \$54.5 million, resulting in a surplus of \$15.9 million.

The most recent valuation for financial reporting purposes completed by PSPP as of December 31, 2015 disclosed net assets available for benefits of \$10.9 million with pension obligations of \$11.1 million, resulting in a deficit of \$0.2 million.

[b] Severance credits

OAHPP assumed the unfunded non-pension post-employment defined benefit plans provided to employees from the Government of Ontario as part of the transfer of employees from Ontario public health laboratories [in 2008] and Public Health Architecture [in 2011]. These defined benefit plans provide a lump sum payment paid on retirement to certain employees related to years of service. The latest actuarial valuation for the non-pension defined benefit plans was performed as at March 31, 2015. OAHPP measures its accrued benefit obligation for accounting purposes as at March 31 of each year based on an extrapolation from the latest actuarial valuation.

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Additional information on the benefit plans is as follows:

	2017	2016
	\$	\$
Accrued benefit obligation	4,047	4,905
Unamortized actuarial losses	(431)	(473)
Accrued benefit liability, end of year	3,616	4,432

The continuity of the accrued benefit liability as at March 31 is as follows:

	2017	2016
	\$	\$
Accrued benefit liability, beginning of year	4,432	4,974
Expense for the year	134	145
Contributions to cover benefits paid [<i>note 4[b]</i>]	(950)	(687)
Accrued benefit liability, end of year	3,616	4,432

The significant actuarial assumptions adopted in measuring OAHPP's accrued benefit obligation and expenses are as follows:

	2017	2016
	%	%
Accrued benefit obligation		
Discount rate	2.00	2.00
Rate of compensation increase	2.25	2.25
Rate of inflation	2.00	2.00
Expense		
Discount rate	2.00	2.00
Rate of compensation increase	2.25	2.25
Rate of inflation	2.00	2.00

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9. Directors' remuneration

The Government Appointees Directive requires the disclosure of remuneration paid to directors. During the year ended March 31, 2017, directors were paid \$27 [2016 - \$17].

10. Supplemental cash flow information

The change in accounts payable and accrued liabilities related to the purchase of capital assets, is adjusted for capital assets received but not paid for of \$2,629 [2016 - \$6,158] and has been excluded from the statement of cash flows.

The change in accounts receivable related to contributions for capital asset purchases, is adjusted for contributions receivable but not received as at March 31, 2017 of \$822 [2016 - \$3,665] and has also been excluded from the statement of cash flows.

11. Commitments and contingencies

- [a] Under the Laboratories Transfer Agreement, MOHLTC is responsible for all obligations and liabilities in respect of the public health laboratories that existed as at the transfer date, or that may arise thereafter and have a cause of action that existed prior to the transfer date of December 15, 2008.
- [b] OAHPP is a member of the Healthcare Insurance Reciprocal of Canada ["HIROC"]. HIROC is a pooling of the liability insurance risks of its members. Members of the pool pay annual deposit premiums that are actuarially determined and are expensed in the current year. These premiums are subject to further assessment for experience gains and losses, by the pool, for prior years in which OAHPP participated. As at March 31, 2017, no assessments have been received.
- [c] OAHPP has committed future minimum annual payments to Infrastructure Ontario related to premises as follows:

	\$
2018	16,927
2019	16,643
2020	14,337
2021	11,802
2022	11,920
Thereafter	<u>234,348</u>

Board of Directors

Board of Directors

As a board-governed provincial agency and in accordance with our legislation, PHO's Board of Directors is appointed by the Lieutenant Governor in Council, on the basis of the following competencies:

- Skills and expertise in the areas covered by the corporation's objects, or in corporate governance.
- Expertise in public accounting or with related financial experience.
- Demonstrated interest or experience in health issues.

Name	Location	First Appointed	Current Term
John Garcia	Waterloo	October 22, 2014	October 22, 2014 - October 21, 2017
Janet Hatcher Roberts	Ottawa	May 6, 2009	May 6, 2015 - May 5, 2018
Praseedha Janakiram	Toronto	March 23, 2016	March 23, 2016 - March 22, 2019
Robert Kyle (Vice-Chair)	Whitby	September 12, 2012	September 12, 2015 - September 11, 2018
Sandra Laclé	Sudbury	October 20, 2010	October 20, 2016 - October 19, 2019
Warren Law	Toronto	May 6, 2009	May 6, 2015 - May 5, 2018
Suresh Madan	Toronto	February 24, 2016	February 24, 2016 - February 23, 2019
S. Ford Ralph	Newmarket	December 2, 2015	December 2, 2015 - December 1, 2018
Pierre Richard (Chair)	Ottawa	May 6, 2009	May 6, 2015 - May 5, 2018
Linda Rothstein	Toronto	November 19, 2014	November 19, 2014 - November 18, 2017
Ronald St. John	Ottawa	November 3, 2010	November 3, 2016 - November 2, 2019
Carole Weir	Kingston	May 6, 2009	May 6, 2016 - May 5, 2018
Catherine Whiting	North Bay	November 14, 2012	November 14, 2016 - November 13, 2019

The Board is focused on effective oversight of PHO's operations and achievement of its mandate and strategic directions. Its ongoing commitment to governance excellence begins with comprehensive orientation of new Board members, and includes ongoing governance education and training to assist all Directors in fulfilling their duties and obligations. All new Board members participate in the Treasury Board Secretariat's Governance Training for Public Appointees.



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A black and white photograph showing a close-up of a person's face, with their hand resting against their cheek. In the lower right corner, a small portion of a baby's hand is visible, reaching towards the person's face. The background is blurred.

For more information, visit
publichealthontario.ca