

Proposal: Pandemic Waves-Mortality in the Canadian Expeditionary Force, 1918

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Research Question: Did a herald wave of influenza occur across Canada during the 1918 pandemic? To address this question, my project will analyse record-linked death records for soldiers in the Canadian Expeditionary Force (CEF) training in army camps across Canada from 1917 to 1919. Understanding waves of influenza can contribute significant information to public health and infection prevention strategies, as currently they inform which influenza virus should be included in the influenza vaccination.⁵ Herald waves have been observed in nearly all pandemics of influenza following 1918, including the 2009 swine flu⁶, emphasizing the importance of characterizing the Canadian experience in 1918.

Background: The 1918 influenza pandemic swept the world in three waves; a mild wave in the spring/summer of 1918 was followed by the deadly fall wave, culminating with a recurrence in the winter of 1919. The virus associated with the first mild wave (the 'herald wave') may have conferred immunity to the more severe fall wave for those who contracted it. While the spring wave of the disease is documented for Mexico,¹ New York City,² and in army camps across the United States,³ scholars question whether it occurred in Canada.⁴

The 1918-19 flu pandemic was arguably the worst demographic disaster of the twentieth century in terms of the sheer speed in which it spread and the toll of mortality from it.⁷ While the geographic origins of the pandemic continue to be debated, the virus responsible for the deadly fall wave of the pandemic was circulating throughout the United States in the spring of 1918.⁸ Evidence for this 'herald wave' in Canada is far less clear. Humphries reports that at least four military hospitals experienced a higher than normal incidence of influenza and pneumonia between March and April 1918.⁹ A recent retrospective analysis of the Ontario Death Registry for 1918 also suggests that a herald wave of influenza and pneumonia occurred, since several communities across Ontario experienced excess influenza mortality in April and May 1918.¹⁰

Between 1914 and 1919, the war effort figured prominently in Canadian society; an army of 600,000 was raised and 400,000 men were transported across the country and on to Europe¹¹ and over sixty military training camps were in operation.¹² Since the health of the soldiers was closely monitored, and the deaths of soldiers were carefully recorded by the Commonwealth War Graves Commission, the soldier population presents an ideal opportunity to examine the 1918 influenza pandemic. Beyond Humphries' research tracing the "trail of infected armies"¹³ in which he links the Canadian military to the spread of the epidemic, there has been no systematic study of mortality in the CEF during the 1918 flu pandemic. A study of soldier mortality from influenza for the year preceding to the year following the pandemic (1917-1919) will contribute a substantive body of evidence from which to evaluate whether or not Canadians experienced a herald wave of influenza in 1918.

Methods & Materials: In order to understand soldier mortality during this period, I will examine mortality data from the Commonwealth War Graves Commission's online database. This database provides the surname, name, date of death, war, rank, regiment and place of commemoration for the 1.7 million men and women of the Commonwealth who died during the two world wars.¹⁴ Searching the database for deaths commemorated in Canada for the Canadian Armed Forces for 1917-1918 will return

a nominative, downloadable list of all those who were commemorated, buried, and died in Canada during that time.¹⁵ Removing the names of individuals commemorated on large monuments but not actually buried in Canada will result in a final list of those soldiers who died in Canada between during the study period. In order to examine deaths from influenza for the study period, this list will be imported into a Microsoft Access database that will be used to link soldier deaths to their specific cause of death.

I will use the soldier's surname, given name, date of death, and regiment number to link deceased individuals to a cause of death listed in the Canada, War Graves Registers Circumstances of Casualty database available on Ancestry.ca. This database, created by the Commonwealth War Graves Commission, contains information on the place and cause of death for each soldier. I will then calculate monthly mortality rates attributed to influenza using the strength of the CEF in Canada as the population at risk, which is available from Library and Archives of Canada.¹⁶ This analysis will make it possible to identify any herald waves of influenza that occurred in military camps across the country.

References

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