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An Overview of the Public Health System in the Province of Ontario, Canada

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Abstract

The public health system in the province of Ontario in Canada is a publicly funded system that is responsible for addressing the health status of the population. Public health involves the combined effort of all levels of government (federal, provincial, municipal) in the country to strengthen the health system and promote the health of Canadians. The federal *Canada Health Act* guides the delivery of health services, with the administration of the health system a provincial responsibility. There are multiple organizations involved in public health including the Ontario Ministry of Health and Long-Term Care, Local Health Integration Networks, local Boards of Health, Public Health Ontario, and the Ontario Public Health Association. Public health program costs at Ontario's 36 public health units are shared between municipal and provincial governments. Public health initiatives undertaken by public health units and governmental agencies are aimed at addressing and improving the population's determinants of health.

Key words: **Public Health, Ontario, legislation, history, public health functions, competencies, Canada**

Słowa kluczowe: **Kanada, kompetencje, Ontario, ustawodawstwo, zdrowie publiczne**

Introduction

Public health in the province of Ontario, Canada is delivered through a publicly funded system that is responsible for improving and maintaining the health status of the population [1]. The public health system adheres to a population-level approach, such that all levels of government in Canada (i.e., municipal, provincial/territorial, and federal) are responsible for delivering health programs and services through both governmental and non-governmental institutions [2]. In Ontario, the Ministry of Health and Long-Term Care (MOHLTC) is in charge of administering the health care system, which also includes the provincial health care insurance (Ontario Health Insurance Plan) [1]. Together with municipal councils, the MOHLTC supports local Boards of Health, which are tasked with providing public health programs to populations residing within their geographic areas [2, 3]. The province is served by 36 public health units governed by Boards of Health [2, 3]. In this article, an overview of public health in the province of Ontario, Canada, will be presented. Demographic information will be provided on the province, as well as the history of public health, public health legislation, organization of public health, and public health funding and spending.

The Province of Ontario

The province of Ontario was one of the four original provinces established in the Canadian federation when the British Parliament passed the *Constitution Act* in 1867 [4]. At present, there are ten provinces and three territories in Canada. Ontario is the most populous province with 13.7 million residents, representing 39% of the country's population [5]. Ontario's demographics and geography, including the population's health indicators, economic position, population density, and multiculturalism present unique circumstances for public health delivery. The life expectancy of individuals in Ontario is 79.8 years for males and 83.9 years for females [6]. In terms of health indicators in 2012, the prevalence of overweight was 34% (41% for males and 28% for fe-

males) and that of obesity was 18% (19% for males and 17% for females), both of which were similar to the Canadian averages [7]. At the same time, the prevalence of other health conditions was 18% for hypertension, 17% for arthritis, 8% for asthma, and 7% for diabetes, based on self-reported data [7]. Daily or occasional smokers represented 19% of the population in the province, while 5% of individuals reported being exposed to second-hand smoke [7]. Over half of the population (54%) reported being moderately active or active in their leisure-time [7]. Overall, 60% of Ontarians perceived their health as being very good or excellent based on data from the Canadian Community Health Survey (2011/2012) [7].

Ontario has a labour force of 7.4 million residents with an unemployment rate of 7% [6]. Based on the 2011 National Household Survey, 23% of the population completed a high school education while 69% completed some post-secondary education, including 32% who held a university degree [8]. Data from the Canadian Income Survey (2012) have shown that the median after-tax income of Ontario families (two or more persons) was just below $74,000 while that of unattached individuals was $27,000 [9]. Moreover, 11% of individuals in the province were classified as being low income after tax, which was slightly higher than the Canadian figure of 10% [10]. The majority of the population (86%) in Ontario resides in urban areas [11]. However, a challenge that public health units face is population spread, especially in Northern Ontario, and the associated difficulties in reaching remote communities. The vast majority of the residents in the province (over 8.6 million) live in the Greater Golden Horseshoe, an area located in the south of the province bordering with Lake Ontario and including the city of Toronto, the province's capital [12]. In contrast, population density in Northern Ontario is much lower with 6% of the province's population residing in over 87% of the province's land area [13, 14]. Northern Ontario is also the home of many First Nations communities, some of which are geographically isolated and require access by plane or ice roads, which can make health service delivery particularly challenging in the colder months [13, 15].

Ontario is a multicultural province with close to 30% of the population being foreign-born [6]. Around 90,000 immigrants settle in the province annually [14]. The Toronto census metropolitan area has the largest immigrant population at over 2.5 million individuals residing there [16]. Due to large numbers of foreign-born individuals living in certain areas of the province, public health units have opted to translate their publications on health topics to reach a wide population and provide information in languages other than English and French. For example, Toronto Public Health presents health information publications in 27 languages [17]. Ontario's unique demography and population health status create distinct environments in which public health operates to meet population needs and to address health issues.

History of Public Health in Ontario

Public health strategies in Ontario existed long before the arrival of European settlers, through the traditional practices and teachings of the Indigenous peoples in maintaining their health and preserving balance in the environment [18, 19]. The arrival of Europeans and their way of life between the sixteenth and eighteenth centuries introduced new diseases that exposed the Indigenous peoples to major illness and death [18, 19]. Infectious disease outbreaks such as smallpox, cholera, typhus, tuberculosis, measles, and diphtheria were rampant [18, 20]. These outbreaks prompted local isolation and quarantine efforts to prevent the further spread of disease and death [18, 20]. In spite of public health measures to isolate and quarantine, Ontario continued to face public health threats into the nineteenth and early twentieth centuries [18]. In the midst of recurring disease outbreaks, Ontario was at the forefront of provinces to introduce public health measures with the passing of the *Ontario Public Health Act* (1873), which was strengthened in 1884 [20, 21]. In 1882, the Provincial Board of Health of Ontario was created, which in 1925 became the provincial Department of Health, the precursor of the present-day Ministry of Health and Long-Term Care (MOHLTC) [20–22]. Occupational health became a priority with Ontario being the first province to form a Division of Industrial Hygiene in 1919 [21].

In the early to mid-1900s, public health efforts in Ontario were primarily targeted at controlling disease outbreaks, which were particularly exacerbated with the influx of people moving to urban areas where poor sanitation and overcrowding was commonplace [18]. Communities across the province further instituted public health efforts to prevent diseases [23]. For instance, in 1910, the city of Toronto started chlorinating their water supply and then other municipalities throughout Ontario followed [24]. Milk pasteurization gradually became mandatory in urban centres and in 1938, pasteurization was compulsory province-wide [25]. Death from infectious disease was on the decline by the 1950s with mass immunization efforts against polio, measles, and whooping cough, and increased standards of living [18]. From the mid-twentieth century to present day, population health improved and on increase in the average life expectancy was observed [18]. However, with increased life expectancy, other health problems took priority such as injuries and chronic diseases, as well as addressing modifiable risk factors such as smoking, drinking, and illicit drug use [18]. In addition, preventing and managing new infections also became crucial for health systems [18].

In 1974, the *New Perspectives on the Health of Canadians* report was released and it emphasized investing in public health through health promotion, health policy, and community advocacy to prevent injury, illness, and disease in Canada [18, 23]. It shifted thinking of health as being mainly primary care [18, 23] to focusing on the importance of lifestyle, environment, biology, health care organization, and the significance of addressing health and social inequalities [18, 23]. A turning point

for public health in Ontario occurred in 1986 following the World Health Organization's (WHO) First International Conference on Health Promotion held in Ottawa [18, 23]. The conference was a milestone for public health and produced the *Ottawa Charter for Health Promotion* [18, 23]. It called for initiatives and health programs to focus on supporting community actions, establishing healthy public policy, and reorganizing services in the health field [18, 23]. Over the twentieth century, public health initiatives shifted from a primary focus on infectious disease to chronic disease and the inclusion and application of the determinants of health in these initiatives [18].

In the new millennium, major changes emerged in public health organization, infrastructure, and policy in Ontario due to the consequences of outbreaks and public health emergencies within the province [26]. These included the Walkerton, Ontario, *E. coli* O157:H7 water supply contamination in 2000 which led to thousands of illnesses and seven deaths in the town populated by 4,800 people, as well as the Severe Acute Respiratory Syndrome (SARS) outbreak in 2003 which resulted in hundreds of cases across Canada with 44 deaths in the Greater Toronto Area [26–29]. Following SARS outbreak, which exposed numerous problems within Ontario's public health system and coordination issues between the provincial and federal governments, it became apparent that the health care system alone could not solely be responsible for maintaining the health of individuals and populations [18, 27, 28].

In the twenty-first century, it has been recognized that public health infrastructure needs to be reorganized and strengthened to be better prepared for public health emergencies and to address the fundamental influences that determine one's health [18]. As such, greater emphasis has been placed on the determinants of health and the understanding that health does not exist in an independent state [18, 23]. It is affected by multiple factors including the social, economic, political, and environmental landscape of the nation that requires an inter-sectoral collaborative effort on part of policy and decision makers, industries, and communities to positively contribute to the health of individuals [18, 23]. The many public health events that occurred from the time of European settlement in Canada to present-day have informed and led to the current state of the Ontario public health system.

Public Health Legislation

In Ontario, ideas for policies are written down in the form of bills which are introduced in the Legislative Assembly of Ontario and undergo three readings during which time Members of the Provincial Parliament (MPP) debate them [30]. In between the readings, bills may also undergo committee reviews [30]. Following a majority vote by MPPs during the Third Reading, bills become law in the province after they have received Royal Assent by the Lieutenant Governor [31]. In addition, the provincial and federal governments may use Commissions of Inquiry to examine issues deemed to be of significant importance, and these have had a significant impact on shaping and creating health laws [32–35].

Public health legislation has a longstanding history in Ontario, dating back to 1833 when the first attempts to safeguard society against disease were implemented [36]. As previously mentioned, the first *Public Health Act* in Ontario was passed in 1873, followed by the establishment of the first Board of Health in 1882 [20–22]. From the 1930s to 1960s, the number of Boards of Health in Ontario increased and the earliest county-wide health unit was opened in 1934 [36]. Subsequent decades brought on various Commissions of Inquiry, which were significant in providing an information base for policy decisions and in evaluating policies to identify possible areas for change [34]. For example, the federally-led Royal Commission on Health Services (1964–1965), which was chaired by Justice Emmett Hall outlined recommendations regarding instituting a universal and nationally sponsored health care system in Canada [37]. This contributed to the introduction of the *Medical Care Act, 1966*, which together with the Hospital Insurance and Diagnostic Services Act, 1957, provided publicly funded coverage for hospital and physician health services to Canadian residents with the costs shared between the federal and provincial governments [37, 38]. In Ontario, medical services for the province's residents are covered by the Ontario Health Insurance Plan, which is administered by the Ministry of Health and Long-Term Care [1].

An important piece of public health legislation in Ontario is the *Health Protection and Promotion Act* (1983, amended in 1990) that was instituted for the prevention of disease, promotion and protection of the health of Ontarians, and for the organization and delivery of public health programs and services [39, 40]. The act outlines the various duties and mandates required of the Boards of Health to deliver programs and services to the public [39, 40]. The *Ontario Public Health Standards and Protocols*, provided by the provincial Minister of Health and Long-Term Care, describe the regulations and outline the public health areas (e.g., health promotion, health protection, emergency response and preparedness) that various programs and services should address in accordance with the *Health Protection and Promotion Act* [41, 42].

Another significant legislation related to public health is the *Occupational Health and Safety Act* (1990), which is responsible for promoting workplace health and safety and preventing occupational injuries [43]. Furthermore, the *Local Health System Integration Act* (2006) created Local Health Integration Networks (LHINs) to provide better integration, coordination, and management of existing health services and systems at the local level to improve the health of Ontario's population [44]. Other noteworthy pieces of public health legislation include: *Ministry of Health and Long-Term Care Act,* 1990; *Fluoridation Act*, 1990; *Safe Drinking Water Act*, 2002; *Personal Health Information Protection Act*, 2004; *Public Inquiries Act*, 2009*; Smoke-Free Ontario Act,* 2006; *Mental Health Act*, 1990; *Long-Term Care Homes Act*, 2007; *Health Insurance Act*, 1990; and *Vital Statistics Act*, 1990 [45, 46].

Organization of Public Health in Ontario

Public health involves all levels of government (federal, provincial, municipal), and each is accountable for providing health services and programs in some capacity [23]. In Canada, the federal *Canada Health Act* guides the delivery of health services and administration of the health system, which are in the jurisdiction of the provinces and territories led by their respective Ministers of Health [47]. The federal government provides transfer payments to support the provinces and territories in funding their health systems [47]. At the federal level, the Public Health Agency of Canada (PHAC), which is a department of the Government of Canada, is responsible for leading, supporting, and advocating for public health initiatives that protect and promote the health of Canadians through innovation, leadership, partnership, and action [48, 49].

At the provincial level, there are multiple organizations related to public health in Ontario. These include: the Ontario Ministry of Health and Long-Term Care, Local Health Integration Networks, Public Health Ontario, the Ontario Public Health Association, and local Boards of Health. The Ontario Ministry of Health and Long-Term Care (MOHLTC) acts as an important body in creating regulations, legislation, as well as standards and polices for Ontario's health system [50]. The MOHLTC determines provincial priorities, establishes strategic directions, and ensures that defined expectations are met in relation to the health system [50]. The Ministry is also involved in planning and providing funding to all levels of the health system, and monitoring and describing the health of the province's residents [50].

The MOHLTC provides funding to the 14 Local Health Integration Networks (LHINs) spread across geographic regions in Ontario, which are important to the functioning of the public health system in the province [51, 52]. LHINs were created in 2006 to improve the health of Ontarians by ensuring better access to high quality health services, efficient management of health resources, and a greater coordination of health care to the local communities that they serve [51, 52]. The primary functions of LHINs fall within planning, integrating, and allocating funds for local health services to hospitals, long-term care homes, and service providers in the community sector [51, 52]. A description of the funding received, required health services, and performance indicator targets that should be reached in the catchment areas of the LHINs are outlined in accountability agreements that the LHINs enter into with the Minister of Health and Long-Term Care [51, 52].

A second provincial organization dedicated to public health is Public Health Ontario (PHO). It was founded following the passing of the *Ontario Agency for Health Protection and Promotion Act* (2007) as the Ontario Agency for Health Protection and Promotion with Public Health Ontario becoming its operating name in 2011 [53]. PHO is a relatively new organization dedicating its resources toward reducing health inequities, and promoting and protecting the health of the citizens of Ontario [54]. As an organization, PHO contributes to advancing public health by providing professional development, research, and knowledge services [53]. PHO supports all areas of public health and connects professionals, researchers, and front-line staff with the best available knowledge [54].

The Ontario Public Health Association (OPHA) is a non-profit organization created in 1949 that is committed to providing a forum for public health practitioners, citizens, and volunteers who are interested in health improvement in Ontario [55]. The organization is long standing in Ontario and its associated public health efforts have facilitated the growth and development in public health as a field [55]. The organization collaborates with multiple institutions and strives to manage current public health challenges and initiatives [55]. OPHA has had particular strength as a body in influencing health policy in Ontario [55].

Public health at the municipal level is observed within multiple groups (associations, non-profits, etc.), but is primarily overseen by local public health units and their governing bodies [2]. Ontario has 36 public health units, each governed by Boards of Health that are responsible for carrying out the functions of public health in their region [56]. Boards of Health are typically composed of 3 to 13 municipal members who ensure the provision of health services and programs according to the *Health Protection and Promotion Act* (HPPA), appoint a Medical Officer of Health, hold meetings, and establish local budgets [56]. In line with the HPPA, it is the duty of the Boards of Health to provide services related to: health promotion, health protection, community sanitation, family health, injury prevention, infectious disease control, and epidemiologic data collection and analysis [56]. The local Medical Officer of Health is in charge of overseeing programs and services, reports directly to the Board of Health, and has authority within his or her health unit jurisdiction [56]. Typically, the Medical Officer of Health is a physician who holds specialty training in Public Health and Preventive Medicine or a similar field and is appointed by the Minister of Health and Long-term Care [56, 57].

Public Health Funding and Spending

Mandates for public health funding in Ontario are outlined in the *Health Protection and Promotion Act* (HPPA) [39, 40, 58]. HPPA authorizes the 36 Boards of Health in Ontario to provide public health programs and services in the communities that they serve and represent [58]. The programs and services must meet the requirements set out by the *Ontario Public Health Standards and Protocols* (OPHSP) [58]. The MOHLTC provides continued funding to the Boards of Health through Program-Based Grants [58]. However, public health is unlike other areas in that its provincial funding is not based on a formula [59]. Funding is designed to be equitably allocated based on measurable indicators, service costs, and meant to reflect the needs of the population [59]. Currently, the costs of providing public health programs in Ontario are shared between municipal (25%) and provincial (75%) levels of

government [58]. Aside from the MOHLTC, other provincial government ministries, such as the Ministry of Children and Youth Services, may also provide funding to Boards of Health [58].

Although Boards of Health are guaranteed base funding to provide specific public health programs and services, not all programs and services are financially supported by the MOHLTC [58]. Each Board of Health submits a budget for their health unit, which is reviewed and verified by the provincial government [59]. Funding is not only contingent on the program following the mandates as outlined in the OPHSP, but also includes comprehensive reporting [58]. Reports include demonstrated program need, detailed deliverables, and key measures of performance [58]. This accountability is essential for ensuring the appropriate allocation of resources as well as the provision of public health programs and services that meet the needs of diverse populations [58].

In the 2013–2014 fiscal year, the MOHLTC had an overall budget of $48.9 billion [60]. With the majority of Ontario's population covered by the public health care system, this translates to spending approximately $3,500 per person, per year for health care [5, 60]. In recent years, the allocation of health funding in Ontario has shifted from a global budget allocation – a lump sum provided based on historical spending patterns – to health-based allocation – a needs-based formula [61].[1] When examining public health funding as it relates to the MOHLTC's operating expenses, public health itself receives little funding in the overall health budget at $700.5 million [60]. The MOHLTC also allots a separate portion of the budget to health promotion at $342.6 million [60]. It is notable that the LHINs receive a large portion of the overall health budget (51%, $24.9 billion) [60]. Local LHINS then allocate the funding to community health services, hospitals, and long-term care homes [51, 52]. Another large portion of the health care budget goes towards the Ontario Health Insurance Plan (36.0%, $17.4 billion), which covers physician and hospital services [60, 61].

Public Health Activities

Public health initiatives undertaken by public health units and other governmental agencies are aimed at addressing the determinants of health. These involve examining an individual's health in the context of his or her physical, social, and economic environment, as well as their personal behaviours and characteristics [62]. In doing so, a full picture of their state of health can be understood. According to the Public Health Agency of Canada (PHAC), there are twelve key determinants of health: gender, income and status, social support networks, social environment, education and literacy, employment and working conditions, culture, physical environment, healthy child development, health services, biology and genetic endowment, and personal health practices and coping skills [63].

There are six main functions of public health: health promotion, health protection, population health assessment, disease surveillance, disease and injury prevention, and emergency response and preparedness [23, 64]. Descriptions of the functions are presented in **Table I** along with examples on how they are addressed in Ontario [23].

The PHAC has also identified seven core public health competencies encompassing the essential skills, knowledge, and attitudes required for professionals engaging in public health practice [65]. These include public health science; assessment and analysis; policy and program planning, implementation, and evaluation; partnerships, collaboration and advocacy; diversity; communication; and leadership [65]. The core competencies are meant to foster professional growth and development among practitioners and public health students. They represent the foundation for public health education, professional development, and are employed to establish public health approaches, including standards and terminology used by professionals [65]. For example, local public health units in Ontario often use the public health competencies to describe the roles and responsibilities in job competitions and then use the competencies as criteria in the selection process.

The public health competencies contribute to a greater functioning of the Ontario public health system because they are designed to assist professionals, organizations, and the public in various ways [66]. Professionals are aided by the competencies as they serve as guidelines for the skills, attitudes, and knowledge expected in the field [66]. For provincial organizations, the competencies help in identifying development and training opportunity areas for staff, as well as appropriate compositions of public health workers (i.e. health promotion coordinators, biostatisticians, epidemiologists, etc.) in a specific work setting [66]. The public benefits from the competencies due to the creation of a more unified and effective workforce of public health practitioners [66]. Furthermore, competencies can improve the health of Ontarians through research and decisions that are focused on the population and are evidence-based, equitable, ethical, and standardized, as well as assist in explaining the nature of public health and its goals to society [66].

Further Considerations

The public health system in Ontario needs to be prepared to respond to challenging situations that arise in a coordinated manner with cooperation from organizations at all levels of government – municipal, provincial, and federal. Through the creation of Public Health Ontario (PHO), the provincial public health system has strengthened. In PHO's strategic plan for the years of 2014 to 2019, the organization identified five directions for the upcoming years [67]. These directions include offering technical and scientific knowledge, developing integrated methods of monitoring population health, leading knowledge dissemination and guiding decision-making, approaching complex health problems through generating knowledge, and further developing PHO [67]. They encompass the future directions that the public health system should take, from identifying health issues

Area of Focus	Description	Example Activity in Ontario
Health Promotion	Processes and policies that allow individuals to gain direction over and better their health status [69]. Goal is to take action at addressing determinants of health [69]. The needs of the whole population are examined in the relation to their daily lives, instead of concentrating on persons who may have risk factors for certain diseases [69].	• Designing the built environment to promote active transportation (bike pathways, walk ways) • Recreational parks to encourage healthy behaviour • Public meeting places to encourage social interaction • Deterring health harming behaviour by providing smoke-free zones (to reduce harm to others) • *Healthy Babies Healthy Children* program delivered though public health units [70]
Health Protection	Actions that decrease the threats to population health by monitoring the safety of water supplies, quality of food, and air, controlling environmental hazards, and minimizing communicable disease spread [71]. It also includes safeguarding the population from agents (chemical, biological, physical), which may lead to outbreaks [71].	• Environmental epidemiology • Food science, food safety, and quality assurance • Chemical risk management • Toxicology • Environmental and occupational hygiene and medicine • Exposure assessment • PHO reports: *Review of Air Quality Index and Air Quality Health Index* (2013), *Update on Raw Milk Consumption and Public Health* (2013) [72]
Population Health Assessment	Consideration of the health of specific communities, as well as factors that may lead to health improvement or pose risks, resulting in enhanced policies and services [73]. Significantly influenced by determinants of health [73].	• Health status reports • Measures of health • PHO report: *Youth Population Health Assessment Visioning: Recommendations and Next Steps* (2013) [74]
Disease Surveillance	Involves the acknowledgment of disease outbreaks and monitoring of its spread to limit the impact of the disease on persons or populations [73].	• Reporting of infectious diseases, maintaining disease registries (i.e. Ontario Cancer Registry) • PHO report: *Reportable Disease Trends in Ontario* (2013) [75]
Disease and Injury Prevention	Strategies and actions to avoid the development of disease by mitigating risk factors, preventing disease development, spread and progression, and reducing the effect of disease [76]. Also includes actions to recognize disease in its initial and curable stages [76].	• Screening programs (cancers) • Food fortification (vitamin D in milk) • Vaccinations • Lifestyle and behavioural modification (i.e. healthy diets and regular exercise) • PHO reports: *Taking Action to Prevent Chronic Disease* (2012) and *Seven More Years* (2012) [77]
Emergency Response and Preparedness	Public health system's capacity to prevent and protect against health emergencies, including rapid responses, as well as recovery measures [78]. It includes the abilities of individuals and the community as a whole to react [78].	• Planning for natural disasters (fires, earthquakes, floods) and man-made disasters (biological threats, explosives, radiation and nuclear spills) • Includes public health emergencies such as food contamination and disease outbreaks • PHO offers Public Health Emergency Preparedness workshops based on Incident Management System [79]

Table I. *Main Public Health Functions.*

Source: Own elaboration based on sources listed above [69–79].

at the outset to disseminating findings from research in the health system. More recently, the MOHLTC released a discussion paper titled *Patients First: A Proposal to Strenghten Patient-Centred Care in Ontario*, which includes planned changes to the organization and funding of public health services to better connect them to the larger health system [68]. Future public health programs and services should also strive to include the determinants of health in the planning, implementation, and evaluation of health programs. In doing so, interventions can be more targeted towards the unique circumstances and lived experiences of a particular group or the population as a whole.

Note

[1] Health-based allocation: a formula used to calculate the expected value based on historical service volume and predicted number of services, the size and status of the hospital, expected population growth, health spending patterns, and the cost of the health services [61].

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