Introduction

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Introduction

This is Public Health, A Canadian History explores the evolution of public health from its early foundation before Canada was a nation until 1986, when the Ottawa Charter for Health Promotion launched what many considered to be a new era in public health.[1] During this time span, numerous public health milestones were achieved through organized community efforts to promote health and to prevent disease and injury, which have always been at the core of public health.

The public health systems and tools developed by different societies are determined by the health issues of the day, as well as the level of economic development, knowledge and techniques and the relationships of power between its social groups. This history underscores the importance of federal leadership in the implementation of successful public health initiatives in Canada, despite the tensions of federal-provincial jurisdictional boundaries in matters of health. The struggle to eliminate disparities—between geographic regions, urban and isolated communities, Aboriginal and non-Aboriginal people—was a longstanding concern that continues to this day. Since its beginnings, public health has faced changes and challenges and has too frequently been undervalued. However, a number of remarkable advances in Canada over the past 100-plus years can be attributed to public health.

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Ottawa City, Canada West, 1855

The Beginning—Quarantine and Sanitation

Indigenous peoples have inhabited the North American continent for thousands of years and their health, social, economic and physical conditions were adversely affected by increased European immigration, which began in the 1600s. As the fur trade drove French and British expansion across North America, smallpox, measles, tuberculosis and alcohol destroyed many Indigenous lives.

As European immigration grew, vessels arriving at the Port of Quebec often had large numbers of sick passengers, especially due to typhus fever. Haphazard efforts to inspect ships before they landed passengers became more organized beginning in 1710, followed by a quarantine act in 1721 that was enacted because of fears of the Black plague that was spreading across Europe. The plague never made its way to New France but despite the legislation, the number of typhus and smallpox outbreaks did not abate. A more comprehensive law called the *Quarantine Act of Lower Canada* was enacted in 1795 but it had to be renewed periodically or it would lapse, which it often did. However, the law served as a template for other colonial governments in British North America as they developed their laws to prevent infectious diseases from spreading. In general, quarantine legislation was of limited effectiveness because local governments tended to act only during or immediately after the spread of disease epidemics.

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New France, 1688

The idea that smallpox could be prevented through arm-to-arm inoculation was introduced in Britain in the 1720s, although the practice had been known in Asia centuries earlier. In 1796, British physician Edward Jenner used fluids collected from cowpox lesions on livestock to protect humans from smallpox infection, creating the first effective vaccine. Epidemic cholera, typhus, tuberculosis, measles and scarlet fever spreading across Europe and Britain prompted a series of sanitary reforms and the creation of local boards of health.

A physician was appointed as Health Officer of Lower Canada in 1816, in response to a high incidence of illness occurring among thousands of new immigrants—"the wretched and miserable class of starved people that annually arrive" in Quebec City from Britain. A strengthened quarantine bill was passed in 1823 and provided for the appointment of a Board of Health made up of five licensed physicians or surgeons, although these measures were still only temporary.[2]

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Dalhuse Square, Halifax, NS, 1851

Cholera Spreads to the Colonies

In the early 1830s, pandemic cholera spread across Britain and Europe and some physicians had linked cholera and other fevers with impoverished living conditions. They argued that diseases could be prevented if the community took steps to improve the deplorable conditions endured by the poor while others argued that cholera was due to "miasma," an ill-defined poisonous vapour or mist believed to emanate from rotting organic matter. A potent combination of fear and humanitarianism prompted the British government, for the first time, to establish a temporary national board of health and order town authorities to appoint local boards of health to oversee sanitary improvements. Similar laws were soon enacted in Spain, Germany and France and what would be described as public hygiene or public health was born.

The government of Lower Canada also authorized the establishment of local boards of health in Quebec, Montreal and elsewhere as needed, and appropriated funds for these boards and the costs of quarantine. As approximately 50,000 British immigrants were sailing across the Atlantic Ocean from cholera-infested ports to the Port of Quebec, Lower Canada's quarantine act was re-invoked and a squad of soldiers was dispatched to Grosse Isle, a small

island about 50 kilometres east of Quebec City, to build a quarantine station for inspecting and cleansing the arriving immigrants. The first reported cholera cases arrived on April 28, 1832 and the quarantine station was quickly overwhelmed, while apparently healthy but infectious immigrants passed through and the human wastes from the succession of arriving ships infected the St. Lawrence River. Cholera spread to Montreal and Upper Canada in June and by the time the epidemic had passed, cholera had killed about 2,300 people or 10% of the population in Quebec City and 4,000 or almost 15% of the population in Montreal.[3]

As cholera spread across Lower Canada, the colonial governments of New Brunswick, Nova Scotia and Newfoundland took steps to prepare by establishing central boards of health and passing temporary legislation to strengthen quarantine provisions. They focused on cleaning up the cities and towns, especially the areas where the poorer classes lived. Whether as a result of these efforts or by coincidence, there was no cholera outbreak in the maritime colonies in 1832. In Upper Canada, however, there were no quarantine regulations for its ports and local governments did not have legal authority to stop and inspect ships. As cholera spread, local boards of health were appointed and funded to manage the disease. As in the other colonies, streets and alleys were cleaned of filth and rubbish, pools of stagnant water were emptied and blocked drains were cleared, especially in areas where poor immigrants lived in crowded, filthy conditions. When the epidemic subsided in 1833, the Upper Canada government passed progressive but temporary legislation for the implementation of preventive public health measures. As the flood of British immigrants continued, epidemic cholera struck the colonies again in 1834, despite stricter quarantine regulations and local clean-up efforts.[4]

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Four Indian Figures, ca. 1840

Strengthening Infrastructures

In 1849, the government of the United Canadas (Upper and Lower) created a Central Board of Health with new legislation, but when the threat of a cholera epidemic ended, the Central Board was dissolved. There were consolidations of public health legislation during the early 1850s in Nova Scotia and the United Canadas, however, with the establishment of permanent local boards of health and the strengthening of quarantine laws. When cholera returned in 1854, the Canadian Central Board of Health was revived and the government assumed full control of Grosse Isle.

In 1847, some 100,000 poor Irish emigrants fled famine and en route to British North America fell victim to typhus in large numbers. A report to the British Parliament said "6,100 perished on the voyage, 4,100 on their arrival, 5,200 in the hospitals, and 1,900 in the towns to which they repaired. The total mortality was 17 per cent of the number emigrating." According to official Canadian statistics, 5,424 died of typhus fever at Grosse Isle in 1847, while thousands of others died in Quebec City, Montreal, New Brunswick and Upper Canada.[5]

In Britain, where high rates of infectious diseases and child mortality were linked to the grossly unsanitary conditions and polluted drinking water among the working classes, the sanitary reform movement continued to grow. Britain's 1848 *Public Health Act* resulted in more proactive measures to prevent disease and promote health, including the establishment of vital statistics registrars and voluntary public health associations to build support for public health reforms. During a cholera outbreak in London, England in 1854, British physician John Snow discovered that a neighbourhood water pump on Broad Street was the cause of hundreds falling ill and many deaths. Snow's work followed Edwin Chadwick and other physicians in Britain and New York City, who had undertaken detailed investigations into the sanitary conditions of labourers. Their work was strengthened by the

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scientific application of statistics. Snow's research, in particular, marked the beginning of the modern science of epidemiology and a moving away from reliance on quarantine.[6]

Compulsory vaccination measures to prevent smallpox were introduced in the early 1860s in the United Canadas and Prince Edward Island. The Hudson's Bay Company, which served as a *de facto* public health agency in the west from the late 18th to the early 19th century, launched a vaccination campaign that kept the disease under some control among some Indigenous communities, although the importation of smallpox into British Columbia from California during the gold rush of the early 1860s was particularly devastating to the First Nations who lived there.[7]

Despite a public outcry, the government of the United Canadas legislated the rapid removal and burial of deceased victims of infectious diseases, but legislation requiring inspection of food and drink by a qualified chemist to identify adulteration was shelved shortly after its introduction.[8]

As the Fathers of Confederation worked on the drafting of the *British North America Act*, they were not concerned with public health, despite the experience of major epidemics since the 1830s, a new cholera threat in 1866, and the advances being made in understanding the importance of clean water and proper sanitation. The political leadership of the new Dominion of Canada and the provinces remained wedded to the quarantine approach to public health. Thus, during the early post-Confederation period, a growing preoccupation of Canada's small but energetic group of sanitary reformers was to integrate a broader concept of public health protection and promotion into the new Canadian provincial and federal political structure.