

This is Public Health: A Canadian History

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Modernization and Growth

A new public health order emerged in the aftermath of World War I, represented at the international level by the development of the Health Organization of the [League of Nations](#). In Canada, this new order was symbolized by the Dominion Council of Health (DCH), which was created to develop policies and advise the new federal Department of Health. Initially, the Department was primarily focused on collecting and distributing information, with some lesser effort to develop federal laboratory research capacity.



Miriam Elston, Provincial Archives of Alberta, A19485

In some ways, the Dominion Council of Health was more important to the development of public health during the 1920s than the fledgling department it served. Council members tackled a variety of issues together on a national level that had not been possible before. Major issues included increased immigration, industrialization, the beginning of a transition from a rural to an urban society, and fundamental changes in the role of women—as the social and economic foundations of the country continued to evolve.

In the 1920s, government officials worried about the impact of immigrants in sparsely settled rural areas, especially after an economic depression in 1921. Rural public health resources were limited or non-existent and both prairie and Maritime populations were growing rapidly. The Department of Health

[click to enlarge image](#)

From Austria to Alberta, Ruthenian family, 1911

Dominion Council of Health

The Dominion Council of Health was chaired by the federal Deputy Minister of Health and made up of the chief provincial officers of health and representatives of urban and rural women, labour, agriculture and universities, the latter representing academic and scientific expertise in medicine, public health and laboratory research. The Council provided a twice-yearly forum to openly discuss, compare and co-ordinate strategies on the major public health concerns of the day and went a long way to overcoming the practical and political isolation of provincial governments when faced with significant public health challenges.



Sanofi Pasteur Limited, Connaught Campus, Archives

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Dominion Council of Health, 1919

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developed policies to screen immigrants from continental Europe for diseases before they left for Canada. “Undesirables... suffering from tuberculosis, defective mental conditions or a loathsome disease” were to be deported as soon as possible.¹

Maternal and Child Health


Concerns about the effects of factory work on pregnant women and the health of mothers with small children brought maternal and child health concerns to the forefront, especially since the influx of women in the workforce during World War I. In 1920, the Dominion Council of Health endorsed an international minimum standard for women working in industry before and after childbirth that had been developed at the 1919 International Labour Conference.

“If we make Canada safe for the mother we shall make it safe for the baby.”

—Dr. Helen MacMurchy, Chief of the Division of Child Welfare, 1923

Dr. Helen MacMurchy conducted the country’s first comprehensive survey of maternal mortality and reported 1,532 deaths between June 1925 and June 1926—a rate of 6.4 deaths per 1,000 live births. MacMurchy

also estimated that the maternal mortality rate averaged 5.5 per 1,000 live births between 1900 and 1920, but these rates were under-reported by as much as 25% until the 1930s. Compared to most other industrialized countries, Canada rated poorly in both infant and maternal mortality and the rates varied widely across the country. Rural women had very little, if any, access to obstetrical, pre- or post-natal medical care.²

 [click to enlarge image](#)



Provincial Archives of Alberta, 1924, A11807 (left), A11808 (right)



J.D. Pagé

First Chief of Immigration Medical and Quarantine Services

Dr. J.D. Pagé was born in St. Casimir, Quebec in 1861 and graduated in medicine from Laval University. He practised medicine for some years before joining the federal Government as Medical Superintendent, and later Chief, of the Immigration Hospital at the port of Quebec. With the creation of the federal Department of Health in 1919 and the transfer of Immigration Medical and Quarantine Services to this department, Dr. Pagé was appointed Chief of these divisions. Due largely to his initiative the Overseas Immigration Medical Service was established, enabling the physical and mental status of prospective immigrants to be determined prior to embarking.

—*Canadian Public Health Journal*, Vol. 25, 1934

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In 1920, the Canadian Red Cross Society funded a new child welfare section of the Canadian Public Health Association, enabling it “to initiate immediately, a most energetic movement, along educational lines looking to the reduction of infant mortality throughout Canada.”³ The Dominion Council of Health endorsed CPHA’s Child Welfare Section as the national focus of voluntary child welfare programs to work with public health departments at all levels of government. The federal Department of Health also established a child welfare division at this time and its first major activity was the publication of pamphlets and brochures on child and maternal health.

Ontario had progressive maternal and child health and welfare programs at this time, made possible by significantly higher budget appropriations for the Provincial Board of Health. The amount allocated rose from \$50,000 in 1910 to \$530,000 in 1920—a sum that exceeded the allocations of all the other provinces of Canada put together. In 1920, the Province hired eight public health nurses, supplemented by another eight provided by the Ontario Red Cross, and organized local community health centres to “undertake maternal and child welfare work as well as general public health under the supervision of the district nurse.” Every effort was to be made to “arouse general interest in the necessity for pre-natal care and allied problems.”⁴

Public health nurses were given primary responsibility for the health and welfare of women and children and Ontario’s district nurses were provided with a “motor car” to “readily cover her district in order to persuade individual mothers of the necessity for supervision and expert advice.”⁵ An inexpensive travelling exhibit in a truck would also be provided on occasion to the district nurse, supplemented by a pediatrician and a general nurse for explaining and demonstrating scientific methods.

Eunice Henrietta Dyke

Comprehensive System of Child and Family Health and Welfare Services

Eunice Henrietta Dyke was born in Toronto in 1883 and entered Johns Hopkins School for Nurses in Baltimore, Maryland in 1905. She started at the Department of Public Health of the City of Toronto in 1911 at a time when public health was extremely susceptible to the efforts of enthusiastic, energetic and pioneering individuals. On Ms. Dyke’s recommendation, child welfare services became the nucleus of the Department’s child health centres and the Department’s nursing staff was organized to provide service on the basis of the family as a unit and decentralized on a district basis—a system that was the first of its kind and which received world-wide acclaim. Ms. Dyke was also credited with establishing links between public health and associated community welfare and social services.

—*Canadian Journal of Public Health*,
Vol. 51, July 1960

The condition of children and women living in rural areas were a particular concern to the DCH. In addition to a lack of safe and available food, farm women were seen to be working themselves to death. About half of Canada’s modest but growing population (from 8.4 million in 1920 to 10 million in 1929) was spread sparsely across large rural areas and the provision of public health services was a challenge. Rural schools received limited medical inspection and home sanitation and plumbing were usually poor or non-existent. While outdoor privies threatened groundwater supplies, most farmers could not afford to install modern septic tanks and indoor plumbing. Many rural communities also were excluded from the construction of more efficient and safe water and sewage management systems undertaken by cities and towns during this decade.

Public Health Nurses

In 1920, the Dominion Council of Health expressed dismay about “the revelation of the fact that there is a deplorable scarcity of nurses in every province of Canada.”⁶ An increased demand for nurses began in World War I and continued well into the 1920s.

Manitoba established the first provincial public health nursing service with five nurses in 1916 and by 1922, had 53 working around the province. British Columbia appointed its first public health nurse in 1917, followed by Alberta in 1918 and Saskatchewan in 1919. The western provinces focused on child health stations in the major cities and rural municipalities and conducting home nursing classes.⁷

Dalhousie University in Halifax offered the first substantive public health nursing course in February 1920, followed shortly thereafter by the University of Toronto, McGill University, the University of Western Ontario, the University of British Columbia (UBC), and the University of Alberta. Public health nursing at UBC was a supplement to the baccalaureate in nursing program it had established in 1919, the first such nursing degree program in the British Empire.

“The particular phase of bed-side nursing, which comes more than any other to the Victorian Order of Nurses, is that of maternity service. In the year 1929, some 64,356 patients were cared for by the Order. Of this number, 14,218 were obstetrical cases, or well over twenty per cent of the total number. The Order thus provides nursing care for approximately six per cent of the births that occur in Canada.

—Dominion Council of Health, 1931”

The universities required financial assistance to develop public health nursing courses and to attract and support students. In 1920, the Ontario Division of the Canadian Red Cross provided full funding for the establishment of a Department of Instruction in Public Health Nursing at the University of Toronto in connection with the Faculty of Medicine and the Ontario Red Cross, which offered 10 one-year scholarships to graduates of recognized schools of nursing.⁸

Full-Time Health Units

Canada's first full-time county health unit was created in Saanich, British Columbia, in 1921, although many urban areas had full-time health departments staffed by well-qualified, full-time medical officers of health. Small towns and rural areas still depended on part-time officers of health and limited infrastructures in the 1920s and the rural officer of health was usually a busy private physician. Many lacked the time, interest and professional qualifications to be effective public officers of health but there simply was not enough funding available from the local tax base in rural areas and smaller communities to support a full-time public health organization.⁹

In 1923, Ontario's chief provincial officer of health, **John McCullough**, initiated a campaign to advance public health, starting with the establishment of competent health departments with an efficient organization overseen by a full-time officer of health. In 1924, he focused on promoting the concept of full-time health units at the district or county level, which he saw as "the greatest public health need in Canada" and pressed the issue as often as he could, to the point of apologizing to the Dominion Council of Health for "hammering away at it for the last 10 years." Substantial financial commitments provided by the Rockefeller Foundation were critical, as federal funding for McCullough's campaign never materialized.¹⁰



Hibbert Winslow Hill

Pioneering Work, Authorship and Teaching in Bacteriology

Dr. Hibbert Winslow Hill was born in Saint John, NB in 1871 and was the first

bacteriologist to serve in a full-time capacity in Canada and was one of the pioneer epidemiologists in the United States. He was the author of *New Public Health*, *Sanitation for Public Health Nurses*, and *The New Hygiene*, all of which expressed his keen, critical evaluation of existing public health methods. During his residency in Boston from 1898 to 1905, he served as Director of the Boston Board of Health Laboratory and taught bacteriology at Harvard Medical School. In 1912 he became Director of the newly established Institute of Public Health in the University of Western Ontario, London, and in 1925, accepted the appointment of Director of Laboratories of the Vancouver General Hospital and Professor of Bacteriology and Nursing and Health in the University of British Columbia.

—*Canadian Public Health Journal*,
Vol. 26, 1935

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Quebec was the second province to create a full-time county health unit in 1926 and more populated and developed county structures facilitated the efficient establishment of county health units, with 23 established by the end of 1930. Quebec had created a hygiene council in 1887 but invested very little in this body and although the province already had 876 municipalities by 1891, they did not begin to provide public health services until the 1920s. From that point on, public health services were delivered by the counties and administered and directed centrally by the provincial government. Athanase David was appointed provincial secretary and registrar in 1919 and created a division of public assistance in 1921 and a division of provincial hygiene in 1922. He named **Dr. Alphonse Lessard** to lead both and the two essentially ran a provincial ministry of health under the auspices of the Secrétariat de la Province.



Provincial Archives of Alberta, A1 1813

[click to enlarge image](#)

On the job safety, 1924

Quebec's public assistance division was responsible for administering provincial grants for hospitals and other charitable establishments, including the care of the indigent. The Service provincial d'hygiène replaced the Conseil d'hygiène and the division quadrupled public health spending between 1922–23 and 1935–36, focusing on VD, TB and childhood diseases. As health units spread across the province, administered at the county level, the province also began building TB sanatoriums in 1924, an initiative that had until then been left to the private sector.¹¹

Saskatchewan, with almost fully rural conditions, took a different approach by providing free consultative health clinics. As Deputy Minister of Health **Maurice Seymour** told the June 1928 meeting of the DCH, “the province of Saskatchewan covers a very large area, and it is very difficult for a great many of the people to obtain the necessary medical assistance, and it is very difficult for a

H.E. Young

Effective Leadership in Public Health in BC, Canada and the United States

As Dean of Canadian officers of health, Dr. H.E. Young entered the Legislature of British Columbia in 1906 and was appointed Minister of Education and Provincial Secretary. The rapidly developing Provincial Board of Health claimed the interest of Dr. Young and in 1916 he was appointed Secretary of the Board of Health and Registrar General of Vital Statistics. Because of his keen interest in education, British Columbia was the first province to provide a system of school medical inspection. Dr. Young organized the first county health unit in Canada at Saanich in 1921 and directed the first public health nursing service in Canada. It is said that the Victorian Order of Nurses, the Canadian Welfare Council, the Health League of Canada, the Canadian National Committee for Mental Hygiene all owe a debt of gratitude to him for his interest and support.

—*Canadian Public Health Journal*,
Vol. 29, 1938

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great many to pay for that assistance after they have obtained it.” Saskatchewan, Manitoba and Alberta amended provincial health legislation enabling municipal councils within a county to work together to request provincial funding to support a unit.¹²



[click to enlarge image](#)

Children at residential school, 1924–25

Services for Indigenous Communities

Indigenous communities also had very limited public health services. As it is today, the federal government was responsible for health promotion and protection for Canada’s Aboriginal peoples, but few services were provided at this time. The Indian Health Service did not begin to develop until 1927, when Dr. E. L. Stone succeeded Dr. Peter Bryce as Medical Superintendent General. Bryce had been an outspoken critic of the federal government’s failure

to provide health care and services for First Nations and his persistent advocacy effectively ended his career in the federal public service. Remarkably high rates of tuberculosis in Indigenous communities became more publicly known in the mid-1920s, when the Canadian Tuberculosis Association undertook a two-year study of coast and interior bands in British Columbia on behalf of the Department of Indian Affairs.¹³

The first substantive federal effort to provide health services to Indigenous people in the North began in 1922 with the appointment of Dr. L.D. Livingston as Medical Officer for the Northwest Territories and Yukon Branch of the Department of the Interior. Catholic and Anglican missionaries operated small northern hospitals, often duplicating their efforts in the same area, much to Livingston’s annoyance. He also objected to the building of hospitals to serve the very sparse and nomadic northern Indigenous population. Instead, he

Alphonse Lessard

Developed and Demonstrated the Value of Full-Time Health Units in Quebec

Dr. Alphonse Lessard was intimately associated with the development of the full-time health unit movement in Quebec. On assuming the direction of the Provincial Bureau of Health in 1922, he gave earnest consideration to improving health administration. On his retirement in 1937, Dr. Lessard saw the fruition of much of his efforts through the provision of travelling tuberculosis diagnostic clinics, enlarged sanatorium accommodation, an effective program of venereal disease clinics, and greatly reduced death rates from typhus fever and diphtheria. This demonstration of the value of full-time health services provided by qualified personnel meant much in the development of public health in Canada.

—*Canadian Public Health Journal*,
Vol. 29, 1938

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established a “medical headquarters” in Pangnirtung in 1928, incorporating a small Anglican hospital there. A second was established in Chesterfield Inlet in 1930 as an administrative base for the medical officers under his direction and for out-patient and limited in-patient services.¹⁴

Venereal Disease

Stopping the spread of venereal diseases (VD) became a national preoccupation after the First World War. The deadly impact of Spanish influenza and tuberculosis among Indigenous people contributed to a post-war effort to keep VD from spreading to Indigenous populations in the Arctic. Syphilis had spread from contact with early European explorers in the North, but Deputy Health Minister Amyot stressed that “the protection has got to be not to allow anyone up there, except those who are free from Venereal Disease.”¹⁵

VD prevention and control were driven by the concept of social hygiene, which emphasized the need for “normal” marital sexual activity as opposed to the “abnormal” extra-marital sexual relations, which were considered the root of venereal diseases. Canada’s VD campaign was the first shared federal-provincial health program. The federal government provided \$200,000 annually and by 1922, 52 venereal disease clinics were established in every province except Prince Edward Island, providing free, compulsory treatment. Physicians were required to report confirmed cases but carelessness or ignorance of the provincial reporting regulations tended to limit this in practice.¹⁶

The Canadian National Council for Combating Venereal Diseases (renamed the Canadian Social Hygiene Council in 1922) was a voluntary organization largely responsible for implementing the VD campaign in most provinces and major cities. Speaking tours were sponsored by local Council branches and featured public health officials and celebrity



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speakers. A popular men-only VD exhibit was shown at Ottawa’s Central Canada Exhibition in 1923, with life-size wax models procured from France, “copied from life in wax and painted by artists to represent cutaneous lesions of syphilis and gonorrhoea.” A similar exhibit for women only was later held in a less conspicuous location in downtown Ottawa.¹⁷

In the 1920s, the Council called for sex and moral education for children, social and athletic clubs, the control of alcohol, custodial care for the “feeble-minded” and the supervision of dance halls and other public places. Stopping the spread of VD required a new attitude towards male sexuality, recognizing “that sex indulgence is not essential to good health, and that venereal disease resulting from prostitution was a great menace to the individual, community and nation.” VD Council president and *Public Health Journal* editor **Gordon Bates** called on readers “to help in a crusade against the literary scavengers and scandal mongers whose publications pollute the atmosphere of our newsstands and the minds of our young people.”¹⁸

The diagnosis of venereal diseases was a challenge for public health laboratories and compulsory treatment and the deprivation of individual liberty required a level of precision that some felt was not yet possible. The legal community became concerned about the “tremendous power” given to medical officers of health. In a 1922 *Public Health Journal* article, Toronto Assistant Crown Attorney J.W. McFadden wrote that, “what was intended to be treated as a disease is treated as a crime.... The British people did not go so far. All they did was set up clinics and afford free treatment.”¹⁹

Charitable Organizations

In addition to the VD campaign, voluntary health organizations and international charities helped fund the training of public health nurses, strengthened university infrastructures and facilitated the creation of full-time county health units. The Canadian Red Cross was of

Police Powers

An unfortunate mistake of public health practice still happens occasionally: exercise of “police powers.” We see this nowadays only rarely, for instance when a sexually promiscuous person knowingly transmits HIV disease, is arrested, charged and imprisoned. Nobody seriously objects to this except the HIV positive individual and a few fringe civil libertarians. But in the early 20th century the police powers of local public health services were very widely used in a way that tarnished the image of public health quite seriously. We would nowadays regard it as a serious abuse of power. For instance, public health officials had warrants (like police search warrants) to enter private homes and seize children who were, or were thought to be, contacts of contagious diseases such as diphtheria and typhoid fever. In that way, public health acquired an image of heavy-handed authoritarianism that in some communities with long memories it is only now beginning to lose.

—John Last

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particular importance in providing public health training and services on the east coast. In Prince Edward Island, where there was no provincial health board or department, the Canadian Red Cross assumed responsibility for delivering all public health services, with most of the work conducted by public health nurses. Metropolitan Life and other life insurance companies sponsored a range of local initiatives and studies, while the Rockefeller Foundation supported public health education in Canada and around the world.

The Canadian Public Health Association, meanwhile, struggled with its finances and with finding a national focus, as competing voluntary organizations with specific public health interests developed. CPHA President and New Brunswick Minister of Health, W.F. Roberts, downplayed doubts about the public health's field ability to sufficiently support CPHA, while stressing the need to find organizational efficiencies. An Advisory Council for better co-operation with other voluntary organizations was formed, including representatives of the Canadian Red Cross, the Victorian Order of Nurses, the Canadian Medical Association, the Canadian National Council Combating Venereal Diseases, the Canadian Social Hygiene Council, the Canadian Association for the Prevention of Tuberculosis, the Independent Order of the Daughters of the Empire, and Women's Institutes.

Canadian Red Cross

The Red Cross movement in Canada was founded by George Sterling Ryerson, who organized a Canadian branch (Toronto) of the British Red Cross Society in 1896. The federal government passed the *Canadian Red Cross Society Act* in 1909, making the Society responsible for providing volunteer aid in Canada. During World War I, the Canadian Red Cross raised \$35 million for overseas relief and set up outpost hospitals in isolated areas of Canada after the war. During World War II, the Canadian Red Cross contributed volunteer services and \$80 million in goods and money.^a



Arthur Dicaire

Pioneer in Sanitary Inspection and Hygiene

Mr. Arthur Dicaire of Lachine, Quebec became the first person to receive the Certificate in Sanitary Inspection (Canada). He received Certificate #1 in October, 1935. Born in 1886, he began his public health career in 1914 with the Lachine Hygiene Department and obtained official qualifications in Milk Testing and Plumbing. He was an Associate with St. John's Ambulance for 24 years and had excellent references from the medical establishment in Montreal, Quebec City and Lachine.

—Tim Roark, Historian, Canadian Institute of Public Health Inspectors

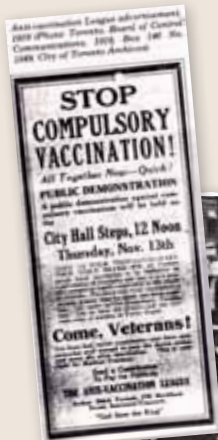
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Despite a resolution for CPHA to hire a full-time Executive Secretary to administer the Advisory Council and establish affiliate provincial or district public health associations, the Association could not afford to implement this or even to hold an annual meeting in 1924. At the 1925 CPHA annual meeting in Montreal, a renewed initiative was launched to develop “alternate proposals for the future of the Association” and the *Journal of Public Health*. CPHA’s leadership considered becoming a part of the American Public Health Association but at the 1928 annual meeting in Winnipeg, the membership renewed its commitment to continue CPHA and “develop it into an effective professional society” and conduct various public health studies. CPHA assumed full ownership of the journal, with its Executive Committee responsible for business management and Robert D. Defries responsible for editing it, with new professional focus on scientific content and accuracy. In January 1929, the journal was re-named the *Canadian Public Health Journal*.²⁰

Lapses in Oversight: Smallpox and Typhoid

Persistent outbreaks of typhoid and smallpox demonstrated unacceptable lapses in public health oversight and highlighted a longstanding neglect by some local governments. Anti-vaccination sentiments among some members of the public and the medical profession were often reinforced when physicians improperly stored or administered vaccines. When a smallpox outbreak occurred in the Toronto area and resulted in 33 deaths in 1920, city authorities hesitated to carry out compulsory vaccinations. As a result, the United States required proof of recent smallpox vaccination in order to cross the border, and similar quarantine restrictions were imposed on anyone from Toronto entering Manitoba and Quebec.



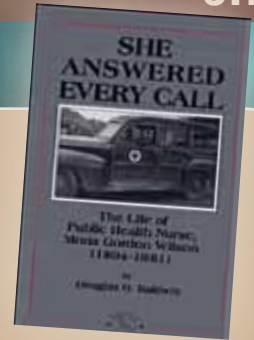
Ontario History (December 1983)

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Anti-vaccination sentiments

Mona Gordon Wilson

Dedicated Nurse and Pioneer in PEI Health



After Mona Gordon Wilson took her nurse’s training, she volunteered for duty in WWI in France, Siberia, Montenegro and Albania. She then set off for Canada’s smallest province where she became the moving spirit behind the development of its public health program. When PEI’s Department of Health was formed in 1922, Ms. Wilson was the Chief Red Cross Nurse. She organized the Junior Red Cross as an in-school aid for the development of better health and evolved a project for the treatment of handicapped children. Ms. Wilson inaugurated clinics for immunization and smallpox vaccination, developed the school health program, health education, and arranged for the first dental hygienists to receive training. In 1940, Ms. Wilson was given a leave when she was requested by the Canadian Red Cross to serve as its Commissioner in Newfoundland.

—*Canadian Journal of Public Health*, Vol. 51, July 1960

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Despite pressure, Ontario’s chief officer of health, Dr. John McCullough, refused to enter into a debate with anti-vaccinationists, trusting the public’s ability “to judge fairly in the matter.” The epidemic in Toronto eased after 200,000 voluntary vaccinations were given, while a more severe smallpox outbreak in Windsor, Ontario in 1923–24 resulted in a mortality rate among the unvaccinated of 71% of the reported cases. No one who had been vaccinated over the previous 12 years contracted the disease and no one who had ever been vaccinated died in Windsor. When the emergency was over, local health officials concluded, “the value of vaccination as a means of prevention has been proven as never before.”²¹

A major typhoid epidemic in Cochrane, Ontario in March 1923 and another in Montreal four years later illustrated other lapses in public health oversight. In Cochrane, typhoid-contaminated sewage entered the water supply, resulting in more than 800 cases and 50 deaths among a population of 3,400. The Provincial Board of Health provided engineers, general and public health nurses, as well as \$20,000 to help the town. The Montreal typhoid epidemic was caused by contaminated milk and left more than 5,000 stricken and 533 dead. Public health authorities were struck with “amazement that such a situation could possibly develop in a modern civilized city,” and how it reinforced persistent concerns about that city’s ability to protect public health.²²

City officials were the main target of blame, for failing to enforce a milk pasteurization by-law. New York City’s Health Commissioner, in assessing the epidemic, paid high tribute to the work of Montreal’s officer of health, in his attempts to combat the epidemic, noting that **Dr. Seraphim Boucher** was hobbled by insufficient power vested in the civic health officials and insufficient salaries for hiring and retaining qualified public health workers. The severity, scale and economic impact

Seraphim Boucher

Advanced and Developed Montreal Public Health

When Dr. Seraphim Boucher first entered Montreal’s Department of Health, the budget was small, the staff inadequate, and the activities limited largely to sanitation. When he retired as Director in 1938, the City had a highly efficient Department with activities in every field of public health. Montreal’s general death rate had dropped in 1936 to 10.2 per 1,000, from 21.5 in 1913. The infant mortality rate when he assumed office was 215 per 1,000 and down to 84 on his retirement. Such results stand as records of his achievements. Dr. Boucher was one of the founders of Montreal’s Société Médicale and later served as Registrar of the College of Physicians and Surgeons of the Province of Quebec. He established the first infant health clinic in Montreal in 1901 and served on numerous Canadian and international commissions.

—*Canadian Public Health Journal*, Vol. 29, 1938

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of the 1927 typhoid in Montreal prompted Montreal’s Anti-Tuberculosis and General Health League to invite an “unprejudiced group of public health experts” and unaffiliated business and professional men to undertake a thorough investigation of Montreal’s health needs.²³

The ground-breaking 1929 Montreal Health Survey Report reflected a sophisticated and early understanding of the importance of using statistics and placing public health within its social context. The survey compared Montreal’s mortality and municipal health expenditures with those of 12 American cities and Montreal clearly ranked last. Its per capita health expenditure was 39¢, compared to Pittsburgh, the highest at \$1.18, and Philadelphia, the lowest of the U.S. cities at 50¢. The report called for a reorganization of the Department of Health, a budget up to 91¢ per capita to properly support school health, laboratory and communicable disease control services, strict enforcement of food and milk by-laws and better co-operation with voluntary health organizations. The recommendations were unanimously endorsed by Montreal’s City Council and most implemented with minimal delay. Some reforms, such as hiring more sanitary inspectors, public health nurses and a bacteriologist, had been made before the survey was done. A *Canadian Public Health Journal* editorial described the city’s strong endorsement of the survey report as “an event of importance,” while cautioning that “a great deal remains to be done.”²⁴

Outbreaks of typhoid and other enteric diseases exposed weaknesses in sanitary controls of milk supplies. These outbreaks and the persistent threat of milk-borne tuberculosis enflamed the debates between advocates of raw milk and those calling for compulsory pasteurization. Public health leaders put raw milk advocates in the same category as opponents of vaccination, compulsory school attendance and child labour laws. As a *Canadian Public Health Journal* editorial noted, “Some of these people are undoubtedly affected by purely selfish motives, some are misinformed, but, in the main, this opposition would appear to be based upon the inherent dislike of the Anglo-Saxon to all measures which are designed to restrict the right of personal choice.”²⁵



Joseph Albert Baudouin

Advanced Public Health in Montreal and Established Vaccine Research Centres

Dr. Joseph Albert Baudouin became Medical Officer of Health of the Town of Lachine in 1909. In 1927 he became President of La Société Médicale of Montreal and worked to lower the infant mortality rate in Quebec by relating public health service with local parish groups. He also founded a training school for public health nurses, which was later integrated with the School of Hygiene of the University of Montreal. Under Dr. Baudouin’s direction, Montreal established several centres for experimental research in methods of immunization, particularly for the prevention of tuberculosis and diphtheria, that led to his invitation to represent Canada at an international congress on BCG in 1950.

—*Canadian Public Health Journal*,
Vol. 50, 1959

Toronto's School of Hygiene and Connaught Laboratories

The dramatic story of insulin's discovery by Frederick Banting and Charles Best at the University of Toronto in 1921 has been well documented. The news of the first diabetic patients who successfully received the new pancreatic extract spread rapidly around the world in January 1922 and drew unprecedented attention to Canada and the University of Toronto. **John FitzGerald**, Director of Connaught Antitoxin Laboratories, offered Banting and Best the laboratory's assistance with expanding production methods and clinical trials.

Insulin had a big impact on Canada's public health and medical research infrastructure, beginning with the establishment of the Banting Research Foundation in 1924 and the University of Toronto's School of Hygiene in 1927, dedicated to research, teaching and medical public service. With financial assistance from the Rockefeller Foundation, the School of Hygiene played a major role in helping to meet the growing demand for a qualified public health workforce. By the end of the era a number of other Canadian universities also began offering graduate programs in public health.

In 1924, Connaught's J.G. FitzGerald met Dr. Gaston Ramon at the Pasteur Institute in Paris and learned how he treated diphtheria toxin with heat and formalin to render the toxin harmless while still provoking an immune response. FitzGerald sent a telegram from Paris to Toronto and tasked Connaught scientist **Dr. Peter J. Moloney** with developing and testing diphtheria toxoid, sparking the birth of a modern immunization program. Connaught and the



[click to enlarge image](#)

The facilities of Connaught Antitoxin Laboratories, University of Toronto

Neil E. McKinnon

Established the Effectiveness of Diphtheria Toxoid

Dr. Neil E. McKinnon was appointed in 1925 to the staff of the Department of Epidemiology and Biometrics and as research associate in the Connaught Laboratories. With Dr. Mary Ross, he undertook studies of the efficacy of diphtheria toxoid, using primarily the records of the immunization of 36,000 children in Toronto and established unequivocally the effectiveness of diphtheria toxoid in preventing diphtheria. In 1944, he was appointed as Professor of Epidemiology and Biometrics and Head of the Department and Research Member in the Connaught Laboratories. He made many surveys and studies including the trends of mortality in Canada from important causes, with his findings on cancer mortality attracting international attention.

—*Canadian Journal of Public Health*, Vol. 53, June 1962

provincial governments began conducting field trials using the toxoid on school children in Ontario and Saskatchewan from 1925 through 1927. In surprisingly short order, Canada became the global leader in the production and testing of diphtheria toxoid and provided the first statistical demonstration of the value of a non-living vaccine in preventing a specific disease. The toxoid proved to be safe and effective, and subsequently diphtheria incidence declined dramatically in Canada and elsewhere.

Diphtheria immunization was undertaken across the country along with elaborate publicity campaigns and popular reaction to diphtheria immunization was generally very positive, especially compared with opposition to smallpox vaccination. In May 1926, Saskatchewan Deputy Minister of Health Maurice Seymour launched an initiative to boost diphtheria immunization rates with well-coordinated and concentrated education and immunization campaigns against diphtheria in September and October, against smallpox in November and December, and against typhoid in January and February.²⁶

Poliomyelitis

In contrast with the successful control of diphtheria, poliomyelitis (often shortened to “polio”) increased dramatically in incidence, first in British Columbia and Alberta in 1927, Manitoba in 1928, Ontario in 1929, and Quebec in 1930. Polio was still widely called “infantile paralysis,” although the new and strange disease did not strike infants only. A magazine article entitled, “Death Walks in Summer,” urged parents to “suspect everything” since no one could predict which case would prove mild, “or which will cripple hopelessly.”²⁷

The only weapon against polio at this time was a human “convalescent” serum made with blood collected from polio victims. The serum was freely supplied in most provinces to prevent polio’s paralytic effects, although its effect was unclear. Alberta’s Department of Public Health made little effort to use the serum in 1927, recognizing that “the public, in spite of the Department’s



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Muscle training exercises, 1928

This is Public Health: A Canadian History

extensive educational efforts, did not realize the significance of the early symptoms,” and usually called the physician only after paralysis had appeared. Alberta instituted school closings, quarantine and restrictions on public gatherings and travel for children.²⁸

Manitoba responded with public education emphasizing the early use of convalescent serum, reflecting a better awareness of current research indicating that isolation and school closings were “of doubtful efficacy.”²⁹ Manitoba engaged newspapers and radio in an effort to prevent public panic from developing. “Nothing was held back; the seriousness of the situation was not minimized, but no scare stories or exaggerated statements were printed.”³⁰ Ontario took an approach similar to Manitoba’s as polio continued its west to east spread.

The Alberta government was the first to address the longer-term physical and economic impact of polio with specialized hospital-based treatment and aftercare for affected children, following a survey of 131 patients. A 60-bed Special Hospital for Infantile Paralysis was built near the University of Alberta Hospital in Edmonton in 1928, staffed by orthopedic specialists. It provided specialized treatment given at cost for all provincial cases, with financial assistance available in cases of necessity.

Depression and the End of Expansion

The stock market crash of 1929 would hinder the provision of public health and acute care services in the next decade and the urban-rural disparity in the level of services provided would deepen in the 1930s. The industrialization and modernization would also be slowed in the next decade, as would the expansion of public health services and infrastructure.

