



Making a Difference: **Milestones in Public Health &** **Biotechnology: Canadian Connections**

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Lecture #2 – Plagues & Pioneers (1910-19)

By Christopher J. Ruty, Ph.D.

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Health Heritage Research Services

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University of Toronto

Living and Learning in Retirement, Course E

Class #2, September 22, 2017

Glendon College, York U., Room A002

The Canadian Therapist and Sanitary Engineer

INCORPORATING THE CANADIAN JOURNAL OF PUBLIC HEALTH

Vol. I

JUNE, 1910

No. 6

Special Articles

HISTORY OF PUBLIC HEALTH IN CANADA

By P. H. BRYCE, M. A., M. D.
Chief Inspector of Immigration, Ottawa, Canada

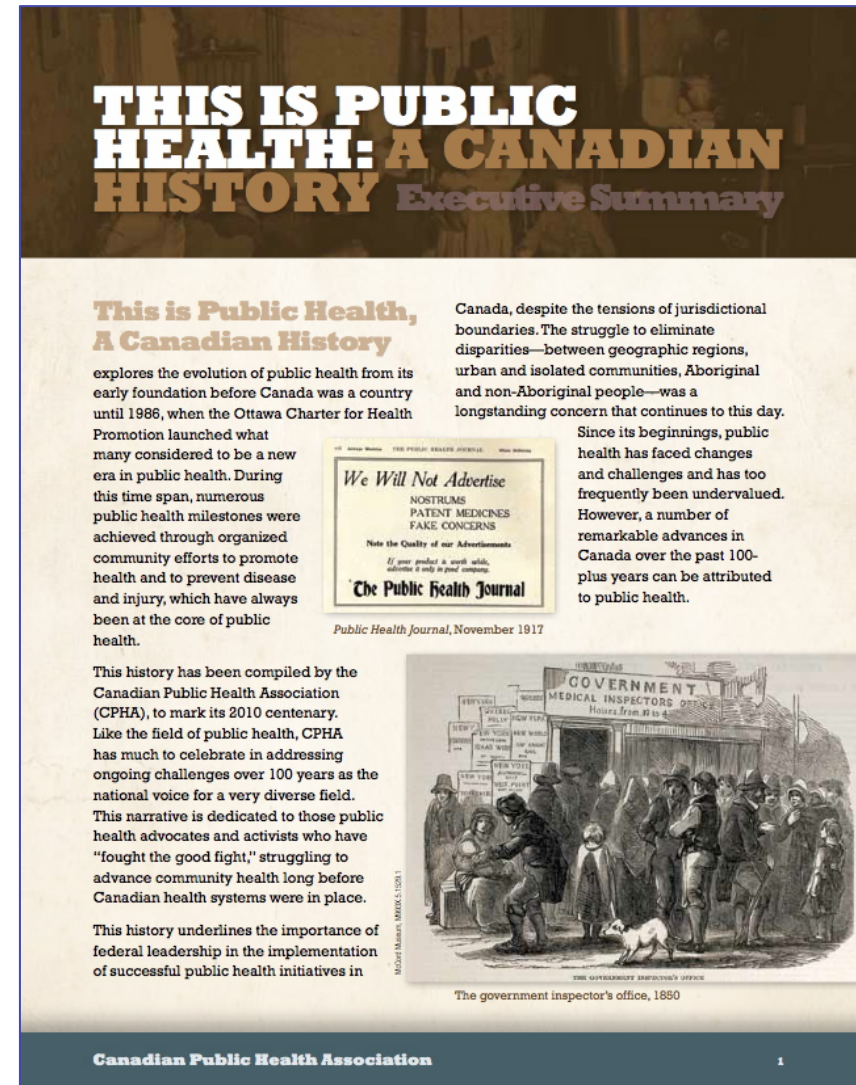
I find that one of the first references to public health in Canada was contained in a communication on the subject of cholera, published by the Executive Government in Quebec in October, 1831, on its receipt from the Colonial Office in England. A conference of physicians was thereupon called in Quebec to discuss the matter with the result that the government sent Dr. Tessier to New York to study the measures being adopted there to prevent the introduction of the disease. The first sanitary commission in Canada that I have knowledge of was appointed at Quebec in February, 1832, to deal especially with cholera, its members being Dr. Morin, Dr. Parent and Dr. Perrault; while some months later, a Board of Health was organized there, which adopted certain quarantine and general health regulations.

A squad of soldiers was stationed at Grosse Isle in the autumn of 1831, hav-

ing with them a five-pounder to bring ships to anchor, and on April 28th, 1832, the first cases of cholera arrived on the ship "Constantia" from Limerick, carrying 170 emigrants, of whom 29 had died on the voyage. On June 10th cholera appeared in Montreal and on June 14th at Prescott. I find a letter dated the same day from Kingston sent to Sir John Colborne, Lieut.-Governor of Upper Canada, enclosing a copy of the proceedings of a meeting of citizens dealing with the matter of the disease called Asiatic Sporadic Cholera, which had appeared at Quebec and Montreal, in which inquiry was made of His Excellency, whether he had any fund at his disposal, with which to aid the committee in its charitable intentions. The letter was signed by Robert B. Cartwright, solicitor. A similar letter was sent on the 16th from Prescott to which I find a reply dated the 19th of June to the effect that the Lieut.-

Introduction

- Class #2 focuses on the 1910s and the transformative public-health-building efforts led by pioneers like John FitzGerald in response to the diphtheria threat and the need for a Canadian source of affordable antitoxins and vaccines
- FitzGerald's initiative led to the establishment of Connaught Laboratories at the University of Toronto in 1914
- Especially transformative to Canada's public health system during and after World War I were venereal disease and the great influenza pandemic
- Some other elements of the story that didn't fit in the official course description:
- 1910, a watershed year in Canadian public health;
- Canada's first polio epidemic;
- More pro-active provincial public health leadership;
- Building a federal role in public health



C.J. Ruty, *This is Public Health: A Canadian History* (Canadian Public Health Association eBook, 2010) - <https://www.cpha.ca/history-e-book>

1910: Watershed Year in Canadian Public Health

- In history, some years seem to hold more significance than others...
- **January 3, 1910** – The year started off well, at least from the perspective of *The Times* newspaper in London, England:

“Happiness and contentment are found from one end of Canada to the other”

- 1910 was such a year in the history of public health in Canada
- For Canada’s population of 6,988,000, lots of things happened during that year...



Wilfred Laurier (right), Prime Minister of Canada in 1910; succeeded by Robert Borden (left) in October 1911

1910: Watershed Year in Canadian Public Health:

Canadian Journal of Public Health

- **January 1910** – Toronto physicians-turned-publishers, Duncan Anderson and Lester Coulter, restored a national public health journal – the *Canadian Journal of Public Health* – its first issue appearing some 18 years after the last issue of Edward Playter's *Canada Health Journal*

THE CANADIAN THERAPEUTIST AND SANITARY ENGINEER

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The Canadian Therapist and Sanitary Engineer

INCORPORATING THE CANADIAN JOURNAL OF PUBLIC HEALTH

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THE CANADIAN THERAPEUTIST AND SANITARY ENGINEER, (Incorporating, The Canadian Journal of Public Health) is published on THE FIRST OF EACH MONTH; it is devoted to the discussion of treatment and the dissemination of practical hygiene; and deals with all matters of social and individual well-being.

TERMS: Yearly subscription—CANADA, \$2.00; ELSEWHERE, \$2.25. Single Copies, 20 cents.

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PAYMENTS should be made, by EXPRESS OR POSTAL MONEY ORDER OR CHECK MARKED AT PAR, to "THE CANADIAN THERAPEUTIST AND SANITARY ENGINEER" 59 John Street, Toronto, Canada, and not to individuals.

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1910: Watershed Year in Canadian Public Health: *Canadian Journal of Public Health*

- **January 1910** – Toronto physicians-turned-publishers, Duncan Anderson and Lester Coulter, restored a national public health journal – the *Canadian Journal of Public Health* – its first issue appearing some 18 years after the last issue of Edward Playter's *Canada Health Journal*

- The journal's name shortly changed to *The Canadian Therapist and Sanitary Engineer*
- Anderson and Coulter were well connected nationally and they soon set their sights on establishing a national public health association

The **Canadian Therapist and Sanitary Engineer**

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1910: Watershed Year in Canadian Public Health: *Peter Bryce & Canadian Commission on Conservation*

- **Jan. 18, 1910** – Coincidental with the launch of the new journal, public health became a prominent component of the federal government's "Canadian Commission on Conservation" set up to focus attention on protecting the nation's natural resources

**WELFARE OF THE
STATE THEIR AIM**

Conservation Commission In
First Annual Session.

A BRILLIANT INAUGURAL.

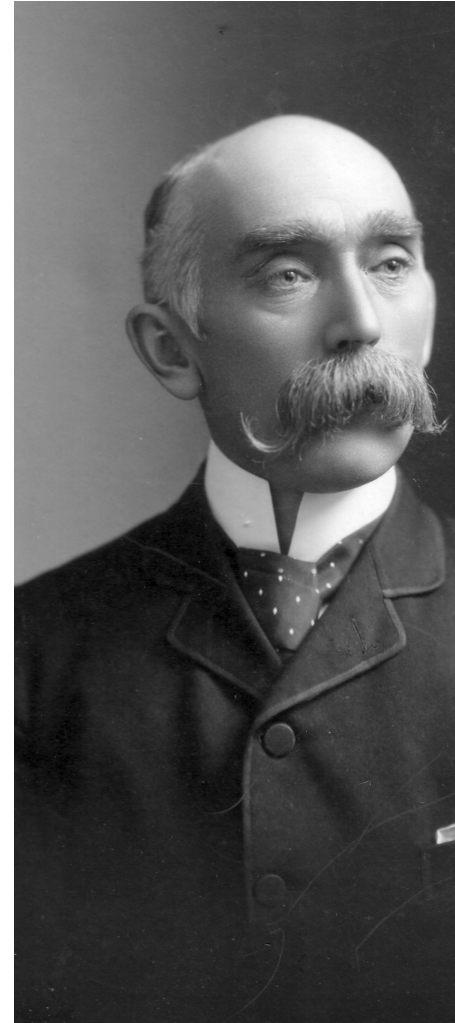
Masterly Address by the Hon.
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Will Attack Tuberculosis In Attempt
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- Peter Bryce (right), now Chief Medical Officer of the federal Department of the Interior, stressed at the Commission's 1st annual meeting, while the Dominion had spent great sums on eradicating diseases of animals, he wondered why similar attention was not given to diseases of human beings



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**Conservation Commission In
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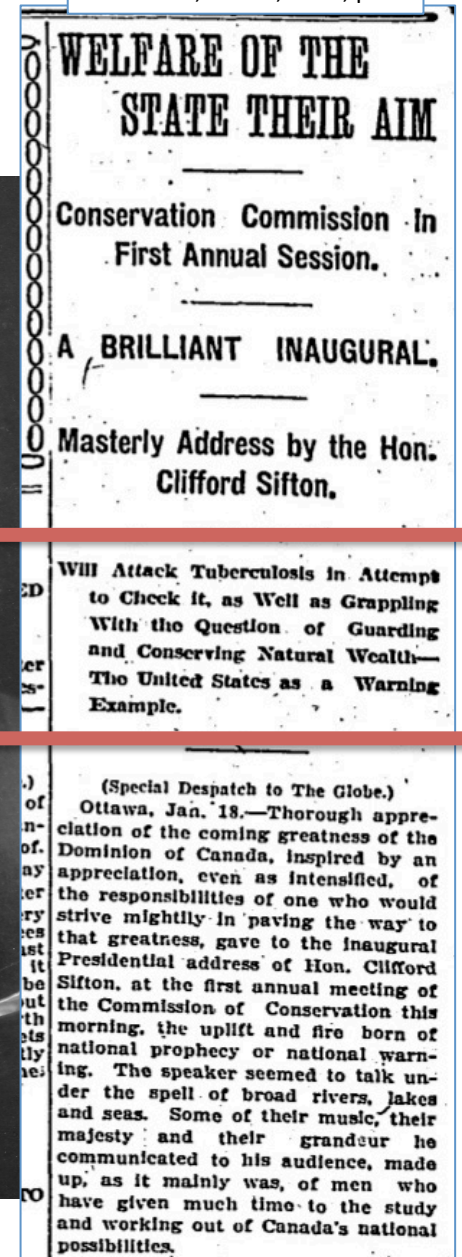
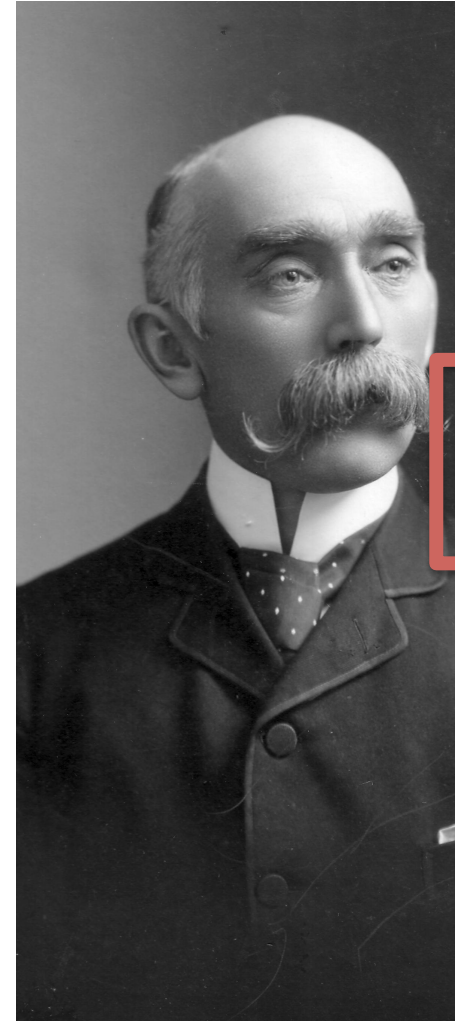
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- Thus, a sub-committee focused on developing a national plan for dealing with the cure and prevention of tuberculosis, an issue of particular interest to Bryce

1910: Watershed Year in Canadian Public Health: Saskatchewan, Western Public Health Pioneer

- Saskatchewan was recognized at the Commission conference as taking a leadership role for preventing water pollution in rivers, especially in Regina and Moose Jaw
- But it was the province's new Public Health Act, passed in late 1909, that set a new standard for a more serious and progressive provincial approach to public health, particularly for TB care



1910: Watershed Year in Canadian Public Health: *Saskatchewan, Western Public Health Pioneer*

- This effort was led by Maurice Seymour (below), named 1st Commissioner of Public Health, with direct responsibility for implementing the new Public Health Act; in most other provinces the Chief Medical Officer of Health worked through a Provincial Board of Health



SASKATCHEWAN IN LEAD.

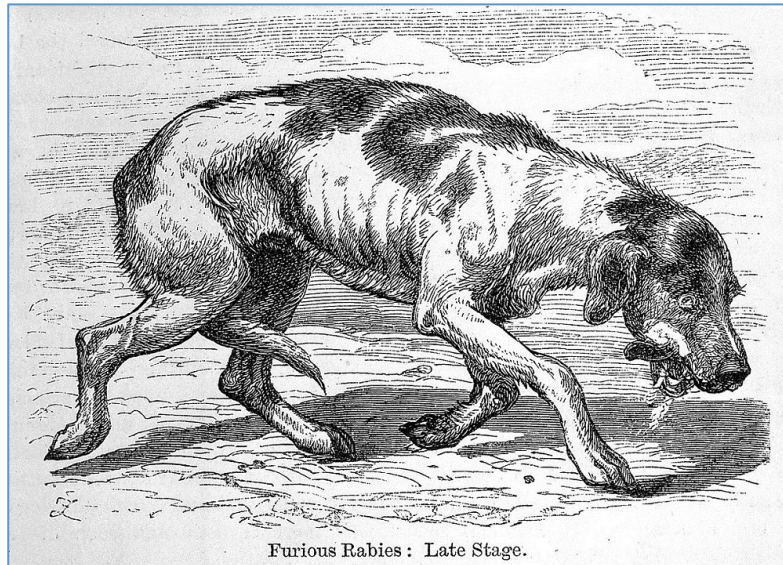
PUBLIC HEALTH ACT MOST ENLIGHTENED IN CANADA.

Tuberculosis Made a Notifiable Disease—Public Health Commissioner Responsible to Government for Administration of Act Appointed.

The public health act recently enacted in the Province of Saskatchewan is so much in advance of similar legislation in other parts of the Dominion that it may be said to be in complete harmony with the proposals of the Public Health Committee of the Commission on the Conservation of Natural Resources. Many of the points touched on in the address of the Chairman, Hon. Clifford Sifton, have been anticipated in the act, especially the conservation of pure water, and the proper care of the individual in connection with tuberculosis.

1910: Watershed Year in Canadian Public Health: *Rabies Outbreak in Ontario*

- **Feb-March 1910** – While TB was a familiar threat, Rabies was quite rare in Canada, unlike in the U.S.
- Strict border regulations for animals limited the importation of rabies, but occasionally a rabid dog wandered into Canada, as was the case in early 1910 when a rabid dog crossed near Niagara Falls, sparking an outbreak among other dogs and animals, leading to the death of a young boy



The Globe, June 3, 1910, p. 9

RABIES IN ONTARIO.

DR. AMYOT SAYS THE SITUATION IS A SERIOUS ONE.

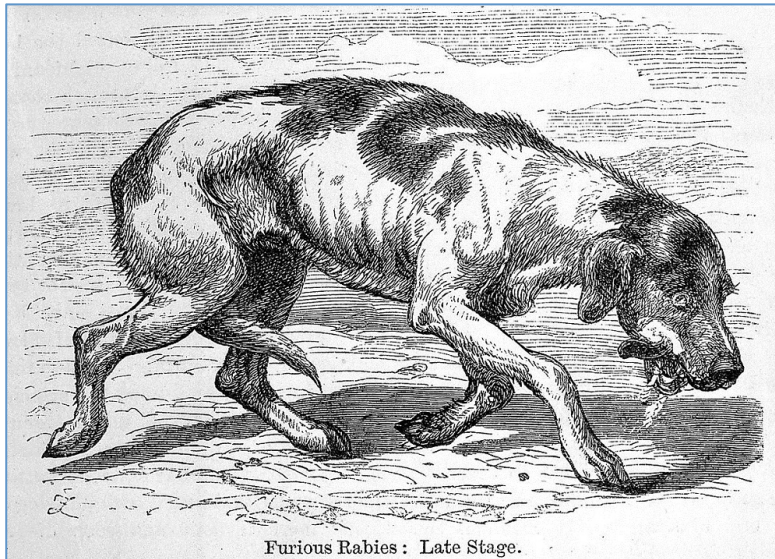
Members of the Canadian Medical Association Hear Interesting Addresses—Appendicitis in Children a Disease That Must be Watched With Care.

That there is rabies in Ontario without a doubt, and that the situation is a serious one, was the statement made by Dr. J. A. Amyot, director of the laboratory of the Provincial Board of Health, in an address on "Rabies" delivered before the section of pathology of the Canadian Medical Association yesterday morning.

"At present," he said, "it is confined to the western part of the Province. The district extends from Hamilton to Essex Centre, right through London, and the whole section between. It is to be found from London to Goderich, and there is some of it at Owen Sound. There has been one human death as the result of rabies, that of the boy who died at Dundas. I performed the post-mortem examination in this case, and there is not the slightest doubt that the boy died of hydrophobia. There were five deaths in Canada previous to this outbreak."

1910: Watershed Year in Canadian Public Health: *Rabies Outbreak in Ontario*

- While the Ontario Provincial Board of Health ordered the muzzling of all dogs, there was no supply of life-saving Pasteur Rabies Treatment available in Canada
- The closest supply was at the Pasteur Institute in New York City, the trip for the long course of vaccine treatment beyond the means of most



Furious Rabies : Late Stage.

The Globe, June 3, 1910, p. 9

RABIES IN ONTARIO.

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1910: Watershed Year in Canadian Public Health: *Rabies Outbreak*

- The rabies crisis brought medical and public health attention to the need for not only an affordable Canadian supply of rabies vaccine, but also other vital biological health products, such as antitoxins and other vaccines
- There was strong lobbying for the establishment of a “Pasteur Institute,” preferably associated with the University of Toronto

Canada Lancet, March 1910, p. 484

RABIES AND A PASTEUR INSTITUTE.

No private practitioner can successfully treat rabies. That it is a germ disease there is no doubt, and at times becomes epidemic. In Europe prior to the Pasteur treatment about 96 per cent. of those with rabies died, whereas now about 96 per cent. recover.

From time to time we read of Canadians who have to go to New York for treatment. This, we think, should not be allowed to continue. This country is large enough and wealthy enough to justify the establishment of a Pasteur Institute under State control.

To this any Canadian who might be unfortunate enough to be bitten, could betake himself. The institution ought not to be too great a burden upon the people. Many who would require treatment could well afford to pay for it; but even where they could not, it is the clear duty of the State to provide the means of proper treatment in such a disease as this.

With the recent order to shut up dogs or muzzle them, we are in full sympathy. There is no other known way of preventing the spread of this dread disease. Preventive medicine is now a definite science, and public men are coming to recognize the fact that the value of human life is more than all the other sources of wealth in a nation put together.

- In the meantime, the Ontario government made a special arrangement to import Pasteur Rabies Treatment from New York City and offer it at the Hospital for Sick Children

1910: Watershed Year in Canadian Public Health: *Perplexing Polio Outbreak*

- **Aug 1910** – Just as the rabies scare subsided, the first widespread appearance of the “strange” and often deadly “new disease” of “infantile paralysis” sparked a similar wave of public and medical concern
- Initially concentrated in the Hamilton area, the outbreak began with a young girl originally thought to be suffering from rabies, who then died, however “poliomyelitis” proved to be the cause of death

Toronto Star, Aug 17, 1910, p. 1

CHILDREN ARE ATTACKED BY STRANGE EPIDEMIC

Twenty Cases of Fever and Infantile Paralysis—Once Swept Over the States.

Special to The Star.

Hamilton, Ont., Aug. 17.—An epidemic of poliomyelitis, or infantile paralysis, a comparatively new disease, which is attracting much interest among medical men the world over, has broken out here.

A score of cases have been reported to the Health Department, and the disease seems to be spreading. It was first noticed three or four weeks ago when a little girl, supposed to be suffering from hydrophobia, was taken to the hospital, where she died. It was later discovered she was a victim of infantile paralysis.

The disease generally begins with a high fever and then the patient is suddenly stricken with paralysis.

While most of the cases here are children under four years of age, two or three adults are victims.

Some years ago the disease swept over a portion of the States, claiming victims by the hundreds.

1910: Watershed Year in Canadian Public Health: *Perplexing Polio Outbreak*

Toronto Star, Aug 17, 1910, p. 1

- While most cases were children under 4, there were several adult victims, and it was not a “new disease” at all
- Large outbreaks and epidemics of “infantile paralysis” were new, including in the U.S. and in Europe

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ANTERIOR POLIOMYELITIS! *INFANTILE PARALYSIS*

“Act of Assembly approved May 14, 1909, provides that anyone violating the provisions of this Act, upon conviction thereof may be sentenced to pay a fine of not less than \$10.00 or more than \$100.00, to be paid to the use of said county, or to be imprisoned in the county jail for a period of not less than ten days or more than thirty days, or both, at the discretion of the court.”

BY ORDER OF THE BOARD OF HEALTH.

Health Officer.

Address.

1910: Watershed Year in Canadian Public Health: *Perplexing Polio Outbreak*

- “1910 was in a terrible sense a ‘wonder year’ for epidemic poliomyelitis. In that year it appeared all over the world...” as was stressed in a 1912 *Maclean’s* article
- It was also clear that most polio victims were “not among the poor, or delicate,” and yet its cause was very much unclear

Maclean’s, Nov 1912

Paralysis: The New Epidemic

By **Helen MacMurchy, M.D.**

Infantile Paralysis is epidemic in some parts of Canada. The germ attacks rich as well as poor, adults as well as children. In Ontario last month half the cases were fatal. Dr. MacMurchy is able to give our readers the latest developments concerning this dread disease direct from the great specialists, having recently attended a medical congress where the question was discussed. It is now thought that the germ is carried mainly by the stable fly. Dr. MacMurchy says, Never let a fly rest on an infant.

1910: Watershed Year in Canadian Public Health: *Perplexing Polio Outbreak*

- Charles Hodgetts, Medical Advisor to the federal Commission on Conservation, investigated the 1910 polio outbreak, his survey of physicians across the country revealing 658 cases and 46 deaths
- Ontario was hardest hit with 354 cases, half of which were fatal



Fig. 4. Spinal Curvature, due to Paralysis of Trunk Muscles.



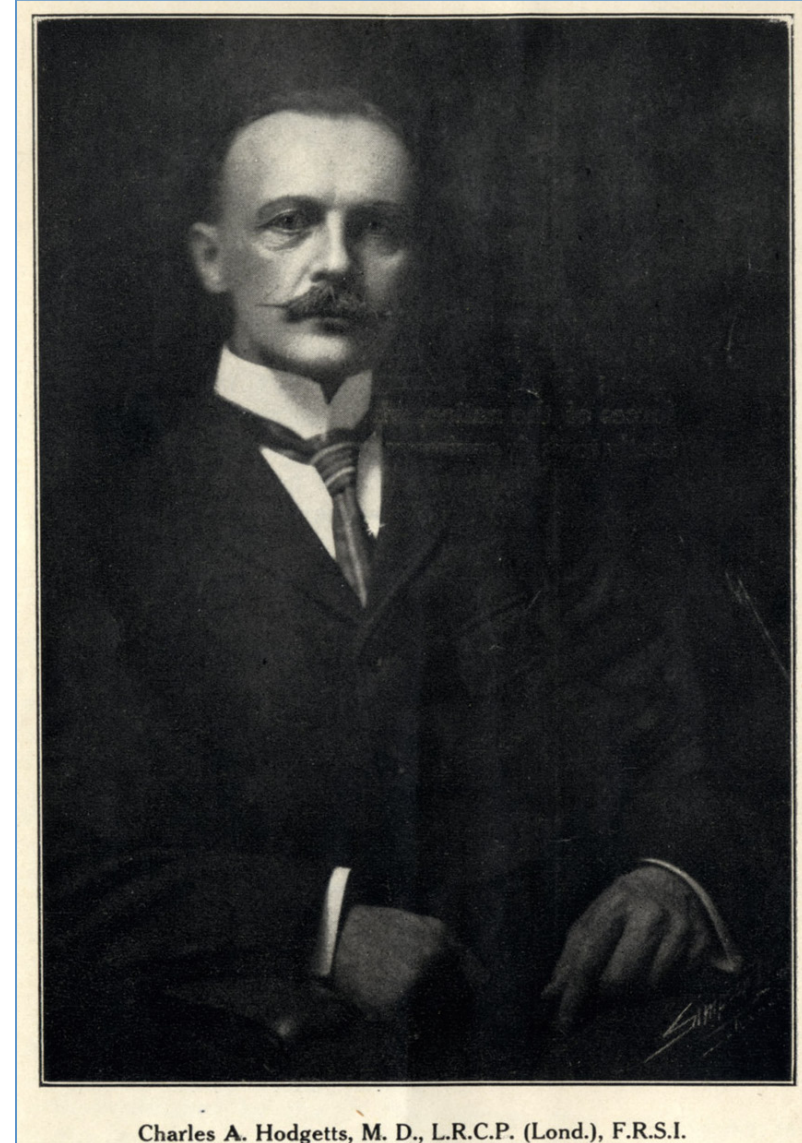
Fig. 5. Same as Fig. 4 less than a year later.

Canadian Journal of Medicine & Surgery, Jan 1911, p. 9

1910: Watershed Year in Canadian Public Health

Charles Hodgetts & Public Health Education

- **Fall 1910** – Charles Hodgetts (right) had followed Peter Bryce to Ottawa to serve on the Conservation Commission after previously succeeding him as Ontario's Chief Health Officer in 1903
- While leading Ontario's public health work, Hodgett's focused a large part of his time on public health education



1910: Watershed Year in Canadian Public Health

Charles Hodgetts & Public Health Education

- Most notable was his creation of a popular traveling tuberculosis exhibit, consisting of charts, maps, photographs and models of sanatoria set up at fall fairs and other public places in, and sometimes outside, the province

The Globe, Sept 29, 1906, p. 24

AGAINST TUBERCULOSIS.

GOVERNMENT DECIDES UPON AN INTERESTING CAMPAIGN.

To Secure a Permanent Exhibit for Display in the Cities, Towns and Villages of the Province — Exhibit Will be a Most Extensive One.

The Ontario Government has decided upon a practical experiment with a view to educating the people of the Province to the dangers of tuberculosis and the best methods to be pursued in preventing that disease. An arrangement has been made to secure a duplication of the tuberculosis exhibit, similar to that shown here during the recent meeting of the British Medical Association, from the National Association for the Study and Prevention of Tuberculosis, with headquarters at New York. This will be supplemented by materials from Europe, the whole forming an extensive and valuable exhibit illustrating the methods, appliances and mechanisms used in the fight against the white plague. The arrangements for the exhibit are being made by Dr. C. A. Hodgetts, Secretary of the Board of Health, whose department is a branch of that of the Provincial Secretary's.

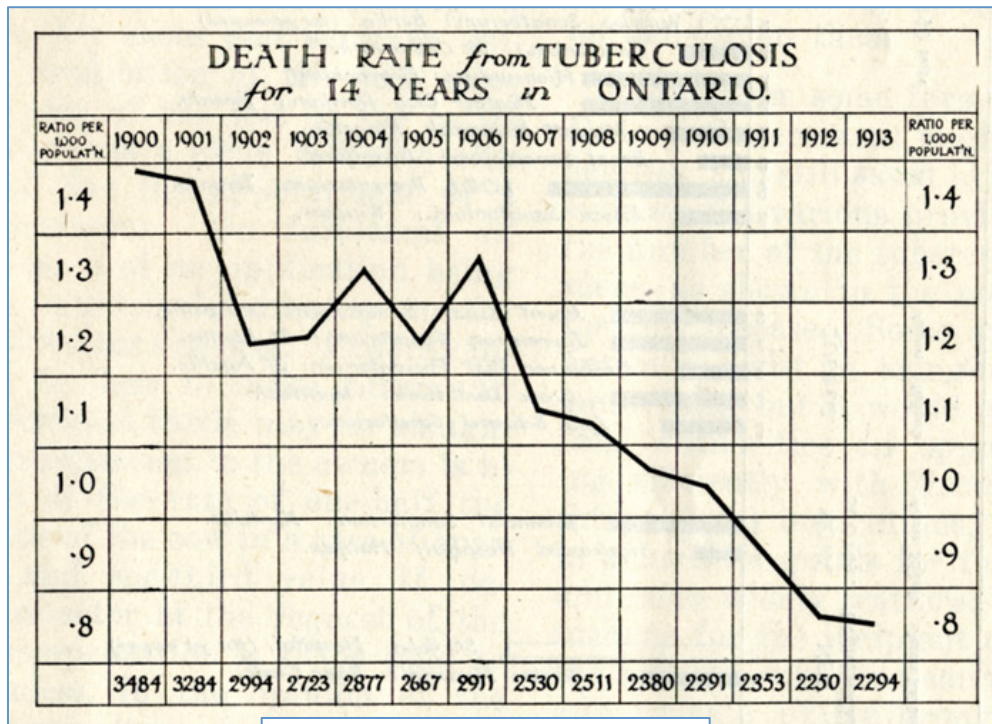
Ontario Tuberculosis Exhibit.

Windsor, Feb. 14.—(Special.)—The Ontario tuberculosis exhibit has been loaned to the city of Detroit, and is attracting much attention in the new Y.M.C.A. building there.

The Globe, Feb 15, 1909, p. 9

1910: Watershed Year in Canadian Public Health: *J.W.S. McCullough, Pushing Public Health Forward*

- **Fall 1910** – John W.S. McCullough (right) succeeded Charles Hodgetts at Ontario's Chief Health Officer



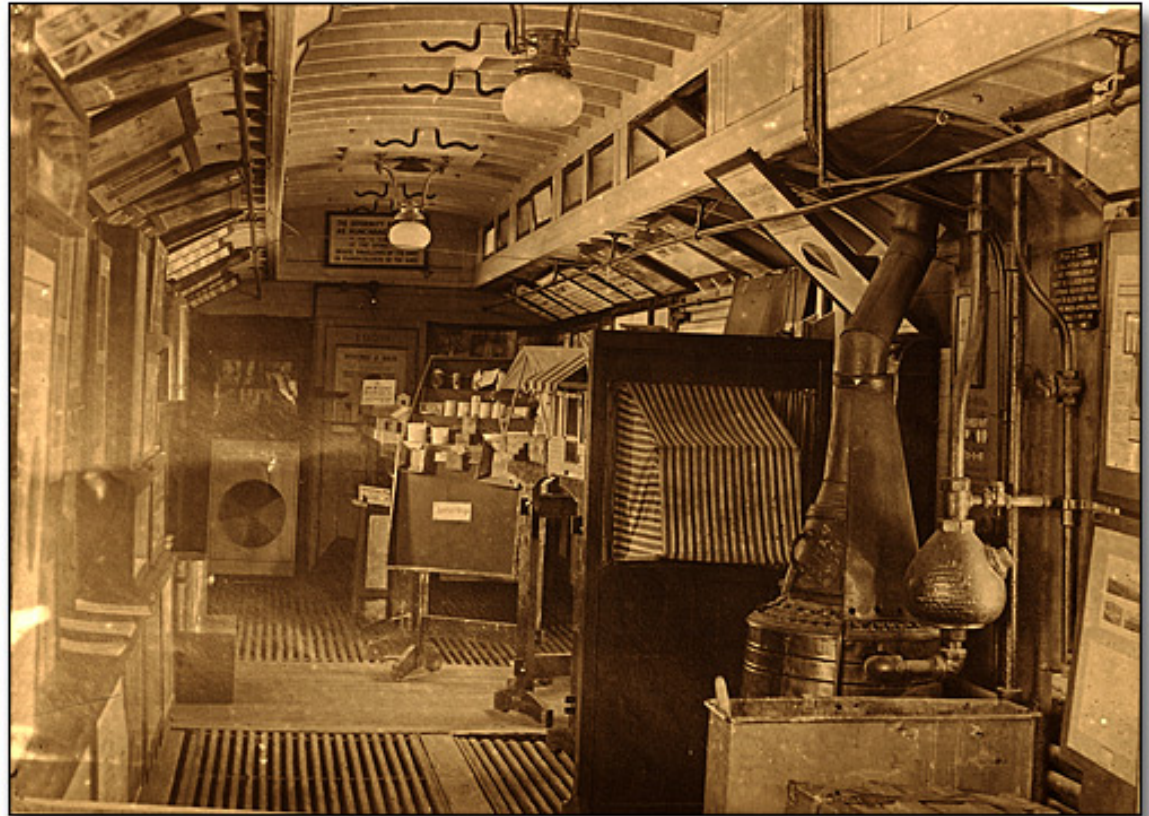
Public Health Journal, Jan 1916, p. 25



JOHN W. S. McCULLOUGH, M.D.
Chief Health Officer of Ontario.

1910: Watershed Year in Canadian Public Health: *J.W.S. McCullough, Pushing Public Health Forward*

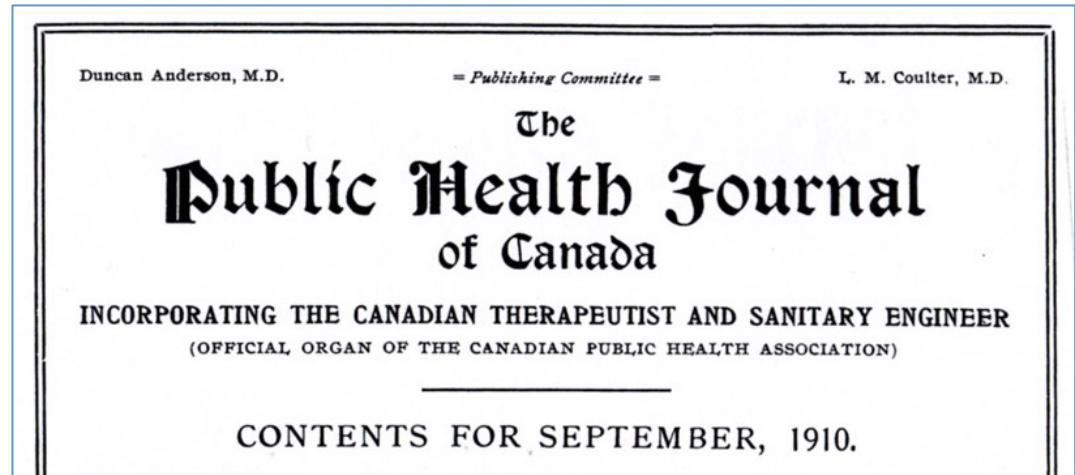
- Among McCullough's many initiatives to push public health forward, was setting up the travelling TB exhibit, in a more literal sense, with expanded exhibits inside a railway car that stopped at stations across the province



- At each stop, materials were exhibited at the station, while public demonstrations and lectures were also conducted

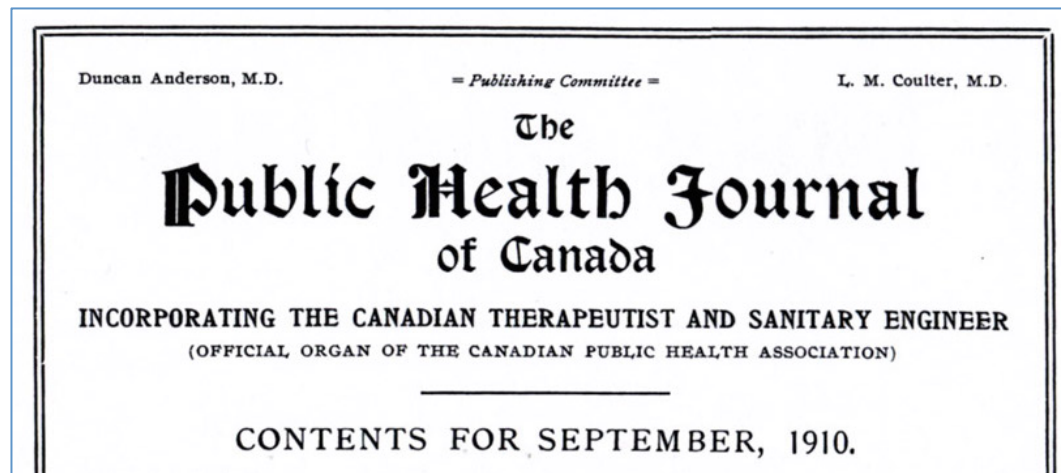
1910: Watershed Year in Canadian Public Health: *Birth of the Canadian Public Health Association*

- **Sept. 22, 1910** – With considerable momentum behind them since launching their *Canadian Journal of Public Health*, Drs. Anderson & Coulter proceeded to establish the “Canadian Public Health Association” with the granting of letters of incorporation from the Ontario government



1910: Watershed Year in Canadian Public Health: *Birth of the Canadian Public Health Association*

- Their journal was re-christened *The Public Health Journal of Canada*, to reflect its role as the Association's official organ



Inter Alia.

Our readers will note that name of this publication has been reversed from The Canadian Therapeutist and Sanitary Engineer (incorporating The Canadian Journal of Public Health) to THE PUBLIC HEALTH JOURNAL OF CANADA (incorporating The Canadian Therapeutist and Sanitary Engineer). This change has come into effect as the result of the formation of the Canadian Public Health Association and our election—as The Public Health Journal of Canada—to the official organ position in that association.

1910: Watershed Year in Canadian Public Health: *Charles Hodgetts & the Commission on Conservation*

- **October 1910** – A few weeks after the CPHA's birth, Charles Hodgett's led a national public health conference of the Commission on Conservation in Ottawa
- Representatives of provincial health departments and boards met with federal health officials involved with the Commission

The Globe, Oct 13, 1910, p. 4

HEALTH MEASURES.

FEDERAL AND PROVINCIAL DEPARTMENTS IN CONFERENCE.

Dr. Hodgetts Blames Impure Water for Much of the Sickness in Cities —Recommends the Creation of a Federal Department of Health.

Ottawa, Oct. 12.—The main feature of to-day's meeting of the Dominion Conference of the members of the Conservation Commission and of the Federal and Provincial Health Departments, called to consider general questions of Provincial and Federal co-operation on health protection measures, was an address given by Dr. Charles A. Hodgetts, Medical Adviser to the Conservation Commission. Dr. Hodgetts dealt especially with the problem of preventing contamination by sewage, etc., of waterways from which public supplies of drinking water were obtained. He emphasized the urgent necessity of more adequate Governmental action to prevent the pollution of streams, and recommended the creation of a Federal Department of Health to co-operate with the Provincial Health Departments.

1910: Watershed Year in Canadian Public Health: *Charles Hodgetts & the Commission on Conservation*

- Hodgetts took a bolder approach than Peter Bryce had at the 1st Commission conference to expanding public health efforts, particularly against the persistent incidence of typhoid fever in several cities, including Ottawa, due to water contamination
- A key recommendation was for more efficient federal legislation, “the enforcement of which should in the main, rest with some central, well-organized and wisely administered Federal Department, co-operating with each of the various Provincial Departments of Health.”

The Globe, Oct 13, 1910, p. 4

HEALTH MEASURES.

FEDERAL AND PROVINCIAL DEPARTMENTS IN CONFERENCE.

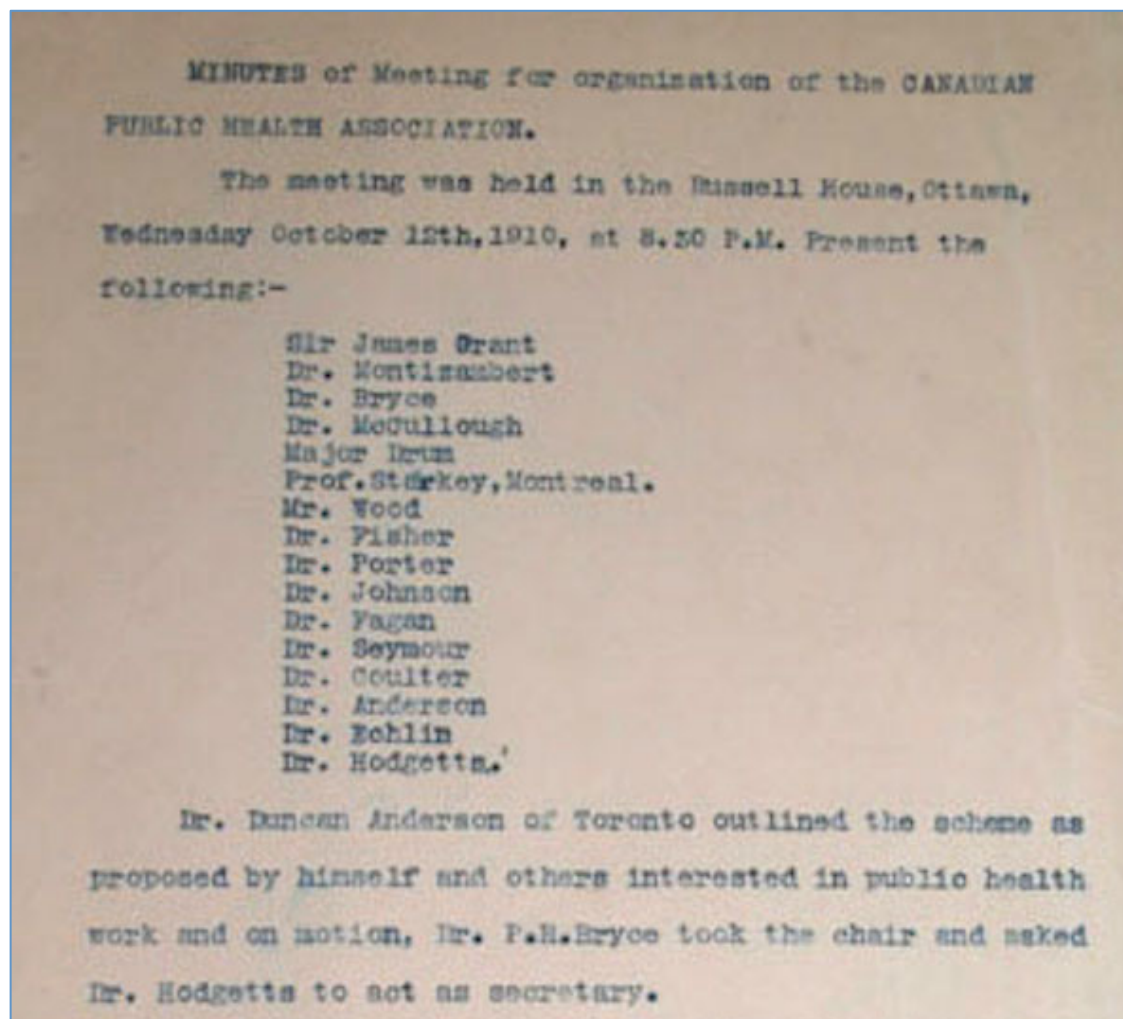
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1910: Watershed Year in Canadian Public Health

CPHA Formally Established

- **Oct. 12, 1910** – After the first day of the Commission on Conservation conference, Anderson and Coulter were joined by 14, mostly provincial and federal public health officials, to formally organize the Canadian Public Health Association



1910: Watershed Year in Canadian Public Health

CPHA Formally Established



- A key leader of the CPHA's organizing committee was Dr. Frederick Montizambert (right)
- He played a major role in the federal government's public health work, starting from his appointment as Assistant Superintendent of Grosse Isle Quarantine Station in 1869, to his appointment as Director General of Public Health in 1899

Public Health Consolidation in Ontario

- **1911** - Led by Dr. McCullough, the Ontario Provincial Board of Health undertook a particularly strong, if not “tyrannical,” approach to public health reforms, especially towards infectious disease control
- Such a strong approach was necessary in response, in particular, to a major typhoid epidemic that struck Ottawa during 1911-12 and was traced to sewage contamination of the water supply

OTTAWA IN THROES OF TYPHOID EPIDEMIC

A REPETITION OF LAST YEAR'S
EXPERIENCE IS
FEARED.

(Canadian Press Despatch.)

Ottawa, July 19.—The Ottawa Journal says this evening:—

“The water situation in Ottawa has suddenly assumed a most serious aspect. A typhoid epidemic is abroad in the city. Only a few days have gone by since the Medical Health Officer issued his warning to the people to ‘boil the water,’ and already the situation is perilously near that of last year in the beginning of the epidemic. It will be remembered that matters ultimately became so grave that about twelve hundred cases of typhoid developed and about sixty deaths resulted.

“Only a few days have elapsed since the water was declared polluted, and already there are at least sixty cases of typhoid in the city. There are twenty-three certain cases in the hospitals and several suspected cases. Besides these there are many cases being treated at home.

“It is probable that there are many more cases, as The Journal was unable to reach all the doctors of the city this morning, and one doctor refused to say whether he had any typhoid cases or not. In addition, there are many suspected cases.”

Public Health Consolidation in Ontario

The Globe, Sept 26, 1912, p. 9

ONTARIO LEADS IN MANY PUBLIC HEALTH MATTERS

COMPULSORY NOTIFICATION IS
AHEAD OF MANY STATES—
VACCINATION ENFORCED.

Dr. J. S. W. McCullough, Secretary of the Provincial Board of Health, returned to the Parliament buildings yesterday from attending the meetings of the International Conference of Hygiene and Demography at Washington. This was a notable gathering, said Dr. McCullough, with five thousand delegates in attendance, but the meetings of the American Health Association were not as large as those of the Canadian Association which met in Toronto ten days ago.

Dr. McCullough himself read a paper on the new Public Health act of Ontario, and received many congratulations on the forward character of the work here. Germany, Norway and Denmark were much ahead of Canada in their efforts to stamp out smallpox where vaccination was enforced, but few states were as advanced as Ontario in providing for compulsory notification in cases of tuberculosis, although many had better systems of local sanatoria. There were between four and five acres of exhibits.

The seven district officers of health will shortly go to Gravenhurst sanatorium and spend a week on study and observation of the work carried on there.

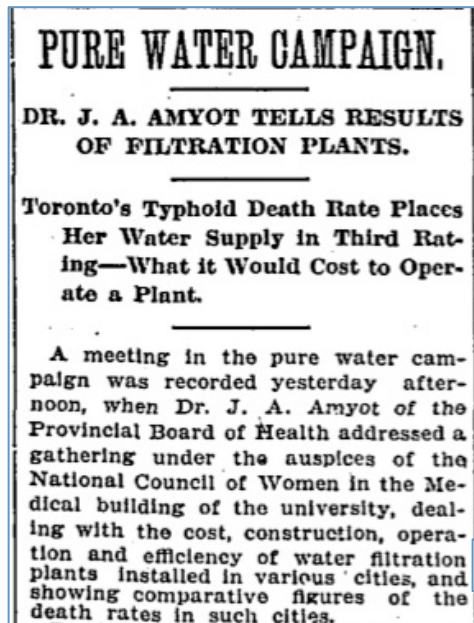
- **1912** – Comprehensive revision of the Public Health Act included a stronger Vaccination Act, the division of the province into 10 health districts, and the appointment of full-time medical officers of health
- Prospective MOHs would now have to pass a post-graduate course from the University of Toronto's Department of Hygiene



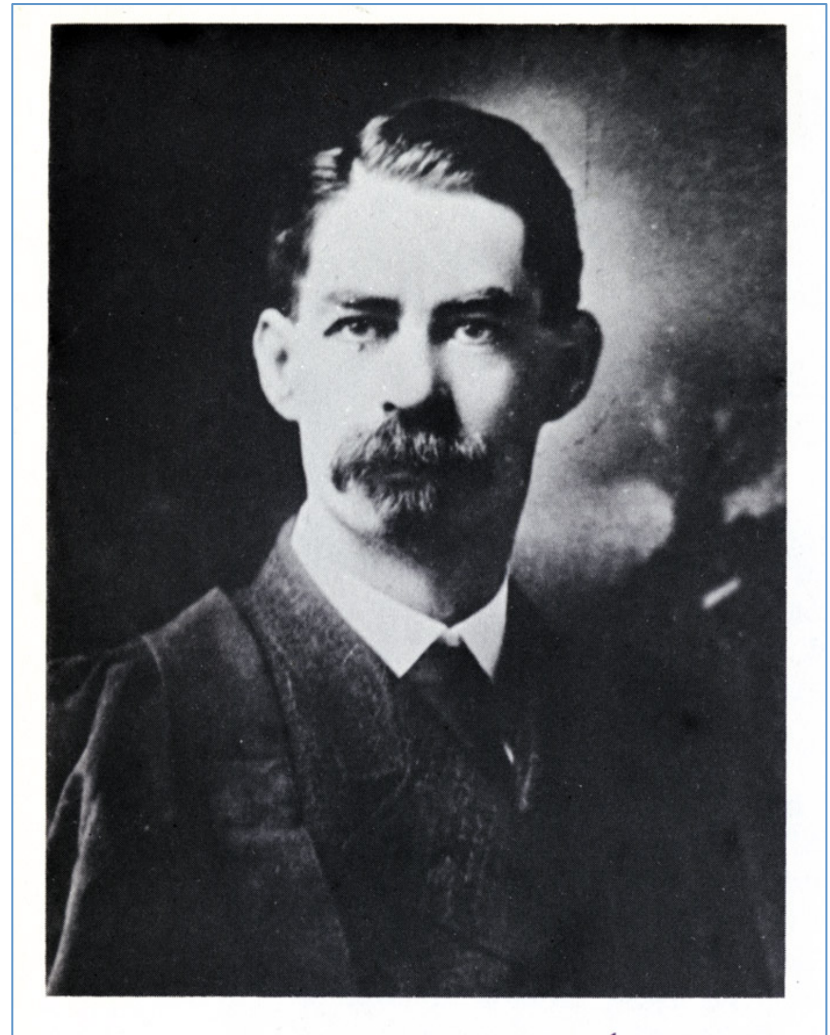
University of Toronto Archives

Public Health Consolidation in Ontario: *John Amyot @ University of Toronto*

- As Professor of Hygiene, Dr. John Amyot (right) was a popular lecturer, effectively promoting the specialty of public health to promising medical students.
- From the 1890s, Amyot had vigorously campaigned to bring pure water and pasteurized milk to Ontario



The Globe, June 16, 1908, p. 12



John G. FitzGerald: *Public Health & Vaccine Visionary*

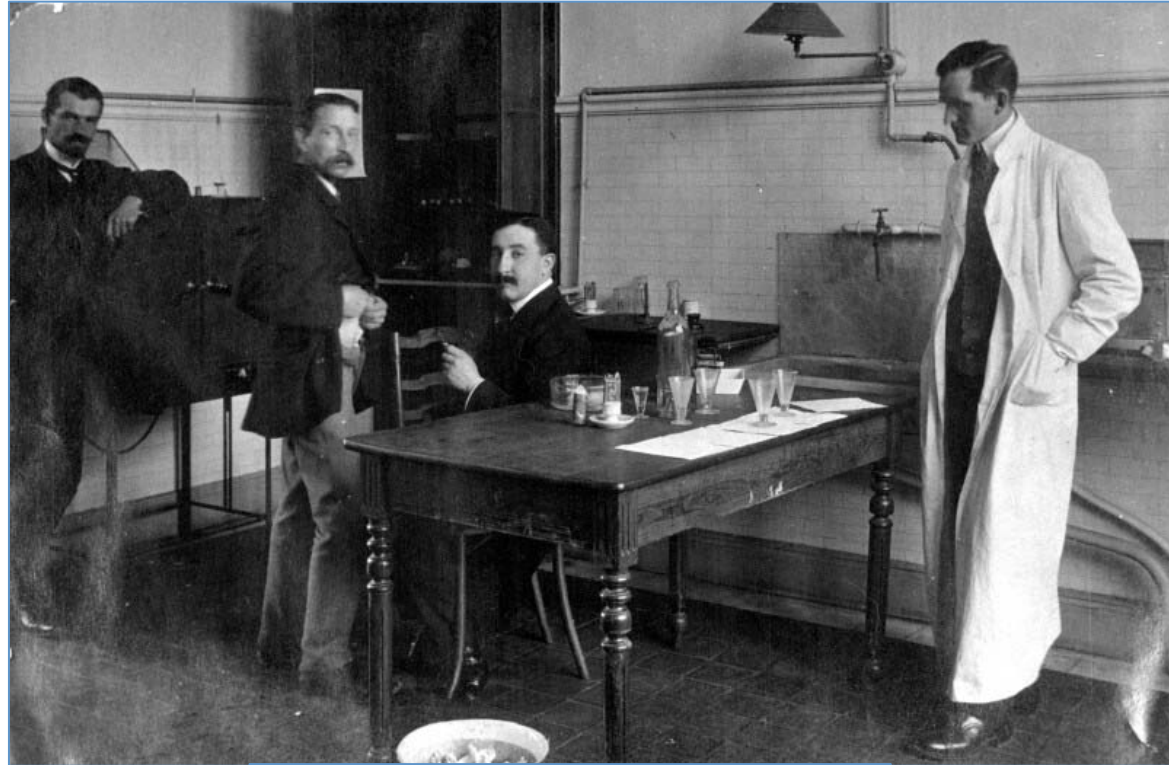
- Of particular promise in the eyes of Amyot was Dr. John G. FitzGerald (right), who had graduated from U. of T.'s Medical School in 1903
- **1908** – After initial work in psychiatry, specifically trying to apply the new tools of microbiology to preventive psychiatry, FitzGerald shifted his focus to public health
- He wanted to apply the same biological tools to the much greater promise of controlling and preventing infectious diseases, particularly diphtheria



Sanofi Pasteur Canada (Connaught Campus) Archives

John G. FitzGerald: *Public Health & Vaccine Visionary*

- **1910** – FitzGerald begins intense period of international travel and studies in bacteriology at the Pasteur Institutes in Paris and Brussels, learning how to make antitoxins and vaccines
- **1911-13** – Blistering pace of travel and network building continued through studies in Germany, London, New York City and California

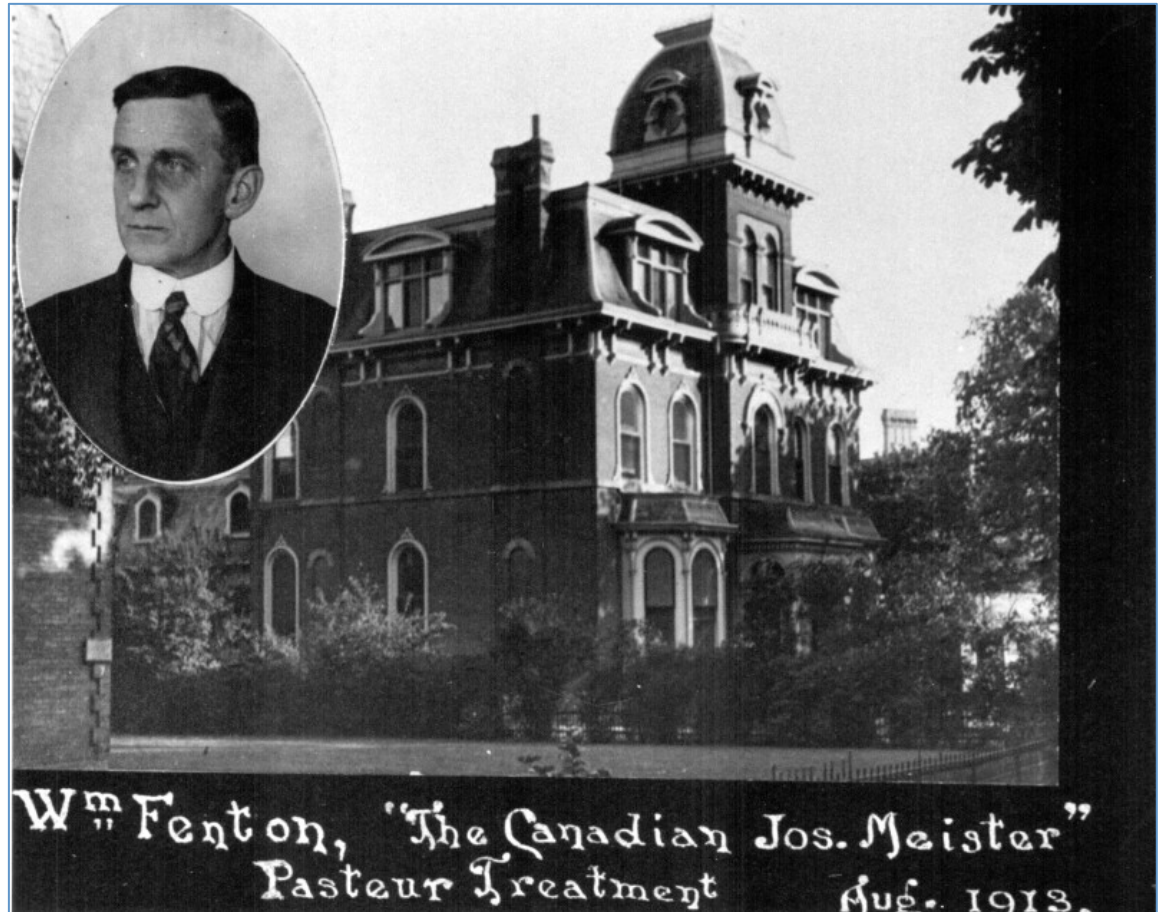


Sanofi Pasteur Canada (Connaught Campus) Archives

- **1913** – The aftermath of the Ontario rabies outbreak, and the need for a local supply of Pasteur Rabies Treatment, prompted Amyot to ask FitzGerald to return to Toronto to prepare it in the Provincial Labs.

John G. FitzGerald & Billy Fenton: *Making Pasteur Rabies Treatment*

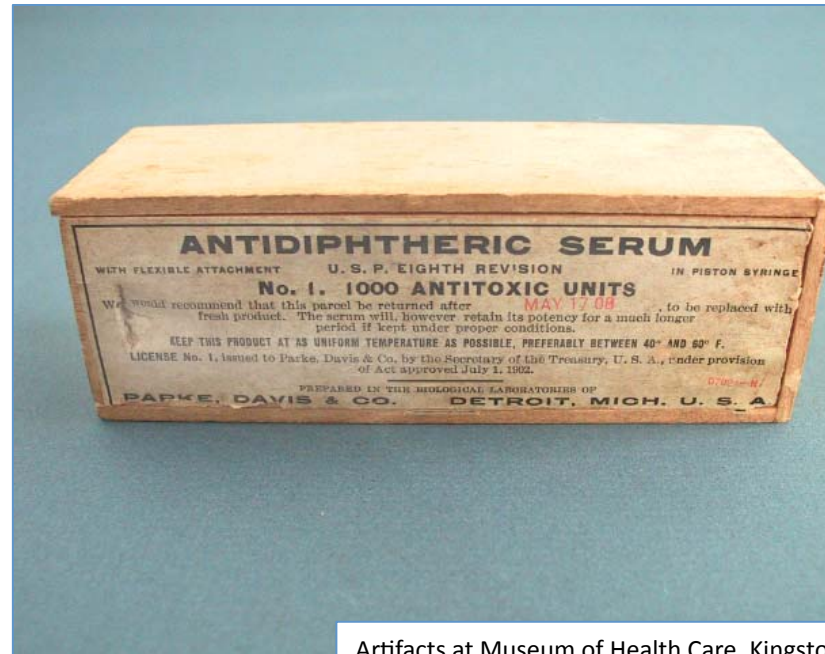
- **1913** – While at the Ontario Provincial Laboratory to prepare Pasteur Rabies Treatment, FitzGerald was assisted by William “Billy” Fenton (right)
- Fenton also volunteered himself as “human guinea pig” to test the Pasteur Rabies Treatment; no ill effects reported
- Fenton served a similar role as Joseph Meister had for Louis Pasteur in 1885, although Fenton wasn’t bitten by a rabid dog



Sanofi Pasteur Canada (Connaught Campus) Archives

John G. FitzGerald & Billy Fenton: *Making Diphtheria Antitoxin in a Backyard Stable*

- **1913** – While making Rabies vaccine at the Ontario Provincial Lab, FitzGerald and Fenton discussed the increasingly urgent need for a local supply of diphtheria antitoxin

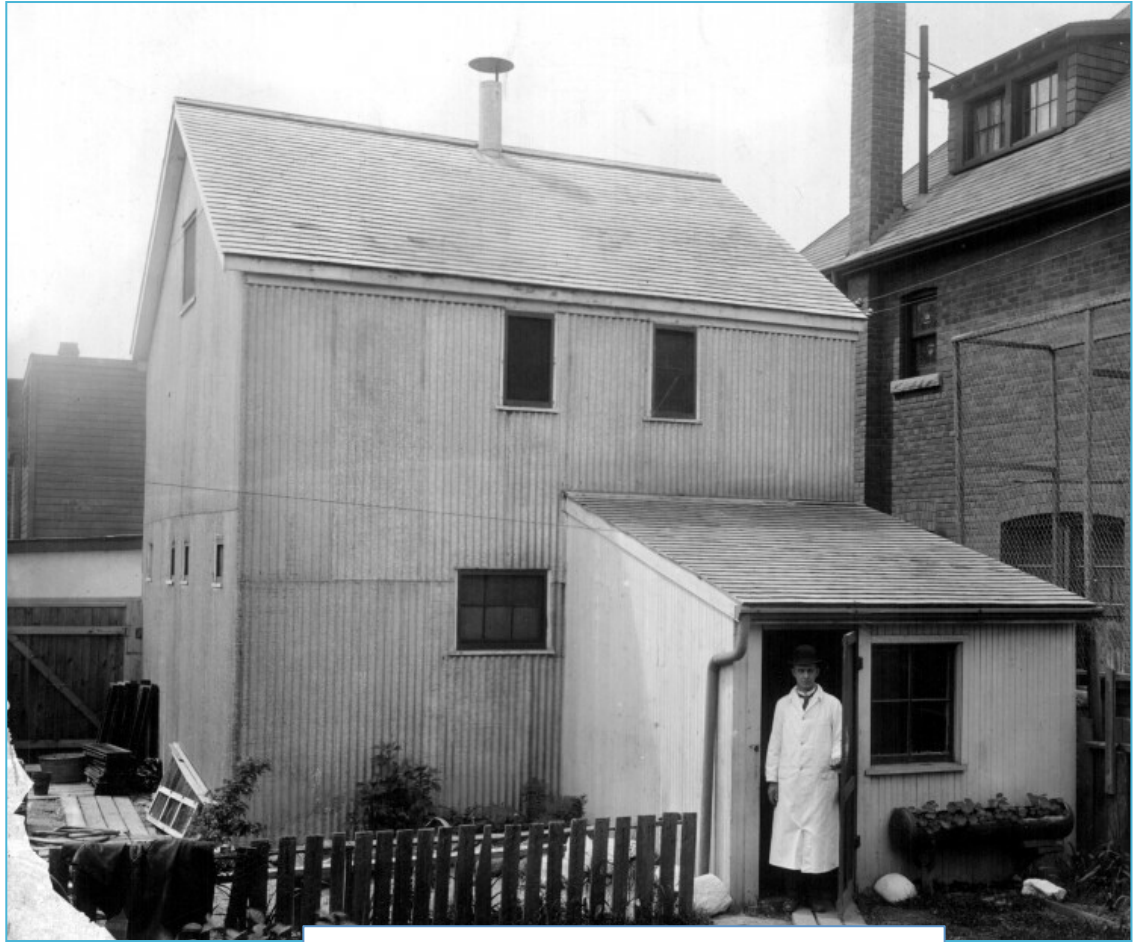


Artifacts at Museum of Health Care, Kingston

- Disturbed by high cost of imported diphtheria antitoxin and other essential health products from the U.S., FitzGerald investigated how to prepare and distribute them in Canada as a public service

John G. FitzGerald & Billy Fenton: *Making Diphtheria Antitoxin in a Backyard Stable*

- It didn't seem that difficult to prepare the antitoxin; FitzGerald just needed some horses, a place to house them, and a small lab to process the antitoxin
- Fenton offered his backyard at 145 Barton Ave in west Toronto to build a small stable
- FitzGerald's wife helped pay to build the stable and buy the first 5 antitoxin horses using her inheritance and dowry



Sanofi Pasteur Canada (Connaught Campus) Archives

John G. FitzGerald & Billy Fenton: Making Diphtheria Antitoxin in a Backyard Stable

- **Dec. 1913** - The horses were bought for \$5 each, and literally rescued from the glue factory
- They were also given names: “Crestfallen,” “Fireman”, “J.H.C.”, “Goliath” and “Surprise.”
- They were older horses and given a second life providing a vital public health service

CERTIFICATE OF MALLEIN TEST.
DOMINION OF CANADA.
DEPARTMENT OF AGRICULTURE, HEALTH OF ANIMALS BRANCH.

Owner *Professor Fitzgerald*

Date *Dec 8th 1913* to *Dec 9th 1913*

Address *Toronto*

No.	Age.	Sex.	DESCRIPTION OF ANIMAL AND NAME (IF ANY).	Temperature before Injection.		Time of Injection.	Temperature after Injection.		Size of Swelling 24 hours after Injection.	Size of Swelling 48 hours after Injection.	Remarks.			
				Hours.	Hours.		Hours.	Hours.						
<i>Surprise</i> 1	<i>aged</i>	<i>♂</i>	<i>Bay mare - aged - Hd fat white</i>	<i>PM 5</i>	<i>PM 8</i>		<i>PM 8</i>	<i>AM 8</i>	<i>PM 11</i>	<i>PM 3</i>	<i>PM 7</i>	<i>None</i>	<i>None</i>	<i>No symptoms of diphtheria</i>
<i>J.H.C.</i> 2	<i>aged</i>	<i>M</i>	<i>Bay geld four white legs white face</i>	<i>99</i>	<i>99</i>		<i>99</i>	<i>99</i>	<i>99</i>	<i>99</i>	<i>99</i>	<i>None</i>	<i>None</i>	<i>No symptoms of diphtheria</i>
<i>Fireman</i> 3	<i>aged</i>	<i>M</i>	<i>Bay geld - four white stockings white face</i>	<i>98</i>	<i>98</i>		<i>99</i>	<i>99</i>	<i>99</i>	<i>99</i>	<i>99</i>	<i>Very small</i>	<i>Very small</i>	<i>No symptoms of diphtheria</i>
<i>Goliath</i> 4	<i>4 yrs</i>	<i>M</i>	<i>Bay geld - two white hind feet white stripe</i>	<i>98</i>	<i>98</i>		<i>99</i>	<i>98</i>	<i>99</i>	<i>99</i>	<i>99</i>	<i>None</i>	<i>None</i>	<i>No symptoms of diphtheria</i>
<i>Crestfallen</i> 5	<i>aged</i>	<i>♂</i>	<i>Bay mare - Stripe Face</i>	<i>99</i>	<i>99</i>		<i>99</i>	<i>99</i>	<i>99</i>	<i>99</i>	<i>99</i>	<i>Very small</i>	<i>Very small</i>	<i>No symptoms of diphtheria</i>

I hereby certify that I have tested with mallein the above described animals and that this is a correct statement of the temperatures obtained.

Dec 9th 1913

Sanofi Pasteur Canada (Connaught Campus) Archives

John G. FitzGerald & Billy Fenton: *Making Diphtheria Antitoxin in a Backyard Stable*

- Today, the Barton Avenue Stable stands in “Heritage Square” at the Sanofi Pasteur Canada Connaught Campus site on Steeles Ave. near Dufferin
- It has been restored and serves as a museum



John G. FitzGerald & Billy Fenton: *Making Diphtheria Antitoxin in a Backyard Stable*

- Today, the Barton Avenue Stable stands in “Heritage Square” at the Sanofi Pasteur Canada Connaught Campus site on Steeles Ave. near Dufferin
 - It has been restored and serves as a museum
- Also, a laneway off Barton Avenue was recently given the name “Crestfallen Lane,” after FitzGerald’s first antitoxin horse



Sanofi Pasteur Canada (Connaught Campus) Archives

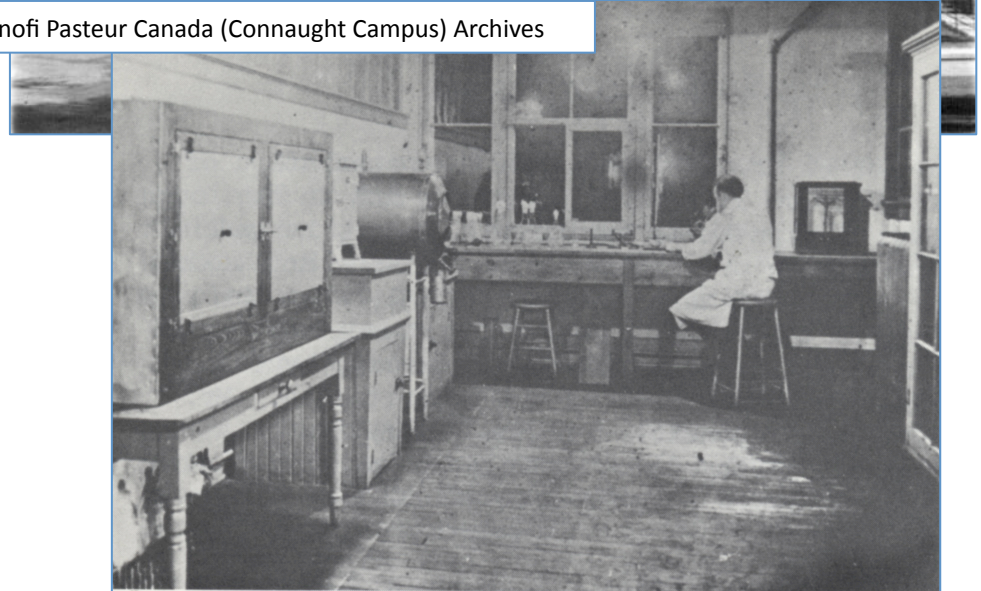


John G. FitzGerald & University of Toronto: *Birth of The Antitoxin Laboratory*

- FitzGerald secured the support of Ontario's Chief MOH, McCullough, who committed the government to buying antitoxin at cost and would provide it to physicians at a much lower price than the imported product
- **May 1, 1914** – U of T Board of Governors assumed responsibility for FitzGerald's Antitoxin Laboratory, providing modest space in the Medical Building basement



Sanofi Pasteur Canada (Connaught Campus) Archives



John G. FitzGerald & University of Toronto: *Birth of The Antitoxin Laboratory*

- The Antitoxin Laboratory would be self supporting, any proceeds directed to research into product improvement and the funding of graduate public health education in the Department of Hygiene
- The Antitoxin Lab was a bold venture for the University of Toronto, and a unique entrepreneurial initiative for any university in the world

British Medical Journal, May 9, 1914, p. 1042

Canada.

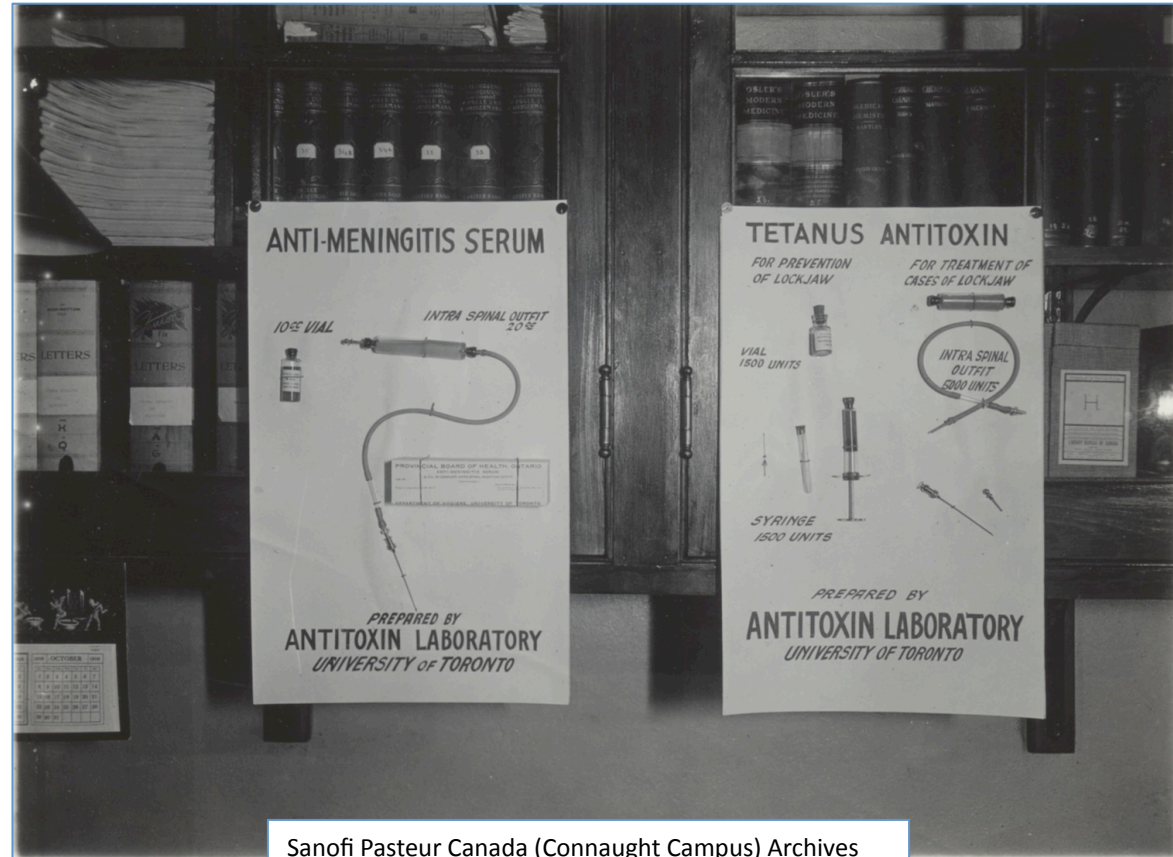
[FROM OUR SPECIAL CORRESPONDENT.]

VACCINES AND ANTITOXINS.

THE Provincial Board of Saskatchewan now supplies anti-typhoid vaccine free of charge to the various municipalities in the province. The only stipulation made is that it shall be administered by a competent person. In Ontario arrangements have been made by the Provincial Board of Health, whereby local boards of health and druggists may obtain diphtheria antitoxin at a reduced charge. The efforts of the Provincial Board of Health of Ontario to make the various vaccines available at a low price are to be supplemented by the Department of Hygiene of the University of Toronto. The department has undertaken to prepare and distribute diphtheria antitoxin, tetanus antitoxin, anti-meningitis serum, and rabies vaccine at a price only slightly above the actual cost. The proceeds of the sale of these substances, after deducting the expenditure incurred in their preparation, will be applied to research in preventive medicine and hygiene.

John G. FitzGerald & University of Toronto: *Birth of The Antitoxin Laboratory*

- Other provinces soon followed Ontario's lead for their supply of antitoxins and other essential biological products from the Antitoxin Labs, ultimately distributing them for free to physicians, hospitals and local health departments



Sanofi Pasteur Canada (Connaught Campus) Archives

- In its first year, in addition to diphtheria antitoxin, the Antitoxin Laboratory also prepared Pasteur Rabies Treatment, Anti-Meningitis Serum and Tetanus Antitoxin

John G. FitzGerald & University of Toronto: *The Antitoxin Laboratory & World War I*

- **Aug 1914** - The start of World War I caused considerable uncertainty for the still fledgling Antitoxin Laboratory
- **1915** – However, tetanus soon became a major health threat to injured soldiers fighting in the trenches on the European front
- Tetanus antitoxin was an effective treatment, prepared like diphtheria antitoxin, and dependent upon horses

Canadian Medical Association Journal, April 1915, p. 308

Case Reports

THE CURATIVE VALUE OF TETANUS ANTITOXIN

WITH CASE REPORTS

BY J. G. FITZGERALD

*Associate Professor of Hygiene; Director, Antitoxin Laboratory,
University of Toronto*

G. W. ROSS, M.B., M.R.C.P. (LOND.)

*Junior Assistant Physician, Toronto General Hospital, Demonstrator
in Clinical Medicine, University of Toronto*

AND E. Z. STIRRETT,

House Surgeon, Grace Hospital, Toronto

THIS communication deals with the value of tetanus antitoxin as a means of treatment in well developed cases of tetanus, when properly administered; and when given in sufficiently large doses.

It has long been maintained that tetanus antitoxin given as a prophylactic agent has a wide field of usefulness, but little evidence until recently has been available to prove that it possesses marked curative properties. Within the past year work on tetanus has been reported which has been distinctly more encouraging. Ash-

- The Antitoxin Laboratory, however, couldn't meet the demand due to very limited accommodations for horses

John G. FitzGerald & University of Toronto: *The Antitoxin Laboratory & World War I*

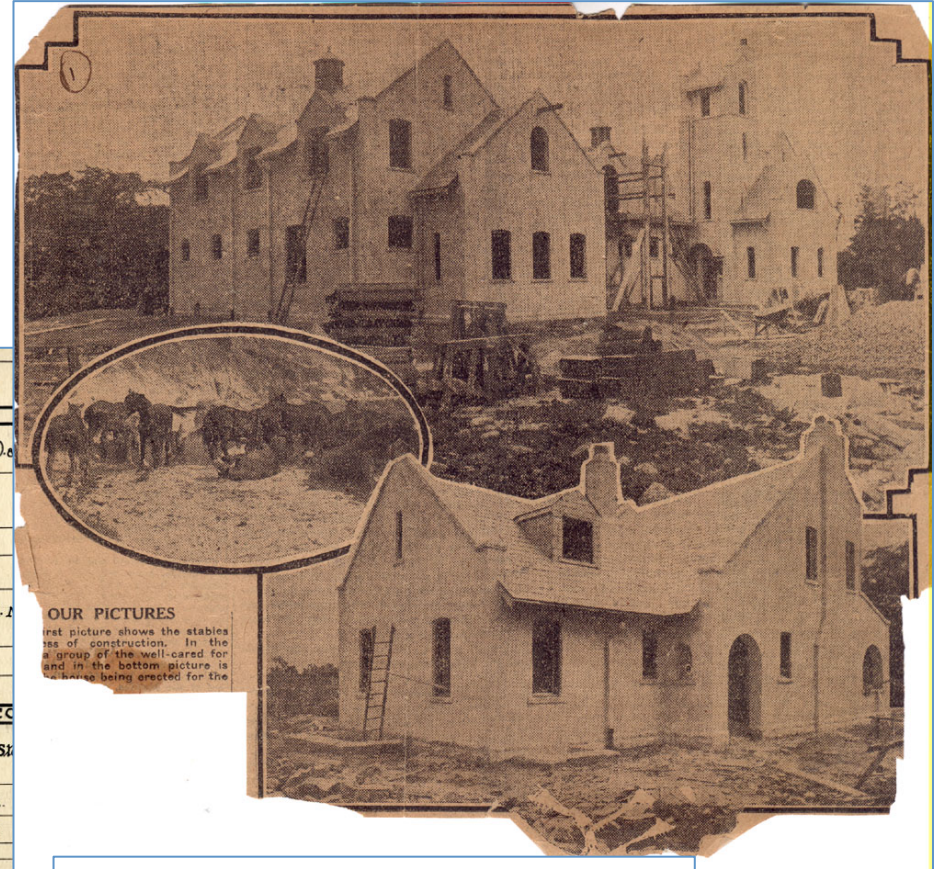
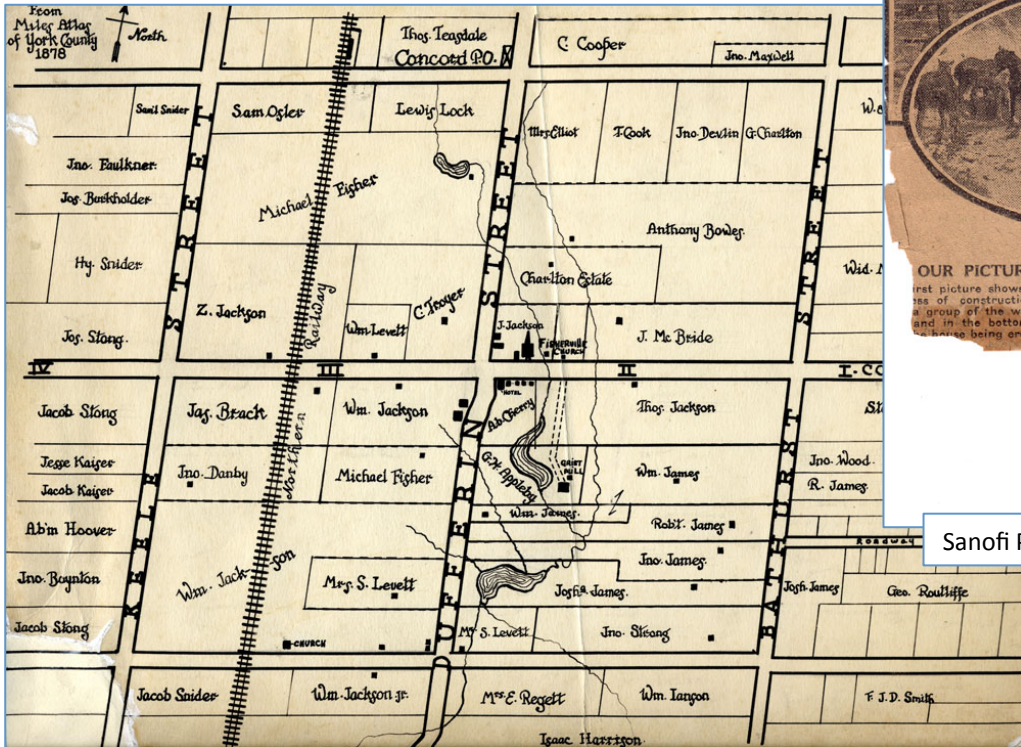
- **Spring 1915** – Distillery magnate, Col. Albert E. Gooderham, well connected with Red Cross and U. of T. and seeking supply of tetanus antitoxin, impressed by FitzGerald's Lab, but saw need for larger facility



Sanofi Pasteur Canada (Connaught Campus) Archives

John G. FitzGerald & University of Toronto: *The Antitoxin Laboratory & World War I*

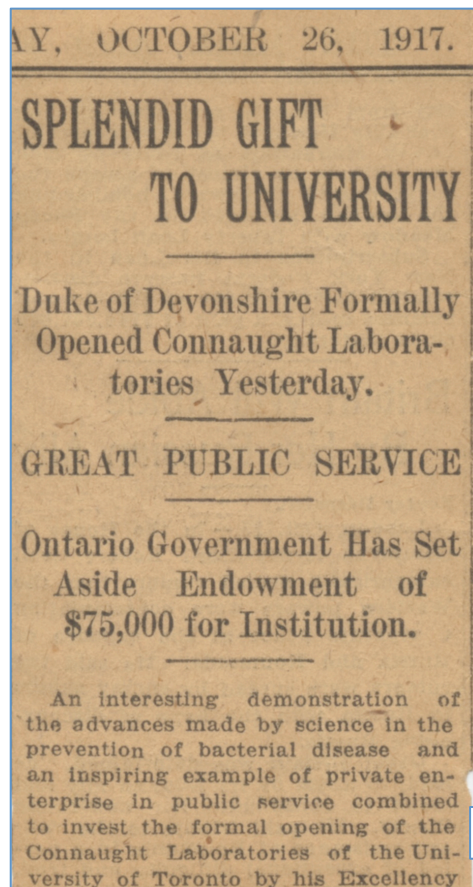
- Gooderham finds vacant farm site north of city (Steeles & Dufferin), buys it, arranges for new lab buildings, and donates it all to U. of T. to add to Antitoxin Lab



Sanofi Pasteur Canada (Connaught Campus) Archives

John G. FitzGerald & University of Toronto: *The Antitoxin Laboratory & World War I*

- **Oct 25, 1917** - “Connaught Antitoxin Laboratories and University Farm” officially opened



Mail & Empire, Oct 26, 1917



Sanofi Pasteur Canada (Connaught Campus) Archives

John G. FitzGerald & University of Toronto: *The Antitoxin Laboratory & World War I*

- The expanded Connaught Labs was officially named after Duke of Connaught, Governor General of Canada, 1911-16, and patron of the Canadian Public Health Association



John G. FitzGerald & University of Toronto: *The Antitoxin Laboratory & World War I*

- The expanded Connaught Labs was officially named after Duke of Connaught, Governor General of Canada, 1911-16, and patron of the Canadian Public Health Association
- In addition to producing tetanus antitoxin, the expanded Labs also supplied Canada and the military with smallpox vaccine



Sanofi Pasteur Canada (Connaught Campus) Archives

Robert D. Defries: *Public Health & Vaccine Pioneer*



Sanofi Pasteur Canada (Connaught Campus) Archives

- FitzGerald's efforts in building Connaught Labs depended upon the partnership of Dr. Robert D. Defries
- **1913** – Soon after Amyot had asked FitzGerald to teach bacteriology in the Department of Hygiene, Defries was chosen as FitzGerald's course demonstrator
- **1914** – Defries was the first student and then first graduate of the Diploma in Public Health (DPH) program designed to fill need for better qualified medical officers of health in Ontario

Robert D. Defries: *Public Health & Vaccine Pioneer*

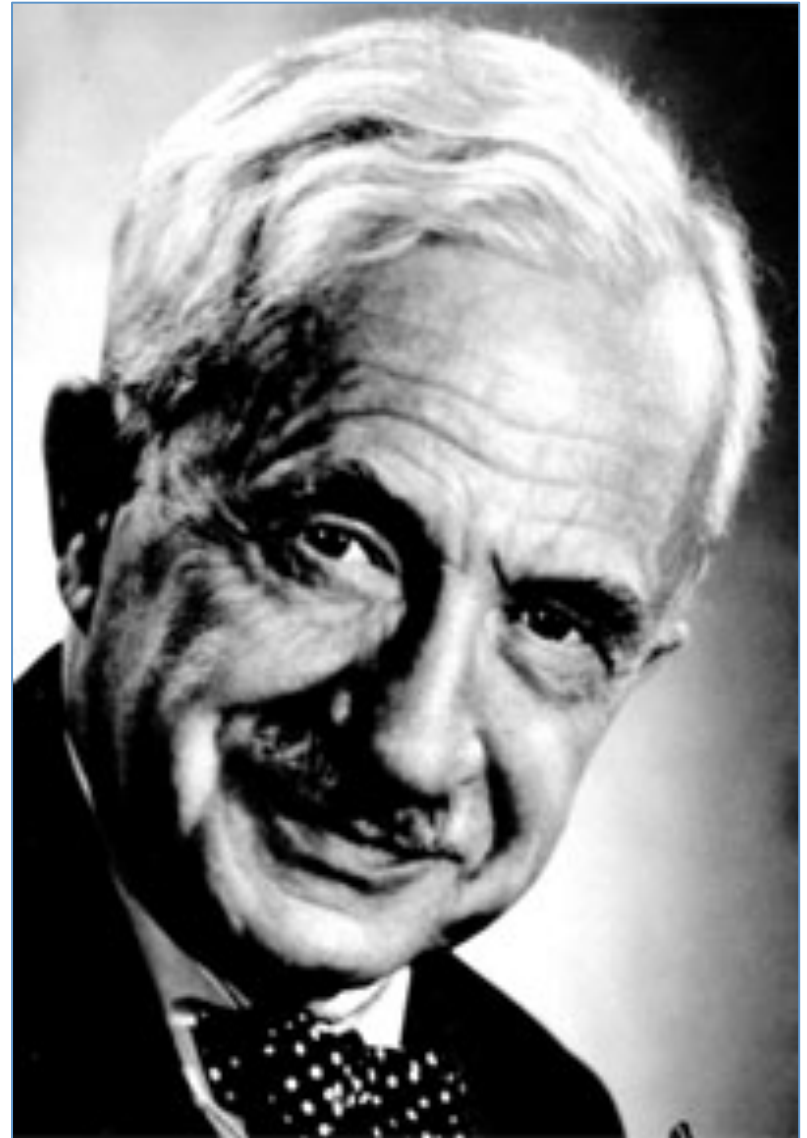
- Defries had intentions of becoming a medical missionary, but FitzGerald convinced him to instead apply a missionary zeal to the pursuit of public health and preventive medicine
- Defries' skills as a bacteriologist were especially significant for the production of anti-meningitis serum, tetanus antitoxin and smallpox vaccine



Sanofi Pasteur Canada (Connaught Campus) Archives

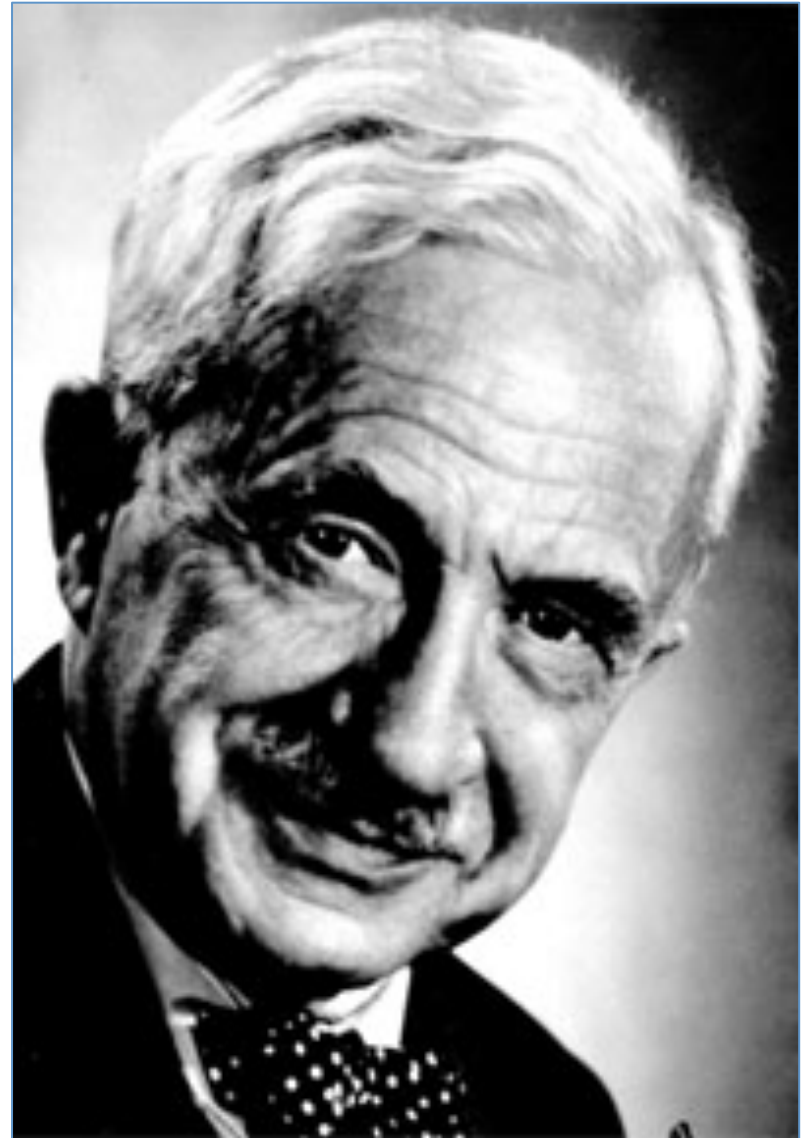
Gordon Bates: *Venereal Disease & World War I*

- **1915-17** – A contemporary of FitzGerald and Defries, and possessing a similar type of fearless passion for public health promotion as Edward Playter had earlier, Gordon Bates almost single-handedly brought the complex and controversial issue of venereal disease into the public domain, initially in the context of WWI and then more broadly



Gordon Bates: *Venereal Disease & World War I*

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- **1916** – Not unlike Playter had with his journal, Bates would assertively promote the VD and other issues as Editor of the *Canadian Public Health Journal*



Gordon Bates: *Venereal Disease & World War I*

- **1915-16** – An estimated 28.5% of Canadian troops were infected by venereal diseases and some 13% of public ward patients in Toronto General Hospital had syphilis
- **1917** – Bates led a group of Toronto physicians to a meeting of the Commission on Conservation to plead for efficient federal action not unlike taken in the military, to stem the growing venereal disease threat

The Public Health Journal

VOL. VIII.

TORONTO, CANADA, AUGUST, 1917.

NO. 8

The Control of Venereal Diseases*

By Gordon Bates

*Capt. C.A.M.C., Officer in Charge Venereal Sect.
Base Hospital, Toronto.*

THE question of the control of venereal disease is so large that it is difficult to attempt to deal with in a brief paper. One may roughly resolve it into two topics, namely, the control of prostitution, and the control of venereal disease itself. Both of these are perfectly legitimate public health fields.

One cannot but feel that in regard to these subjects we are hampered by our ignorance of both their extent and seriousness. I am unable to find any extensive Canadian statistics as to the prevalence of prostitution, and only lately has the work of a few investigators using the Wassermann reaction given us the idea that in dealing with venereal diseases we are attempting to solve a problem of extreme gravity.

method of obtaining exact information must be undertaken.

Since this method of history taking has only commenced, I am only able to report the result of the examination of 100 cases. Since, however, venereal admissions to the Base Hospital are approximately 1,500 yearly, probably a more comprehensive report will be possible next year. The method of case-taking is simply to ask each venereally infected man a definite series of questions in regard to matters in connection with his infection which are felt to be significant.

Briefly our results are as follows:

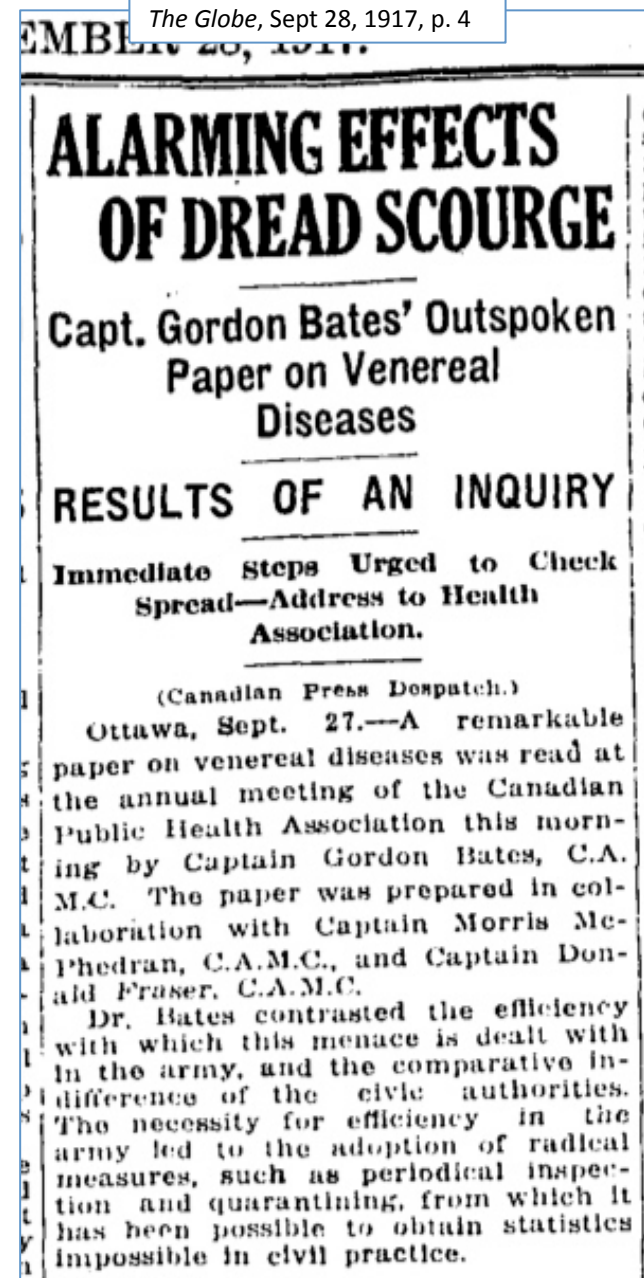
89 men were infected through illicit sexual intercourse.

11 men were apparently infected by their wives.

- Most needed were free diagnosis and treatment services and a broad public education program

Gordon Bates: *Venereal Disease & World War I*

- Bates determined to bring the details of the VD problem to the public through any means – newspapers, public lectures, motion pictures
- His obituary noted - “Dr. Bates was the first Canadian physician to use the words syphilis and gonorrhoea in public speeches. He nagged newspaper editors until they admitted the words to their news and editorial columns.”



Gordon Bates: *Venereal Disease & World War I*

- **Jan 1918** - Bates worked closely with Ontario's Chief MOH, Dr. McCullough, leading to the Ontario government to pass a Venereal Diseases Act
- The Act gave public health departments the power to detain women suspected of having VD
- Those infected were to seek professional medical treatment through provincially-funded hospitals, and the provincial government was to be the only source of educational literature about VD

The Globe, Jan 11, 1918, p. 1

ONTARIO DECLARES WAR ON VENEREAL DISEASES

**Legislation to Restrict Evil Consequences of
Deadly Disorders Will be Passed by Ontario
Government During Next Few Weeks**

Legislation to prevent the spread of venereal diseases and restrict the evil consequences of such disorders will be passed by the Ontario Government at the approaching session of the Legislature, which meets on February 5th next.

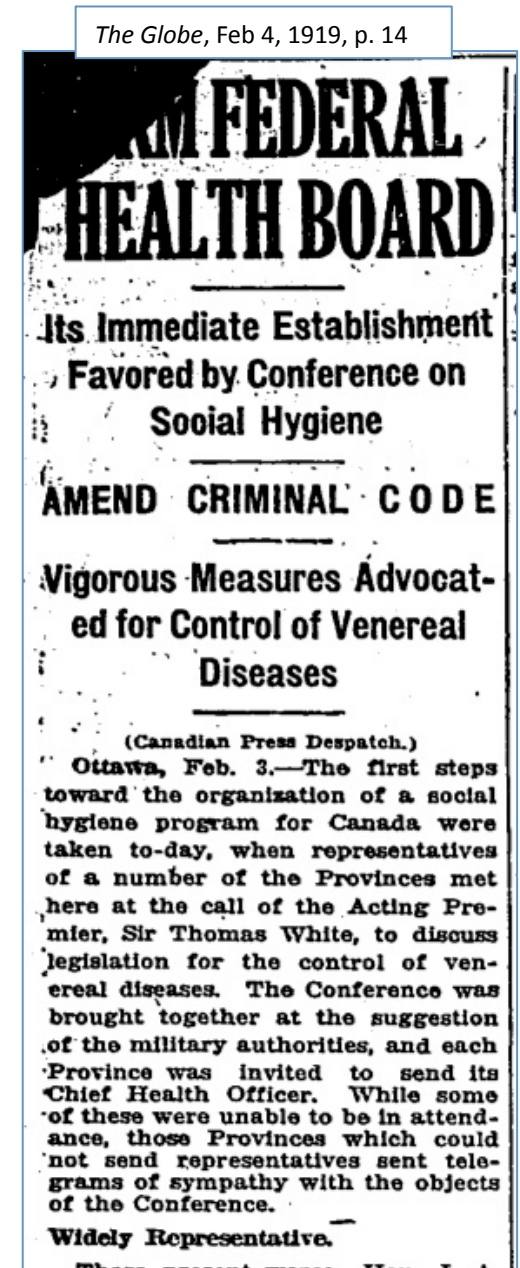
While the Government has not yet definitely decided upon the terms of the proposed legislation, *The Globe* is informed that the measure will be based upon the report of Hon. Mr. Justice Hodgins, who, in November last, was commissioned to undertake the important work of investigating the problem on behalf of the Provincial Government.

Justice Hodgins has just completed an exhaustive investigation into the study and practice of medicine, and the Government asked him to

proceed with a study and investigation of the problem of the feeble-minded and the question of venereal diseases. The feeling was that these problems are intimately related to each other. A large percentage of cases of venereal diseases can undoubtedly be traced, it is believed, to the habitually immoral, and many of this class are considered to be mentally defective. On the other hand, it is believed that many cases of insanity and feeble-mindedness are the result of venereal diseases. Justice Hodgins was commissioned under the Public Inquiries Act to consider and inquire into the existing methods of dealing with imbecile, feeble-minded and mentally defective persons in the Province, with power to suggest amendments to existing legislation or other measures which will, in his opinion, 'improve present conditions.

Gordon Bates: *Venereal Disease & World War I*

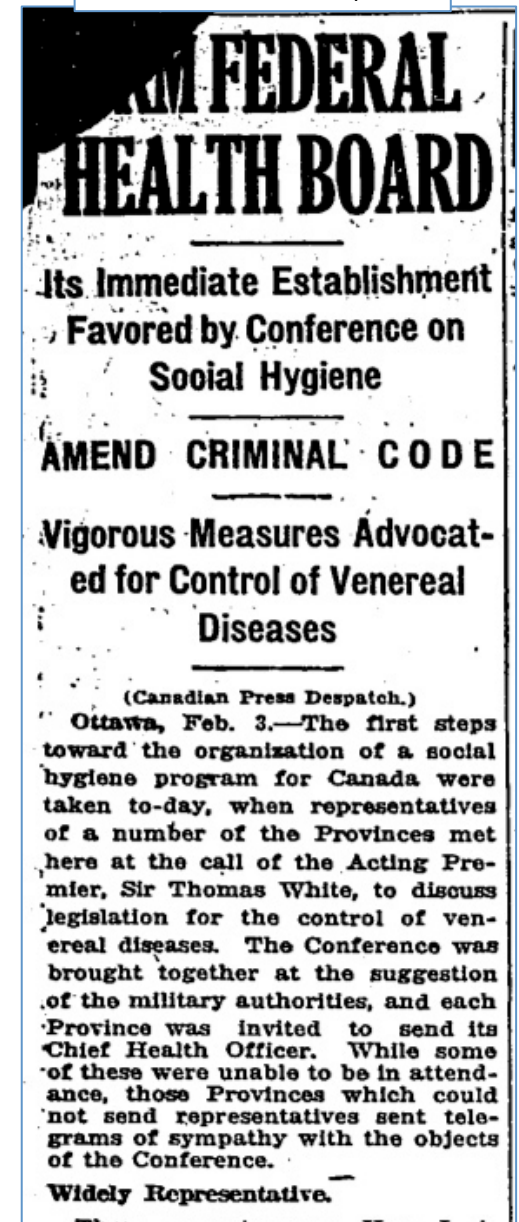
- **1918-19** – Bates' focus for action shifted more directly towards the federal government to act on venereal diseases within the context of fulfilling long-term demands – stretching back to Playter's efforts - for the establishment of a federal department of health
- Bates worked with FitzGerald in this effort, starting with setting up an Advisory Committee on Venereal Diseases based in Toronto, which involved physicians, the National Council of Women and the YMCA and YWCA; this effort grew into a “nation-wide campaign against vice” during 1918



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- Bates worked with FitzGerald in this effort, starting with setting up an Advisory Committee on Venereal Diseases based in Toronto, which involved physicians, the National Council of Women and the YMCA and YWCA; this effort grew into a “nation-wide campaign against vice” during 1918
- Plans for a Canadian National Committee for the Control of Venereal Diseases were delayed by another, much larger and more urgent national public health challenge, the “Spanish Flu” pandemic

The Globe, Feb 4, 1919, p. 14



“Spanish Flu” Pandemic, 1918-19

- **1918-19** – The great “Spanish Flu” pandemic had little to do with Spain, but it was where news of it was first reported
- The new strain originated in China in early 1918 and via transitory workers found an ideal environment in war-torn Europe, and then via returning soldiers into the U.S. and Canada, spreading efficiently via the railway across the country during the summer



Widespread Ravages of Spanish Influenza and Consequent Diseases

In Montreal Alone There Are 20,000 Cases of Influenza and From All Points Come News of Its Spread.—In Halifax We Have 500 Cases.

MONTREAL, October 12.—It is estimated that there are nearly twenty thousand cases of gripe in Montreal and still more stringent regulations are enforced by the board of health to curb the epidemic. The order follows:

"All stores, shops, and bars of all kinds, retail and wholesale, except drug stores (for sale of drugs only) butchers' shops, grocery stores shall close at four o'clock.

"All churches, theatres, moving picture houses, dancing halls, billiard and pool rooms, bowling alleys, public baths, auction rooms, assembly or lecture halls shall remain closed.

"No athletics, sports, sporting gatherings of any kind or meetings open air or otherwise, where more than 25 people gather shall be allowed.

"All schools, public or private, including Sunday schools shall remain closed.

"Boarding schools shall not be allowed to receive day boarders or visitors and if allowed leave of absence pupils shall not be allowed to re-enter the school.

"Public offices including banks, government offices, municipal offices shall close not later than 4:30.

"All hospitals and dispensaries (except in urgent cases) shall be closed to all but emergency cases.

"No public shall be admitted to the courts except those essential to the prosecution of the cases called.

"The board recommends most specially to the public not to crowd into any tramway and to avoid as much as possible any crowded train, tramway or railway station."

MONTREAL, October 13.—For snipping on the sidewalks twenty men appeared in court yesterday and were fined various amounts up to fifteen dollars or a month jail in each case.

MONTREAL, October 13.—Of the 500 cases of influenza among soldiers in this district being treated there have been ninety-three deaths.

WINNIPEG, October 13.—A proclamation, practically suspending all public assemblies until all danger of infection from prevailing pulmonary disease is considered past. After Saturday night, all schools, theatres, churches, moving picture houses, business colleges, dance halls and other places where people assemble in numbers are to be closed and departmental and other stores, dining rooms, street

cars, railway trains, etc., are to be regulated under special precautionary measures. Municipalities which are practically suburban to Winnipeg, including Assiniboia, Transcona and Kildonan, and the city of St. Boniface, have adopted the same precautionary measures which extend to labor meetings and strike conferences. The area included in the above comprises the principal centres of population in Manitoba. In this area there will be no church services Sunday and special thanksgiving day services in churches.

TORONTO, October 13.—Spanish influenza continues its steady advance thru every district of the city and province. The hospitals are practically all filled and the department of health is considering taking over some of the vacant hotel properties for additional hospital accommodation. Advertisements are in the press for voluntary workers, nurses, maids, orderlies, cooks, etc., to strengthen the forces which are busily fighting the epidemic. Dr. Hastings has ordered all conventions and other large gatherings to be postponed until epidemic abates. Among the conventions which will be cancelled are the Baptist convention of Ontario and Quebec, planned to open on Wednesday; the national association of electrical contractors and dealers, scheduled to start Monday; the three day conference of Local church workers "On Behalf of Israel" arranged for next week. The Ontario Sunday school convention has been planned for October 21. An order has been issued that only immediate relatives shall be allowed to attend funerals of persons who have died from influenza. To prevent the development of epidemics in the wards of hospital for

visiting has been disallowed during the epidemic. The same course has been taken at the other hospitals.

TORONTO, October 13.—Toronto academy of medicine issued following appeal:

"In view of urgent demands for nurses to care for civilian and military sick and for hospital accommodation the council of the academy urges that all nurses who are at present not engaged in nursing should report themselves for duty without delay to the central registry, to the duty superintendent of the hospitals, or to the medical authorities." At General Hospital thirty nurses are suffering from influenza. One of them is Miss Hope Aylesworth, nurse of Sir Arlenworth. Her condition is critical.

NEW YORK, October 13.—The council of public health has made it a misdemeanor for any person to cough or sneeze in a public place anywhere in the state of New York without covering the mouth or nose. Violations will be rigidly prosecuted. The punishment will be \$500 fine or one year in prison or both. It was decided to make influenza a reportable disease, which means that every case must be reported to the health officers by doctors, hotel proprietors, boarding house keepers and householders. Every new case will be placed immediately under state control. From September 18 until today there have been 21,642 cases of influenza in New York city and 2,752 cases of pneumonia. Deaths from influenza numbered 1,052 and from pneumonia 1,509.

CAPE TOWN, October 13.—The worst plague that ever visited South Africa, was nothing in comparison with the present epidemic of influenza. As a result of the epidemic there were 146 burials in Matland cemetery today. The spread of influenza is diminishing in mining districts, where the hospital cases have been reduced from 20,000 to 3,000 since last week. Eight thousand cases have been reported at Durban. Some coal mines in Natal have been closed.

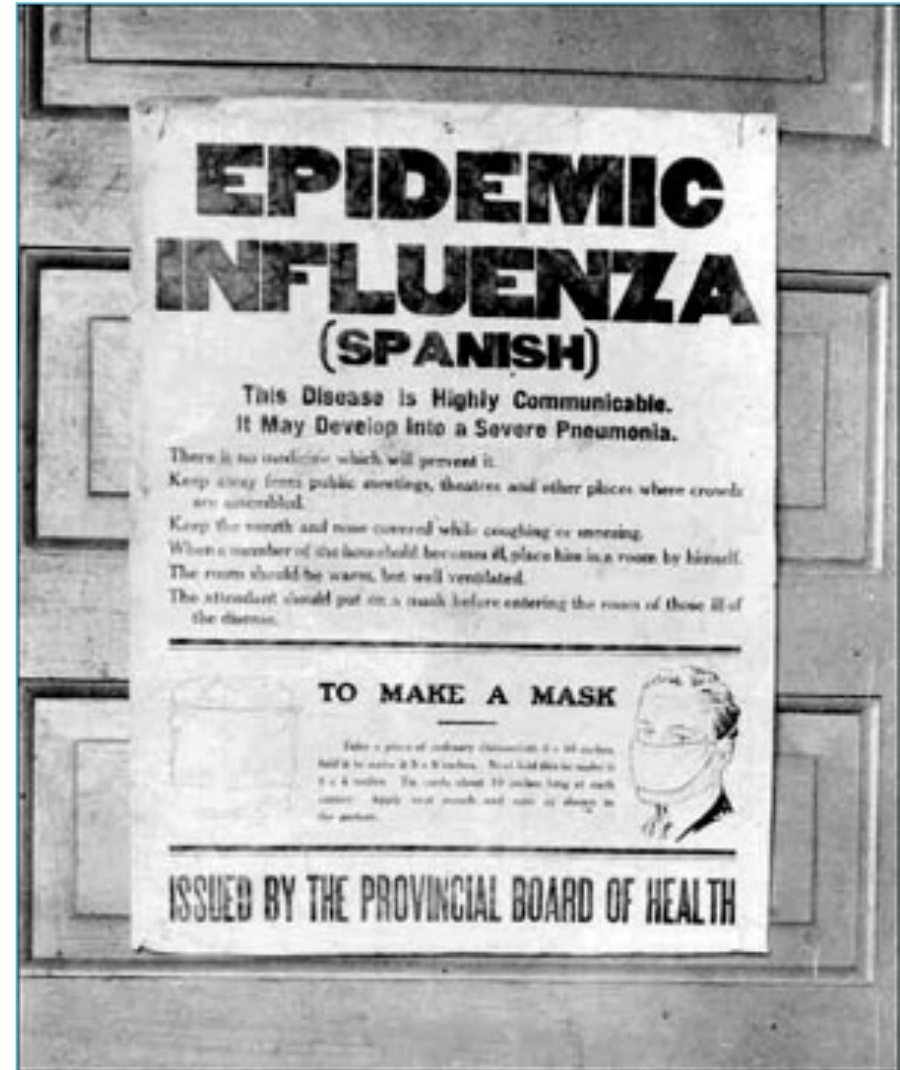
Five Hundred Cases Of Spanish Influenza Are Now in Halifax

HALIFAX, October 14.—The fight against the spread of Spanish influenza by the city health board continues unabated with encouraging results, with other Canadian cities, and shows daily that the precautions and measures taken in the early stages were fully justified. While the disease had made considerable advance during the past week, it has not been nearly as alarming as disturbing as it would have been had not effective means been adopted by the health board, before the epidemic stage was reached. Prospects are still

Newspapers of the day carried alarming reports of the spread of the disease. (The Halifax Herald, October 14, 1918. Photo courtesy Public Archives of Nova Scotia)

“Spanish Flu” Pandemic, 1918-19

- **1918-19** – By the time the pandemic eased, some 1/6 of the Canadian population affected, especially young adults with no immunity to the novel strain, with 50,000 deaths accelerated by complications such as pneumonia
- Globally, there were some 50 million deaths linked to the flu pandemic
- Quebec and Alberta hit hardest, and the indigenous population, especially in B.C., severely affected, with 3,694 deaths out of a national indigenous population of 106,000



“Spanish Flu” Pandemic, 1918-19

- Influenza was not a reportable disease in Canada and most provinces saw the impracticality of trying to impose strict quarantine measures
- With little understanding of the viral cause of influenza (the virus was not isolated until 1933) local and provincial health authorities, already hampered by war-time shortages of medical and nursing staff, saw many health workers fall ill to the flu
- It seemed that little could be done to treat, control or prevent the disease

Public Health Journal, Oct 1918, p. 478



The Provincial Board of Health of Ontario Spanish Influenza

The following information upon Spanish influenza (so-called) has been issued by the Board to all the physicians and Medical Officers of Health in Ontario.

Investigations carried on by the Canadian Army Medical Corps overseas, have developed the fact that the so-called Spanish influenza has a different causation from that of the ordinary la grippe of 1889 and which is due to the bacillus influenzae commonly called Pfeiffer's bacillus. The causative organism in the present outbreak is believed to be a very small gram-positive diplococcus found in the upper air-passages of infected persons. The infection is commonly passed on by direct personal contact, drinking utensils, towels, etc.

SYMPTOMS.—Clinically the disease simulates influenza. It is an acute febrile infectious condition of three or four days' duration. The most striking symptoms are: Sudden onset with chills, severe headache with pain in cervical, dorsal, and lumbar regions, also pain in limbs and general malaise. The temperature rises to a maximum of 100 to 102 degrees Fahrenheit, and on the fourth day it begins to fall. In a few cases it may reach a higher point, and on the fourth day it begins to develop a cough, which is constant and constant, but is not proper, but is not the appetite p



“Spanish Flu” Pandemic, 1918-19

- During the pandemic there were frantic efforts to identify the cause of the disease and hopefully prepare a vaccine that might prevent it
- Scientists in the U.S. targeted a bacterium, *B. influenza*, which was isolated from cases and thought to be the cause of the disease, and then prepared a vaccine based on it

American Journal of Public Health, Oct 1918, p. 754

THE USE OF INFLUENZA VACCINE IN THE PRESENT EPIDEMIC.

TIMOTHY LEARY, M. D.,

*Professor of Pathology and Bacteriology, Tufts College Medical School,
Boston, Mass.*

THREE strains of influenza bacilli obtained from cases during the present epidemic have been used in the manufacture of vaccine. Strain “Carney” came from a culture from the nose of a nurse at the Carney Hospital. It was present in association with a white staphylococcus in abundant growth, in contrast to the picture obtained in most nose and throat cultures, which do not usually show the influenza bacillus. Strain “Navy” was procured from Lieutenant Keegan at the Chelsea Naval Hospital. Strain “Devens” was obtained from Major Spooner through Doctor Allen.

The technic used in the preparation of vaccine follows: 1½ per cent agar has been

prepared from meat infusion (beef hearts) without glucose, and made 1 per cent acid to phenolphthalein. This is autoclaved for forty-five minutes at fifteen pounds pressure after tubing. Three to five drops of human blood are added to each tube. Blood is collected from the median basilic vein—15 to 40 cc. Poorest growth occurs when the blood is added to agar at 60° C. or below. Most abundant growth appears in tubes to which blood is added, with the agar at 80° to 90° C. The greater heat leads to a brown discoloration of the blood. Colonies on red agar (60° C.) are small, translucent and discrete, and produce a fine frosting on the surface. The growth on brown agar (80° to 90° C.)

“Spanish Flu” Pandemic, 1918-19: Influenza, Connaught Labs & Federal Public Health

The Globe, Oct 21, 1918, p. 1

FIND VACCINE FOR EPIDEMIC

**Connaught Laboratories of
University of Toronto An-
nounce Discovery**

SEND IT TO HOSPITALS

**Though Difficult to Prepare,
Large Supply May Soon
be Available**

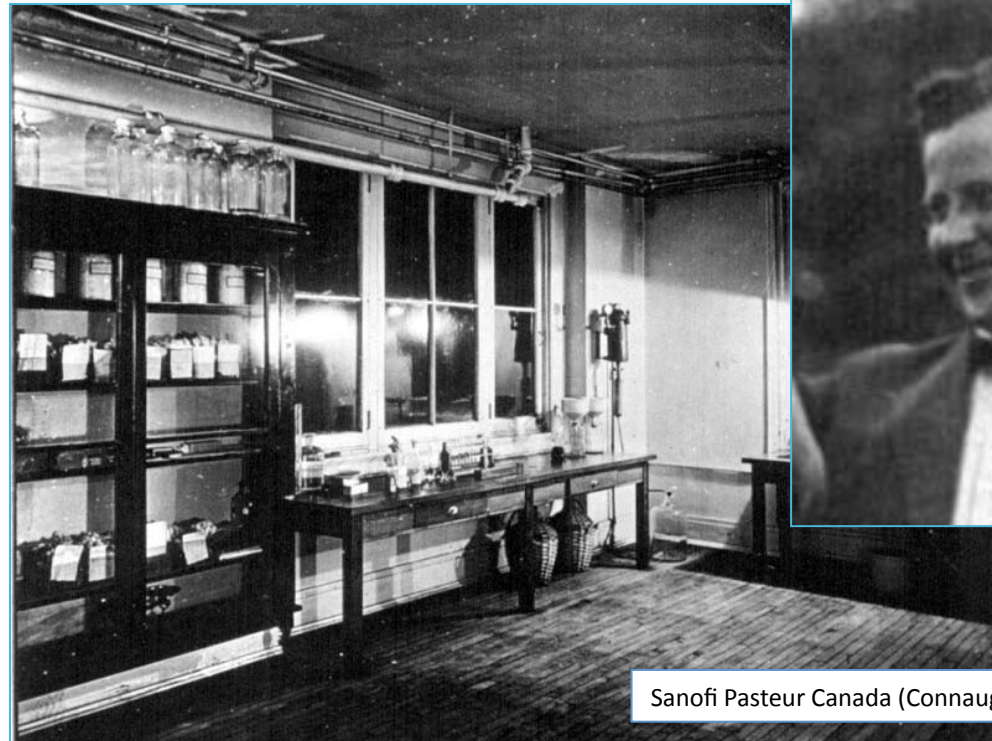
A preventive vaccine for influenza has been discovered in Toronto, and already its distribution to Ontario hospitals has commenced. Announcement to this effect was made last night by the Connaught Laboratories at the University of Toronto. The vaccine consists of dead germs of influenza, and eighteen strains of these germs are used in its preparation. The preparation of the vaccine in large quantities is difficult, but 7,000 doses already have been sent out.

The Director of the Connaught Laboratories, Major J. G. Fitzgerald, is at present overseas as officer in command of No. 39 Mobile Laboratory, France. Dr. R. D. Defries, the acting Director, is in charge of the work.

The statement issued by the Connaught Laboratories is as follows:
“The Connaught Laboratories, University of Toronto, have announced the production of a preventive vaccine for influenza.

Work Commenced on Outbreak.

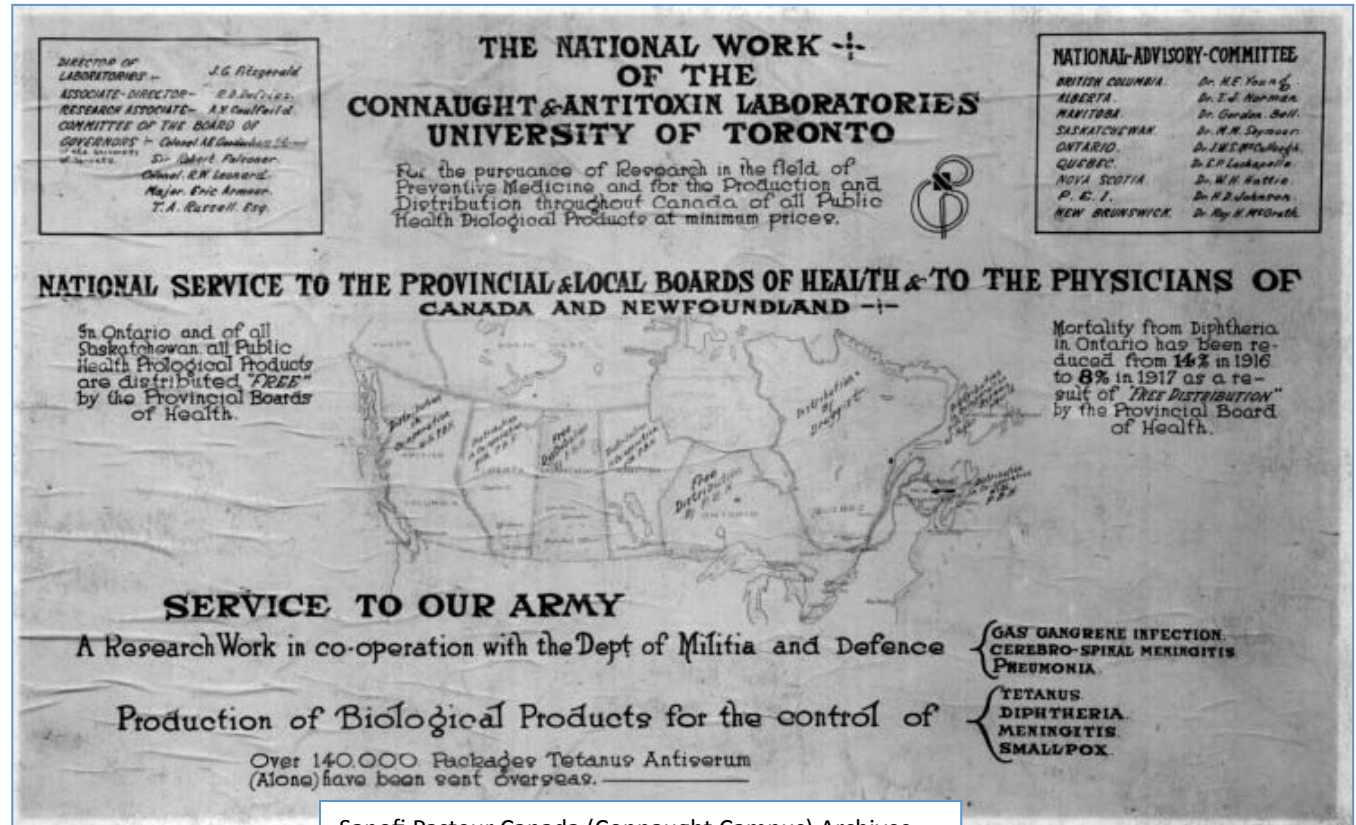
- At Connaught Labs, a small team under the direction of Robert Defries (below), worked 24/7 to prepare a vaccine and supplied it free of charge to provincial health departments, hospitals, the military and other public health services across the country



Sanofi Pasteur Canada (Connaught Campus) Archives

“Spanish Flu” Pandemic, 1918-19:
Influenza, Connaught Labs & Federal Public Health

- Due to this unprecedented emergency, Connaught made no claims for the effectiveness of the vaccine, but kept careful records so that it could be evaluated.



- Connaught's efforts were greatly appreciated by provincial health departments, and helped solidify the Lab's public health role across Canada

Finally, A Federal Department of Health

- The end of World War I, coupled with the high-profile public health threats of venereal disease and the Spanish Flu pandemic, brought intense pressure on the federal government to finally establish a nationally focused department of health
- **Feb. 3, 1919** – Echoing events in Ottawa 9 years earlier, a national conference was held, initially focused on creating a national venereal disease program, but which set in motion a political process that led to the drafting of legislation creating the federal department of health

FEDERAL HEALTH BOARD

**Its Immediate Establishment
Favored by Conference on
Social Hygiene**

AMEND CRIMINAL CODE

**Vigorous Measures Advocated
for Control of Venereal
Diseases**

(Canadian Press Despatch.)
Ottawa, Feb. 3.—The first steps toward the organization of a social hygiene program for Canada were taken to-day, when representatives of a number of the Provinces met here at the call of the Acting Premier, Sir Thomas White, to discuss legislation for the control of venereal diseases. The Conference was brought together at the suggestion of the military authorities, and each Province was invited to send its Chief Health Officer. While some of these were unable to be in attendance, those Provinces which could not send representatives sent telegrams of sympathy with the objects of the Conference.

Widely Representative.

Finally, A Federal Department of Health

- **Feb. 20, 1919** – In its Throne Speech, the federal government formally commits to creating the new department
- **May 1919** – The Federal Department of Health was officially launched



The Globe, May 7, 1919, p. 2

FEDERAL HEALTH DEPT. SANCTIONED

Senate Committee to Report on Improving Ad- ministration

(Canadian Press Despatch)

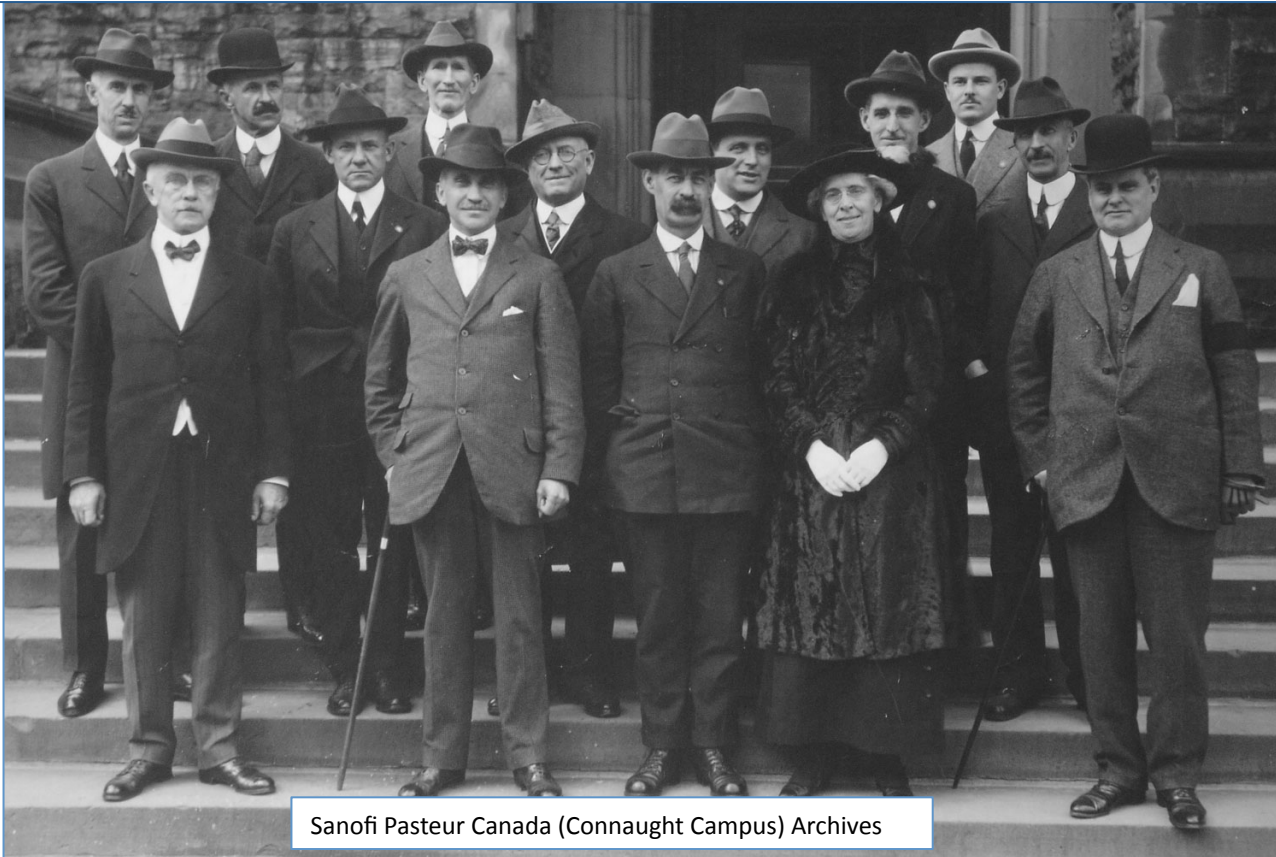
Ottawa, May 6.—Authority for the creation of a Dominion Department of Public Health has been given Parliamentary sanction and now requires only the assent of the Governor-General to become law. The measure to-day was given third reading in the Senate, having previously passed the Commons.

To Improve Administration.

The improvement of Canadian Government administration will be considered by a committee of the Senate, with a view to making suggestions for the improvement of the existing system. The proposal was put forward some days ago by Senator McLennan, and to-day he secured the appointment of a special committee "to consider and report on the possibility of bettering the machinery of Government." Those named to the committee were: Senators McLennan, Beique, Dandurand, Foster and Ross (Middleton).

Finally, A Federal Department of Health

- John Amyot (centre) was named the Department's first Deputy Minister of Health
- Dominion Council of Health was established as an advisory body to the new federal department of health and based on Connaught Labs' Scientific Advisory Council that had been set up in 1918



Sanofi Pasteur Canada (Connaught Campus) Archives

Finally, A Federal Department of Health

- Starting in 1920, Dominion Council of Health would meet twice a year
- It was made up of provincial deputy ministers of health, the federal deputy minister and five appointed members, including representatives from labour, women's groups, social service agencies and universities, including Dr. John FitzGerald from the University of Toronto (rear row, 3rd from right)



Sanofi Pasteur Canada (Connaught Campus) Archives

The 1910s:

A Very Eventful Decade in Canadian Public Health

- Much had certainly happened in public health in Canada since January 1910
- It had been a very active and creative decade, it ending with the new Federal Department of Health funding with the provinces a national venereal diseases initiative

Public Health Journal, Dec, 1919, p. 583

Editorial

A NATION-WIDE campaign is being launched as one of the first activities of the newly-created Federal Department of Health. The Dominion authorities have granted \$200,000 to assist in combating venereal diseases, conditional upon the same amount being raised by the Provinces. Each Province will frame its own statutes and evolve its own plans, but unity from coast to coast in educational work will be given by a voluntary agency, the Canadian National Council for Combating Venereal Diseases, representing all the Provinces. This organization will endeavour to enroll members in every community in Canada and impress on the public mind the gravity of the problem. The lecture platform, the moving-picture, the newspaper, and the magazine will be used. It is probable that definite surveys will be made by trained investigators in police courts, reformatories, and jails to ascertain what can be done in a preventive way. The social aspects of sex offences will be also the subject of thorough inquiry.

Ontario made a beginning with the statute that took effect in July, 1918. A year's experience has justified it, but has revealed certain defects which should be removed. Conferences have been called by the Chairman of the Provincial Board of Health to consider means of strengthening the Act. Greater clinic facilities are required, and it should be less easy for victims of the disease to evade the compulsory provisions of the law and become a public menace. Ontario's share of the Federal grant will be \$57,000, and the late Government had intended to ask the legislature to duplicate it. No doubt the new Government will avail itself of the Federal offer and enable the Province to do its share in the fight against a dreadful scourge.

Reprinted from the *Toronto Globe*, November 17th, 1919.

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Smallpox in Toronto

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- As we'll see in classes #3 and #4, the pace of public health development in Canada will increase during the 1920s & 1930s, especially in infectious disease control and with major advances in biotechnology, such as insulin...

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