
Halifax was plunged into Gloom¹: The Impact of the Spanish Influenza Pandemic on Nova Scotia

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INTRODUCTION

In February 1918, Dr. Loring Miner, a physician practising in Haskell County, Kansas, noticed “that dozens of his patients, the strongest, the healthiest, the most robust people in the county, were being struck down [by influenza] as if they had been shot.” He administered diphtheria and tetanus antitoxins to these patients but neither had any positive effect in relieving the symptoms of their illness. Dr. Miner sent a report to the United States Public Health Officials in Washington indicating that he had a severe influenza epidemic on his hands.

Camp Funston, the second largest Army Camp in the United States, was located in Haskell County, and housed 56,000 soldiers in overcrowded and unheated barracks and tents. On March 4 the influenza appeared among soldiers in Camp Funston and within three weeks 1,100 soldiers had contracted the influenza. In April, soldiers from Camp Funston were transported to the east coast of the United States and sailed for Brest, France. By the middle of April a major influenza epidemic had broken out among the French and British Armies. In June, British soldiers returning to England introduced the influenza to their country. On the European continent, German Commander Erich von Ludendorff postponed and later cancelled a major offensive because so many German soldiers were ill with influenza. By July, the influenza had spread to Italy, Holland, Norway, Sweden, Portugal, and Spain. Every country involved in World War 1 censored their newspapers in an attempt to keep information about the influenza’s severity away from the general public. It was believed that if families were aware that influenza was rampant in army camps, parents would prevent their sons from joining the army. Spain was not involved in the War and therefore did not censor its newspapers from carrying news of the influenza. During the pandemic there were over 5,000,000 deaths in Spain, and, because the influenza was constantly mentioned in their newspapers, it became known as the Spanish Influenza.²

This paper highlights the impact the Spanish Influenza pandemic had on both urban and rural Nova Scotia from 1918 to 1920 and, attempts to explain why the province’s death rate from the disease was one of the lowest among Canadian provinces. Before discussing the arrival of the influenza in Nova Scotia and the reaction

of its public health officials, a description of federal and provincial public health officials' response is presented along with identification of the causative agent which caused the Spanish Influenza.

THE STATE OF THE ADMINISTRATION OF PUBLIC HEALTH IN CANADA IN 1918

In *The Last Plague: Spanish Influenza and the Politics of Public Health in Canada*, Mark Humphries concluded that the influenza crisis of 1918-1919 ushered in the modern era of public health in Canada. It caused both the federal and provincial governments to re-evaluate their role in health care. The British North America Act of 1867 gave the provinces the major responsibility of public health, however, the federal government was given the responsibility for quarantine and the establishment and maintenance of marine hospitals.³ In 1918, administration of public health at the federal level was very disorganized in that it seemed to be the responsibility of several departments at the same time. The Director-General of Public Health, seventy-six year old Dr. Frederick Montizambert, had held the position for twenty years and, according to Humphries, was on vacation at his country home during the crisis of 1918.⁴ Furthermore, his department did not consider that influenza was a disease for which it was necessary to introduce quarantine, prior to the arrival of the Spanish influenza and, as a result, federal health officials played a very minor role during the pandemic.

Among the provinces, Ontario was the earliest to establish a Provincial Board of Health in 1882, however, as late as 12 October 1918, the Chief Officer of its Provincial Medical Board, John W.S. McCullough, sent a message to health officers in Ontario stating that there was no great danger of spreading influenza among people who were attending churches, theatres, and other public places if these buildings were well ventilated. McCullough was also of the view that vaccination offered the best approach to preventing the spread of the disease, which, of course, would have been effective if such a vaccine actually existed.⁵

Quebec had the oldest Public Health infrastructure among the provinces and spent the largest percentage per capita on public health. Provincial health officials, however, were very slow to respond considering that the influenza first appeared in the province at Victoriaville on September 15th, and officials took until October 10 to close all churches, businesses and public places.⁶ Throughout the Prairie Provinces, the train posed the biggest risk for spreading the influenza. Local public health officials in Saskatchewan notified the Canadian Pacific Railway that trains would not be allowed to stop to deposit passengers at stations throughout the province. This led to mobs of angry townspeople and country folk assembling at these stations, creating a perfect situation for the influenza to spread.⁷ Although the medical health officer

in Calgary began to meet the train and remove soldiers with influenza to emergency hospitals, he soon became overwhelmed with the number of sick soldiers and the disease spread through the city and province of Alberta.⁸ New Brunswick did not establish a Department of Public Health until the summer of 1918, and was rather ill-prepared to deal with a pandemic. In 2007, Jane Jenkins noted that the newly appointed health officials in New Brunswick took a while to react to the disease but soon closed all public places except shops, stores, and businesses on October 11, six days after Halifax had closed all public places in the city.⁹

Two years following the diphtheria epidemic of 1890-1891, the Nova Scotia government established a Provincial Board of Health with Premier William S. Fielding as Chair.¹⁰ Other members of the Board included the Attorney-General, the Commissioner of Public Works and six physicians and surgeons from various parts of the province.¹¹ One of the members, Dr. Alexander P. Reid, was appointed Public Health Officer for Nova Scotia in 1894 and remained until 1913 when he was succeeded by Dr. William H. Hattie. Public Health Officer Hattie enlisted in World War I in January 1916 and was appointed to the medical staff at the Cogswell Street Military Hospital and later at the Camp Hill Hospital.¹² During the Halifax Explosion he took an active role in providing medical assistance to the injured at the Nova Scotia Hospital.¹³ As a result of these experiences, Dr. Hattie immediately tried to control the spread of the Spanish Influenza once it arrived in Nova Scotia.

WHAT WAS THE CAUSATIVE AGENT OF THE SPANISH INFLUENZA?

The influenza broke out in Massachusetts prior to its appearance in Nova Scotia, in fact, by September 19, 1918, a total of 2,500 soldiers were ill with influenza at Camp Devens, near Boston, with 70 deaths reported there since September 7. Dr. William Welch, professor of medicine at Johns Hopkins University, visited Camp Devens and recognized the urgency of finding a vaccine to immunize people from contracting the influenza. He visited Dr. Oswald Avery at the Rockefeller Medical Institute Hospital in New York, and asked Dr. Avery to begin the search for such a vaccine.¹⁴ Dr. Avery, born in Halifax in 1877, and a medical graduate from Columbia University, was a medical researcher at the Hoaglund Laboratory in Brooklyn from 1906 to 1913 before joining the Rockefeller Medical Research Institute. He had an international reputation as a bacteriologist and was working on vaccines to treat pneumonia. Dr. Avery assumed that the Spanish Influenza was a bacterial disease, and began to prepare a vaccine. He was unsuccessful in developing such a vaccine, as were many other medical researchers around the world.

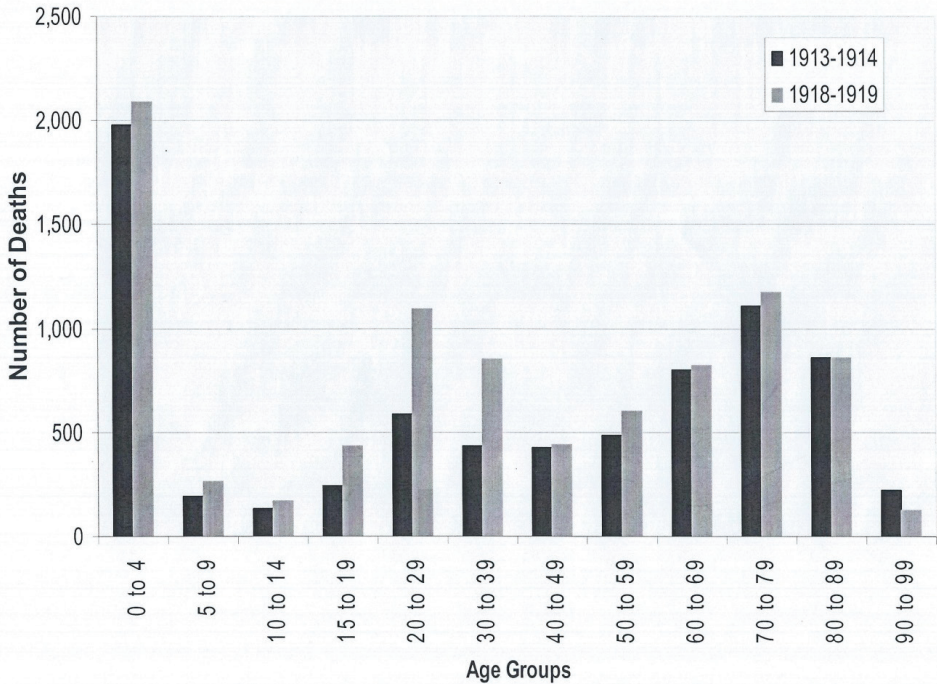
The word influenza is derived from the medieval Latin word *influentia*. In the Middle Ages, it was believed that disease developed because of the influence of the stars. In more modern times the word influenza has been used to describe any inflammation of the upper respiratory tract. Patients with influenza present with

severe fever, protracted aching and, also catarrh. In 1918 the influenza pandemic was initially attributed to *Bacillus Influenzae* or *Pfeiffer's Bacillus*, that is, due to bacteria. It was not until Richard Shope¹⁵ isolated the influenza virus in swine in 1931, and Christopher Andrewes¹⁶ isolated the influenza virus in humans in 1933, that epidemiologists concluded that the causative agent in the 1918 Spanish Influenza was viral rather than bacterial.

Bacteria are unicellular microorganisms which have the capabilities of ingesting food, metabolism, producing waste, and reproducing by division. On the other hand, viruses do not eat or burn oxygen, and do not engage in any process which can be considered metabolic. They also do not produce waste and do not reproduce independently. They are an inert collection of chemicals and their objective is to replicate themselves by invading cells that have energy and force these cells to make thousand or hundreds of thousands of new viruses in a very short time. The influenza virus contains genes and has two antigens: hemagglutinin and neuraminidase. Hemagglutinin spikes on the virus bind to receptor cells lining the respiratory tract and penetrate the cell nucleus allowing the genes of the virus to take control of the cell's function. Neuraminidase destroys the binding capability of the epithelial cells of the respiratory tract allowing the new viruses to escape from these cells and to invade other cells making up the respiratory tract. The nomenclature describing influenza viruses in the modern era uses the H and N letters accompanied by numbers to distinguish the type of virus. Thus the Spanish influenza virus has been designated the H1N1 virus.¹⁷ The invasion of respiratory tract cells by the H1N1 virus can result in a massive immune response and can result in the death of a person in a day.

Dr. Frank Macfarlane Burnet¹⁸ described the massive immune response as a very rapid necrosis of most of the epithelial cells lining the bronchial tree down to and especially involving, the smallest bronchioles and alveolar walls.¹⁹ He theorized that the immune systems of young adults who were the most healthy and vigorous members of society, mounted such a massive immune response that their lungs filled with fluid and debris. This prevented an adequate exchange of oxygen to the blood and led to the death of the young adult within a day. The massive immune response did not happen in individuals over the age of 40 because they had lived during a previous influenza pandemic known as Russian Influenza (La Grippe) of 1889–1890 and had built up antibodies which to some extent were effective in combating the antigens of the Spanish influenza virus.²⁰ Dr. Burnet's theory that the massive immune response of the young and strong led to a higher fatality rate was supported by data from Nova Scotia shown in Bar Graph 1, below. It shows the number of deaths during 1918–1919 (gray bars) for various age groups as compared to the number of deaths for the same age groups during 1913–1914 (black bars).²¹ Whereas one would expect to find a small increase in the number of deaths for each age group in

Comparison of Deaths in Nova Scotia in 1918-1919 and 1913-1914



1918–1919 as compared to 1913–1914, one notes that for the age groups between ages 15 and 40, there were substantial increases, especially for the age range 20 to 40.²² The increase in the number of deaths for the age group 20 to 29 was 550 or 85%, whereas for the age group 30 to 39 the increase in number of deaths was 400 or 100%. Since Nova Scotia death certificates indicate that only 62 soldiers died from Spanish influenza in 1918–1919, one can conclude the large increases in deaths for the age range 20 to 40 was due to the massive immune response of young civilian Nova Scotians trying to fight the virus. In fact, of the 1,769 influenza deaths in Nova Scotia in 1918–1919 reported by Dr. William Hattie, 58% of them were between 15 and 40 years of age.

A COMPARISON OF THE DEATH RATE FROM SPANISH INFLUENZA IN NOVA SCOTIA WITH THE DEATH RATES FOR THE OTHER EIGHT CANADIAN PROVINCES

A second very interesting observation about the Spanish influenza was the differences in death rates between Nova Scotia and other provinces. The information on deaths and death rates in the table below are for 1918–1919. The number of deaths from the Spanish influenza for the nine Canadian provinces was obtained from a report of the Canadian Bureau of Statistics.²³ The population of each province was

obtained from the Historical Demographic Statistics which appear on the Statistics Canada website.

TABLE 1: NUMBER OF DEATHS AND DEATH RATES FROM THE SPANISH INFLUENZA FOR THE NINE CANADIAN PROVINCES

Province	Population	Deaths	Death Rate \ (per thousand)
Prince Edward Island	89,005	86	0.97
Nova Scotia	514,998	1,636	3.18
New Brunswick	363,082	1,394	3.84
Quebec	2,254,570	10,157	4.50
Ontario	2,811,751	10,021	3.56
Manitoba	542,680	3,121	5.75
Saskatchewan	650,715	3,834	5.89
Alberta	524,207	4,002	7.64
British Columbia	460,845	3,404	7.38
Canada	8,211,853	37,655	4.58

Death rates are remarkably different between the eastern and western provinces so an attempt will be made to explain the differences. One possible explanation could be that western provinces had experienced major immigration during the first two decades of the 20th century, and the percentage of their citizens aged 15 to 40 may have been substantially higher than in eastern provinces.²⁴ In the four eastern provinces the percentage aged 15 to 40 was lowest in New Brunswick (at 39.2%) and highest in Ontario (42.7%)²⁵ In the four western provinces the population aged 15 to 40 was the lowest in Manitoba (44.1%) and highest in British Columbia (47.3%). This analysis would suggest that the age group of 15 to 40 year olds in the western provinces was at most 5% larger than that of the eastern provinces and would account for a small difference in the death rates in these two regions.

Probably the most significant factor to explain the differences in death rates between the provinces, was the varying level of compliance from the general public to the recommendations of public health officials to remain isolated from others, particularly from those who were sick with the influenza. As mentioned, health officials in western Canada were unable to control both the general public and the returning soldiers at train stations throughout Saskatchewan, Alberta, and British Columbia.²⁶ Even in New Brunswick, Jane Peters, noted that “people complained about the closures and applied to the Minister of Health to be exempted.” She added that

“there were countless rumours of small dances and social gatherings held in defiance of the health minister’s orders prohibiting public meetings.”²⁷ No doubt there were such incidents in Nova Scotia as well, however, a detailed examination of the thirty-eight daily and weekly newspapers published in Nova Scotia in 1918 did not identify acts of non-compliance except among the clergy in Halifax where some church services were held outdoors. This apparent high degree of compliance among the general public in Nova Scotia may have been owed to the respect Nova Scotians had developed for the medical and nursing professions following their heroic work treating and caring for those injured during the Halifax Explosion in December 1917.

SPANISH INFLUENZA ARRIVES IN NOVA SCOTIA

We will now present a detailed examination of the arrival of the Spanish Influenza in Nova Scotia and the response of the Provincial Health Officer and other medical officials to the pandemic. The present author viewed all the death certificates submitted to the Department of Vital Statistics in Nova Scotia by physicians from 1918 to 1920 in all eighteen counties of the province.²⁸ The first death certificate in which Spanish Influenza is stated as the cause of death was for Marjory B. McDonald, aged 26, who died in Inverness, Cape Breton, on September 1, 1918.²⁹ The person who probably brought the influenza to Inverness was Murdo Kennedy, a soldier, who died there from the disease on September 3, after having been ill for a week.³⁰ The influenza spread rapidly and during the first two weeks of September nine additional residents of Inverness succumbed from the disease.³¹ The first appearance of the influenza in Halifax area was in Beechville where Murray Dorrington died from the disease on September 11, 1918.³² In Cape Breton on September 22, a ship carrying 500 American soldiers docked at Sydney, many of whom were suffering from Spanish Influenza.³³ The Canadian Military and the Red Cross converted the Curling Rink, St. Andrew’s Church, and the Falmouth Street Church into emergency hospitals for the American soldiers. Within a few days soldiers were also housed in Ross House and Moxham House, both of which were converted into hospitals. On the September 23, it was reported that two fishermen from Gloucester, Massachusetts, had died in the Yarmouth Hospital from influenza which no doubt led to the spread of the disease in western Nova Scotia.³⁴ Finally, on September 26, influenza was discovered among sailors on the *Niobe*, the *Donegal*, and the French Cable Ship *Jeramec*, docked in the Halifax Harbour.³⁵ Outside of Nova Scotia, influenza broke out at Victoriaville College in Quebec on September 8, and appeared in Toronto by September 30, 1918.³⁶

The symptoms of the Spanish influenza were very unpleasant and incapacitating. The influenza virus compromised the immune system and then pneumonia set in and led to the death of the individual. It struck quickly and without warning. Victims usually began to shiver, suffered severe headaches and back pain and then

collapsed. They then developed a high fever, a hacking cough, and aching joints. Although some victims died within 24 or 48 hours, most survived for three or four days after which they developed staphylococcal or streptococcal pneumonia and cyanosis which precipitated their death. Patients in the last stages of the disease saw darkening of the skin and profuse secretions of blood from the respiratory tract.

By September 30 there were 85,000 influenza cases in the Boston area with 1,256 deaths.³⁷ According to an item in the *Halifax Evening Mail* on September 27, the government of Massachusetts asked Nova Scotia to send doctors and nurses to Boston to help fight the influenza.³⁸ A special unit of nine nurses from the Victoria General Hospital in Halifax left for Boston to help treat patients suffering from influenza.³⁹ The Nova Scotia Medical Society held a special meeting and several Halifax doctors stated they were ready to go if needed.⁴⁰ Dr. Norman E. MacKay, Chairman of the Board of Health and Quarantine Officer for the Port of Halifax was not in favour of the nurses going to Boston, and predicted they would soon be needed when the influenza reached Halifax. He mentioned the already 25 cases of Spanish Influenza at the quarantine station on Lawlor's Island. Dr. William Bruce Almon, the City Medical Officer, noted that he had two cases of Spanish Influenza at the Infectious Diseases Hospital on Morris Street. Three more nurses left Halifax for Boston on October 2 in response to a second request from the Office of the Governor of Massachusetts.⁴¹ Dr. George W. MacKeen⁴² of Baddeck and nurse Mary Tompkins of Port Hood volunteered to go to Boston in addition to seven nurses from Halifax and Dartmouth, including Mrs. H.M. Godfrey, a nurse at Dr. Anthony Ivan Mader's Private Hospital on Coburg Road.⁴³

Halifax was fortunate to have Dr. Arthur C. Hawkins as the city's Mayor in September 1918. Dr. Hawkins was elected to that office in May 1918 and, although referred to as an eccentric and "an impetuous, self-righteous, and sharp-tongued individual"⁴⁴, he immediately took action to protect the citizens of Halifax from the influenza. Halifax established an Infectious Diseases Hospital at the Rockhead Farm property on Gottingen Street in the 1870s, however, it had been destroyed during the Halifax Explosion.⁴⁵ Although there was some opposition from citizens of Halifax to build a new Infectious Diseases Hospital on Morris Street,⁴⁶ the Acting City Medical Officer, Dr. William Bruce Almon, was concerned about the arrival of influenza in Halifax and; with the authorization of the City Board of Health, built a temporary Infectious Diseases Hospital in that location.⁴⁷ It opened on September 30, 1918, and shortly thereafter Dr. Hawkins referred to it as "a cardboard box and an unventilated shack which had been palmed off upon the public." He asked "Who is responsible for the abortion of a building called the Infectious Diseases Hospital on Morris Street?"⁴⁸ The newspaper article in which Dr. Hawkins' comments appeared did not elaborate further on the reason he had made the statement, however, it is very likely that the Mayor's question related to the integrity of the

building rather than whether an Infectious Diseases Hospital was necessary or not. Dr. Hawkins was very familiar with infectious diseases and quarantine procedures considering he was on the medical staff at the Lawlor's Island Quarantine Station in 1902.⁴⁹

An examination of the Annual Report for the City of Halifax for the period May 1, 1918 to April 30, 1919 did not provide information on the cost of the temporary Infectious Diseases Hospital.⁵⁰ The list of expenditures for the year included lumber and other items used in construction, however, there was no specific entry for materials for an Infectious Diseases Hospital.⁵¹ Annual Reports from Mayor Hawkins, Acting City Medical Officer Dr. Almon, and the City Board of Health were not included in the Annual Report for the City for 1918-1919 and therefore additional comments about the temporary Infectious Diseases Hospital have not been found.⁵² Following the end of the influenza pandemic in the spring of 1920 the city began building a permanent 40-bed Infectious Diseases Hospital on Morris Street which opened in 1922.

Dr. Hawkins' comments about the temporary hospital may have also been precipitated by the actions of the Canadian Army and Navy and the lack of support provided by the Director-General of Public Health for Canada, Dr. Frederick Montizambert. When Dr. Hawkins was told that eight sailors with influenza had been sent to the Cogswell Street Military Hospital, he protested to Dr. Montizambert that the sailors should have been quarantined on Lawlor's Island.⁵³ Although both the Cogswell Street Military Hospital and Lawlor's Island Quarantine Station were under federal control, Dr. Montizambert did not seem to cooperate with Dr. Hawkins and reminded him that infectious diseases came under municipal and provincial jurisdictions, not federal.

On October 2, Dr. Hawkins arranged for Drs. John G. MacDougall, Lewis Thomas, and J. Fred Lessel to go to Boston to assess the epidemic there and report back on preventive measures that should be implemented in Nova Scotia.⁵⁴ Shortly after their arrival in Boston the doctors reported that the influenza was accompanied by bronchial pneumonia and was killing large numbers of people in Massachusetts. They recommended that all public buildings in Halifax be closed for an indefinite period.⁵⁵ Public Health Officer for Nova Scotia, Dr. William H. Hattie, issued a statement on the symptoms and treatment of influenza and informed the public that the while disease was prevalent outside of Halifax, there were no cases in the city. However, over the next two days, influenza appeared in Halifax with 64 cases reported on October 4th. Lawlor's Island Quarantine Station was described as being full of patients and there were many cases of influenza being treated at the Cogswell Street Military Hospital.



*Dr. Arthur C. Hawkins*⁵⁶



*Dr. Norman E. MacKay*⁵⁷

Miss Carrie Mitchell from Dartmouth, Nova Scotia, was in Massachusetts when the Spanish Influenza reached epidemic status. She had recently graduated as a nurse from the Worcester Hospital School of Nursing and, in a letter to her parents published in the *Halifax Evening Mail* on 4 October, she stated that at her hospital only four nurses out of three hundred, of which she was one, have escaped the disease. Her letter, in part, reads as follows:

I hope this Spanish influenza will not reach Halifax and Dartmouth. There is a terrible epidemic raging here. They have had to close the schools and hospitals because so many nurses have it from taking care of the patients. I have charge of the sick nurses. So far there have been about thirty-two. One died, one can't live thru the day, and I have another on the dangerous list. I have three nurses helping me, and we have to wear caps and gowns and masks over our mouth and nose. It is very contagious. So far I am O.K. Have too much to do and too much to think about to let myself get sick, but can truthfully say I am feeling well, although tired. We work terribly hard. I have been on the go from seven a.m. until ten p.m. most of the time. So don't worry if you don't hear from me until this is all over. One of the visiting doctors said yesterday that he never saw a sadder sight than so many nurses sick, and the willingness of the others to do everything possible

regardless of self. He said soldiers were considered brave because they risked their lives for a certain length of time during the war, but the nurses did it continually and thot [sic] nothing of it. It is good to know that everybody does not look at us as being human machines.

On the October 4, Dr. William H. Hattie sent a circular to members of the medical profession in Nova Scotia, warning them to be on guard for the influenza epidemic which could seriously threaten the province. The same day, Dr. Norman E. MacKay, recommended to the Board of Health that all public buildings in the city be closed including schools, churches, colleges, businesses, and theatres.⁵⁸ Needless to say, church officials protested about the closure of their buildings and later decided to hold services outdoors. On October 5, Dr. MacKay's recommendations were implemented and classes at Dalhousie University and the Nova Scotia Technical College were cancelled. On October 7, Dr. Hattie indicated that there were 200 cases of influenza in Halifax and on October 10 he published a list of fourteen instructions for the public to follow to prevent being infected. The same day, the towns of Dartmouth, New Glasgow, Truro, Windsor, and Yarmouth announced that they were closing all public buildings.⁵⁹ Truro closed all public buildings in the town including the Normal College and the Nova Scotia Agricultural College.⁶⁰

On October 9, an unusual request came in from the Red Cross Headquarters in Toronto to Miss Bertha E. Pickles, Superintendent of Nurses at the Victoria General Hospital (VGH). The request was on behalf of the Red Cross Society in Washington who asked if 300 Canadian nurses could be dispatched to the United States to combat the influenza epidemic in Massachusetts. All expenses and maintenance for the nurses would be paid and their salary would be \$75 per month.⁶¹ Considering the VGH had already sent nine nurses to Boston, and that Halifax was now being menaced by the influenza, it is doubtful that Miss Pickles was able to dispatch additional nurses to Boston.

The Halifax Board of Health decided on October 10 to purchase 500 doses of an influenza vaccine prepared by Dr. Timothy Leary of Tufts University in Boston. He had advertised it as a most effective vaccine to treat influenza.⁶² Dr. Leary had vaccinated nearly 2,000 people in Boston, chiefly doctors, nurses, and medical students, and only 100 had developed a mild form of influenza.⁶³ Another vaccine to treat Spanish Influenza was being developed by Dr. C. B. Reed, a professor of botany and bacteriology at Queens University in Kingston, Ontario, and the Mayo Clinic also claimed their vaccine was successful in 15,000 cases.⁶⁴ A homeopathic doctor named Dr. George F. Baer in Pittsburgh advertised that he used a mixture of iodine and creosote to effectively treat influenza and a Dr. Louis J. Pint, a bacteriologist at the University of Chicago, announced that he had isolated the germs responsible for the influenza.⁶⁵ On November 16, 1918 the *Halifax Evening Mail* provided information

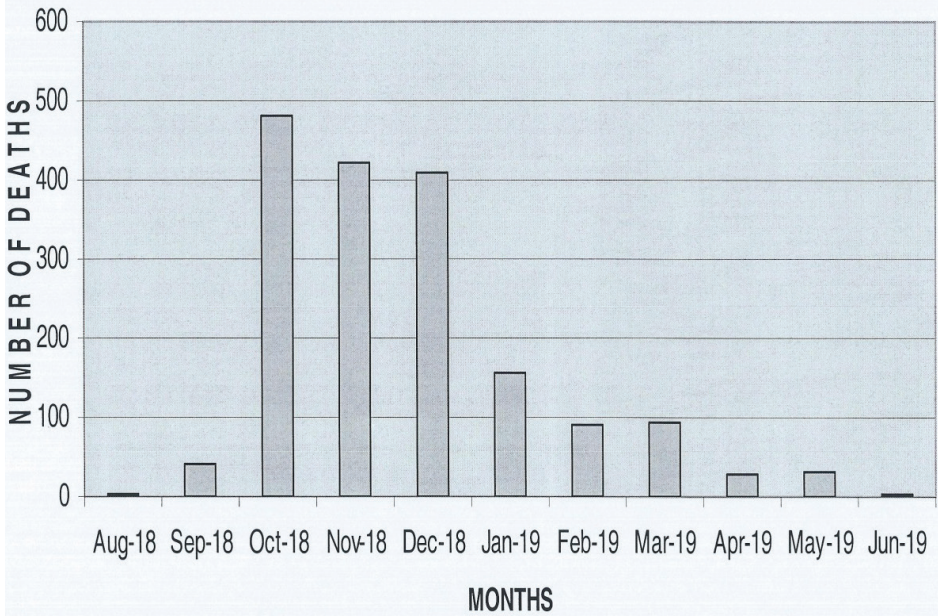
on the effectiveness of the Nicholson Laboratories Influenza Vaccine. Over 200,000 doses of the vaccine had been administered in Ontario.⁶⁶ It was Dr. Norman MacKay's opinion, however, that vaccines for influenza were unsuccessful.⁶⁷ Dr. MacKay was probably correct considering that all of these vaccines were prepared to prevent or treat a bacterial disease, where the Spanish Influenza was a viral disease.

Dr. John J. MacKenzie, health officer for the town of Pictou, died on October 12 as a result of the influenza. He was the son of Dr. George I. MacKenzie, and a medical graduate of Dalhousie (1902).⁶⁸ The same day, Georgina and Winnifred Flemming, nurses who had gone to Boston during the epidemic to assist, both died from the influenza. They were the daughters of George R. Flemming of West Folly Mountain in Colchester County.⁶⁹ On October 14, Wallace W. Kenney, the Superintendent of the Victoria General Hospital, denied the Board of Health from placing influenza patients in the VGH and suggested they be housed at Dalhousie College since the College building was vacant.⁷⁰ Also on that date it was reported there were 4,000 cases of Spanish influenza in Nova Scotia and there had been at least 60 deaths. By October 17, the City Health Board had converted the Reconstruction Camp at Willow Park into a 120-bed influenza hospital.⁷¹ Between October 4 and 16, a total of 204 civilians and 202 military and naval personnel in Halifax were diagnosed with influenza.⁷² In the *Halifax Evening Mail* of October 21 it was noted that "the rugged and the robust are the first to succumb" to the influenza. On October 26 three influenza deaths were reported in Preston, one at the Nova Scotia Hospital, seven at the City Home, and one at the School for the Blind.⁷³ Beginning that day, placards were placed on houses where occupants were known to be sick.⁷⁴

Other organizations in Halifax offered their support to curtail the influenza epidemic. The Red Cross set up facilities at the Nova Scotia Technical College to make masks, blankets, and gowns. Masks were supplied to private citizens as well as to patients and staff at the Cogswell Street Military Hospital, the Royal Naval Hospital, Infectious Diseases Hospital, nurses of the Victorian Order of Nurses and to the staff at the King Edward Hotel. Ladies at the Women's Council House prepared pneumonia jackets for influenza patients.⁷⁵

On October 31, it was announced that influenza was spreading less in Halifax, however, the epidemic was far from over. Bar Graph 2 shows that from September to December 1918 there were 1,335 influenza deaths in Nova Scotia, and an additional 400 influenza deaths between January and May of 1919. The number of influenza cases in Nova Scotia during 1918 and 1919 was approximately 20,000. To handle the large number of cases in Halifax, a new influenza hospital was opened at the corner of Windsor and Almon streets which had accommodation for 150 patients.⁷⁶ The ban was lifted on churches and businesses in both Halifax and Sydney on the October 31 and on universities and theatres in Halifax on November 7.⁷⁷

INFLUENZA DEATHS BY MONTH DURING 1918 AND 1919



HOW THE CITY OF SYDNEY AND THE RURAL TOWNS AND VILLAGES IN NOVA SCOTIA RESPONDED TO THE SPANISH INFLUENZA

According to the *Amherst Daily News*, influenza made its appearance in Amherst on October 10, and two days later, Dr. Gerald Bliss, the town's health officer, ordered the closure of all schools, churches, and other public buildings.⁷⁸ On October 22, the mines at Chignecto, located south of Amherst, closed down because between 100 and 150 miners had contracted the influenza.⁷⁹ On October 26, the Acadia School in Amherst was converted into an emergency hospital and by November 1 there were 25 patients with influenza, in addition to the other 300 individuals suffering with the influenza in private houses in the town.⁸⁰ By October 29, there were ninety houses in Amherst under quarantine with placards mounted on their doors. By November 4, the Amherst newspaper reported that the influenza was starting to wane, however, in February 1919, there was an outbreak of 120 cases of influenza at the Internment Camp near Amherst.⁸¹

The *Truro Daily News* first mentioned the influenza on September 25.⁸² By October 7, the Truro Board of Health began to convert the Willow Street School into an emergency hospital and several people with influenza in the town were quarantined.⁸³ On October 10, the Truro newspaper noted there were 26 cases of influenza in Truro and surrounding area including 14 at the local Millbrook First

Nations Reserve.⁸⁴ Three of the cases on the Reserve resulted in deaths which were reported on the October 17.⁸⁵ The Emergency Hospital on Willow Street finally opened for patients on October 19, and several cases were transferred to it from the hotels, boarding houses and private homes. Miss McIntosh, a trained nurse from New Annan, was placed in charge of the emergency hospital, and during November and December, a total of five deaths occurred there. It was stated that the residents at the First Nations Reserve who were sick with influenza were not eligible to be admitted to the Truro emergency hospital because “the Indians are wards of the Dominion Government and they have a government appointed and paid medical practitioner to take care of them in sickness.”⁸⁶

On October 7, 1918 Dr. Joseph Fraser MacAulay, the City Medical Officer for Sydney, reported there were 100 new cases of influenza in the city and recommended to the Board of Trade that all schools, churches, bowling alleys, and pool rooms be closed indefinitely.⁸⁷ In addition to the Ross Hospital, the Moxham Hospital, and City Churches, influenza patients were also housed in the Hamilton Memorial Hospital and the Sydney Marine Hospital. Eighty-five new cases were reported on October 10, including six policemen and three firemen.⁸⁸ On October 15, it was reported that seven nurses at the Sydney City Hospital were down with the influenza.⁸⁹ Five days later the epidemic in Sydney was on the increase and the Board of Health began to equip the Randolph House on St. Peter’s Road as an emergency hospital.⁹⁰ By October 18, there were 20 patients in the Randolph emergency hospital and houses containing those suffering from influenza were required to be placarded.⁹¹ The *Sydney Daily Post* of October 22 indicated that the epidemic was on the wane in the city. Outside of Sydney the influenza was in every community in Cape Breton including Marble Mountain and Petit-de-Grat Island. By November 20, there had been 30 deaths from influenza in the prosperous fishing community of Petit-de-Grat, Richmond County.⁹² It was frequently visited by fishermen from Gloucester, Massachusetts, and they probably brought the contagious disease to the island in southeast Cape Breton.⁹³ At the small isolated community of Marble Mountain, Inverness County, 100 cases of influenza were reported on December 16, 1918 and seven days later nurse Julie Cadegan of Glace Bay, who had volunteered to care for the sick in the community, contracted influenza and died.⁹⁴ In July she had visited her son Paul who was a soldier in the American Army at Camp Devens near Boston. During her visit, Paul took sick with influenza and she nursed him back to health. When Julie returned to Cape Breton she nursed influenza patients at the Moxham Hospital prior to going to Marble Mountain.⁹⁵ The following eulogy of Julie captures her caring nature:

Some of the older residents in town [Glace Bay] will recall the wonderful spirit of self-sacrifice she displayed when many years ago one of the worst epidemics of typhoid fever that has ever visited here was carrying off many

people. At that time there were no hospitals here, doctors were scarce and a nurse was a rarity and many of those who escaped the sickness were afraid to visit the sick people for fear of catching the disease. With a fearlessness which marked her whole life Mrs Cadegan would go into the infected houses, bathe the feverish heads of the patients and give whatever assistance she could. This is only one of the many instances of the fine deeds this noble woman performed for those around her.⁹⁶

Lockeport, in Shelburne County, was another fishing port which by October 16, 1918 had 300 cases of Spanish influenza.⁹⁷ A total of fifteen deaths were reported in Lockeport and other districts in the County by October 23. Dr. Theodore R. Ford from Liverpool was the attending physician at Lockeport due to illness of the resident physician and indicated that he needed nurses to attend the sick.⁹⁸ Miss Florence J. Murray, a third year medical student at Dalhousie went down to Lockeport to assist.⁹⁹ Dr. Ford set up an emergency hospital at Lockeport, however, by October 30 a total of 23 influenza deaths had occurred in the County.¹⁰⁰ Dr. William H. Hattie, the Provincial Health Officer, published the statistics for the number of deaths which occurred from the influenza in each of the forty towns in Nova Scotia for October 1918 to April 1919 (see the image below).¹⁰¹ The high death rate of 10.8 per thousand for Digby can possibly be explained because the town received passengers including soldiers from the Dominion Atlantic Railway and incoming passengers from the Digby Ferry. By comparison the Ferry between Prince Edward Island and Pictou offloaded its passengers several miles outside the town of Pictou and the Intercolonial Railway did not pass through the town.¹⁰² Whereas Digby had 14 influenza deaths for 1,295 residents, the town of Pictou only had 10 deaths for 3,263 citizens.

From October 1918 to April 1919, a total of 61 people died from the influenza in Shelburne County with a death rate of 4.1 per thousand compared to 3.4 per thousand for the whole province of Nova Scotia. Richmond County had the highest death rate in Nova Scotia with 5.3 per thousand due to the large number of deaths at Petit-de-Grat. The statistics for the death rates for each of the eighteen counties in Nova Scotia are given below in a separate table.¹⁰³

At Meteghan in western Nova Scotia, it was reported "it is hardly likely that there is any part of Nova Scotia that has been so terribly attacked by this influenza menace as the Municipality of Clare." From one end of Clare, to the other the number of victims of the influenza rose daily. Several of the local doctors were down with the disease and whole families were affected. To make matters worse, it was reported on October 18 that Minnie A. Sheehan, a local girl, who had trained to be a nurse at the Taunton Hospital in Massachusetts, had died from the influenza, She was working at the Taunton Hospital on Monday evening when she was seized with the disease, was sent to bed by the physician, developed pneumonia, and was dead by Wednesday.¹⁰⁴

CITIES AND TOWNS.	Estimated Population.	No. of Deaths.	Rate per 1000 of Living.
Amherst.....	9,600	30	3.1
Annapolis Royal.....	1,040
Antigonish.....	1,793	2	1.1
Bridgetown.....	1,052	3	2.9
Bridgewater.....	2,864	18	6.3
Canso.....	1,768	11	6.2
Dartmouth.....	5,191	27	5.2
Digby.....	1,295	14	10.8
Dominion.....	2,832	8	2.8
Glace Bay.....	17,366	68	3.9
Halifax.....	55,000	292	5.3
Hantsport.....	718	1	1.4
Inverness.....	2,939
Kentville.....	2,398	5	2.1
Liverpool.....	2,186	8	3.7
Lockeport.....	847	6	7.1
Louisburg.....	1,058	3	2.8
Lunenburg.....	2,748	12	4.4
Middleton.....	824	8	9.7
New Glasgow.....	8,703	20	2.3
North Sydney.....	5,999	38	6.3
New Waterford.....	7,075	20	2.8
Oxford.....	1,452	3	2.1
Parrsboro.....	2,992	4	1.3
Pictou.....	3,263	10	3.1
Port Hawkesbury.....	726	1	1.4
Port Hood.....	930	2	2.2
Shelburne.....	1,485	10	6.7
Springhill.....	6,127	30	4.9
Stellarton.....	4,240	36	8.5
Stewiacke.....	677
Sydney.....	19,060	82	4.3
Sydney Mines.....	8,324	44	5.3
Trenton.....	3,139	12	3.8
Truro.....	6,586	13	2.0
Wedgeport.....	1,557	6	3.9
Westville.....	4,786	18	3.8
Windsor.....	3,571	3	0.8
Wolfville.....	1,519	1	0.7
Yarmouth.....	6,770	29	4.3
Totals.....	212,500	898	4.2

Death Rates from Influenza.

COUNTIES.	Estimated Population	No. of Deaths.	Rate per 1000 of Living.
Annapolis.....	19,179	47	2.5
Antigonish.....	12,013	19	1.6
Cape Breton.....	78,114	330	4.2
Colchester.....	24,633	53	2.1
Cumberland.....	43,179	145	3.4
Digby.....	21,170	79	3.7
Guysboro.....	17,803	36	2.0
Halifax.....	81,757	427	5.2
Hants.....	20,824	50	2.4
Inverness.....	26,502	73	2.8
Kings.....	22,838	64	2.8
Lunenburg.....	34,796	104	2.9
Pictou.....	37,351	112	3.0
Queens.....	10,465	24	2.3
Richmond.....	13,786	73	5.3
Shelburne.....	14,809	61	4.1
Victoria.....	10,957	10	0.9
Yarmouth.....	24,308	62	2.6
Totals.....	514,484	1,769	3.4

SPANISH INFLUENZA IN NOVA SCOTIA IN 1920

Between June 1, 1919 and January 1, 1920 there was no mention in Nova Scotia newspapers of the influenza. Public health officials, physicians, nurses, and the general public probably assumed that the disease had disappeared from the province. A study of Nova Scotia death certificates for January 1920, however, indicates that influenza deaths began to appear late in January. In February 1920 there were 55 deaths followed by 164 in March and 44 in April. The total number of influenza deaths in Nova Scotia during the period January to May 1920 was 280. Outside of Nova Scotia, both Boston and Montreal reported they had many citizens suffering from influenza in January.¹⁰⁵ By early February, Toronto reported 57 deaths from influenza and, Public Health officials in Halifax indicated that at least ten cases of influenza had appeared in Nova Scotia.¹⁰⁶ On February 10, Amherst closed all churches, schools, and places of amusement due to the re-appearance of influenza in that town.¹⁰⁷ The next day, Halifax reported there were seven cases of influenza at the Morris Street Infectious Diseases Hospital and one case at Dr. Courtenay Ligoure's

Private Hospital on North Street.¹⁰⁸ By February 17 there were 56 cases and one death in Halifax, and 200 cases in Amherst.¹⁰⁹ Lunenburg County closed its schools and churches on February 28, and the Victoria General Hospital closed its doors to visitors on March 2.¹¹⁰ By the end of March, all public places in Amherst and Lunenburg had re-opened, and newspapers were announcing that the influenza was on the decline. As mentioned above, there were 44 deaths from influenza in Nova Scotia in April and a study of the death certificates listed 5 deaths in May and none in June.

DOCTORS AND NURSES WHO RISKED THEIR LIVES TO SAVE OTHERS

Although health workers were unaware of the fact they were dealing with a virulent virus, they clearly took special precautions in examining and treating patients who presented with the symptoms of Spanish influenza. Only two of the approximately 500 physicians and surgeons in Nova Scotia contracted the disease and died namely: Dr. James MacKenzie of Pictou and Dr. Edmund B. Norwood of Hubbards, both of whom were graduates of Dalhousie. Several other physicians came down with the influenza but survived. Nurses were at a much greater risk of contracting the virus because of being in close proximity to infected and dying patients for several hours during the day and night. Although it was reported in newspapers that half of the Nova Scotia nurses who volunteered in American hospitals died from the disease, the present author has identified twelve nurses who died out of the thirty-three who are known to have gone to the United States in October 1918. In addition to the stories of heroic dedication of nurses Julie Cadegan and Carrie Mitchell mentioned earlier in this paper, nurse Alice Muriel Mills of Truro, a graduate of the Victoria General Hospital School of Nursing in Halifax, should also be recognized for her selfless willingness to care for influenza patients first at an emergency hospital in Massachusetts and, upon her return to Truro, at the emergency hospital in her home-town. She had previously been a nurse caring for injured Canadian soldiers in France.¹¹¹

THE LEGACY LEFT BY THE SPANISH INFLUENZA PANDEMIC

The experience of World War I, combined with the national crisis represented by the Spanish Influenza Pandemic, made it clear to governments that public health systems in Canada required re-organization, and that the public health of the nation should be treated with a higher priority in the future. Provincial public health departments were understaffed and underfunded and were therefore unable to have any positive impact on the health of citizens. This resulted in a very low level of personal hygiene and a high degree of household filth both of which provided an ideal opportunity for infectious and contagious diseases to spread rapidly throughout the community. This lack of emphasis, particularly by men, of personal hygiene became evident during the physical examinations of young recruits during the enlistment

process for overseas duty during World War I: over thirty percent of those examined were rejected because of health reasons.¹¹²

Although people were used to the arrival of influenza each year the disease was not considered to be as life-threatening as smallpox, diphtheria, and pulmonary tuberculosis. As a result Public Health Officials were surprised and overwhelmed by the arrival of the Spanish Influenza in September 1918, which caused the death of over 37,000 Canadians. The death rates from this devastating influenza ranged from a low of 3.16 (per thousand) for Nova Scotia to 7.64 for Alberta with the average in Canada of 4.58. The present author has concluded there were three factors which influenced these death rates. They were: the lack of compliance by citizens in heeding the orders from health officers; the high proportion of the population in the vulnerable age-range of 15 to 40 years, and; the success or lack of success experienced by public health officers in isolating members of the general public from one another. The low death rates in Nova Scotia, New Brunswick, and Ontario, were mainly due to the quick action by public health officials in closing public places and isolating people from those who were infected with the virus. The higher death rates in Western Canada were due to the inability of the overwhelmed public health officers to control crowds.

Since the turn of the 20th century, the National Council of Women had lobbied the federal government for a Department of Health and Social Welfare which would work to control tuberculosis and venereal disease and make improvements to child poverty, urban housing, and health and hygiene education. Initially Prime Minister Robert Borden was reluctant to establish such a department, however, with the arrival of the Spanish Influenza in Canada he was pressured by Newton Rowell, the President of the Privy Council, to re-consider the matter. Vincent Massey, the Associate Secretary of the War Committee of the Cabinet, was directed to study the issue and prepare recommendations for Cabinet to consider regarding the establishment of a federal Department of Health. Massey's response included two important considerations, firstly that in his opinion, the BNA Act did not preclude the formation of a Federal Department of Health and, secondly that politically it would be wise to establish the Department now that women had been granted the vote. The Bill establishing the Federal Department of Health was given Royal Assent on June 6, 1919. An important part of the Bill was the establishment of the Dominion Council of Health made up of Medical Officers of Health from the Provinces. The Council was to meet at regular intervals for discussions and to coordinate a response to future national epidemic crises.¹¹³ The first meeting of the Dominion Council took place in Ottawa in October 1919 and was attended by Dr. William H. Hattie and several other provincial health officers. The main item on the agenda was to plan how to disseminate information about the outbreak of diseases in the future and to counteract any false theories or ideas about such diseases.

ENDNOTES

- 1 *Halifax Morning Chronicle*, 19 October 1918, p. 7.
- 2 Barry, John M.: *The Great Influenza: the Epic Story of the Deadliest Plague in History*, Penguin Group, New York, 2004, p. 93. As mentioned by Barry the influenza virus may also have originated in China.
- 3 Humphries, M.O.: *The Last Plague: Spanish Influenza and the Politics of Public Health in Canada*, University of Toronto Press, Toronto, 2013, p. 23.
- 4 *Ibid.*, p. 82.
- 5 *Ibid.*, pp. 118-120.
- 6 *Ibid.*, pp. 99, 115-116. Victoriaville is a small town in central Quebec on the Nicolet River.
- 7 *Ibid.*, p. 113.
- 8 Pettigrew, E.: *The Silent Enemy: Canada and the Deadly Flu of 1918*, Western Producer Prairie Books, Saskatoon, 1983, p. 63.
- 9 Jenkins, J.E.: 'Baptism of Fire: New Brunswick's Public Health Movement and the 1918 Influenza Epidemic,' *Canadian Bulletin for the History of Medicine*, vol. 24, no. 2, 2007, p. 333.
- 10 Sutherland, D.A.: 'Diphtheria and the Doctors: The Halifax Epidemic of 1890-91,' *Journal of the Royal Nova Scotia Historical Society*, vol. 15, 2012, pp. 44-60.
- 11 *Statutes of Nova Scotia*, 56 Victoria, cap. 12, 1893. An Act to Amend the Laws relating to the Public Health, passed on 28 April 1893.
- 12 Library and Archives Canada, Personnel Records of the First World War, Digitized Service File no. 4155-S053.
- 13 Dr. Hattie had been Superintendent of the Nova Scotia Hospital from 1908 to 1913.
- 14 *National Cyclopaedia of National Biography*, vol. 44, p. 491.
- 15 MacLeod, C M.: "Richard Edwin Shope, 1901-1966". *Transactions of the Association of American Physicians*, vol. 84, pp. 36-8, 1971.
- 16 Tyrrell, D. A. J.: "Christopher Howard Andrewes. 7 June 1896-31 December 1987". *Biographical Memoirs of Fellows of the Royal Society*, vol. 37, 1991, pp. 34-36.
- 17 Pettit, D.A. and J. Bailie.: *A Cruel Wind, Pandemic Flu in America, 1918-1920*, Timberlane Books, Murfreesboro, Tennessee, 2008, p. 25. Hemagglutinin has 15 basic shapes and Neuramidase has 9 shapes.
- 18 *Australian Dictionary of Biography*, vol. 17, 2007. Dr. Burnet was awarded the Nobel Prize for Medicine in 1960.
- 19 Barry, *op.cit.*, pp. 249-250.
- 20 *Truro Daily News*, 18 October 1918, p. 2. The Russian influenza killed over one million people.
- 21 The period 1913-1914 was selected for comparison because the statistics for that period did not include the deaths of young people who died during World War I.
- 22 Pettit and Bailie, *op cit.*, p. 28.

- 23 *Sydney Post-Record*, 26 January 1951, p. 22. The author of this article on the influenza stated that the number of influenza deaths in each province was provided by the Canadian Bureau of Statistics..
- 24 In order to determine the percentage of the population between ages 15 and 40 for each province the Historical Age Pyramid feature of the Historical Demographic Statistics included on the Statistics Canada website was used. This feature allows one to select a province and then compute the number of people in an age range for a particular year. The year chosen in this case was 1917, the year prior to the arrival of the influenza.
- 25 The percentage figure for Nova Scotia was 41.2%. Prince Edward Island was not considered among the eastern provinces in this analysis because it had been placed in quarantine by Dr. Montizambert at the request of the Premier of PEI in mid-October 1918. The Island became totally isolated from the mainland (Humphries, *op. cit.*, p. 104).
- 26 Pettigrew, *op. cit.*, p. 73. Eileen Pettigrew wrote about the lack of compliance in a town in British Columbia: “The provincial board of health issued an immediate order-in-council banning public meetings, a ruling which was not readily accepted in all localities; the board noted later that those areas slow in adopting the measure had suffered a higher death rate. The use of masks was optional.”
- 27 Peters, *op. cit.*, p. 335.
- 28 The ledgers in which the death certificates are recorded are held by the Nova Scotia Archives.
- 29 NSA RG32 Inverness County Death Certificate no.932, book 43, p. 290.
- 30 *Ibid.*, Death Certificate no.931, book 43, p. 290.
- 31 *Halifax Morning Chronicle*, 9 September 1918, p. 3.
- 32 NSA RG32 Halifax County Death Certificate no.276, book 35, p. 82.
- 33 *Sydney Daily Post*, 23 September 1918, p. 1.
- 34 *Halifax Evening Mail*, 2 October 1918, p. 13.
- 35 *Halifax Morning Chronicle*, 27 September 1918, p. 2.
- 36 *Halifax Evening Mail*, 27 and 30 September 1918.
- 37 *Halifax Evening Mail*, 30 September, 1918, p. 7.
- 38 *Ibid.*, 27 September 1918, p. 13.
- 39 *Ibid.*, 30 September 1918, p. 12. The nurses returned to Halifax prior to December 2, 1918 and received a letter of appreciation from the Governor of Massachusetts. The nurses were identified in the 2 December issue of the New Glasgow *Evening News* as: Gertrude Crosby, Christina MacInnes, Nora Duncanson, Ethel Redmond, Jessie Chisholm, Hilda Chisholm, Annie Gilgour, Ethel Taylor, and E. M. Temberton.
- 40 *Halifax Morning Chronicle*, 30 September, p. 2.
- 41 *Halifax Evening Mail*, 2 October 1918, p. 14. Their names were: Greta Ogle, Mary L. Duffie, and Dorothy Merlin.
- 42 *Nova Scotia Medical Bulletin*, vol. 8, no. 12, p. 601, 1929. Obituary of Dr. George Wilbert MacKeen(1872-1929).

- 43 *New Glasgow Evening Chronicle*, 4 October 1918, p. 4. Dr. Mader established his private hospital about 1917 and it continued until 1930 when it was taken over by the Sisters of Charity and operated as a Maternity Hospital (see NSA MG20, vol. 1015, no. 12A).
- 44 Roper, H: 'The Strange Political Career of A.C. Hawkins.' *Collections of the Royal Nova Scotia Historical Society*, vol. 41, pp. 141-164, 1982.
- 45 *Halifax Evening Mail*, 28 January 1918.
- 46 Sutherland, *op. cit.*, p. 47.
- 47 The City Health Board had authorized the building of a new Infectious Diseases Hospital on Morris Street on the City Home property as early as February 1918. (*Halifax Evening Mail*, 6 and 18 February 1918).
- 48 *Halifax Evening Mail*, 22 October, 1918, p. 6.
- 49 Cameron, I. A.: *Quarantine, What is Old is New: Halifax and the Lawlor's Island Quarantine Station, 1866-1938*, New World Publishing, Halifax, 2005, p. 107.
- 50 *Annual Report of the Several Departments of the Civic Government of Halifax, Nova Scotia for the civic year 1918-1919*, T.C. Allen & Co., Halifax, 1920.
- 51 *Ibid.*, p. 144.
- 52 In addition to the lack of reports from the Mayor, the City Medical Officer, and the City Board of Health, there were no minutes of the Halifax City Council meetings between 5 September 1918 and 16 December 1918 because no meetings were held during that period. At the meeting of 5 September 1918 ten Aldermen resigned from Council after being insulted by Mayor Hawkins (NSA RG35 Minutes of Halifax City Council, 1918-1919).
- 53 *Halifax Evening Mail*, 30 September 1918, p. 6
- 54 *Ibid.*, 2 October 1918, p. 11.
- 55 *Halifax Morning Chronicle*, 11 October 1918, p. 7. NSA Vertical File, vol. 86, no. 20.
- 56 Notman Studio no. 10927, Nova Scotia Archives.
- 57 Dalhousie University Medical Alumni
- 58 *Halifax Evening Mail*, 4 October 1918, p. 1.
- 59 *Ibid.*, 7 October 1918, pages 1 and 11.
- 60 *Ibid.*, 9 October 1918, p. 9.
- 61 *Liverpool Advance*, 9 October 1918, p. 2. Miss Pickles did not mention this request or the fact that ten of her nurses had gone to Boston in October 1918 in her report for the period 1 October 1918 to 30 September 1919 (*JHA*, 1919 & 1920, Appendix 3(B)).
- 62 *Halifax Morning Chronicle*, 11 October 1918, p. 5
- 63 *Ibid.*, 12 October, 1918, p. 4
- 64 *Truro Daily News*, 18 October, p. 1, and 21 October, 1918, p. 4.
- 65 *Halifax Morning Chronicle*, 5 November 1918, p. 7, *Bridgewater Bulletin*, 5 November 1918, p. 7.
- 66 *Halifax Evening Mail*, 16 November 1918, p. 2.
- 67 *Ibid.*, 12 December 1918, p. 14.

- 68 Ibid., p. 3.
- 69 Ibid., 12 October 1918, p. 16. Georgina and Winnifred would have been aged 24 and 22 at the time of their deaths in the Boston area. They are listed in the 1901 Census for Acadia Mines, Colchester County, district A, p. 4, family no. 36.
- 70 Ibid., 11 October 1918. *Halifax Morning Chronicle*, 14 October 1918, p. 2.
- 71 Ibid., 17 October 1918, p. 2
- 72 Ibid., 17 October 1918, p. 10.
- 73 Ibid., 26 October 1918, p. 4. Deaths at the City Home, the Nova Scotia Hospital and the School for the Blind appear in Nova Scotia Vital Statistics for 1918.
- 74 Ibid., 26 October 1918, p. 5.
- 75 *Halifax Morning Chronicle*, 18 October 1918, p. 9. A pneumonia jacket was a medical device used to warm the chest of a person with pneumonia. They were constructed of oiled silk, muslin, and sometimes included an arrangement of rubber tubing which circulated hot water around the chest to keep the patient warm.
- 76 *Halifax Evening Mail*, 7 November 1918, p. 8. It is unclear from the announcement whether the new influenza hospital was a newly constructed building or an existing building that was rented by the city.
- 77 Ibid., p. 16.
- 78 *Amherst Daily News*, 10 and 12 October, 1918.
- 79 Ibid., 21 and 22 October 1918, p. 3
- 80 Ibid., 1 November 1918, p. 3.
- 81 Ibid., 4 November 1918, p. 4, and 12 February 1919, p. 3.
- 82 *Truro Daily News*, 30 September 1918, p. 4.
- 83 Ibid., 7 October 1918, p. 8.
- 84 Ibid., 10 October 1918, p. 1
- 85 Ibid., 17 October, 1918, p. 4.
- 86 Ibid., 23 October, 1918, p. 3.
- 87 *Sydney Daily Post*, 7 October 1918, p. 3.
- 88 Ibid., 10 October 1918, p. 1.
- 89 Ibid., 15 October 1918, p. 13.
- 90 Ibid., 15 October 1918, p. 1. Mr. R.H. Randolph was the Manager of the Dominion Steel Company.
- 91 Ibid., 18 October 1918, p. 1.
- 92 Ibid., 20 November 1918, p. 1.
- 93 *Halifax Morning Chronicle*, 2 October, 1918, p. 1. A Gloucester schooner arrived at Petit-de-Grat on 24 September with influenza on board.
- 94 Ibid., 16 and 25 December 1918. Julie was the wife of John C. Cadegan, and the daughter of Capt. MacNeil of Glace Bay. She was 52 years of age at the time of her death.

- 95 Ibid., 26 December 1918, p. 3.
- 96 Ibid., 28 December, 1918, p. 5.
- 97 *Halifax Evening Mail*, 16 October 1918, p. 10.
- 98 *Liverpool Advance*, 16 and 23 October 1918.
- 99 Marble, A.E.: *Nova Scotians at Home and Abroad*, Lancelot Press, Hantsport, N.S., 1986, p. 309.
- 100 *Liverpool Advance*, 30 October 1918, p. 2. The names and ages of the twenty-three deceased individuals were given in this issue.
- 101 *JHA*, 1920, Appendix 25. Vital Statistics, p. 24. For some unknown reason, the Canadian Bureau of Statistics was unaware of Dr. Hattie's statistics on deaths from Spanish influenza in Nova Scotia compiled from death certificates. As noted earlier in this paper, the Bureau of Statistics gave the number of deaths as 1,636 as compared to Dr. Hattie total of 1,769. The present author has viewed all of the 1,769 death certificates listing influenza as the cause of death and has confirmed that Dr. Hattie total was correct.
- 102 As noted by Humphries, *op. cit.*, p. 104, beginning in mid-October Prince Edward Island was placed in quarantine which meant that the ferry between the Island and Pictou was probably no longer operating after that date
- 103 *JHA*, 1920, Appendix 25.
- 104 *Halifax Morning Chronicle*, 18 October, 1918, p. 7.
- 105 Ibid., 29 January 1920, pp. 1 and 9.
- 106 Ibid., 11 February 1920, pp. 1 and 4.
- 107 *Amherst Daily News*, 10 February 1920, p. 1.
- 108 *Halifax Morning Chronicle*, 13 February 1920, p. 4. Dr. Ligoure, of African descent, came to Halifax in 1917 and opened an office and a private hospital called the Amanda Hospital at 166 North Street. He was a native of the Island of Trinidad and, upon arrival in Halifax, immediately became a leader in the black community. He was one of the founders of a newspaper called the *Atlantic Advocate* and was also a co-founder and lieutenant in the no. 2 Construction Battalion (*Acadian Recorder*, 26 March 1917, p. 3).
- 109 Ibid., 17 February 1920, p. 7.
- 110 Ibid., 2 March 1920, p. 7.
- 111 *Truro Daily News*, 7 October and 19 November 1918
- 112 MacPhail, A., *Official History of the Canadian Forces in the Great War, 1914-19: The Medical Services*, King's Printer, Ottawa, 1925.
- 113 Humphries, *op. cit.*, pp. 160-177.

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