DISEASE, MEDICINE AND SOCIETY IN CANADA:
A Historical Overview

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The Canadian Historical Association
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This text deals with the history of health in Canada since the 17th century. It is a history of disease and the efforts made to fight it and, where possible, to return health. The aim of these few pages is to present a summary of the state of knowledge in this critical, but not very well known, field of Canadian history. The text has been divided into four chronological parts. The first covers the period from the colony's beginnings to the start of the 19th century, when western medicine broke with a two-thousand-year-old tradition and Canadian medicine began to acquire its independence with respect to the governing powers. The second part concerns the 19th century and shows how observational, as well as bacteriological medicine, radically transformed ideas and methods in this sector. The 20th century is covered in two sections: the era of great victories over infectious diseases, and the progressive involvement of the state, beginning in the middle of the century, in order to promote access to health care.
I. The Colonial Era

Canada was a colony for the greatest part of its history, that is, its first two-and-a-half centuries. Between the founding of Quebec in 1608 and the middle of the 19th century, in the area of medicine and health as in other areas, colonial life was dependent on the decisions of the ruling power, whether French or British.

The Meeting of Two Worlds

The discovery of Canada excited a good deal of interest from a medical point of view, in particular because it offered the prospect of finding new medicinal plants. In an era when locales, climate, humidity, wind and the environment were thought to have a major influence on the development of certain diseases, such as fevers, it was natural to wonder about the characteristics of these new lands. No plant grown in Canada, with the exception of tobacco, was as successful as those the Spanish found in South America, such as Central America’s guaiacum, Peru’s quinquina or Mexico’s jalap. Tobacco became fashionable in Europe for its supposed sedative and laxative effects; the French then bolstered its popularity by exporting the plant from Canada. The other principal Canadian plants incorporated into the 17th century French pharmacoœia were annedda (an infusion of white cedar bark used against scurvy), maidenhair fern and ginseng.

Medicine was also an instrument of conquest. In the colony’s early days, the Europeans provided treatment to the aboriginal peoples as a way to establish a rapport and to convert them. To this end, the Hospital nuns sought to approach the aboriginal community, by establishing the order’s first hospital at Sillery in 1639. Meanwhile, Jesuit missionaries brought medical manuals, which are now part of a major collection of medical books housed in Quebec City.

Generally, the Europeans found the native peoples strong and healthy. But the arrival of the Europeans signalled the onset of great tragedies
for the native population. In addition to the problems engendered by
the occupation of their territory, the change in their way of life, and the
introduction of alcohol, an even graver phenomenon was the decimation
of the population following the introduction of disease by the newcomers.
One of the most striking realities of this period of contact was the
devastating impact of some infectious diseases, such as smallpox and
measles, unknown to the aboriginal peoples and against which they had
not developed any natural immunity. These diseases were the main cause
of the depopulation of the aboriginal peoples throughout the Americas.
There has also been a debate on the origin of syphilis; and while still
inconclusive, a number of historians endorse the theory that the disease
has an aboriginal origin and was introduced into Europe when the first
explorers returned.

**Disease, Mortality, Life Expectancy**

More than war, cold, subsistence crises, and innumerable accidents in a
country where the canoe was the principal means of transportation and
where manual labour was predominant, infectious diseases were the
primary cause of illness and death among the Europeans who came to
settle the colony. Every year, these diseases accounted for 40% to 60%
of all deaths. They can be grouped into three broad categories. First,
there were the epidemics which appeared suddenly and at a high level
intensity. For example, during a six month period from 1702-03, smallpox
claimed 286 victims in Quebec City out of a total population of 2,000.
Smallpox struck again in 1732-33, killing 2,255 out of 36,000 Europeans
living in New France. Cholera struck for the first time in 1832, burying
3,000 people in Quebec City alone, of whom 2,000 were residents and
1,000 were immigrants and sailors. Two years later, it returned and was
every bit as devastating. In 1849, the disease claimed more than 1,000
victims amongst the 45,000 inhabitants of the city. Then there were the
endemic diseases, which returned year after year in a more or less virulent
fashion, such as measles, whooping cough, influenza, smallpox, with
scarlatina and tuberculosis being the most persistent of them all. Finally,
there were occasional outbreaks of diseases, such as the form of syphilis
which flourished between 1775 and 1787 and was christened the "Molbay Disease," because it began in Baie Saint-Paul, before spreading to other regions.

At that time, the mortality rate – calculated as the number of deaths per 1,000 individuals in a population – was much higher than in modern times. Currently, the mortality rate in Canada is about seven deaths per 1,000 individuals (7 0/00) each year. In the 17th and 18th centuries, the rate was greater than 20 0/00, peaking during epidemics. But what is most striking about the subject of mortality in that period, is the magnitude of infant mortality. Today, fewer than seven out of one thousand Canadian newborns die before reaching the age of one year. During the 17th and 18th centuries, up to 25% of children died before their first birthdays. The main reasons for such high figures were ignorance on the basic principles of hygiene and the nature of transmission of infectious diseases. Life expectancy at birth was very low at about 30 years, compared to today with 74 years for men and 81 years for women. In contrast, in 1850, those who survived childhood illnesses could expect to live to 66 years of age.

Types of Care

To understand the different approaches to care, it is worth remembering that medicine was evolving during this period within the framework of Hippocratic-Galenic medicine and that little separated conventional medicine from folk medicine. Blood was thought to be the main liquid which nourished the other humours, that is, yellow bile, black bile and phlegm, the four humours constituting the principal theoretical framework of medicine from antiquity to the end of the 18th century. The humours had to be pure and in harmonious equilibrium. It was therefore believed that several diseases, especially fevers, had their origin in impure blood and a corrupt organism.

In the eyes of the general populace, folk and conventional medicine complemented each other. "Bonesetters," for example, had their place in the medical community because the majority of practitioners knew
little about manipulating bones. Prayer also occupied an important place in the healing process because patients believed that healing was in God’s hands and that the practitioner somehow carried out His will.

Midwifery was practiced by women. In New France, midwives were chosen by a board of women chaired by the parish priest, although this custom was gradually lost after the Conquest. The delivery always took place at home. At the beginning of the nineteenth century, in a pamphlet entitled *Instruction sur l’art des accouchements pour les sages-femmes de la campagne* (Montreal, 1834), Doctor Édouard Moreau outlined the traditional way of proceeding. For instance, the delivery bed would consist of a chair placed upside-down on the floor, with a mattress on top.

The concept of prevention at that time differed greatly from the one that now prevails. For example, people were not accustomed to washing regularly. The use of soap as an antiseptic procedure was unknown until the 19th century. As houses did not have running water and the toilet was outside, human waste was much more present and not viewed with repugnance. Every bedroom had a chamber pot which had to be emptied in the morning. The streets were not paved and there was no system for the collection of dead animals, litter and various kinds of waste. In town, street cleanliness was measured by the degree of stench: if the odours were tolerable, people were satisfied. In contrast, strong odours caused extreme fear as they were considered dangerous and associated with bad, spoiled or putrid air. In fact, at that time people mainly took precautions against disease by observing certain rules for daily life, such as eating well, resting, avoiding strong emotions, respecting the rhythm of the seasons and breathing pure air.

Until the 19th century, the practice of medicine was not restricted to those qualified. As surgeons and physicians were not readily accessible (for economic and geographic reasons), in the case of illness, an individual often consulted first a member of the family or someone in the community recognized as having special knowledge (herbalist, bone-setter, healer, blacksmith). Anyone could provide medical treatment as long as they did not declare themselves to be a physician or surgeon.
without having the proper certificate. Qualified physicians were consulted primarily in towns and by the well-to-do. To aid in their diagnoses, these practitioners had recourse to a full range of very old practices: questioning, palpation, auscultation, examination and percussion. As they had very few technical aids, questioning proved to be the most important tool at their disposal. A discussion between the practitioner and the patient led to a mutual agreement on the illness. The patient played an important role in the choice of treatments and medications. Despite the existence of certain recognized protocols, treatments were carried out only after discussion with the patient.

Medicine in this period included four main categories of treatment: medication, bloodletting, diet (including starvation diet) and surgery. Medications were simple (based on a single plant) or compound (more than one substance). They could be internal (tonics, purgatives, etc.) or external (ointments, pomades, poultices). They were administered orally (tablet, bouillon, syrup) or rectally (enema, suppository). Bloodletting, an artificial means of evacuating the blood using a lancet, was the most common treatment of the period. Although the arm was the preferred location, the foot, leg or neck could also be used. Evacuations, especially bloodletting, were intended to purify and to clean the organism. Treatment consisting of various regimens and diets was intended to strengthen the organism or to let it rest.

Surgery was relegated to the easily accessible parts of the body: pulling teeth, amputating an arm, resetting a joint or a fracture. Very little internal surgery was carried out (hernia, appendix, etc.). Operations were painful and dangerous because anaesthetics did not yet exist and those operated on frequently died from subsequent infections. These operations were usually performed at home, as hospitals at that time were not perceived as being the place where medicine was normally practiced. Instead, they were primarily meant for the poor. These institutions did very little surgery and, with few exceptions, did not take in contagious cases or women in labour. Nevertheless, the hospital network developed rapidly, certainly more quickly in Canada than in the United States. In 1639, the Hôtel-Dieu de Québec became the first hospital to open north
of Mexico. By the mid-18th century, Canada had Hôtel-Dieu hospitals in Quebec, Montreal and Trois-Rivières. The colony also had two general hospitals in Quebec and Montreal and a hospital in Louisbourg. Those stricken with an acute illness were cared for in the Hôtel-Dieu hospitals, while the general hospitals took in incurables, the infirm and the elderly. All of these institutions were administered by religious orders.

The Medical Profession

Medicine and surgery were then two distinct branches of the medical profession. Physicians were the medical elite; they received university training, held the most important positions and generally benefited from higher incomes. Surgeons received a shorter training, either in the army or by apprenticing to another surgeon. In Canada, surgeons were much more numerous than physicians and pharmacists and, as in the American colonies, they played a more important role. The surgeon was the general practitioner of the time. Under French rule, only three physicians with a university diploma (Medicinae Doctor) practiced medicine: Jean de Bonamour, Michel Sarrazin and Jean-François Gaultier. In 1709, the colony had 28 surgeons; this number grew to 80 by 1765. Most received their training in France and came over on troop ships. After the American Revolution, a number of military surgeons settled in Canada, so that in 1788, British surgeons outnumbered French-Canadian surgeons. The end of the Napoleonic wars coincided with another influx of British surgeons into Canada, as a number of army surgeons chose to stay in the colonies. Similarly, the Conquest had an impact on the number of apothecaries. Like France, New France had few apothecaries. But with the arrival of the British in the mid-18th century, this profession really began to develop and, in towns, an ever greater number of apothecaries set up shop.

In the 18th century, medical density (the number of practitioners per capita) was generally similar to that of European countries, that is, between one and two practitioners per 1,000 population. In 1737, for example, the colony had 45 practitioners for a population of nearly 40,000 French. As in Europe, a much higher concentration of practitioners carried out their profession in towns rather than in rural areas.
However, these practitioners did not have the status accorded to physicians in our society today. Before the end of the 18th century, most members of the medical profession did not earn their living solely from practicing medicine or surgery. Moreover, a study of inventories after death reveals noticeable differences in levels of wealth. Some were rich, but others lived modestly and a few were even in debt.

Despite Canada's distance from France and Great Britain, the Canadian medical profession was not cut off from European medicine. The medical elite were in contact with Europe and endeavoured to stay informed and up to date. For example, inoculation and vaccination were known and widespread in Canada more or less at the same time as in Europe. Similarly, beginning in 1815, many Canadians left to continue their medical studies in Europe.

The State, Medicine and Health

Under French rule, the authorities seldom intervened to regulate the practice of medicine. The only two ordinances on this subject (1710 and 1750) referred to the need for army or naval surgeons who wanted to practice medicine with the title of surgeon, to obtain authorization from the king's physician. In contrast, the authorities intervened very early on to encourage the creation of establishments dedicated to the poor. They supported religious hospital orders in their projects to create hospitals, through assistance in the form of seigneurial concessions and donations. Even so, the authorities became most involved in the area of health policy by implementing, for example, regulations governing the maintenance and cleanliness of towns and markets. They also intervened during epidemics by imposing quarantines, by creating health offices and by distributing medications.

Medicine in New France developed along the lines of medicine in France. There were a number of similar elements, such as hospitals, but there were also some differences, particularly in the organization of the profession. The change of rule in 1760 did not result in major changes in the short term. The new authorities did not prohibit the practitioners
in place from practicing medicine and they did not appropriate the hospitals. Starting in 1788, however, they took control of the medical-health sector by creating two Boards of examiners, to supervise medical practice, and by putting important positions in the area of public health under the supervision of British military physicians.

II. The 19th Century: An Era of Change

This was a period of great change in several respects, marking the end of the colonial era and the beginning of the Canadian state. It coincided with a period of heavy immigration and the settling of the West and it was also the age of the Industrial Revolution and a key period in the history of the urbanization of Canada. In 1871, 18.3% of Canadians lived in towns; fifty years later 47.4% did. The Constitution established shared authority with regard to health between the provinces and the federal government. Authority for essentials in the area of health was relegated to the provinces: hospitals, public health, professional regulation, and so on became their obligation. The federal government kept responsibility for health in external matters, particularly with respect to quarantine.

The 19th century also marks the definitive break with ancient medicine and its theories of humours, miasmas and bloodletting. New ways of explaining diseases were proposed and accepted; medicine and health changed radically.

Hospital Medicine

This medical revolution began in England and France at the end of the 18th century with the development of hospital medicine (or clinical observation) and anatomo-pathology. These approaches stressed the observation of symptoms at the patient’s bedside and the examination and observation during autopsies of the lesions made on the body by disease. The result was better knowledge of human anatomy and its functioning, pathologies and their symptoms, as well as the effect of diseases on the body.
The hospital was at the centre of this epistemological approach; it became the preferred location for all observations, and for the first time in the history of medical education, the hospital was the cornerstone of the teaching system. Starting in the 19th century, physicians began to make the rounds of the hospital wards with their students. A number of general hospitals were founded as teaching centres. In Canada, the first hospitals to open their doors with this intention were the Montreal General Hospital in 1819, and the Quebec Emigrant Hospital and the Toronto General Hospital in 1820. Schools and faculties of medicine were also created in order to provide theoretical teaching. The first was the Montreal Medical Institution which opened its doors to students in the fall of 1823. This school became affiliated with McGill University in 1829. Three other schools opened in 1843: the École de médecine et de chirurgie de Montréal, the Faculty of Medicine at King's College in Toronto, and the Toronto School of Medicine. The École de médecine de Québec was founded in 1845, but closed its doors with the opening of the faculty of medicine at the Université Laval in 1854. By 1910, Canada had eight medical schools.

With the arrival of medical schools, it became necessary to establish new mechanisms to regulate student training and the practice of medicine. In Canada, the provincial legislatures delegated this authority to professional bodies; the first was created in Lower Canada in 1847 under the name Collège des médecins et chirurgiens du Bas-Canada. Training for pharmacists and dentists became regulated in the second half of the century. Other supra-provincial bodies were later added, in order to standardize the training and the certification from one province to the other, but this was not smooth going as health was a provincial jurisdiction. The main spokesperson for this project was Dr. Thomas Roddick of Montreal. His efforts resulted in the founding of the Medical Council of Canada/Conseil médical du Canada in 1912.

Development of hospital medicine and the professionalisation of medicine also helped promote links among physicians. Medical societies were formed and journals established. The first medical periodical published in Canada was Le Journal de médecine de Québec/The Quebec Medical Journal,
published in Quebec, between January 1826 and October 1827, by Xavier Tessier. Four other journals also had a short life during the 1840s: The Montreal Medical Gazette, La Lancette canadienne, The British American Journal of Medical and Physical Science and The Unfettered Canadian. Subsequently, their numbers grew rapidly, but only a few, such as The Canada Lancet (1870 - 1934) or L’Union médicale du Canada (1872 - 1994), enjoyed a long life.

**Bacteriology**

In the 1850s and 1860s, Louis Pasteur, a French chemist, began his work on the fermentation of wine and beer. He demonstrated that it did not originate, as was thought, from spontaneous generation, but from certain “organic corpuscles” which propagated in the air. He called them microbes. Pasteur then applied his theory to diseases. His work and that of the German Robert Koch gave birth to a new discipline, bacteriology. This method enabled them and their disciples to discover the pathogenic agents of about 20 infectious diseases, such as puerperal fever, tuberculosis, cholera and diphtheria after 1878.

Medical students then had to be apprised of this new knowledge, and how to use the microscope and conduct laboratory experiments. And it was not by coincidence that the first nursing schools in Canada were founded at the end of the 19th century. Nurses also had to learn this new knowledge and understand the advantages of the new hospital realities. For example, surgical procedures changed radically. Operating theatres had to be created in the hospitals so as to isolate those operated on from contagious diseases. These theatres had to be aseptic and required sterilized instruments. Physicians and nurses assisting at childbirth had to acquire the habit of washing their hands carefully with antiseptic products. The new knowledge was also the source of another phenomenon: hospitals specializing in contagious diseases, particularly sanatoriums for tuberculosis. The first sanatorium, the Muskoka Cottage Hospital, opened in Ontario in 1897. In the area of public health especially, bacteriology shook up received ideas and practices. Until then, the link between cleanliness and the fight against certain “fevers” had
been observed, but practitioners had not grasped the logic of the relationship. The development of bacteriology established this relationship. It was now possible to provide protection against certain diseases through appropriate measures such as the control of wastewater against cholera; the control of milk quality against typhoid and the isolation of patients with influenza and tuberculosis.

However, putting such programs in place in neighbourhoods, villages and rural areas could not be done without supervision. Health being a provincial jurisdiction, provincial legislatures were given the task of forming the first permanent boards of health. Ontario created its Provincial Board of Health in 1882. Quebec and New Brunswick followed suit in 1887, and the other provinces shortly thereafter. The role of these boards was more one of policy development and coordination than of implementation. A first set of measures consisted of persuading municipalities to apply the new knowledge. Municipalities were obliged to levy taxes in order to set up offices, employ health officers, begin work on water systems (aqueducts and sewers) and undertake vaccination campaigns. In order to better monitor the state of health in their provinces, the boards implemented regulations requiring an official declaration of cause of death and published these statistics annually. They assisted in disseminating the new knowledge and encouraged new hygienic habits by supporting the establishment of public hygiene schools and promoting the writing of hygiene manuals and their distribution to schools and families. They established services for physicians, such as analysis laboratories, the first being created in Toronto in 1890, and vaccine institutes. Every year, they reported to their legislatures on the health situation in their provinces. A number of volunteer organizations also played a role in the field of public health towards the end of the 19th century: the St. John Ambulance Association, founded in 1884; the Canadian Red Cross (1896), the Victorian Order of Nurses (1897) and the Canadian Tuberculosis Association (1900).
Other Realities

Advances in medicine did not, however, immediately reduce mortality. On the eve of the First World War, the mortality rate was at 18 0/00 and infectious diseases were still the main cause of death, although their composition had changed. Cholera was eradicated in the middle of the century and smallpox dropped off considerably after the 1885 epidemic. But others, such as dysentery, scarlatina, pneumonia, diphtheria, typhoid, tuberculosis, measles and intestinal infections continued to flourish with a tenacious grip. It took time for the new knowledge about these diseases to become known and applied and so the great victories over these diseases occurred during the following period. Certain changes in ways of life also contributed to the increase in some diseases, especially in towns. Rapid urbanization at the end of the 19th century (a consequence of the Industrial Revolution) was the source of serious problems because towns and cities were not equipped with adequate sanitary infrastructure or sufficient housing. These conditions were exacerbated by difficult working conditions, low salaries and long hours of work. At the turn of the century, mortality in large cities was greater than provincial averages. Infant mortality also remained very high, especially for nursing infants. This was related to feeding, among other things. In the second half of the 19th century, the nursing bottle and cow’s milk became more prevalent but, because there was as yet no sterilization or pasteurization, many children succumbed to gastro-intestinal illnesses. Another prevailing habit was to chew food, especially meat, before giving it to children who did not yet have teeth. So, on the eve of the First World War, more than 15% of Canadian infants died before reaching one year of age. In urban areas, the number could reach higher than 20%.

Meanwhile, medical developments were not successful in changing peoples’ habits with regard to popular medicines. These were always present, partly because conventional medicine could offer few cures and partly because the sale of medications was not well regulated. At the beginning of the 20th century, medicinal and pharmaceutical preparations based on secret formulas, or patent medicines, were very much in fashion. These products, advertised liberally in the daily press, in
almanacs and in catalogues, were most often sold by mail. They included the full panoply of curative methods, such as elixirs, "native" remedies, electric belts, topical electromagnetic remedies, "pink pills for the ladies," Carter's Little Liver Pills, and many others.

This period was also marked by the First World War, during which 60,601 Canadians died and about 200,000 were wounded. The War also left other traces: Canada's army was equipped with a health services infrastructure, but the return of troops after the War contributed to the spread of two serious epidemics. The most well known, the Spanish influenza, killed more people than the War: 21,000,000 around the world, including 50,000 in Canada. The second, venereal diseases, had existed in Canada before the First World War, but the return of the soldiers contributed to their resurgence. The historian Jay Cassel reports in his work *The Secret Plague* that, in 1915, 28% of the Canadian Expeditionary Force had venereal disease. The progress report made at the time of the troops' return showed that, out of the 418,052 Canadian soldiers sent overseas, 66,083 had acquired a venereal disease, including 18,612 who suffered from syphilis. Dispensaries were created in urban areas and various information campaigns were launched in order to alleviate the situation. As a corollary to this, the federal government began to get involved in the area of health. In 1919, following two meetings of provincial government physician/hygienists, the federal act on venereal diseases was brought in. That same year the federal Department of Health was created. The return of the soldiers also forced the federal government to put in place structures and programs for disabled or invalid soldiers, such as hospitals and rehabilitation programs for veterans. Finally, the war had been an opportunity for nurses to gain some well-deserved attention, not only because of their numbers (more than 2,000 had served in the Canadian Medical Corps) but also because of the essential service they had provided, especially in the field hospitals.
III. Medicine and Health in the Forefront of Society, 1919-57

The years 1919 to 1957 do not stand out as they should, shadowed as they are by the discoveries of the late 19th-century and by the major Medicare reforms of the following decades. During these years, however, the effective control of infectious diseases and improvements in living conditions caused the mortality rate to fall below 10 0/00 for the first time in Canadian history. At this time, there was also a change of attitude about how to deal with health problems. Against the background of the two world wars, the economic crisis of the 1930s and the example provided by European countries, the idea gradually formed that health is a community affair in which the state must play a key role.

The Era of Public Health

Between the First and Second World Wars, priority was given to fighting infectious diseases. Some diseases which had cut down many lives disappeared almost completely, including smallpox, diphtheria, typhoid, scarlatina and pneumonia. This achievement was due to concerted action by several levels of stakeholders. At the international level, after 1910, some organizations began to play an important role in the promotion of public health: the health division of the League of Nations; the International Health Division of the Rockefeller Foundation, founded in 1913; and, the World Health Organization, created in 1948, all contributed. Beginning in 1919, the federal government’s efforts were particularly directed at standardizing and coordinating initiatives of the provincial health ministries. The Department of Health created a public health laboratory and launched a national hygiene grant program. This program was rapidly organized into a number of divisions: public health research, investigations of health services, the fight against tuberculosis, the fight against venereal disease, mental health, and others. These grants eventually made possible the general use of some medications such as tetanic anatoxin, diphtheria anatoxin and, later, antibiotics. Programs for the control of food and drugs and the care of children were developed at the same time. As well, in the 1920s, this department established a vital statistics service for all of Canada.
But the fight against infectious diseases remained essentially in the jurisdiction of the provinces. This was how the provincial boards of health, created at the end of the 19th century, obtained the status of ministries. The first ministry of health was created in New Brunswick in 1918. Similar programs were introduced in all the provinces, though they differed somewhat in structure from each other. The role of provincial administration changed considerably. Previously, the main interveners were local health offices, but provincial administrations were now taking their place. The provinces were divided into health districts generally overseen by a public health physician assisted by one or two nurses, and a public health inspector who at times was also the engineer responsible for sanitation. These health units were financially supported by the provinces, and were based on centres established in the United States through Rockefeller Foundation programs. Johns Hopkins University opened the first school of public health in North America. Public health teaching programs began to be established in Canadian universities starting in the 1920s. The provinces also created bacteriological, diagnostic and industrial health laboratories to monitor diseases and to analyze water and dangerous products. Public health journals were also launched, including *The Public Health Journal*, the *Canadian Journal of Public Health* and the *Bulletin sanitaire*. The health units provided service in three areas: the control of contagious diseases including the vaccination and protection of newborns; community sanitation (such as the provision of safe water, the control of waste water and garbage management); and general monitoring, involving school and family visits, vital statistics, information sessions and community education, the monitoring of milk and of logging camps.

In this way, prevention programs gradually came under the authority of provincial governments. This was done for reasons of efficiency, in order to standardize and coordinate the fight against infectious diseases, and also for economic reasons. The rapid growth of cities and towns meant the imposition of strict water, sewer, garbage and housing regulations, to mention just a few. Municipalities, however, found it difficult to fulfill their responsibilities, given their lack of means and opportunities to levy taxes. This problem was aggravated in the 1930s when municipalities
had to assume the burden of helping the unemployed and part of the cost of hospitalizing poor patients. The expenditures resulting from this situation greatly exceeded the financial capacity of a number of localities. Municipalities, however, kept some responsibilities, such as waste management and collection, street cleaning and the application of health regulations.

**Medicine**

In the early part of the 20th century, substantial progress in medicine also resulted in a better understanding of the body, pathological processes and methods for preventing and treating certain diseases.

Some discoveries, for example, gave us a much better understanding of the role of food in the body and the diseases linked to nutrition: gout, sugar diabetes and diseases associated with vitamin deficiencies. Thanks to the work of the American agronomist Wilbur Atwater, the nutritional value of foods began to be known in the 1890s. Blood groups were discovered in the first decade of the 20th century and the first blood banks were established in the 1930s. Medicine also developed more numerous and more reliable diagnostic devices, such as the sphygmomanometer to measure arterial pressure, the electrocardiograph, and techniques for analysing blood, urine and other secretions. With the development of anaesthesiology, the use of hemostatic forceps, blood transfusions and a better understanding of the mechanism of coagulation, surgeons could now more easily undertake certain operations such as appendectomies, tonsillectomies, hysterectomies, and the treatment of vascular abnormalities.

A number of vaccination programs began in the 1940s, the exception being the smallpox vaccination which had begun earlier. New treatments and medications were also discovered. Among the most important to be noted were antibiotics, including penicillin. This was introduced as a treatment during the Second World War for infections and diseases including measles, scarlatina and venereal diseases. The use of insulin for diabetics dates back to the 1920s. It was isolated in 1921-22 by a
team at the University of Toronto composed of John James Rickard MacLeod, Frederick Banting, James Bertram Collip and Charles H. Best, for which Banting and MacLeod received the Nobel Prize in Medicine in 1923. Streptomycin for use against tuberculosis dates from the 1940s, as does cortisone, an anti-inflammatory given to people suffering from articular rheumatism. It was in the mid-20th century that the therapeutic use of biological X-ray procedures also came into practice. In addition, these years marked the beginning of medical research centres in Canada. The discovery of insulin in 1922 led to the establishment of the Connaught Laboratories and at the University of Toronto, the founding of the Banting Institute. The Montreal Neurological Institute was inaugurated in 1934, through the initiative of Wilder Penfield, with assistance from the Rockefeller Foundation. The Institut de microbiologie et d’hygiène at the Université de Montréal was created in 1938 by Armand Frappier. In 1945, Hans Selye became the first director of the Institut de médecine et de chirurgie expérimentale at the Université de Montréal. Later, centres for the study of other medical disciplines were established.

Medical Studies and the Doctor-Patient Relationship

Other developments also had a major impact on medical studies. A wave of medical reforms in North America was triggered by a report by Abraham Flexner, published in 1910, entitled Medical Education in the United States and Canada. In the wake of this report, American medicine came to influence medical education standards in Canada. New study programs were put in place which emphasized better scientific training by increasing and improving courses in the basic sciences like biology, chemistry, biochemistry and bacteriology. Internship became obligatory for fifth-year students, who also had to do practicums in the various hospital services.

These years also stand out because of the rapid ascendance of specialists in the medical field. Several sectors became independent teaching fields with their own education and service programs in hospitals, such as urology, cardiology, anaesthesiology, pathology and radiology. Nurses also began to receive specialized training in order to better assist physicians in their work. In the past, the only way to acquire the knowledge
needed for these specialties was to attend the courses or clinics of a few renowned professors at European hospitals, as was done at the turn of the century in fields such as pediatrics, obstetrics and surgery. In order to practice as a specialist, it was now necessary to pass the examinations of the Royal College of Physicians and Surgeons of Canada, created in 1929, which, following the British tradition, conferred the title of Fellow. This title gave the right to practice in all Canadian provinces except Quebec. Quebec chose to remain autonomous in this area and to this day, it still offers a provincial certificate for specialists.

The development of specialists also led to another stage in the movement to organize medicine in Canada. Various associations began to appear, whose goals were to further the development of medical knowledge and to promote the interests of their members. There were more than thirty in the 1950s, such as the Canadian Dermatology Association and the Canadian Association of Gastroenterology, each publishing its own journal.

The practice of medicine itself had greatly changed. The doctor-patient relationship had evolved. Above all, it had become more complex. During the diagnosis, palpation, questioning, auscultation, examination and percussion ceased to be the physician’s main examination methods, as they were superseded by various technical instruments. The role of general practitioners had changed as their importance gradually diminished with the development of specialists, and more and more people became accustomed to consulting specialists directly. The place where medicine was practiced changed as well. At the beginning of the century, the doctor still went to the patient, but this had now become rare. In urban areas, at least, patients often saw their doctor in clinics, dispensaries or at the hospital, where the patient also had access to new technologies and to specialists.

The Hospital

During the first half of the 20th century, the hospital also changed in several respects. It became more open and more complex. New technologies were developed there. More and more physician specialists, researchers
and lay persons practiced their professions in hospitals. Until then, hospital administrators had been accustomed to manage their establishment alone, but given the openness and scientific aspect of the doctor-patient relationship, they now had to establish links with the outside world and consider their financing.

The hospital was confronted with many challenges. It had to adapt to the technological revolution and acquire many new diagnostic and therapeutic devices. Among other things, hospitals had to be equipped with laboratories to analyze blood, urine and other fluids; radiography devices; endoscopy instruments; bacteriological and pathological anatomy laboratories; autopsy rooms as well as physiotherapy and radiology devices. They also had to create new services to handle the division of labour that resulted from the development of specialists. These years saw an increase in the variety of services in most hospitals. For example, anaesthesia, which was a component of surgery, became an independent service. Ophthalmology became a separate specialization from otorhinolaryngology. Radiology was divided into diagnostic and therapeutic branches. Dermatology and oncology became distinct from general medicine. And so, more and more services were created and entrusted to specialists. So much so that by the mid-1940s, several hospitals in Canada already had about twenty specialized services.

These were not the only challenges; the hospital also had to provide care for an ever-growing clientele. At the Hôtel-Dieu de Québec, for example, between 1935 and 1955 the number of radiographs went from about 6,500 to 40,800 while the number of laboratory analyzes increased from 12,210 to 57,911. At the Hôpital Notre-Dame de Montréal, laboratory analyzes went from about 20,000 in 1930 to 110,000 twenty years later. There were very few hospital births before the First World War; at the Hôpital Notre-Dame, their number rose from about 700 in 1935 to more than 2,000 in 1950. Surgical operations and treatments showed similar increases. Another challenge for the hospital was to respond to new imperatives in the teaching of medicine. Every year, a number of hospitals affiliated with universities received students who came to further their training in the hospital. Nurses were also trained in schools.
attached to the hospitals. The first nursing schools were created in Canada at the Toronto General Hospital (1881) and the Montreal General Hospital (1890). As well, hospitals in this period were compelled to conform to the requirements of the accreditation organizations, including the American College of Surgeons, with regard to the training of staff, hygiene, record-keeping, the method of carrying out clinical examinations, laboratory analyzes, and the establishment of diagnostic and therapeutic facilities.

These new realities were, of course, costly and tested the traditional forms of hospital financing, which depended for an important part on charity, donations and regular assistance from governments. To add to these already difficult challenges, after the First World War, hospital physicians demanded to be paid and, increasingly, lay nurses replaced nuns. Thus, the hospital was greatly transformed during the first half of the 20th century. Its size increased, its operations and its staff changed, and it went from being primarily a charitable institution to being a service enterprise.

The Problem of Access to Care

During these years, a very important debate took place about the role of the state in the doctor-patient relationship, especially with regard to the opportunity for every citizen to have access to the services of a physician or a hospital. The problem was first raised at the beginning of the 20th century with the opening of the West, as some new areas did not have doctors. It was raised again during the economic crisis of the 1930s. Traditionally, responsibility for the indigent fell to local charitable institutions or to municipalities. But the severity of the Depression and the heavy burden it imposed depleted municipal coffers. These problems were also aggravated by the awareness that mortality was much higher among children and the poor. The provinces, therefore, took various measures to resolve these problems by setting up assistance programs in municipalities and in hospitals.
This period also saw the rise of new thinking about inclusiveness, inspired by European socialist and union movements. Moreover, some European governments had already agreed to become involved in socio-medical affairs. For example, in 1911, Great Britain instituted a health insurance plan known as the National Health Insurance. These ideas had a particularly strong impact in Canada in the difficult context of the 1930s. More and more people contended, as in an article from the *Western Producer* of January 7, 1937, “that ability to pay should not be a criterion for service.” In other words, that access to care should not be impossible for economic reasons. It was, however, a problem for the working class and the middle class, for at the beginning of the 1950s fewer than half of Canadian families were protected by an individual or universal hospital insurance plan. One such plan was Blue Cross, which had been founded in Winnipeg in 1939 by the Canadian Hospital Association. In Ontario, in 1937, a not-for-profit association, the Associated Medical Services Inc., had been created with government support to meet the same need.

Several groups, however, were opposed to state involvement in the area of health care. Physicians feared that the politicians and the administrators would want to regulate medicine and hospitals. They were afraid of losing their status as independent small businesspeople, and the example of the Soviet Union, where medicine had been taken over by the state, frightened many. Some political circles were also opposed to universal medical insurance plans because they weren’t compatible with a market economy. Opposition also came from religious groups who said that state assistance was counter to Christian values, that it was opposed to the practice of the virtues of economy, work and self-worth. On top of this resistance were the difficulties the provinces had in coming to an agreement with the federal government over jurisdiction.

The movement towards national healthcare was a long, difficult process. That said, the main stages of state involvement in promoting access to health care can be described as follows. First, the idea germinated in the West. Between 1900 and 1910, Saskatchewan lacked doctors and so some municipalities arranged to attract them by offering a salary. Several
groups, including the United Farmers of Canada, encouraged these initiatives, to the extent that in 1929, 27 localities in the province had a municipal doctor and 142 localities had one in 1939. At the latter date, these served about 30% of the rural population of the province. In 1916, still in Saskatchewan, the Lloydminster Hospital became the first hospital to operate in a municipality from a common trust fund. In 1918, Alberta adopted a similar measure, the Municipal Hospital Act. Initially an answer to the problem of disparate regions, this idea of state involvement rose again at the time of the economic crisis of the 1930s. It was in the context of financial difficulties faced by municipalities during the Great Depression that the Royal Commission on Dominion-Provincial Relations (1937-40) was established. The aim of this commission, among other things, was to study questions of social assistance, unemployment insurance and hospital insurance. In 1943, the Heagerty Report recommended establishing a joint federal-provincial health insurance program. But the Second World War and the opposition of the Canadian Medical Association, which had asked the federal government to wait until the end of the war to implement a health insurance program, prevented the project from being completed.

The question of a Canadian health insurance program was again debated at federal-provincial meetings in August 1945 and April 1946, but the matter went unresolved for constitutional and economic reasons. In 1946, the federal government abandoned its project to manage its own universal health insurance plan, but it made a commitment to assist the provinces with various programs related to health such as sanitary infrastructures and the renovation and construction of hospitals. That same year, the Cooperative Commonwealth Federation government of Saskatchewan, under the leadership of Tommy Douglas, established the first provincial hospital insurance plan in Canada. British Columbia and Alberta followed suit in 1950, then Manitoba and Newfoundland in 1955. The federal Hospital Insurance and Diagnostic Services Act was finally adopted in 1957. This shared-cost program was financed jointly by the federal government (50%) and the provinces (50%) and was intended to make hospital services available to everyone. Between 1957 and 1961, all Canadian provinces joined the program which paved the way for a nation-wide health insurance plan.
The health sector experienced major changes between the First World War and the end of the 1950s. Medicine played a central role in the fight against infectious diseases, and benefited from more and more tools to carry out diagnoses, surgical operations and therapeutic treatment. People visited doctors increasingly often because medicine had progressed and because doctors inspired greater confidence. This situation did not, however, as one might suppose, cast folk or natural medicines into a bad light. People still liked all kinds of remedies and Roman Catholics, for example, continued to visit pilgrimage destinations like Sainte-Anne de Beaupré, Saint Joseph’s Oratory or Cap-de-la-Madeleine, hoping to cure their illnesses.

During the 20th century, there was also a great change in the mortality pattern. In the 1940s, for the first time, infectious diseases (universal) were overtake by other categories of illness (individual) often associated with lifestyles or age, such as cancer, diseases of the cardio-vascular system or kidneys. Infant mortality (for children under one year) also fell dramatically, thanks to sanitary measures, better food and progress in medicine. In 1921, the infant mortality rate for girls was 77.4 per 1,000 births; by 1951, it had fallen to 34.0 per 1,000. During this period, the rate for boys went from 98.2 per 1,000 to 42.7 per 1,000. These victories over infant mortality had an immediate impact on health indicators and especially on life expectancy at birth. For men, this rose from 55.0 years of age in 1921 to 66.7 in 1951, while for women, it rose from 58.4 to 70.4 years of age. The global mortality rate which stood at 12.4 per 1,000 population in the first decade of the 20th century, had fallen to 8.2 by the 1950s. It is nevertheless necessary to keep in mind that these were averages and that there were sometimes very large deviations between regions, social classes and ethnic groups. Mortality among aboriginal peoples, especially, was far higher than the national average.
IV. Health For All: Hopes and Constraints Since 1957

The decades since 1957 have been characterized by the consolidation of the gains and advances from the preceding period in the development of medicine and the organization of the health system.

Medical Life

Since the middle of the 20th century, medicine has made great, but often costly, progress. In particular, new diagnostic techniques are now available. Fibre optics have permitted improved examination of the stomach, the duodenum and the colon. Ultrasound is used to screen for liver illnesses and cardiac problems. A scanner screens for cancer and intra-cranial problems. The electron microscope has improved laboratory diagnosis. In obstetrics, new diagnostic methods assist in detecting complications during delivery, examining the fetus with ultrasound and examining the amniotic liquid for genetic studies. New anaesthetic and surgical techniques now make it possible to perform difficult operations even on the elderly. Surgery is performed on many kinds of cancer. Those suffering from chronic arthritis can have their joints replaced by metal or plastic prostheses. Kidney problems are treated with dialysis or by a transplant. The pacemaker, or cardiac regulator, has enabled many people to live longer by stabilizing cardiac rhythm. Some diseases of the retina can be cured using laser treatments. Chemotherapy and radiotherapy have contributed to progress in the treatment of cancer and new medications make it possible to better control some mental illnesses like depression, schizophrenia and psychosis.

This period was also marked by an unprecedented growth in medical resources in certain areas, such as the implementation of health insurance and the increase in the number of graduates of faculties of medicine. Between 1971 and 1981, in Canada, the number of doctors increased by 38% in contrast to a population increase of only 12.8%. In 1971, the number of persons per doctor was 659; in 1981 it was one doctor per 538 persons; in 1991, one per 514. In 1985, health workers included approximately 45,000 doctors, 230,000 nurses, 11,000 dentists
and other professionals. Moreover, alternative medicines continued to develop; among them acupuncture, chiropractic, homeopathy, herbal medicine, osteopathy and massage. Patients often perceived these practices as complementary to conventional medicine, because they introduced approaches that go beyond the individual or the illness. In fact, during the last few decades, health and medicine have also become very profitable areas of economic activity for physical training centres, pharmacies, authors of health books, bookstores and the media.

**Health Insurance Through the Years.**

At the beginning of the 1960s, following the development of corporate, union and socialist ideologies, it became clear that other measures were needed to complement hospital insurance.

It was in this context that, in 1961, Prime Minister John G. Diefenbaker established the Royal Commission on Health Services, referred to as the Hall Commission, after the name of its chair, Justice Minister Emmett Hall. The Commission’s mandate was to inventory Canada’s medical resources and identify what would be necessary in the future; to study the different aspects of health costs; and to make recommendations for the implementation of a better plan, accessible to all citizens, regardless of region or social class. The Commission tabled its report in 1964, stating that the best way to ensure quality services for the population was to implement “a comprehensive universal health service program.” This text served as the basic document for the Medical Care Bill, which was passed by the House of Commons in 1966 by a majority of 177 to 2.

This act authorized the federal government to assume 50% of the health costs in those provinces which offered their residents health insurance plans, provided that these plans met certain standards. Each provincial legislature had to ratify this agreement. The first to do so were British Columbia and Saskatchewan on July 1, 1968. The others followed suit until 1971 when the last province ratified the agreement. Since then, every Canadian province has had a universal, public, comprehensive and obligatory health insurance plan, administered by the state and financed
through taxes. The physicians in this system are paid on a fee basis and are free to determine care and to move their practices. Since 1971, the health sector has ceased to be a collection of autonomous services from practitioners, to insurance companies, to hospitals and laboratories and has become an integrated whole.

The administrators, however, realized very quickly that such ready access to health services could only be had at considerable expense. In fact, health costs soon began to grow faster than the gross national income. The 1973 oil crisis, which quadrupled the price of a barrel, aggravated the situation and the total national cost of health care, both public and private, went from $3.4 billion in 1965 to $12.3 billion in 1975.

Three approaches were therefore proposed to restrain costs: better management of health costs; an increase in prevention efforts and choosing among eligible care based on cost and efficiency. To date, the thinking has essentially favoured the first two approaches. The first was at the heart of John E.F. Hastings' report from 1972: The Community Health Centre in Canada. The second was developed in Marc Lalonde's report from 1974: Nouvelle perspective de la santé des Canadiens/A New Perspective on the Health of Canadians. The central idea of the latter report was that a health policy based solely on access to care was not an efficient or economic way to promote health. The document aimed instead to make citizens more responsible and to change certain lifestyles. This was the start of the public campaigns that informed Canadians about the dangers of tobacco and alcohol use and the importance of a balanced diet and physical exercise. This document also highlighted the importance of the environment and economic and living conditions for the promotion of health.

In spite of everything, costs for health continued to grow, partly because the cost of care increased and partly because the number of seniors as a proportion of the population had increased, especially after the drop in the birth rate. In 1941, 6.7% of the population was over 65 years of age. This percentage climbed to 10.7% in 1986 and it is estimated it will reach 20.0% in 2020. Between 1960 and 1998, the
proportion of the gross national product dedicated to health care rose from 5.5% to 9.3%. In 1990, the cost of health services reached nearly $62.7 billion (in public and private spending). This represents $2,357 per person. In 1960, public administrations assumed 42.7% of health spending in Canada; this percentage was 72.5% in 1990.

Conclusion

The health sector has experienced many changes during the course of its history. Some of these changes were related to the development of medicine itself. Observational medicine and bacteriology led to new ways of thinking about the body, disease and preventative practices. Other changes were more general. Great Britain’s influence, for example, was felt even in the middle of the 20th century when that country served as a model for the establishment a universal health insurance plan in Canada.

Through three centuries, infectious diseases were the main problem for the health sector. Their prevalence kept the mortality rate higher than 20 0/00 and life expectancy at birth at less than 50 years of age, until the end of the 19th century. Later, a new profile of mortality could be drawn. Some diseases disappeared; they ceased to decimate children, and life expectancy at birth was extended. Other diseases, such as cancer and cardiovascular problems, which affect older groups, took their place at the forefront of mortality statistics. Between 1901 and 1931, life expectancy at birth for both sexes jumped 12.3 years, from 48.7 to 61.0 years of age. Between 1931 and 1961, there was a gain of 10.2 years to 71.2 years of age. In 1991, life expectancy was 77.8 years of age, or a gain of 6.6 years between 1961 and 1991. In 1997, it was 78.6 years of age.

The role of governments also greatly changed. Before the 19th century, the state seldom intervened in the health sector except in the case of epidemics, or by means of subsidies directed to hospitals. The permanent involvement of provincial governments began at the end of the 19th
century, when it became necessary to apply new knowledge about bacteriology. The second phase of this involvement began in the middle of the 20th century, with the democratization of access to health services.

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