Flu on the Front:
The Effects of the Influenza Pandemic of 1918-1919 on the 15th Reserve and 46th Infantry Battalions, Canadian Expeditionary Force

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ABSTRACT

Flu on the Front: The Effects of the Influenza Pandemic of 1918-1919 on the 15th Reserve and 46th Infantry Battalions, Canadian Expeditionary Force

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This study is an examination of the effects of the first two waves of the Influenza Pandemic of 1918-1919 on the Canadian Expeditionary Force in Europe during the final months of the First World War. Using a case-study approach, the study analyzes the experiences of the 15th Canadian Reserve Battalion (Saskatchewan) in England and the 46th Canadian Infantry Battalion (South Saskatchewan) in France from April to 11 November 1918. While the comparison of these two battalions' experiences is useful to see the how the Canadian Army Medical Corps reacted and responded to the outbreak of pandemic influenza in both locations, it also highlights the impact that the pandemic had on the reinforcement stream in 1918, and demonstrates the greater cost of conscription during the final months of the war. This thesis argues that that the Influenza Pandemic of 1918-1919 affected the Canadian Expeditionary Force's Hundred Days Campaign in a way that, until now, has not been recognized. Additionally, it argues that the 15th Reserve Battalion was not to blame for bringing pandemic influenza to Bramshott Camp in the fall of 1918, and that the Canadian Army Medical Corps reacted to the outbreak as effectively as possible. Finally, it highlights the experiences of men from Saskatchewan and recounts the stories of soldiers who died of pandemic influenza.

DEDICATION

This thesis is dedicated to the men of the 15th Canadian Reserve Battalion (Saskatchewan) whose deaths have been mentioned by many, but whose names are known to few.

Pte Rossiter John George Adams, age 21
Pte Paul Altman, age 22
Pte Sigurjon Austfjord, age 21
Pte John Hannibal Badger, age 23
Pte August Bakke, age 22
Pte John Joseph Barry, age 22
Pte Thomas John Bell, age 21
Pte Edward Stanley Black, age 23
Pte Walter Fredman Blackburn, age 24
Pte Bernhard Constantin Borgerson, age 22
Pte Frederick William Bunse, age 22
Pte George Laing Reid Campbell, age 23
Pte Row William Clark, age 23
Pte Clarence Cliffgard, age 23
Pte Robert John Conn, age 22
Pte Charles Edgar Coppin, age 33
Pte Frederick William Corney, age 21
Pte Lester Emmet Curry, age 23
Pte William Dixon, age 30
Pte Norman Goultin Drury, age 21
Pte Sell Dykstra, age 22
Pte Stanley Noble Feindell, age 21
Pte Laurence Henry Fenner, age 29
Pte Thomas Earl Ferris, age 21
Pte William Alexander Folster, age 22
Pte Michel Hamelin, age 21
Pte William Charles Hiron, age 33
Pte Elmer Emil Hoehne, age 21
Pte William Charles Hood, age 21
Pte Walker Allen Jenkins, age 21
Pte Albert Johnson, age 32
Pte Joe Roy Walford Johnson, age 22
Pte Dalton Jones, age 22
Pte William Edward Knaus, age 21
Pte George Washington Liddle, age 21
Pte John Alexander Linfoot, age 26
Pte Robert Olliver Littlejohn, age 21
Pte William Rogerson Love, age 22
Pte Angus Macdonald, age 24
Pte Benjamin Horton Macgray, age 25
Pte George Leslie Mackay, age 22
Pte Donald Elmer MacTavish, age 21
Pte William Wallis Mainland, age 21
Pte Elmer McGuire, age 27
Pte Frank Meyers, age 20
Pte George Wellington Obre, age 20
Pte Walter George Ogilvie, age 22
Pte Henry Richard Parry, age 28
Pte Lawrence Findley Paton, age 23
Pte Willard Patriquin, age 27
Pte Joseph Paulson, age 20
Pte Henry Arnold Peterson, age 21
Pte Thomas Hill Pritchard, age 22
Pte Eric Melville Richardson, age 26
Pte Fred Robinson, age 28
Pte James Franklin Roney, age 22
Pte Roy Reginald Rumble, age 21
Pte Theodore Rutten, age 23
Pte Oscar Rygh, age 23
Pte Melvin Orle Shippy, age 22
Pte Stanley Leroy Sproule, age 22
Pte Charles Torkelson, age 21
Pte David Albert Westman, age 27
Pte Hugh Thomas Williams, age 30
Pte Ernest John Wood, age 20

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LIST OF ABBREVIATIONS

Term	Abbreviation
Assistant Director Medical Services	ADMS
Canadian Army Medical Corps	CAMC
Canadian Corps	CC
Canadian Corps Reinforcement Camp	CCRC
Canadian Expeditionary Force	CEF
Canadian Virtual War Memorial	CVWM
Canadian War Museum	CWM
Commanding Officer	CO
Commonwealth War Graves Commission	CWGC
Deputy Director Medical Services	DDMS
Director Medical Services	DMS
Directorate of History and Heritage	DHH
General Headquarters	GHQ
His Majesty's Transport	HMT
Library and Archives Canada	LAC
Pyrexia of Unknown Origins	PUO
Regimental Medical Officer	RMO
Young Men's Christian Association	YMCA

INTRODUCTION: THE NEARLY FORGOTTEN PANDEMIC

This thesis examines the impact of the Influenza Pandemic on the soldiers of the 15th Reserve Battalion (Saskatchewan) and the 46th Canadian Infantry Battalion (South Saskatchewan), as well as examines the Canadian Army Medical Corps' (CAMC) reaction and response to the influenza outbreak. This topic is at the intersection of medical, military, social, and cultural history. Moreover, it is a history of influenza, the CAMC, and the memory of these events and times. This study and the analytical approach form part of the now well-established historiographical trend in Canadian military history that emphasizes the socio-cultural experience of the Canadian soldier during the First World War. But it also challenges this historiography by insisting that pandemic influenza played a much greater role in the Canadian war experience than has been believed or revealed. This thesis questions the contemporary belief that the men of the 15th Reserve Battalion were to blame for bringing pandemic influenza to Bramshott Camp, and that the Influenza Pandemic of 1918-1919 had little to no impact on the effectiveness of the Canadian Corps during the final famous "Hundred Days" campaign of the First World War. Rather, it argues that the pandemic ultimately had a much greater impact on the reinforcement stream supplying men to front-line battalions than has ever been understood and that the CAMC addressed the pandemic in an effective way considering the added challenge of mass casualties during the final months of the war. Neither previous works on the pandemic in general nor works discussing its impact on military forces have ever attempted to delve into the impact of influenza on individual units and soldiers. As will be shown, this debilitating condition worsened the ability of Canadian military authorities to maintain force levels at the front during one of the most critical operations of the war.

The 15th Reserve Battalion at Bramshott Camp in England and the 46th Canadian Infantry Battalion in France were chosen because they were both primarily made up of men from

Saskatchewan. New recruits and conscripted soldiers who enlisted at the No. 1 Base Depot in Saskatchewan made their way through the reinforcement stream to the 15th Reserve Battalion in England where they trained intensively before being sent to the 46th Battalion at the front. Men cycling through the 15th Reserve Battalion could be sent to one of four front-line battalions (all in the same brigade), but due to the limited scope of this study, only one was chosen to examine in great detail.

The 15th Reserve Battalion suffered the highest number of deaths from pandemic influenza in the Canadian Expeditionary Force. It is condemned for being the battalion that brought the deadly second wave of the pandemic to Bramshott Camp, a Canadian training facility located southwest of London which housed roughly 20,000 soldiers. However, both ideas are much more complicated than they initially appear. The men from Saskatchewan arriving at Bramshott Camp during the summer of 1918, the ones who are immediately blamed for bringing the pandemic with them and who died in the greatest number, were victims of circumstance. These young men missed being exposed to the first wave of pandemic influenza that tore through central and eastern Canada, were then conscripted into the army and sent overseas through infected cities and aboard infected ships, only to arrive in a land where the pandemic's second wave was already raging. Exposure to the first wave is believed to have established a degree of cross-protection, meaning that the second had less effect.[1] The customary time in segregation at Frensham Pond Segregation Camp near Bramshott Camp showed that nothing was amiss, so the men were granted their Landing Leave to explore England before returning to Bramshott to train. While it cannot be denied that the men

[1] John M. Barry, Cécile Viboud, and Lone Simonsen, "Cross-Protection between Successive Waves of the 1918–1919 Influenza Pandemic: Epidemiological Evidence from US Army Camps and from Britain," *The Journal of Infectious Diseases* 198, no. 10 (November 15, 2008): 1427–34, https://doi.org/10.1086/592454; D. Rios-Doria and G. Chowell, "Qualitative Analysis of the Level of Cross-Protection between Epidemic Waves of the 1918–1919 Influenza Pandemic," *Journal of Theoretical Biology* 261, no. 4 (December 2009): 584–92, https://doi.org/10.1016/j.jtbi.2009.08.020.

from Saskatchewan arrived at the appropriate time to be blamed, this thesis introduces new evidence that suggests that the 1918 influenza virus was already inside the camp prior to their arrival. The following study examines the story of these soldiers from Saskatchewan.

In the past few years outbreaks of respiratory viruses such as SARS (Severe Acute Respiratory Syndrome), Bird and Swine Flu, and the current Coronavirus[2] have served as poignant reminders of how far science has come in understanding viruses since their discovery in the 1890s, while simultaneously highlighting their ongoing dangers. The principal ways that individuals react to outbreaks of infectious respiratory disease remain the same as a century ago: frequent hand washing, the wearing of masks, and the isolation of the sick.[3] Quarantine calls to mind the story of Typhoid Mary and leper colonies, yet it is still a very significant part of the global strategy to combat outbreaks of infectious disease. As Mark Humphries explores in *The Last Plague: Spanish Influenza and the Politics of Public Health in Canada*, for over a century the Canadian public health system was established on the basic idea of effective quarantine and was dependent on the facilities on Grosse Isle in the St. Lawrence River near Quebec City.[4]

At the time of writing, the panic surrounding the ongoing COVID-19 epidemic has demonstrated that outbreaks of infectious respiratory disease tend to invoke great fear. The invisible transmission of respiratory diseases coupled with the novelty of the coronavirus and the technology of a modern world has quickly led to a whole new problem: not only are experts now

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[2] "Coronavirus Disease (COVID-19) Outbreak," World Health Organization, accessed March 5, 2020, https://www.who.int/emergencies/diseases/novel-coronavirus-2019.
[3] "Advice for Public," accessed February 14, 2020, https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public.
[4] Mark Osborne Humphries, *The Last Plague: Spanish Influenza and the Politics of Public Health in Canada* (Toronto: University of Toronto Press, 2013).

trying to fight a growing epidemic, they are simultaneously trying to fight off a tidal wave of misinformation generated by social media which has been fittingly dubbed the 'infodemic.'[5]

The fast transmission of misinformation is a key feature of epidemics. Our reliance on word-of-mouth and the written word as the primary means of obtaining new information inherently leaves many opportunities for error. One of the most prominent examples of the lasting effects of misinformation is the name of the largest known outbreak of infectious disease in history: the Influenza Pandemic of 1918-1919[6] commonly referred to as the "Spanish Flu."[7] This colloquial designation is a direct result of misinformation and a reluctance on the part of political and military authorities to divulge too much information lest public panic and spiralling morale ensue.

Originally the worldwide outbreaks of a strange respiratory disease were given various names, nearly all of which placed the blame on others. There was 'Flanders Grippe' in Britain, 'Naples Soldier' in Spain, 'Blitz Katarrh' (lightning cold) in Germany, 'Bolshevik Disease' in Poland, 'Bombay Fever' in Ceylon, 'Singapore Fever' in Penang, "too much inside sickness" in Hong Kong, 'Wrestler's Fever' in Japan, 'The Coquette' in Switzerland, the 'Disease of the Wind' in Persia, 'Brazilian Flu' in Senegal, 'German Flu' in Brazil, and 'came from the south' in

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[5] "Coronavirus: UN Health Agency Moves Fast to Tackle 'Infodemic'; Guterres Warns against Stigmatization," UN News, February 4, 2020, https://news.un.org/en/story/2020/02/1056672; Karen Hao, "The Coronavirus Is the First True Social-Media 'Infodemic,'" MIT Technology Review, accessed February 12, 2020, https://www.technologyreview.com/s/615184/the-coronavirus-is-the-first-true-social-media-infodemic/; Matt Richtel, "W.H.O. Fights a Pandemic Besides Coronavirus: An 'Infodemic,'" *The New York Times*, February 6, 2020, sec. Health, https://www.nytimes.com/2020/02/06/health/coronavirus-misinformation-social-media.html.

[6] Note that throughout the length of this study, the dates for the pandemic will be presented as 1918 to 1919 though newer research has suggested that an outbreak in France and Britain in 1916 may well have been the same or similar strain of virus, just as parts of the world went on to experience outbreaks of pandemic influenza well into 1920. While acknowledging that the timeframe of the pandemic may be broader than 1918-1919, this is when the pandemic had its most significant impact on Canada and Western Europe, and is the time period most widely recognized in the historiography.

[7] David Killingray and Howard Phillips, *The Spanish Influenza Pandemic of 1918-1919 : New Perspectives* (Routledge, 2003), 7, https://doi.org/10.4324/9780203468371.

Denmark.[8] As Spain remained a neutral power during the First World War, Spanish journalists were uninhibited by wartime censorship and were openly reporting that thousands of Spaniards were falling ill, particularly when King Alfonso XIII fell sick. Because the outbreak received so much media attention in Spain and the reported figures of sick were so high at a time when so little such reporting occurred in the warring nations the pandemic became associated with the Iberian nation.[9] Increasingly, the more popular names for the mysterious disease had a connection with Spain; the various outbreaks began to be collectively referred to as the 'Spanish Lady,' the 'Spanish Influenza,' the 'Spanish Fever,' and 'la Grippe espagnol.'[10] As it was gradually realized that this was not a series of local epidemics but rather one global pandemic, the name 'Spanish Influenza' was further canonized in 1918 when the British Royal College of Physicians officially dubbed it as such.[11] In so doing, the erroneous nomenclature cemented a key misunderstanding about the origins of the Influenza Pandemic of 1918-1919.

Being a parasitic virus, influenza is dependent on a host and is part of a group of infectious diseases referred to as 'crowd diseases.' In order for influenza to be sustained, the virus requires a large population of viable hosts living within close proximity to each other. This allows the virus to infect, reproduce, and move on quickly before the host's immune system destroys it. Without a large enough population of hosts, the virus will die.[12] Unfortunately for human beings, the influenza A virus is particularly adept at mutating quickly which means that on more than one

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[8] Eileen Pettigrew, *The Silent Enemy: Canada and the Deadly Flu of 1918* (Saskatoon: Western Producer Prairie Books, 1983), 4; Laura Spinney, *Pale Rider: The Spanish Flu of 1918 and How It Changed the World* (London: Jonathan Cape, 2017), 63–65.
[9] Ryan A. Davis, *The Spanish Flu: Narrative and Cultural Identity in Spain, 1918* (New York: Palgrave Macmillan, 2013), 6.
[10] K. Duncan, "Spanish Influenza: Analogue for Potential Ramifications of Bioterrorism" (ENVIRONMENTAL TOXICOLOGY 2008, Granada, Spain, 2008), 2, https://doi.org/10.2495/ETOX080011; Davis, *Narrative and Cultural Identity in Spain*, 6–7.
[11] Pettigrew, *The Silent Enemy*, 4.
[12] David Tyrrell and Michael Fielder, *Cold Wars: The Fight Against the Common Cold* (New York: Oxford University Press, 2002), 109.

occasion it has been able to jump from its natural avian hosts into human beings and cause an outbreak. Outbreaks of avian flu have appeared numerous times throughout history.[13] While J. S. Oxford, Christopher Langford, Mark Humphries, and John Barry have argued that the 1918 strain originated in France, China, and the United States,[14] others such as Jeffrey Taubenberger and Ann Reid state the origin is unknown.[15] Ultimately the virus's place of origin is irrelevant since there was a near-simultaneous global outbreak as wartime conditions created the ideal conditions for the spread of infectious disease.[16]

Historians widely accept that the Influenza Pandemic occurred in three major waves between 1918 and 1919: the first in the spring and early summer of 1918, the second in the fall of 1918, and the third in the winter and early spring of 1919. The 'Spanish Flu' is estimated to have infected around 500 million people, or one in three people between March 1918 and March 1920, and to have killed 50 to 100 million representing about 2.5 to 5 percent of the global population. Though the true cost will never be known due to a lack of demographic information in certain parts of the world at the time, conservative mortality estimates suggest that the pandemic surpassed the First World War's 17 million dead and the Second World War's 60 million dead while some researchers argue that the true mortality could be higher than both put together.[17]

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[13] For a good historical overview of the history of the discovery of viruses see William Beveridge, *Influenza: The Last Great Plague; An Unfinished Story of Discovery* (New York: Prodist, 1977).
[14] J. S. Oxford, "The So-Called Great Spanish Influenza Pandemic of 1918 May Have Originated in France in 1916," *Philosophical Transactions of the Royal Society of London. Series B: Biological Sciences* 356, no. 1416 (December 29, 2001): 1857–59, https://doi.org/10.1098/rstb.2001.1012; Christopher Langford, "Did the 1918-19 Influenza Pandemic Originate in China?," *Population and Development Review* 31, no. 3 (2005): 473–505, https://www.jstor.org/stable/3401475; Mark Humphries, "Paths of Infection: The First World War and the Origins of the 1918 Influenza Pandemic," *War in History* 21, no. 1 (2014): 55–81, https://doi.org/10.1177/0968344513504525; Barry, Viboud, and Simonsen, "Cross-Protection between Successive Waves of the 1918–1919 Influenza Pandemic."
[15] Jeffery K. Taubenberger, "The Origin and Virulence of the 1918 'Spanish' Influenza Virus," *Proceedings of the American Philosophical Society* 150, no. 1 (March 2006): 86–112, https://search.ebscohost.com/login.aspx?direct=true&db=asu&AN=505199905&site=ehost-live.
[16] Js Oxford et al., "World War I May Have Allowed the Emergence of 'Spanish' Influenza," *The Lancet Infectious Diseases* 2, no. 2 (February 2002): 111–14, https://doi.org/10.1016/S1473-3099(02)00185-8.
[17] Spinney, *Pale Rider*, 4.

The historiographical trends regarding the 1918 Influenza Pandemic are interesting, but there are still significant voids in the understanding of the impact of the disease on the First World War, particularly in regards to Canadian soldiers. As historian Howard Phillips pointed out in his 2004 article, "The Re-appearing Shadow of 1918: Trends in the Historiography of the 1918-19 Influenza Pandemic," popular and scholarly interest in the Influenza Pandemic has ebbed and flowed in waves similar to those of the pandemic itself. While there was tremendous scientific interest in the pandemic's immediate aftermath, aimed at making sense of the devastation and learning from it, little historical analysis on the matter emerged. Phillips argues that historians were more interested in analyzing the First World War because, "Although they lived through both, it was almost as if they deemed a world war to be suitable as a subject for historians but not a world pandemic."[18] Phillips contends that historical accounts in the forty years after 1918 were by-products of investigations by epidemiologists and virologists.[19] Additionally, he argues that "history was treated as a utilitarian object" among epidemiological studies so little attention was paid to its social and cultural implications.[20]

The waves of interest in the Influenza Pandemic of 1918 have broadly coincided with major outbreaks of infectious disease. Phillips argues that the outbreak of "Asian Flu" in 1957 led to a surge of interest in the pandemic of 1918 and a view that the pandemic warranted historical analysis.[21] Further large-scale outbreaks of influenza in the 1950s, 1960s, and 1970s led to a massive increase in historical writing on the 1918 pandemic as memories were awakened as to how devastating and all-enveloping the 1918 outbreak had been.[22] In 1961 American historian Adolph

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[18] Howard Phillips, "The Re-Appearing Shadow of 1918: Trends in the Historiography of the 1918–19 Influenza Pandemic," *Canadian Bulletin of Medical History* 21, no. 1 (April 2004): 123, https://doi.org/10.3138/cbmh.21.1.121.
[19] Ibid., 124.
[20] Ibid.
[21] Ibid., 125.
[22] Ibid.

Hoehling released *The Great Epidemic*, the first social-historical analysis on the 1918 pandemic.[23] In 1969 in the immediate aftermath of the outbreak of "Hong Kong" flu, Charles Graves published *Invasion by Virus: Can It Happen Again?* providing the first world survey of the pandemic since the scientific studies in the 1920s.[24] As Phillips notes, *Invasion by Virus* typifies the popular accounts that were subsequently released "which portrayed [the 1918 pandemic] primarily as a dramatic tale of human catastrophe."[25] In 1974 in the wake of the 'Swine Flu' scare came another work which utilized the dramatic: Richard Collier's *The Plague of the Spanish Lady*.[26] Collier's book offers snapshots of individual experiences based primarily on personal testimony to provide an overview of the global horror experienced during the 1918 pandemic without really addressing much else about it. Though certainly the many testimonies in Collier's book are interesting, they fail to properly encapsulate and explain the event.

According to Phillips, a trickle of theses from around the world were submitted in the 1970s as the sub-disciplines of social history, environmental history, and the social history of medicine became popular, marking "the gradual recognition of the 'Spanish' Flu as an acceptable topic in the historical academy."[27] Then, in 1976 American environmental historian Alfred Crosby published *Epidemic and Peace, 1918: America's Deadliest Influenza Epidemic.*[28] Crosby's history focused on the American experience of the pandemic and its effects on the war and the Paris Peace Conference and is heralded as one of the first academic books which invigorated interest in the history of the Influenza Pandemic. He concludes that other than on peace-making efforts and

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[23] Adolph Hoehling, *The Great Epidemic* (Boston: Little Brown and Company, 1961); Phillips, "The Re-Appearing Shadow of 1918," 125.
[24] Charles Graves, *Invasion by Virus: Can It Happen Again?* (London: Icon Books, 1969); Phillips, "The Re-Appearing Shadow of 1918," 125.
[25] Ibid., 126.
[26] Richard Collier, *The Plague of the Spanish Lady: The Influenza Pandemic of 1918-1919* (New York: Atheneum, 1974).
[27] Phillips, "The Re-Appearing Shadow of 1918," 126.
[28] Alfred W. Crosby, *Epidemic and Peace, 1918* (Westport: Greenwood Press, 1976).

medical research, the pandemic's greatest impact was on the individual rather than on public policy. As Phillips surmises, Crosby's book "raised historical writing on the influenza pandemic onto a new plane" by demonstrating that it was "far more than just a swiftly passing moment of horror worthy of a good raconteur, but rather a momentous historical event requiring serious scholarly inquiry…"[29] Among other big-picture analyses such as Crosby's is William Beveridge's 1977 book, *Influenza: The Last Great Plague; An Unfinished Story of Discovery* which provides an historical overview of outbreaks of influenza in the past as well as the broad impact of the 1918 strain.[30] Also in 1977 came Janice Dickin McGinnis's "The Impact of Epidemic Influenza: 1918-1919" which explored the general impact of the pandemic on Canada and emphasised personal experience and individual action.[31]

In the 1980s, the AIDS pandemic prompted a new wave of scientific interest in the 1918 pandemic which primarily focused on the epidemiology of the outbreak and determining its demographical impact. Still, a few historical analyses were also published.[32] In 1983 Eileen Pettigrew published *The Silent Enemy: Canada and the Deadly Flu of 1918*.[33] Pettigrew's work builds off of Janice Dickin McGinnis's and traces the spread of the pandemic from the east to the north and west of Canada. As this study will show, the trajectory of the virus's spread through Canada from east to west played a greater role on the soldiers of the Canadian Expeditionary Force in Europe than has hitherto been realised. Based primarily on newspaper accounts and the personal recollections of over 200 individuals, Pettigrew's book offers insight into a country already reeling from wartime losses when the pandemic struck. She estimated that within a few months between

[29] Phillips, "The Re-Appearing Shadow of 1918," 128.
[30] Beveridge, *Influenza: The Last Great Plague*.
[31] Janice P. Dickin McGinnis, "The Impact of Epidemic Influenza: Canada, 1918-1919," *Historical Papers* 12, no. 1 (1977): 120–40, https://doi.org/10.7202/030824ar.
[32] Humphries, *The Last Plague*, 5.
[33] Pettigrew, *The Silent Enemy*.

thirty to fifty thousand Canadians had died from the disease when the country had lost some 60,000 military personnel and only had a population of eight million.[34] Pettigrew argued that though Canadian officials were ill-prepared for such an event on the Home Front, human kindness abounded as individual Canadians did all that they could to help each other survive. Canadians on the home front and the civilian medical services were unprepared for such a widespread outbreak, whereas the Canadian military overseas was better equipped to treat illness and injury since these were so common among troops at war.[35] As will be seen, the CAMC responded to the outbreak of pandemic influenza efficiently and as well as possible given the circumstances.

In 1989, a revised version of Crosby's *Epidemic and Peace* was released: *America's Forgotten Pandemic: The Influenza of 1918.* In this version Crosby contended that the growing scholarly interest in the history of infectious disease was in large part due to the collective realization that though scientists were learning a lot about molecular biology, pathogens, and immunology, in the eyes of the general public the pathogens "have become nastier faster than scientists have become smarter."[36] Crosby's principal point was that pandemic influenza causes society to be anxious and confused because we understand so little about it and, despite its global impact, have nearly completely forgotten it.[37] Following this release, even more historians have become interested in the Influenza Pandemic and with new emphasis on the pandemic's social and cultural history.[38]

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[34] Ibid., xv.
[35] William Stewart, "Influenza and the Canadian Expeditionary Force: April to November 1918," *Defining Moments Canada*, n.d., 2, https://definingmomentscanada.ca/wp-content/uploads/2018/06/Last_100_Days.pdf. See Humphries, *The Last Plague*; Mark Osborne Humphries, "The Horror at Home: The Canadian Military and the 'Great' Influenza Pandemic of 1918," *Journal of the Canadian Historical Association* 16, no. 1 (2005): 235, https://doi.org/10.7202/015733ar.
[36] Alfred W. Crosby, *America's Forgotten Pandemic: The Influenza of 1918* (New York: Cambridge University Press, 1989), xi.
[37] Ibid., xiv.
[38] Humphries, *The Last Plague*, 5; K. David Patterson and Gerald F. Pyle, "The Geography and Mortality of the 1918 Influenza Pandemic," *Bulletin of the History of Medicine* 65, no. 1 (1991): 4–21, https://www.jstor.org/stable/44447656; Niall P. A. S. Johnson and Juergen Mueller, "Updating the Accounts: Global

In 2003 Howard Philips and David Killingray brought together a collection of essays in *The Spanish Influenza Pandemic of 1918-1919: New Perspectives* which provided analyses of pandemic experiences around the world in the form of case studies.[39] In 2003 the second edition of Crosby's *America's Forgotten Pandemic* was published where he discussed society's fear of the unknown while acknowledging that the Influenza Pandemic of 1918 was certainly forgotten no more. Crosby's work, still in print, remains a staple among all those who study the Influenza Pandemic of 1918 as well as those who study the history of infectious disease.[40] In 2005 Carol Byerly published *Fever of War: The Influenza Epidemic in the U.S. Army During World War I* which examined the impact of the influenza pandemic on the men of the American Expeditionary Force both at home and overseas. Byerly's book is one of the few which examines the pandemic's effects on a military force. Her work studies the American military experience with pandemic influenza in detail as the Americans lost more men to pandemic influenza than they did as battle casualties (meaning those who are killed, wounded, declared missing, or taken prisoner) from 1917 to 1919. Ultimately, she argues that the war and the pandemic were inextricably linked in the United States to the point where the nation's health and the war effort were competing interests. While this book offers great insight into the American experience, it highlights how little the historiography reflects the experience of other military forces with pandemic influenza. One of the countries where shockingly little is known about the effect of pandemic influenza on its military force is Canada.

Mortality of the 1918-1920 'Spanish' Influenza Pandemic," *Bulletin of the History of Medicine* 76, no. 1 (2002): 105–15, https://www.jstor.org/stable/44446153; Spinney, *Pale Rider*.

[39] Killingray and Phillips, *The Spanish Influenza Pandemic of 1918-1919*.

[40] Alfred W. Crosby, *America's Forgotten Pandemic: The Influenza of 1918*, 2nd Edition (New York: Cambridge University Press, 2009).

This study follows a long-established trend in the Canadian Influenza Pandemic historiography by focusing primarily on the effect of the virus on a specific community. Among such studies are Janice Dickin McGinnis's "A City Faces an Epidemic," about Calgary, published in 1976,[41] Margaret Andrews's "Epidemic and Public Health: Influenza in Vancouver, 1918-1919" published in 1977,[42] Ann Herring's "'There Were Young People and Old People and Babies Dying Every Week:' The 1918-1919 Influenza Pandemic at Norway House" published in 1993,[43] Maureen Lux's "The Bitter Flats: The 1918 Influenza Epidemic in Saskatchewan" published in 1997,[44] Mary-Ellen Kelm's "British Columbia First Nations and the Influenza Pandemic of 1918-1919" published in 1999,[45] Linda Quinney's "'Filling the Gaps:' Canadian Voluntary Nurses, the 1917 Halifax Explosion, and the Influenza Epidemic of 1918" published in 2002,[46] Magda Fahrni's "« Elles sont partout… »: Les femmes et la ville en temps d'épidémie, Montréal, 1918-1920" published in 2004,[47] and Eslytt Jones's *Influenza 1918: Disease, Death, and Struggle in Winnipeg* published in 2007,[48] among others. For the purposes of this study, Maureen Lux's research was particularly useful in confirming that the soldiers from Saskatchewan did not experience the first wave of pandemic influenza when the eastern provinces were experiencing it,

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[41] Janice Dickin McGinnis, "A City Faces an Epidemic," *Alberta History* 24, no. 4 (1976): 1–11.
[42] Margaret Andrews, "Epidemic and Public Health: Influenza in Vancouver, 1918-1919," *BC Studies* 34 (Summer 1977): 21–44.
[43] D. Ann Herring, "'There Were Young People and Old People and Babies Dying Every Week': The 1918-1919 Influenza Pandemic at Norway House," *Ethnohistory* 41, no. 1 (1993): 73–105, https://doi.org/10.2307/3536979.
[44] Maureen Katherine Lux, "The Bitter Flats: The 1918 Influenza Epidemic in Saskatchewan," *Saskatchewan History*, Spring 1997, 3–13.
[45] Mary-Ellen Kelm, "British Columbia First Nations and the Influenza Pandemic of 1918-19," *BC Studies*, no. 122 (1999): 23–47.
[46] Linda J Quiney, "'Filling the Gaps': Canadian Voluntary Nurses, the 1917 Halifax Explosion, and the Influenza Epidemic of 1918," *Canadian Bulletin of Medical History* 19, no. 2 (October 2002): 351–73, https://doi.org/10.3138/cbmh.19.2.351.
[47] Magda Fahrni, "« Elles sont partout… »: Les femmes et la ville en temps d'épidémie, Montréal, 1918-1920," *Revue d'histoire de l'Amérique française* 58, no. 1 (2004): 67, https://doi.org/10.7202/010973ar.
[48] Esyllt W Jones, *Influenza 1918: Disease, Death, and Struggle in Winnipeg* (Toronto: University of Toronto Press, 2007).

and helped to provide greater contextualization for the types of lives that the men being studied led before they were conscripted into the military.

In 2005 historian Mark Humphries published "The Horror at Home: The Canadian Military and the 'Great' Influenza Pandemic of 1918."[49] This article argues that pandemic influenza was not brought to Canada by infected soldiers returning home after the war as was previously believed, but that it was brought across the border by American troops who travelled to Europe through Canadian ports. Furthermore, Humphries stipulated that the mobilization of the Canadian Siberian Expeditionary Force meant a large number of soldiers were sent west aboard troop trains and brought the virus with them after being infected by the Americans in the Maritimes. While the article's main argument focuses on the negative impacts of the war effort on Canadian public health, he explains how the epidemic in Canada was inevitable, as "both the chronology and the physical path of the pandemic were largely determined by decisions made by the Canadian military that were designed to further the war effort."[50]

In 2012 Eslytt Jones and Magda Fahrni edited a collection of essays entitled *Epidemic Encounters: Influenza, Society, and Culture in Canada, 1918-20*.[51] In his essay, "The Limits of Necessity: Public Health, Dissent, and the War Effort during the 1918 Influenza Pandemic," Humphries stipulates that Byerly's idea of health and war being competing interests also applied to Canada, in fact even more so due to Canada having a less developed federal public health infrastructure and Canada having participated in the war since 1914.[52] Humphries argues that civilian and military health officials worked together effectively in the summer of 1918 to curb the

[49] Humphries, "The Horror at Home."
[50] Ibid., 259.
[51] Magda Fahrni and Esyllt W Jones, eds., *Epidemic Encounters: Influenza, Society, and Culture in Canada, 1918-20* (Toronto: UBC Press, 2012).
[52] Mark Osborne Humphries, "The Limits of Necessity: Public Health, Dissent, and the War Effort during the 1918 Influenza Pandemic," in *Epidemic Encounters: Influenza, Society, and Culture in Canada, 1918-20*, ed. Magda Fahrni and Esyllt W Jones (Toronto: UBC Press, 2012), 22.

spread of disease throughout Canada, but during the fall when more men were needed for the war effort, military necessity trumped the potential health risks.[53] Humphries noted that "The first wave of influenza broke out in the ranks of the Canadian Expeditionary Force in France and Belgium in May 1918, sickening Canadian soldiers stationed in England a month later." But this study will show that Canadians in England began dying of pandemic influenza as early as April 1918.[54]

In 2013, Humphries published *The Last Plague: Spanish Influenza and the Politics of Public Health in Canada*.[55] He discussed the impact of the pandemic on soldiers in Canada emphasizing that the key issue for civilians was that "Sacrifice with purpose was noble" while "meaningless deaths undermined faith in the cause."[56] Humphries argued that many Canadians believed that the soldiers, many of whom were conscripts, died needless deaths due to intensified efforts to get men overseas.

In 2015, anthropologists Alex Rewegan, Kandace Bogaert, Melissa Yan, Alain Gagnon, and Ann Herring, conducted a detailed study of the first wave of the Influenza Pandemic in Canada among soldiers of the Canadian Expeditionary Force.[57] They argue that the first wave did certainly strike Canada, that mortality rates were particularly high in March and April 1918, and that mortality rates were significantly higher for soldiers in the Maritimes than throughout the rest of Canada, and in particular the West.[58] They concluded that further research is required but suggest that the presence of the first wave of pandemic influenza may have led to a degree of cross-

[53] Ibid., 27.
[54] Ibid., 23.
[55] Humphries, *The Last Plague*.
[56] Ibid., 138.
[57] Alex Rewegan et al., "The First Wave of the 1918 Influenza Pandemic among Soldiers of the Canadian Expeditionary Force," *American Journal of Human Biology* 27, no. 5 (September 10, 2015): 638–45, https://doi.org/10.1002/ajhb.22713.
[58] Ibid.

protection for both soldiers and civilians during the second wave of the pandemic.[59] As will be discussed, the soldiers from Saskatchewan that this study follows do not appear to have benefited from this biological protection and were therefore more likely to fall ill during the second wave of the pandemic.

In 2017 Bogaert published "Military and Maritime Evidence of Pandemic Influenza in Canada during the Summer of 1918," in which she examined the military's experience with outbreaks of pandemic influenza aboard troopships travelling back and forth between Canada and the United Kingdom as well as port cities such as Halifax and Montreal.[60] Having found evidence of pandemic influenza throughout the summer of 1918, she questioned the traditional narrative that it was a mutated strain of the influenza virus which caused the autumn wave of the pandemic.[61] Her research was particularly useful for this study as it provided much-needed insight into the experience of infected Canadian troopships and confirmed that an outbreak had occurred aboard HMT *Cassandra* in June 1918. This ship would carry men of the 15th Reserve Battalion in July and August.

While researchers such as Humphries, Rewegan, Bogaert, and others have examined the Canadian military experience in Canada and during the voyage to and from Europe, few historians have examined the Canadian experience in Europe, and none seem to have done so in any great detail. This suggests the important place of the present work in the historiography. Presumably this omission is due to the misconception that the CEF's experience with pandemic influenza was minimal due in large part to it being so downplayed in the histories of Canada's participation in

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[59] Ibid., 643.The idea of cross-protection from the waves of the pandemic had been previously put forward by biologists and epidemiologists. See Barry, Viboud, and Simonsen, "Cross-Protection between Successive Waves of the 1918–1919 Influenza Pandemic"; Rios-Doria and Chowell, "Qualitative Analysis of the Level of Cross-Protection between Epidemic Waves of the 1918–1919 Influenza Pandemic."

[60] Kandace L. Bogaert, "Military and Maritime Evidence of Pandemic Influenza in Canada during the Summer of 1918," *War & Society* 36, no. 1 (2017): 44–63, https://doi.org/10.1080/07292473.2017.1295536.

[61] Ibid., 44.

the First World War. In the official *Report of the Ministry of Overseas Military Forces of Canada, 1918* published in 1918, there is not a single mention of influenza. Rather, when detailing the role of segregation camps at training facilities, the report states that the use of segregation camps by 1918 "practically eliminated infectious epidemics in the training camps, while it did not interfere with the progress of the recruit."[62] This study will demonstrate that the use of the word "practically" is a gross understatement.

In G.W.L. Nicholson's *Official History of the Canadian Army in the First World War: Canadian Expeditionary Force, 1914-1919* published in 1964 there is only a handful of mentions of influenza, almost all of which discuss the pandemic "sweeping the world" and its effects on other nations. While he states that it "cost the British forces nearly 16 per cent in casualties" and the Germans far more due to their "resistance lowered by inadequate diet," he does not detail the Canadian experience or cost.[63] Tim Cook's *Shock Troops: Canadians Fighting the Great War* published in 2009 makes little mention of the pandemic while other works which focus specifically on the time period coinciding most with the pandemic, such as J.L. Granatstein's 2014 *The Greatest Victory: Canada's One Hundred Days,* only mention it briefly and only to state that civilians and military personnel at home and abroad fell ill since "Everyone had been weakened by the war; everyone had been made more susceptible."[64]

Added to this, there is little mention of it in Canadian First World War medical histories. In Sir Andrew McPhail's *Official History of the Canadian Forces in the Great War: The Medical Services,* published in 1925, he sporadically discusses the impact of influenza on the CEF but does

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[62] Ministry of Overseas Military Forces of Canada, *Report of the Ministry Overseas Military Forces of Canada, 1918* (London: H. M. Stationery Office, 1918), 10.
[63] Gerald William Lingen Nicholson, *Canadian Expeditionary Force, 1914-1919: Official History of the Canadian Army in the First World War* (Ottawa: The Queen's Printer, 1962), 376.
[64] J. L. Granatstein, *The Greatest Victory: Canada's One Hundred Days, 1918* (Don Mills: Oxford University Press, 2014), 162.

not allot pandemic influenza more than the most cursory treatment, brushed off in two pages. McPhail admits that "Of the infectious diseases influenza was the most prevalent and the most fatal. There were 45,960 cases, of which 2,672 were amongst officers and 43,288 in the other ranks. Of these 776 ended in death" before going on to discuss the American experience in much greater detail.[65] McPhail mentions that "A most elaborate investigation of epidemic influenza, based in part upon material in Bramshott Canadian Military Hospital" was conducted though "No specific treatment was discovered."[66] Though perhaps no universal treatment was found, the present study discusses the variety of treatment methods that the CAMC utilized, as well as argues that the CAMC made a concerted effort to curb the spread of the disease and save the sick; the scale of the pandemic and the high mortality was by no means a result of lack of effort or skill.

Shockingly, A. E. Snell's 1924 *The C.A.M.C. with the Canadian Corps during the Last Hundred Days of the Great War*, makes but one mention of influenza and that was to state that a small outbreak occurred in June 1918.[67] Yet, this is the book published most closely to the event and seemingly the likeliest to discuss it due to the work's focus both on the CAMC and the fact that the author's chronology virtually matches the worst days of the pandemic. How is it possible that something as monumental as a worldwide outbreak of influenza that so obviously adversely affected the military forces of all combatants on the Western Front has been almost omitted from the official Canadian war narrative? This study redresses this historiographical void.

Since the writing of the Canadian official histories of the First World War, a handful of other Canadian historians have studied the CAMC and the medical history of the First World War though

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[65] Sir Andrew McPhail, *The Medical Services: The Official History of the Canadian Forces in the Great War, 1914-19* (Ottawa: National Defense, 1925), 266.
[66] Ibid.
[67] A. E. Snell, *The C.A.M.C. with the Canadian Corps During the Last Hundred Days of the Great War* (Ottawa: Acland, 1924), 23.

they, too, omit the Pandemic almost entirely. Bill Rawling devotes two pages to the pandemic of 1918 in *Death Their Enemy: Canadian Medical Practitioners and War* published in 2001 while Ian Whitehead's 2013 study, *Doctors in the Great War,* only mentions the pandemic in passing. In 2018 William Stewart wrote a short popular-style article about the pandemic's effect on the Canadian Expeditionary Force for a website commemorating the centenary of the outbreak.[68] While he stated that the limited training at the camps in England due to the outbreak of pandemic influenza had "no military consequences" due to the need for fewer reinforcements by mid-October, this thesis argues that the effect on the reinforcement stream actually began much earlier than that and did indeed have important repercussions on the men in France.[69]

This idea was originally put forward by Patrick Dennis in 2017 in *Reluctant Warriors: Canadian Conscripts and the Great War.*[70] He states that, "The real threat posed by the flu epidemic to [Canadian Corps Commander Sir Arthur] Currie's operational planning was its potential impact on training establishments in England and therefore on his capacity to replace large numbers of casualties with adequate numbers of reinforcements."[71] Though he does go on to state that the pandemic did dramatically slow the flow of conscripts overseas, as well as affect those in England and reduce the flow of reinforcements to France, he does not explore the idea at all.[72] Rather, he goes on to say that "the primary cause of the latest manpower crisis in the Canadian Corps was not the influenza pandemic," a faulty training system, or a shortage of men, it was a consequence of "the cumulative effects of more than ten weeks of record attrition."[73] Still, Dennis's main point is that Canadians conscripted into the military actively participated in the war

[68] Stewart, "Influenza and the Canadian Expeditionary Force: April to November 1918."
[69] Ibid., 2.
[70] Patrick M. Dennis, *Reluctant Warriors: Canadian Conscripts and the Great War* (Toronto: UBC Press, 2017).
[71] Ibid., 181.
[72] Ibid., 181–82.
[73] Ibid., 182.

much earlier and in much greater numbers than has been previously believed and, such a conclusion is understandable. But as this thesis will explore, much greater research into the impact of the pandemic is required before such a view can be justified. This study is the first of its kind to examine in detail the impact of the outbreak on the reinforcement stream for a specific front-line battalion, and it suggests that other units were likely similarly affected.

Considering that the vast majority of the men studied in this analysis were conscripts, Dennis's book offers great insight into the history, role, and struggles of Canadian conscripts. As well, historian Richard Holt's *Filling the Ranks: Manpower in the Canadian Expeditionary Force, 1914-1918* was particularly useful in understanding the Canadian reinforcement system and the various changes it underwent prior to the spring of 1918, as well as the importance of wastage rates, reserve battalions, and training for the Canadian Expeditionary Force.[74] Rather surprisingly, Holt's book makes no mention of pandemic influenza.

While Canadian military and medical historians have dismissed the pandemic, this study argues that this is not only short-sighted, but also a slight to the memories of the Canadians who died from it. After the third wave of the outbreak in 1919, memory of the 'Spanish Flu' quickly faded. In fact, almost every author that has published about the Influenza Pandemic of 1918 since Crosby's publication in 1976 has discussed memory and collective forgetting in some way. A handful of authors have put forward the idea that, as a whole, the pandemic was forgotten but was still very real in the minds and memories of individuals. Laura Spinney states that "The Spanish flu is remembered personally, not collectively. Not as a historical disaster, but as millions of discrete, private tragedies."[75] While many of these private tragedies have been explored in regards

[74] Richard Holt, *Filling the Ranks: Manpower in the Canadian Expeditionary Force, 1914-1918* (Montreal: McGill-Queen's University Press, 2017).
[75] Spinney, *Pale Rider*, 4.

to the pandemic in Canada, only Dennis's book has examined them overseas and he only briefly discusses the fate of three infected conscripts.[76] There is much to be learned from the private tragedies of these men including the forms of treatments that they underwent, how long they were feeling unwell before being admitted to the hospital, what their symptoms were, and the length of time that they were sick before dying. This study highlights the stories of a dozen soldiers from the 15th Reserve Battalion who died of pandemic influenza in an effort to better understand their personal battles. Such analysis has never been done before.

As historian Terrence Ranger stated in his foreword to a collection of essays on the topic: "Coming in the heyday of the newspaper and printed word, [the influenza pandemic] left behind mountains of written evidence across the world, often in the unlikeliest of places, more so than any pandemic before it – compared to them it is, paradoxically, the best documented but least known pandemic."[77] An abundance of evidence exists documenting both the individual and the collective pandemic experience, yet there are too few who make use of this massive base of source material.[78] The following study is based almost entirely on heretofore under-utilized or never-utilized primary sources from Library and Archives Canada (LAC). This study has benefitted from the numerous volumes available in Record Group 9, The Department of Militia and Defence. The material includes reams of memoranda, correspondence, reports, and statistics. While some collections were specific to pandemic influenza, other relevant documents were found in files about infectious disease, various camps and hospitals, and in the personnel files of the soldiers themselves. Volume after volume were picked through in an effort to find anything of relevance.

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[76] Dennis, *Reluctant Warriors*, 181, 205.
[77] Killingray and Phillips, *The Spanish Influenza Pandemic of 1918-1919*, 3.
[78] Note that while there is little historical analysis on the topic prior to the 1970s, there has always been a tremendous amount of scientific research on the topic. For the purposes of this paper, only the key historical works will be examined though the author fully recognizes that many disciplines now study the influenza pandemic beyond historical or scientific analysis.

The war diaries of relevant units were examined to provide a more generalized understanding of the location, movement, health, and routine of the men. Soldiers' personnel files were consulted as a means of gaining insight into the experiences of the individuals mentioned in this work. The personnel files of First World War officers, other ranks, nursing sisters, and doctors are a treasure trove of information as they contain attestation forms and enlistment documents, medical records, pay documents, information about death and burial, and often general correspondence. Veterans Affairs Canada's Canadian Virtual War Memorial (CVMW) database was used to locate images of headstones while the Commonwealth War Graves Commission's (CWGC) War Dead database provided a vital starting point for determining how many men of each battalion died during the war and locating their place of burial.

The untapped sources most utilized throughout this study are the astoundingly detailed records of the various hospitals, field ambulances, and casualty clearing stations of the CAMC. Very few historians have examined the CAMC and fewer still who have made use of its vast collections of archived material. The Admissions and Discharges books in particular contain a wealth of information regarding each individual who entered into the care of the Canadian medical system and includes the individual's service number, first and last name, diagnosis, date of admission, date of discharge or death, and many other details. This information allowed for the deep statistical analysis which the author has gruellingly assembled.[79]

The 46th Battalion has a useful regimental history, *The Suicide Battalion,* by James McWilliams and James Steel published in 1978.[80] This book is based primarily on the battalion's

[79] Note that the Admissions and Discharges books that were consulted were only for other ranks. Therefore, the totals from No. 12 Canadian General Hospital throughout this study do not include officers admitted to the hospital. According to the CWGC War Dead database, no officers from the 15th Reserve Battalion died during the period examined by this study.

[80] James McWilliams and James Steel, *The Suicide Battalion* (Edmonton: Hurtig Publishers, 1978).

war diaries as well as the Daily Orders and interviews conducted with many veterans from the battalion. The many first-hand accounts are the true jewel of the book as they offer insight and details not found in official military sources and have been used where most applicable throughout this study.

The 15th Reserve Battalion, due to its location at Bramshott throughout 1918, is the subject of a wealth of documentation available in the administrative files of Bramshott Camp. There has appeared a small history of Bramshott Camp, *Liphook, Bramshott and the Canadians: The Story of Canadian Troops in Liphook and Bramshott during Two World Wars,* by Laurence Giles, published in 1986.[81] It provides a brief history of the camps and surrounding area and offers much insight into the life of the community at and around Bramshott Camp throughout the war. Additionally, it provides useful diagrams of the camps and personal anecdotes from locals. The true merit of the book is that it briefly discusses the tremendous impact that Pandemic Influenza had on the area in 1918 as well as lists the Canadians who died of influenza and are now buried in the nearby St. Mary's Churchyard. The following study builds off of Giles's short work to explore in much greater detail the camp's experience with pandemic influenza in 1918.

The first chapter of this study offers a brief overview of virology so as to provide the necessary scientific framework to understand the nature of the influenza virus which caused the pandemic, as well as to understand what made this particular virus so hard to foresee, diagnose, and contain. There follows a brief historical overview of the Canadian participation in the First World War to emphasize the significance of the year 1918 on the Western Front and the many hardships that the Canadian Expeditionary Force faced at this time. The remaining chapters unfold chronologically with chapter two detailing April to July, the third chapter detailing August and

[81] Laurence Giles, *Liphook, Bramshott and the Canadians: The Story of Canadian Troops in Liphook and Bramshott during Two World Wars* (Liphook: Bramshott & Liphook Preservation Society, 1986).

September, and the final chapter detailing October to 11 November 1918. The study uses a case-study approach to analyze and connect the experiences of the men of the 15th Reserve Battalion at Bramshott Camp in England with those of the 46th Battalion in France. The narratives of these two battalions are woven together so as to provide a better understanding of the men's common experiences as well as to emphasize the impact that the pandemic experience on the battalion in England had on the battalion in France.

More than anything else, this study is an attempt to highlight the lives of the individual soldiers who suffered and died from pandemic influenza in 1918. These many men now rest in cemeteries throughout the United Kingdom and Europe and are rightfully commemorated as war dead notwithstanding the fact that many were trainees without combat experience. This work highlights the sacrifice of individuals as well as the great efforts of the various members of the CAMC who did everything they possibly could to try to save them. This is the story of the nearly-forgotten fight against an invisible enemy and the many individual battles of those men who fell ill. It is the story of the flu on the front.

CHAPTER 1: A BRIEF INTRODUCTION TO INFLUENZA, THE INFLUENZA PANDEMIC, AND CANADA'S FIRST WORLD WAR

The word "flu" calls to mind fevers, chills, a running nose, aching limbs, coughing, and general weakness, but rarely does it call to mind death. Yet influenza has claimed more victims than any other disease in history and has been responsible for at least thirty pandemics since the sixteenth century.[1] Each year up to 650,000 people die of influenza and its complications worldwide but it is rarely taken seriously.[2] Why not? Likely, it is due to the virus's commonality since various strains of influenza are always present during any given period of time, as well as it being misunderstood since so many people refer to any instance of feeling unwell with cold-like symptoms as "having the flu." This view is supported by the widespread belief that flu primarily affects the very young, the very old, and the immuno-compromised.[3] It is of little concern to the majority of the population who have healthy immune systems capable of fighting off the infection, particularly with hospitals stocked with vaccines, antibiotics, and antiviral medication.

But what if healthy young adults were suddenly stricken with flu and started dying the fastest? What if doctors did not know what was causing the disease, and scientists had not yet created vaccines to circumvent it, or drugs with which to treat it? This was the case during the Influenza Pandemic of 1918-1919, the deadliest in history. As the Western world was exhausted from war, a pandemic of unprecedented proportions struck. The virus challenged all medical and

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[1]While the fourteenth-century bubonic and pneumonic plagues killed a larger percentage of Europe's population, the 1918-1919 flu is considered the deadliest pandemic based on the number of individuals killed. Michael T. Osterholm and Mark Olshaker, "Influenza: The King of Infectious Diseases," in *Deadliest Enemy: Our War Against Killer Germs* (New York: Little Brown and Company, 2017), 259.

[2] World Health Organization, "Influenza: Are We Ready?," World Health Organization, accessed January 26, 2019, https://www.who.int/influenza/spotlight.

[3] Others considered to be at high risk include pregnant women, indigenous peoples, and those suffering from chronic conditions such as various forms of cancers, heart disease, diabetes, obesity, anemia, lung disease, kidney disease, and neurologic or neurodevelopment conditions. Public Health Agency of Canada, "Flu (Influenza): Get Your Flu Shot," October 19, 2018, https://www.canada.ca/en/public-health/services/diseases/flu-influenza/get-your-flu-shot.html#high-risk.

scientific knowledge at a time when military doctors were already coping with high casualty rates, wounds caused by never-before-seen technology, chemical warfare, and the traditional scourges like typhoid and dysentery. The First World War is frequently heralded as the first major war where disease was known to have killed fewer soldiers than battle.[4] And yet, right at the end of the war there was a massive outbreak of infectious disease.

This chapter provides a brief introduction to influenza in order to better understand the 1918-1919 strain of pandemic influenza A(H1N1) that affected soldiers and civilians, and confounded medical practitioners around the world. Such an overview will explain the scope of the pandemic, the suffering of the afflicted, and the daunting task faced by members of the Canadian Army Medical Corps (CAMC). The second section discusses how the First World War provided the perfect conditions for pandemic disease, and provides an overview of Canada's First World War experiences. Such explanations provide the framework to contextualize the rest of the study.

Influenza

Humans did not isolate microbes until the nineteenth century due to the creation and refining of the microscope, the development of the concept of "germs," and the discovery of bacterium between. Until then (and even for quite a while afterwards), the vast majority of the human population believed that many diseases were caused by miasmic vapors, the ill-will of gods, or the alignment of the planets.[5] Even as epidemiologists identified and characterized various microbes, there remained a number of infectious diseases whose microbes seemed to pass through

[4] Desmond Morton, *When Your Number's Up: The Canadian Soldier in the First World War* (Toronto: Random House of Canada Limited, 1993), 181.
[5] Dorothy Crawford, *Viruses: A Very Short Introduction*, 2nd ed. (Oxford: Oxford University Press, 2018), 2–3.

filters designed to trap bacteria. While many scientists believed that this meant that there were simply smaller bacteria, others began searching for the tiny causative organisms of diseases such as smallpox, rubella, and influenza. In 1893 Dutch microbiologist Martinus Beijernick concluded that it was possible for microbes to be alive. He then coined the term "virus," and dubbed these tiny living organisms as such.[6]

Based on the Latin for "a poisonous secretion" or "venom," in the twentieth century viruses were defined as a group of microbes which were filterable, infectious, and required living cells to survive.[7] Despite having a better understanding of what they were, microbiologists still did not know the appearance of a virus's structure. It was not until 1939, with the invention of the electron microscope, that viruses were seen for the first time.[8] Their unique structure immediately earned them their own designation as a unique class of microbe. Since then, virologists, epidemiologists, and cellular biologists have been trying to better understand the influenza virus.[9]

Although it is common to hear people discussing viruses alongside 'bugs' and 'germs,' they are different; while most microscopic life forms work in a symbiotic relationship with the human body, viruses do not. Rather, viruses are parasites, meaning that they require a host – another living organism – in which to survive.[10] In the world there are an estimated 100 million different types of viruses, more than all other forms of life put together. There are numerous different virus

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[6] Ibid., 3–4.
[7] "Virus, n. : Oxford English Dictionary," accessed January 30, 2019, http://www.oed.com/view/Entry/223861?redirectedFrom=virus#eid.; Crawford, *Viruses*, 4.
[8] To help put things in perspective, roughly three million bacteria could easily fit side-by-side on the head of a pin since they are between one and ten microns (a millionth of a millimeter) in length. Most bacteria are single cells while viruses are particles rather than cells. Viruses are up to 500 times smaller than bacteria. An electron microscope must magnify viruses 100,000 times in order for them to be seen. Virologist Dorothy Crawford's analogy helps to demonstrate just how small viruses truly are: "if a virus was the height of a man, an average-sized bacterium would be as high as the Statue of Liberty." Dorothy H. Crawford, *The Invisible Enemy: A Natural History of Viruses* (Oxford University Press, 2003), 7-8.
[9] Crawford, *Viruses*, 5.; Osterholm and Olshaker, "Influenza," 264–65.
[10] Crawford, *The Invisible Enemy*, 5. and Spinney, *Pale Rider*, 15.

families whose shape and size vary. Viruses are classified into families, genera, and species and their aim is to reproduce.[11] Viruses are an excellent example of 'survival of the fittest' as some mutations allow the viruses to reproduce more quickly, to hide more effectively from the body's immune response, to resist antiviral medication, or to spread more effectively between hosts.[12]

Viruses are called *obligate parasites* as they are inert until they infect a living cell. Once infected, the cell creates new copies of the virus.[13] These new viruses often contain mutations from the original. The new mutated viruses eventually burst through the cell and go off to infect other cells.[14] Viruses reproduce quickly, often taking only a day or two to create thousands of new viruses. This means that the genomes of viruses mutate much more quickly than human genomes since the reproduction rate is so much faster.[15] During this rapid reproduction, mutations occur. While some mutations cause the virus to no longer work properly, some create advantages leading to that particular mutation becoming dominant in that community.

The human body's immune system has an immunological memory. Essentially, this means that the immune system recognizes what it has fought off in the past, meaning that if you are infected by a specific strain of virus, you are more likely to be immune to it or less affected by it later in life.[16] Infections that come back regularly like the cold and flu are caused by different strains of the same virus that have mutated (slightly or dramatically) to avoid immediate detection. The role of immunological memory creating a form of cross-protection between the waves of the influenza pandemic is a key element of the following study.[17]

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[11] Crawford, *Viruses*, 9, 17.
[12] Humphries, *The Last Plague*, 59–60.
[13] Crawford, *Viruses*, 10.
[14] Humphries, *The Last Plague*, 59.
[15] Crawford, *Viruses*, 11.
[16] For a much more detailed yet still accessible explanation of the human body's response to viruses as well as a breakdown of each component of the immune system's response, see Crawford, "Kill or Be Killed," *Viruses,* 24-32. Tyrrell and Fielder, *Cold Wars*, 117–18.
[17] Crawford, *The Invisible Enemy*, 33.

The word "flu" – the abbreviation of "influenza" – has become ubiquitous and is often misused to refer to when one has a cough or cold. Although there are many different viruses that cause cold-like symptoms (including over one hundred different types of the common cold virus known as *rhinovirus*), such as stuffy noses, sore throats, headaches, coughing, malaise, and sometimes fevers, influenza is a much more serious matter. *Influenzavirus* – the true flu – has the added effects of aching muscles, fevers, and chills. The symptoms of the flu often last for seven to ten days with feelings of lethargy or depression for weeks after the individual is considered to have recovered.[18] As will be discussed, the symptoms of the 1918 strain of influenza were particularly awful and the lasting lethargy meant that sick soldiers were away from duty for long periods of time which had a marked impact on their ability to train and be sent as reinforcements.

Influenza viruses undergo high mutation rates while they reproduce in lung cells.[19] There are three categories of influenzavirus, A, B, and C, which are categorized based on the type of core proteins that they have. Influenza A viruses (the type that most frequently infect humans) are subcategorized based on the types of hemagglutinin (H) and neuraminidase (N) proteins that they have.[20] At the time of writing, we know of eighteen different H subtypes, and eleven different N subtypes.[21] The numbers of the subtypes are used to identify the different strains of influenza A. A common example is influenza A with hemagglutinin subtype 5 and neuraminidase subtype 1, referred to as H5N1. Due to influenza's high rate of mutation, there can be multiple strains in circulation at once.[22] In 1918, the particularly virulent strain was influenza A(H1N1).[23]

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[18] Crawford, *Viruses*, 68–69.
[19] Osterholm and Olshaker, "Influenza," 255.
[20] Humphries, *The Last Plague*, 60.
[21] Osterholm and Olshaker, "Influenza," 256.
[22] Crawford, *The Invisible Enemy*, 91–92.
[23] Terrence M. Tumpey et al., "Characterization of the Reconstructed 1918 Spanish Influenza Pandemic Virus," *Science* 310, no. 5745 (2005): 77–80, https://www.jstor.org/stable/3842863.

Influenza A is a *zoonotic,* or animal, virus meaning that it can hop from one animal species to another. Sometimes zoonotic viruses can hop directly from animals to humans, while other times they cannot.[24] The natural hosts of influenza A viruses are the intestinal track of aquatic birds. While zoonotic viruses cannot easily jump to humans, they can easily jump to other animals like pigs, chickens, turkeys, cats, dogs, and horses. These animals, especially pigs, act as an intermediary between the wild birds and humans.[25]

What allows the influenza virus to be particularly adept at creating epidemics and pandemics is its route of transmission. The influenza virus tickles the nerve endings in the nose, causing the infected person to sneeze and send more of the viruses flying out in droplets of mucus. There are then millions of mucus droplets full of viruses floating in the air and settling on surfaces waiting to be inhaled or touched by anyone nearby.[26] This infers that proximity between potential hosts is necessary for the flu to spread. Influenza is known as a *crowd disease* meaning it requires very large populations of potential hosts to sustain it.[27]

Epidemiology (the branch of medicine dealing with factors relating to health and disease) has classifications of pattern observations for diseases and conditions that are used to help prepare the appropriate public health response for disease control. Three of these classifications are called *endemic*, *epidemic*, and *pandemic*. An endemic is when a disease or condition is at its normal prevalence in a certain geographic area or among a specific population. Influenza is almost always endemic in any given community regardless of the time of year. An epidemic is when a disease or condition exceeds its normal prevalence (often suddenly) and is widespread in a certain

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[24] Crawford, *Viruses*, 35.
[25] Osterholm and Olshaker, "Influenza," 256–57.
[26] Andrew Noymer, "Epidemics and Time: Influenza and Tuberculosis During and After the 1918-1919 Pandemic," in *Plagues and Epidemics: Infected Spaces Past and Present*, ed. D. Ann Herring and Alan C. Swedlund (New York: Berg, 2010), 139.
[27] Spinney, *Pale Rider*, 16.

geographic area or among a specific population. A pandemic is when an epidemic can be found around the world at a given period of time.[28] An influenza pandemic occurs when mutations create a never-before-seen strain. Pandemic influenza viruses are new and usually more lethal than seasonal influenza since the human immune systems struggle to recognize it.[29] Although once referred to as an epidemic, it is now widely accepted among scientists and historians that the dominant strain of influenza A that appeared in 1918-1919 was pandemic in nature as it engulfed the globe in a very short period of time. Therefore, "pandemic" will be the term used throughout this study.

An influenza pandemic occurs when various mutations change the virus so profoundly that a new strain is created that most, if not all, of the world has not met before. This type of large-scale change is unique to influenza A and usually occurs every ten to forty years.[30] Usually, influenza epidemics and pandemics target the very young, the very old, and those with chronic disease.[31] While most flu pandemics have a death rate of one in every thousand, the influenza A(H1N1) of 1918 had a death rate of one in twenty.[32] Additionally, rather than attacking the very young and very old, the 1918 H1N1 targeted young adults between the ages of fifteen to thirty-four – those typically considered to be in the prime of life, such as the soldiers who form the basis of this study.[33] It is widely accepted by epidemiologists that a similarly high death rate among people of this age group had never been seen before.[34] The mutations in the 1918 strain of H1N1

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[28] Daniel T. Lackland, "Systemic Hypertension: An Endemic, Epidemic, and a Pandemic," *Seminars in Nephrology* 25, no. 4 (July 2005): 194, https://doi.org/10.1016/j.semnephrol.2005.02.003.
[29] Humphries, *The Last Plague*, 61.
[30] Crawford, *The Invisible Enemy*, 92.; Osterholm and Olshaker, "Influenza," 264–65.
[31] Crawford, *Viruses*, 45.
[32] Crawford, *The Invisible Enemy*, 97.
[33] Tumpey et al., "Characterization of the Reconstructed 1918 Spanish Influenza Pandemic Virus," 77.
[34] Ibid. Until 2009, the 1918-1919 strain of H1N1 was the only known influenza pandemic to primarily affect healthy young adults. We now know that a strain of H1N1 (a descendant of the 1918-1919 virus) was the cause of the 2009 pandemic and that it too targeted young adults at peak health, suggesting that only strains of H1N1 have the tendency to do so for some still unknown reason. Osterholm and Olshaker, "Influenza," 260–62.

meant that the virus had the ability to hide and reproduce much more effectively than normal influenza, allowing the viral infection to take root long before the body realized that it was under attack.

We now know more than ever before about the 1918 strain of H1N1 due to the efforts of a team of scientists led by pathologist Johan Hultin who discovered preserved samples of lung tissue from dead American soldiers and an Inuit woman buried in the Alaskan permafrost.[35] Through the comparison of these samples, it was eventually determined that the 1918 virus was part avian and part swine.[36] By 2005, renown virologist Dr. Jeffery K. Taubenberger and his team were able to completely sequence (map out) the genome of the 1918 virus. Scientists have since been able to reconstruct the 1918 virus in order to study it.[37] One of the key elements that they are trying to understand is just what made the 1918 strain of H1N1 so virulent.[38] They determined that descendant strains of the 1918 virus can still be found in pig and human populations today.[39] Scientists continue to try to understand the 1918 strain of H1N1 and map out its extensive family tree in the hopes of avoiding another pandemic in the future but there is still much that we do not understand about this particular strain of virus.[40]

The Influenza Pandemic

Pandemic influenza swept the globe in three distinct waves between 1918 and 1919. The first wave, often referred to as the 'herald wave,' hit during the spring and early summer of 1918

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[35] For a much more detailed but easily accessible description, see Gina Kolata, *Flu: The Story of the Great Influenza Pandemic of 1918 and the Search for the Virus That Caused It* (New York: Farrar, Straus and Giroux, 2011).
[36] Taubenberger, "The Origin and Virulence of the 1918 'Spanish' Influenza Virus," 86.
[37] Tumpey et al., "Characterization of the Reconstructed 1918 Spanish Influenza Pandemic Virus," 77.
[38] Ibid.
[39] David M. Morens, Jeffery K. Taubenberger, and Anthony S. Fauci, "The Persistent Legacy of the 1918 Influenza Virus," *New England Journal of Medicine* 361, no. 3 (July 16, 2009): 225, https://doi.org/10.1056/NEJMp0904819.
[40] Ibid. For a detailed examination of the various outbreaks with a connection to the 1918 virus, see Kolata, *Flu*.

starting in April and fizzling out by July. Compared to what was to come, the first wave was relatively mild, sending hundreds of thousands of people to bed for the normal recuperation period of seven to ten days.[41] Still, the first wave was unusually severe compared to the typical seasonal flu but it did not create major panic given its low mortality rate.[42] The second wave, from August to December 1918, seems to have erupted almost simultaneously in Boston, Freetown, Sierra Leone, and Brest, and rapidly spread around the world.[43] While virologists have been able to confirm that the same virus was associated during the first and second waves of the pandemic, it is still debated as to what exactly made the second wave so much more virulent and lethal.[44] The third wave, intermediate in virulence compared to the first and second waves, then struck in the first few months of 1919 just as communities were getting over the effects of the second wave. Most researchers accept that the third wave of the pandemic ended in the northern hemisphere by May 1919 while many countries in the southern hemisphere combatted influenza until March 1920.[45]

The influenza virus of 1918 primarily targeted adult men and women between the ages of twenty and forty, while hitting those aged twenty-five to thirty-five especially hard.[46] This trend is

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[41] Rewegan et al., "The First Wave of the 1918 Influenza Pandemic among Soldiers of the Canadian Expeditionary Force," 638.
[42] See "Happily Rare of Complications: The Flu's First Wave in Canada and the Official Response" in Humphries, *The Last Plague*, 68–90.
[43] Spinney, *Pale Rider*, 40–41.
[44] Rewegan et al., "The First Wave of the 1918 Influenza Pandemic among Soldiers of the Canadian Expeditionary Force," 638.
[45] Not all countries were necessarily affected by all four waves of the pandemic, nor were all the waves felt at exactly the same time. While most of Europe and North America experienced all three of the main waves of the pandemic, other countries such as Brazil only experienced one wave in the fall of 1918, and many countries in the southern hemisphere experienced a staggered effect compared to the timeline of the waves in the northern hemisphere. The provided dates are what have been widely accepted by researchers but there is now increasing pressure to change this viewpoint as it represents a very western-centric view of the pandemic that does not accurately represent the rest of the world's experiences. See Spinney, *Pale Rider*, 38–45.
[46] Christopher Langford, "The Age Pattern of Mortality in the 1918-19 Influenza Pandemic: An Attempted Explanation Based on Data for England and Wales," *Medical History* 46, no. 1 (2002): 2.

completely atypical, even for other influenza pandemics.[47] The reason why such a trend is so odd is that usually young adults have the strongest immune systems. Unfortunately, this normally positive attribute is what caused such high mortality rates among young adults faced with this particular strain of H1N1. Many 1918 influenza victims are believed to have died from a process known as *proinflammatory cytokine response*, or more colloquially dubbed a 'cytokine storm.' [48] The immune system's response ultimately goes overboard trying to fight the virus, and in so doing, damages the kidneys and heart while flooding the lungs with fluid. Human lungs are normally light and sponge-like. During autopsies of 1918 H1N1 flu victims, doctors noted how the lungs were often heavy, blue, and sodden with bloody liquid.[49] This liquid would effectively make it impossible to breathe, causing the sufferer to drown in their own fluids. Thus, the stronger the immune system, the stronger the immune response, and the higher chances of death.[50]

Within hours of showing their first symptoms some individuals would succumb to the cytokine storm. Those who survived the first onslaught of attack from H1N1 were then susceptible to secondary infection due to the way the influenza virus destroyed the *epithelial cells* that line the breathing passages of healthy people. Epithelial cells form a protective barrier against bacteria.[51] Although these bacterium do not cause problems in healthy individuals, in those whose respiratory passages have been damaged by a virus like influenza, the bacterium easily enters the tissues, multiplies quickly causing *hemorrhagic pneumonitis* (when the lungs start to bleed), that progresses to *acute respiratory distress syndrome* (when the lungs fill with liquid limiting oxygen

[47] Andrew Noymer, "Epidemics and Time," 141.
[48] Ibid., 142–43.
[49] Carol R. Byerly, *Fever of War: The Influenza Epidemic in the U.S. Army During World War I* (NYU Press, 2005), 78–79.
[50] Osterholm and Olshaker, "Influenza," 258.
[51] Ibid.

circulation in the bloodstream), and death.[52] Other deadly complications could also arise such as *empyema* (pus in the lungs), *pneumonia* (inflamed air sacks), *bronchitis* (inflamed bronchial tubes), spinal meningitis, or infections in vital organs.[53] While many of these diagnoses are seen throughout the medical files of soldiers mentioned in this study (particularly during the first wave), by the second wave the medical personnel primarily used 'influenza' as the primary diagnosis and occasionally listed the appropriate secondary infection(s).

Following the methodological practice established by other flu researchers, throughout this study when statistics have been included for 'influenza and influenza-like illnesses,' the tally includes men diagnosed with influenza, broncho-pneumonia, pneumonia, bronchitis, Pyrexia of Unknown Origins (PUO), and pleurisy as it is impossible to retrospectively separate the viral deaths from the bacterial deaths due to secondary infections. Wherever the military medical records showed a diagnosis that was crossed out, the new diagnosis was used. Where the records showed one, plus another diagnosis added later on without striking out the original, the original diagnosis was used as the second diagnosis was considered a secondary infection. As it cannot be known with certainty that all soldier cases included in the 'influenza-like' illnesses were directly related to influenza, a breakdown of the number of each diagnosis will be shown when relevant. Coupled with the fact that antibiotics were not yet discovered, this means that those who survived the cytokine storm in the first few days of their infection could then die of the secondary complications days later.[54]

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[52] Crawford, *The Invisible Enemy*, 97. And John F. Brundage and G. Dennis Shanks, "Deaths from Bacterial Pneumonia during 1918–19 Influenza Pandemic," *Emerging Infectious Diseases* 14, no. 8 (2008): 1193, https://doi.org/10.3201/eid1408.071313.

[53] Byerly, *Fever of War*, 81.

[54] Studies that examine the mortality and morbidity rates of the pandemic include those who died from the secondary complications as victims of influenza because the virus and bacteria worked so closely together. See for instance Kandace Bogaert, "Cross Protection between the First and Second Waves of the 1918 Influenza Pandemic among Soldiers of the Canadian Expeditionary Force (CEF) in Ontario," *Vaccine* 33, no. 51 (2015): 7232–38, https://doi.org/10.1016/j.vaccine.2015.10.120. See also Carol R. Byerly, "The U.S. Military and the Influenza

Overpopulation plays a key role in the spread of crowd diseases like influenza, particularly in areas where there are plenty of other microbes due to poor or lack of sewage disposal, poor water quality, and lack of fresh air.[55] The typical incubation period for 1918 influenza was between twenty-four and seventy-two hours before symptoms began to show.[56] Unlike most other viruses, influenza victims do not require symptoms to be contagious. Rather, influenza patients are usually contagious for a period of two to six days from the moment of infection, meaning that the virus has plenty of time to start infecting others before the sick individual shows symptoms.[57] In this way, the virus is effectively transmitted and the number of infected multiplies quickly. While the spread of pandemic influenza cannot solely be blamed on the First World War, as many countries and communities not participating in the war were still affected, scientists and historians agree that the war played a critical role in its astoundingly fast spread.[58]

By the end of 1918, Europe had been at war for four years. Civilians were weakened by food shortages and being displaced from their homes, while soldiers were crammed aboard ships sailing from one coast to the next before living in crowded camps and dirty trenches. Soldiers in the front lines were often highly stressed, exhausted, and eating less-than-ideal meals of bully beef, biscuits, and hot stew. Water was brought forward in old petrol cans and tasted of gasoline, while canteens and mugs were freely shared among the men.[59] By 1918 all armies had figured out the importance of proper hygiene and the disposal of human waste, as well as the necessity to bury the dead as quickly as possible. But rats were still ubiquitous, ticks and lice were a constant nuisance, and diseases such as typhoid and trench fever abounded, particularly when the weather

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Pandemic of 1918–1919," *Public Health Reports* 125, no. 3_suppl (April 2010): 81–91, https://doi.org/10.1177/00333549101250S311. Byerly, *Fever of War*, 81.

[55] Crawford, *Viruses*, 47.

[56] Irwin W. Sherman, *Twelve Diseases That Changed Our World* (Washington, DC: ASM Press, 2007), 168.

[57] Osterholm and Olshaker, "Influenza," 259. And Byerly, *Fever of War*, 92.

[58] See for example, Humphries, *The Last Plague,* and Byerly, *Fever of War*.

[59] Tim Cook, *The Secret History of Soldiers: How Canadians Survived the Great War* (Allen Lane, 2018), 25–53.

turned cold.[60] Even battle-hardened soldiers complained of the constant mud in northern France during the colder seasons, as well as the ever-present stench of decay that surrounded them.[61] Such harrowing conditions allow for the easy spread of infectious disease, particularly airborne viruses like influenza.

Canada and the First World War

When Great Britain declared war on Germany on 4 August 1914, Canada, a self-governing British colony, of the British Empire, was also at war.[62] On 5 August, the Minister of Militia, Sir Sam Hughes, called out units of the Non-Permanent Active Militia, Canada's reserve force, to begin actively training and prepare for war.[63] The Canadian Expeditionary Force (CEF), Canada's overseas military force, was to be comprised of volunteers who met rigorous standards of health.[64] Canada's First Contingent was comprised of nearly 33,000 men and sailed for England in October 1914.[65] After more training, many of these troops were organized as the 18,000-strong 1st Canadian Division which served under British command; it arrived in France in February 1915.[66] In September 1915, with the addition of the 2nd Division, the Canadian Corps (CC) was formed.[67] The CC would go on to be the CEF's main operational force on the Western Front. At first the CC was commanded by British Lieutenant-General Sir E. A. H. Alderson, then British Lieutenant-General Sir Julian Byng. By early 1917, the CC had grown to four divisions comprised of 100,000

[60] Ibid., 34–35; Morton, *When Your Number's Up*, 181.
[61] Cook, *The Secret History of Soldiers*, 61–62.
[62] Nicholson, *Official History of the Canadian Army*, 7.
[63] A. Fortescue Duguid, *Official History of the Canadian Forces in the Great War, 1914-1919*, vol. I Part 1 (Ottawa: King's Printer, 1938), 13, 19–20.
[64] Ibid., I Part 1:22.
[65] Nicholson, *Official History of the Canadian Army*, 18.
[66] Duguid, *Official History of the Canadian Forces in the Great War, 1914-1919*, I Part 1:164.
[67] Nicholson, *Official History of the Canadian Army*, 114.

troops. And from June 1917, was led by a Canadian commanding officer, Lieutenant-General Sir Arthur Currie, who remained in command until 1919 when demobilization was complete.[68]

Throughout the war the CC participated in numerous significant battles suffering very heavy casualties at the Battle of 2nd Ypres in 1915, the Battle of the Somme in 1916, the Battle of Arras (Vimy) and Passchendaele in 1917, among others. During what turned out to be the final three months of the war, later dubbed 'Canada's Hundred Days,' the CC suffered the staggering losses of more than 11,000 killed and 33,000 wounded.[69] This drastic increase in casualties was due to the shift from the established and relatively stagnant practice of trench warfare to that of a fast-paced assault characteristic of a war of movement. Compared to other battles, advances made by the CC in the last three months of the war were spectacular but came with their own challenges including the increasingly difficult task of evacuating the sick and wounded, as well as the mental and physical toll of a near-continuous battle.[70] Although battalions (800-1,000 men at full strength) were rotated in and out of front-line positions, the breaks that the soldiers were given were often not sufficient for them to fully recuperate (mentally as well as physically) before returning to combat.[71] Moreover, near-constant combat meant that fresh recruits were constantly being sent to reinforce the front-line battalions. Before soldiers reached the forward positions, they were held at training camps and base depots in England and France alongside thousands of other men in often cramped conditions. Although relatively isolated from the local communities of French and Belgian civilians, the already weakened members of the CC were continually

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[68] Ibid., 114, 135, 540.
[69] Snell, *C.A.M.C.*, 164.
[70] Bill Rawlings, *Surviving Trench Warfare: Technology and the Canadian Corps 1914-1918*, 2nd ed. (Toronto: University of Toronto Press, 2014), 214–15.
[71] Ryan Goldsworthy, "Measuring the Success of Canada's Wars: The Hundred Days Offensive as a Case Study," *Canadian Military Journal* 13, no. 2 (Spring 2013): 51.

exposed to new soldiers coming from areas that had been the perfect breeding ground for disease, particularly a strain of influenza as virulent as that of 1918.

The influenza pandemic of 1918-1919 wreaked havoc in western Europe and is known to have hindered military operations for other military forces. The German Army suffered enormously, particularly during the early first wave, with 900,000 cases of influenza. The Italian army reported flu epidemics in April and May and as many as three-quarters of French troops became sick with 1,500 to 2,000 evacuations of influenza cases a day in May of 1918. Troops of the British Expeditionary Force did not fare much better with more than 30,000 cases in June alone.[72] Soldiers of the American Expeditionary Force were hit especially hard as the pandemic practically overlapped with their entire war experience. For example, the American Meuse-Argonne Offensive from September to November 1918, cost 110,000 casualties and a further 68,760 developed medical problems, many of from influenza.[73] As previously discussed, though the pandemic's effect on the American forces during the final months of the war has been analyzed, no similar study was been conducted regarding the Canadians. This study is an attempt to change that. As will be explored further, the war created ideal conditions for the spread of influenza and in turn, influenza shaped the Canadian experience of the final months of the First World War in a way that has not yet been recognized. By introducing the Canadian units and men to be analyzed, as well as their surroundings, the following chapter will begin that process of recognition.

[72] Spinney, *Pale Rider*, 39. And Byerly, *Fever of War*, 73.
[73] Ibid., 110.

CHAPTER 2: APRIL TO JULY 1918

This chapter is intended to introduce the *dramatis personae* of this study and serve as a basis on which to build an understanding of the impact of the influenza pandemic on selected Canadian battalions. The main setting is Bramshott Camp in Hampshire (about seventy kilometers south-west of London) with the units being the 15th Canadian Reserve Battalion (Saskatchewan) located there, and the 46th Canadian Infantry Battalion (South Saskatchewan) at the front. Using a case study approach, the chapter will discuss the role of the first wave of pandemic influenza in Canada and the impact that the wave's spread had on the men from Saskatchewan destined to become members of the 15th Reserve Battalion. It will detail the experiences of both battalions in England and France from April to July 1918, and examine how the Canadian Army Medical Corps (CAMC) effectively handled the first wave of pandemic influenza in Europe.

Prior to the enactment of the Military Service Act in August 1917, participation in the war effort was entirely voluntary.[1] After the Military Service Act was introduced, until March 1918 farmers across Canada had been exempted from obligatory military service as they increased food production to meet Canadian, British, and Allied needs. Due to these exemptions, Saskatchewan, a predominantly rural and agricultural province, had a very low enlistment rate for its population size compared to other provinces.[2] However, as casualties mounted overseas, the government of Sir Robert Borden revoked all exemptions. Units such as the 46th Canadian Infantry Battalion from Saskatchewan had suffered heavy casualties in the first months of the year. Though Saskatchewan had already contributed more than 30,900 volunteers to the war effort, another 10,622 men were

[1] Duguid, *Official History of the Canadian Forces in the Great War, 1914-1919*, I Part 1:20.
[2] C. A. Sharpe, "Enlistment in the Canadian Expeditionary Force 1914-1918: A Regional Analysis," *Journal of Canadian Studies/Revue d'Études Canadiennes* 18, no. 4 (Winter 1983): 19–20.

attested under the provisions of the Military Service Act.[3] Over the course of months, groups of these new conscripted soldiers were funnelled through the 1st Depot Battalion (Saskatchewan) in Regina before travelling to Montreal and Halifax to board ships. The new soldiers then sailed to England to be taken on strength by the 15th Reserve Battalion at Bramshott Camp (see Appendix 1). There the men trained until they were needed to replace battle casualties and were sent to France.

In addition to examining the story of these newly conscripted soldiers, the following chapter will explore the experiences of the men of the 46th Battalion as they transitioned from a spring spent in the trenches of France, to a summer mostly spent training away from the battlefield. Woven into the story of these soldiers from Saskatchewan will be an examination of how the CAMC addressed the first wave of pandemic influenza.

Besides the obvious perils of the Western Front, an invisible enemy was growing increasingly dangerous. Though it was not yet as deadly as it would become, the influenza virus still affected those in England and in France throughout the spring and summer of 1918, making many men sick and killing others. This chapter describes the organization of the Canadian Corps (CC) and its reinforcement stream, the implications of the Military Service Act of 1917, the organization and common practices of the CAMC, the importance of the first wave of pandemic influenza in creating a form of protection for the second wave, and highlights the stories of individuals who succumbed to the illness.

[3] It is important to note that 30,900 is actually very low. Saskatchewan was the province that contributed the second-fewest number of men as a percentage of the eligible population, behind Quebec. DHH Pye Fond 74/672 Box 3, Folder 16, Dossier "Enlistments, CEF/SOS/Casualties," DM to Under-Secretary of State, 16 May 1919. And Sharpe, "Enlistment in the Canadian Expeditionary Force 1914-1918," 22–25.

Soldiers of Saskatchewan and Bramshott Camp

In April 1915, reserve battalions were created in England as key elements in the reinforcement system. They, along with convalescent depots, would send men to regimental depots to be sent off to base depots in France.[4] In order to organize such a massive system, the Ministry of the Overseas Military Forces of Canada was established in November 1916, meaning that among other responsibilities, Canadian authorities in England became responsible for the training of Canadian troops there.[5] By the end of 1916, Canada's flow of volunteers was starting to dry up. Despite over 300,000 men enlisting from a country with a population of only eight million, more men were needed at the front. Canadian Prime Minister Sir Robert Borden felt that he had no alternative but to impose conscription. The Canadian government enacted the highly controversial Military Service Act on 29 August 1917.[6]

Conscripts comprised the majority of men being sent to the front during the final months of the war. Between January and October 1918, when the reinforcement system was working at its best, 46,558 men arrived in England for training. However, the actual number of reinforcements required, and men arriving from Canada, varied dramatically from one month to the next: in July 4,375 men arrived, in August 14,230, followed by 2,398 in September and 854 in October.[7] Of 130,250 eligible men, 41,619 Saskatchewanians served the colours, conscripts accounting for 10,622 of them, or 25.5%. These new soldiers were sent overseas through regimental depot battalions to reserve battalions.

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[4] Convalescent depots were created so recovering soldiers could gradually begin exercise and training as part of their rehabilitation before being sent back to their regimental depots. Regimental depots were used to hold trained soldiers who would be sent to base depots whenever their numbers were depleted. Base depots were in France and were a holding area for soldiers who could be sent to their unit quickly to replace casualties. Holt, *Filling the Ranks*, 171-173.

[5] David Love, *A Nation in Making: The Organization and Administration of the Canadian Military During the First World War*, vol. 1 (Ottawa: Service Publications, 2012), 108.

[6] J. L. Granatstein and J. M. Hitsman, *Broken Promises: A History of Conscription in Canada* (Toronto: Oxford University Press, 1977), 69.

[7] Holt, *Filling the Ranks*, 205.

The primary role of reserve infantry battalions in England was to ensure that soldiers were well trained before being sent to France to be taken on strength by combat battalions.[8] Initially commanded by Lieutenant Colonel Anson Dulmage, the 15th Reserve Battalion was organized on 4 January 1917 at East Sandling, a training depot south-east of London.[9] The battalion reported directly to the Ministry of the Overseas Military Forces of Canada Headquarters as did all other training camps in England.[10] A reorganization of the training and reserve system in England in 1917 left a total of twenty-six Canadian reserve infantry battalions resulting from the disbandment and absorption of depot and training reserve battalions.[11] The intention was that one reserve battalion would supply reinforcements for up to four infantry battalions, ideally one in each of the four divisions of the CC. Each division was comprised of twelve infantry battalions, meaning that there was a total of forty-eight infantry battalions in the CC and twenty-six reserve battalions to reinforce them as well as service battalions such as railway and forestry corps. The new structure also reintroduced the idea of territorial affiliation, meaning that reserve battalions would theoretically contain men from the same region in Canada from which the combat battalion originally had been raised.[12] The 1st Depot Battalion (Saskatchewan) sent men from throughout the province overseas to be taken on strength by the 15th Canadian Reserve Battalion (Saskatchewan). As of 15 October 1917, the 15th Reserve Battalion then sent reinforcements to the 5th Battalion

[8] Ibid., 160.
[9] Library and Archives Canada (LAC), "Guide to Sources Relating to Units of the Canadian Expeditionary Force - Reserve Battalions," n.d., 36.
[10] Holt, *Filling the Ranks*, 228.
[11] Love, *A Nation in Making*, 1:110.
[12] First used at the start of the war, the concept of territorial affiliation fell away throughout 1915 and 1916, only to make a comeback in 1917. Although a good idea in theory, the concept of territorial affiliation did not always work out, leaving combat battalions often full of men from a variety of regions across Canada. See Holt, *Filling the Ranks*, 230. And Love, *A Nation in Making*, 1:108.

(Western Cavalry), the 28th Battalion (Northwest), the 1st Battalion, Canadian Mounted Rifles, as well as the 46th Battalion (South Saskatchewan), all infantry battalions fighting in France.[13]

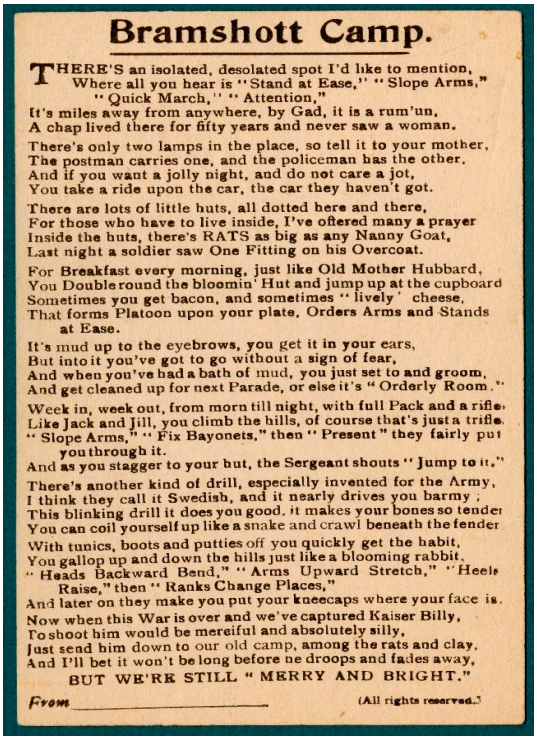
Mobilized in Moosejaw in February 1915 and made up of men from throughout Saskatchewan, the main body of the 46th Canadian Infantry Battalion (South Saskatchewan) embarked for England in late October, then made its way to Bramshott Camp. [14] When the men arrived, Bramshott Camp was just a ramshackle collection of huts that had been hastily vacated by the British, but the men trained there for eight months before the battalion was broken up and sent to reinforce various other units around France.[15] Meanwhile, hundreds more men from Saskatchewan were sent to England and on 11 August 1916, the 46th Battalion finally travelled to France as part of the 4th Canadian Division.[16] There it remained, fighting in the Battle of the Somme in 1916, and the Battles of Passchendaele, Vimy Ridge, and Hill 70 in 1917, before returning to the area around Arras in the Pas-de-Calais region by March 1918.

The 15th Reserve Battalion moved from East Sandling to Bramshott Camp on 23 February 1917 (see Map 1).[17] Bramshott Camp, commonly referred to as 'Mudsplosh Camp' by the troops, was a Canadian training facility used by tens of thousands of Canadian troops throughout the First World War. Comprised of row upon row of wooden and metal huts, the camp also boasted a café, bank, theatre, YMCA, and other amenities in an area referred to as 'Tin Town.'[18] Nearby was No. 12 Canadian General Hospital whose role in the pandemic will be discussed in the following

[13] LAC RG9 III-D-3 Vol. 4865, File no. 184 – War Diaries – Headquarters, Canadian – Bramshott – April 1918. 1918/12/31. And DHH Pye Fond 74/62 Box 36, Folder 36, File 3 "Summary of History of CEF Units – 15th Reserve Battalion."
[14] LAC, "Guide to Sources Relating to the Canadian Expeditionary Force - Infantry Battalions," n.d., 225. And McWilliams and Steel, *The Suicide Battalion*, 16–21.
[15] Ibid., 23.
[16] Ibid., 26–27.
[17] LAC, "Reserve Battalions," 36.
[18] Giles, *Liphook, Bramshott and the Canadians,* 8.

Map 1: Bramshott, South-West of London. Source: Nicholson, *Official History of the Canadian Army*, cover.

pages.[19] Despite the relatively good conditions of Bramshott Camp's accommodations, soldiers still complained; a postcard kept by Sergeant Harry Boyce had a poem printed on it describing the camp as "an isolated, desolated spot" that was "miles away from anywhere" (see Figure 1).[20] The poem goes on to lament the lack of women, lighting, and vehicles, along with the presence of rats, questionable food, mud, and the monotony of training.[21] The conditions of the camp would play a big role in the outbreak of pandemic influenza by the fall of 1918, as would the focus on the necessity of training.



Bramshott Camp.

THERE'S an isolated, desolated spot I'd like to mention,
Where all you hear is "Stand at Ease," "Slope Arms,"
"Quick March," "Attention,"
It's miles away from anywhere, by Gad, it is a rum'un,
A chap lived there for fifty years and never saw a woman.

There's only two lamps in the place, so tell it to your mother,
The postman carries one, and the policeman has the other.
And if you want a jolly night, and do not care a jot,
You take a ride upon the car, the car they haven't got.

There are lots of little huts, all dotted here and there,
For those who have to live inside, I've offered many a prayer
Inside the huts, there's RATS as big as any Nanny Goat,
Last night a soldier saw One Fitting on his Overcoat.

For Breakfast every morning, just like Old Mother Hubbard,
You Double round the bloomin' Hut and jump up at the cupboard
Sometimes you get bacon, and sometimes "lively" cheese,
That forms Platoon upon your plate, Orders Arms and Stands at Ease.

It's mud up to the eyebrows, you get it in your ears,
But into it you've got to go without a sign of fear,
And when you've had a bath of mud, you just set to and groom,
And get cleaned up for next Parade, or else it's "Orderly Room."

Week in, week out, from morn till night, with full Pack and a rifle,
Like Jack and Jill, you climb the hills, of course that's just a trifle.
"Slope Arms," "Fix Bayonets," then "Present" they fairly put
you through it.
And as you stagger to your hut, the Sergeant shouts "Jump to it,"

There's another kind of drill, especially invented for the Army,
I think they call it Swedish, and it nearly drives you barmy;
This blinking drill it does you good, it makes your bones so tender
You can coil yourself up like a snake and crawl beneath the fender

With tunics, boots and putties off you quickly get the habit,
You gallop up and down the hills just like a blooming rabbit,
"Heads Backward Bend," "Arms Upward Stretch," "Heels
Raise," then "Ranks Change Places,"
And later on they make you put your kneecaps where your face is.

Now when this War is over and we've captured Kaiser Billy,
To shoot him would be merciful and absolutely silly,
Just send him down to our old camp, among the rats and clay,
And I'll bet it won't be long before he droops and fades away,

BUT WE'RE STILL "MERRY AND BRIGHT."

From _____ (All rights reserved.)

Figure 1: Bramshott Camp Postcard
CWM 20010163-008.

By 1918, most troops completed little training in Canada but followed a rigorous fourteen-week training schedule in England. Training entailed being outside for

[19] When the hospital first opened on 15 November 1915 the bed capacity was 630 but became 1,040 by October 1918, critical for the management of the influenza pandemic in the fall. Ibid., 14. And LAC RG 9 III-B-2, Vol. 3747, File No. 11 – "No. 12 Canadian General Hospital, A Short History" by Colonel Robertson, 1 July 1919.
[20] Canadian War Museum (CWM) Volume 58A 1 63.2.
[21] Ibid.

the majority of the day marching, practicing drill, being on the range, learning hand-to-hand combat, bayonet training, and much more.[22] In April 1918, Bramshott Camp welcomed drafts totalling forty-six officers and 4,354 other ranks (referring to all military personnel who are not commissioned officers) from across Canada of whom nine officers and 922 other ranks were from Saskatchewan and intended for the 15th Reserve Battalion.[23] When the new drafts of soldiers arrived, they were immediately sent to Frensham Pond Segregation Camp, opened 12 April 1918.[24] Men from both Bramshott Camp and the nearby Witley Camp were sent to Frensham Pond (see Figure 2).

At this time quarantine was still the primary method believed to effectively combat the spread of infectious disease.[25] The length of time spent at the segregation camp was a minimum of ten days but ultimately depended on the overall health of the troops. During this time, the troops were inspected for signs of gonorrhea, syphilis, scabies, and vermin, and were given any inoculations and vaccinations deemed necessary.[26] The medical officer assigned to the battalion conducted these inspections with the help of medical orderlies and took careful notes of how many cases of each illness existed among the new drafts. These numbers were then reported to the Assistant Director Medical Services (ADMS) whose principal role was to monitor the overall health of the troops in

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[22] Holt, *Filling the Ranks*, 128–38.

[23] LAC RG9 III-D-3 Vol. 4865, File no. 184 – War Diaries – Headquarters, Canadian – Bramshott – April 1918. According to its war diary, the 15th Reserve Battalion sent 563 men overseas, 358 of whom were marked as 'casualties' as opposed to the 205 other ranks mentioned (meaning that the count does not include officers). Presumably this refers to soldiers who were sent to Bramshott Camp to regain their strength and hone their training after sustaining injuries before being sent back to the front. This was a common practice and one of the main functions of reserve battalions. The number of soldiers within a battalion on any given day is never fixed. See LAC RG9 III-D-3 Vol. 4951, File No. 478 – War Diaries – 15th Reserve Battalion.

[24] LAC RG9 III-D-3 Vol. 5026, File no. 821 – War Diaries – Assistant Director of Medical Services, Bramshott – April 1918.

[25] Humphries, "The Limits of Necessity"; Humphries, *The Last Plague*.

[26] LAC RG9 III-D-3 Vol. 5026, File no. 821 – War Diaries – Assistant Director of Medical Services, Bramshott – May 1918.

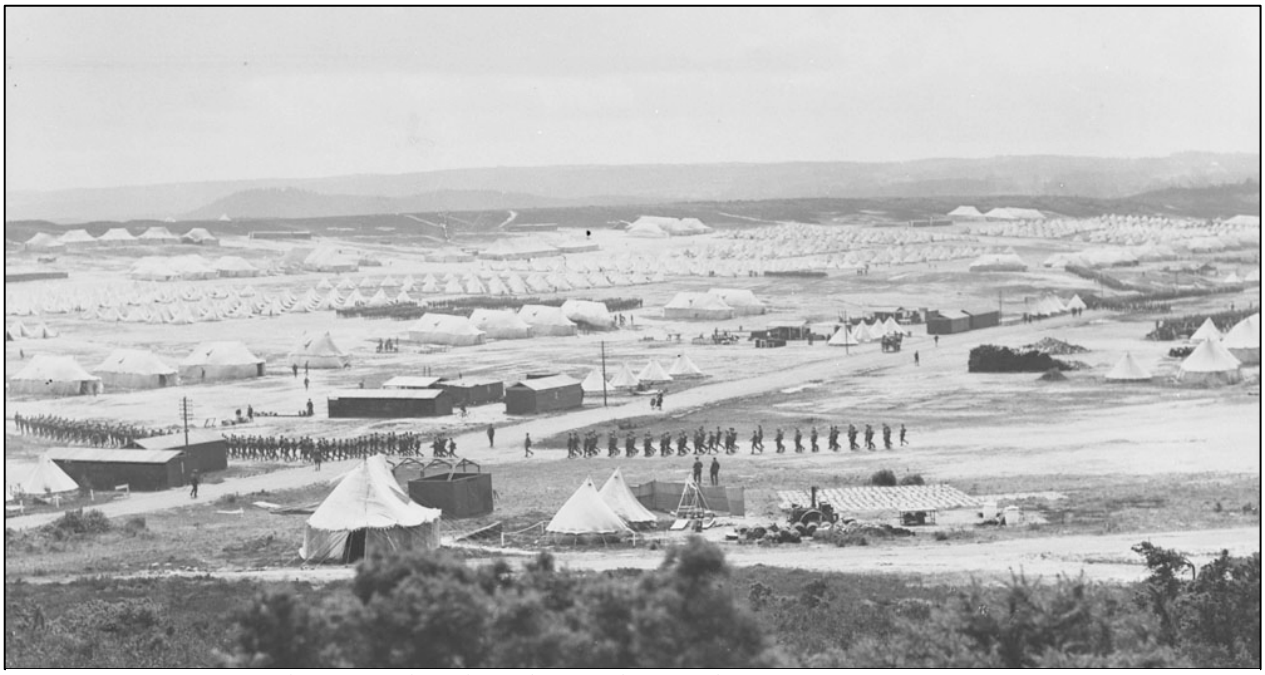

Figure 2: A View of Frensham Pond Segregation Camp. LAC PA-005600.

the area.[27] As long as they showed no signs of infection, upon completion of their period of segregation the soldiers were allowed to proceed on their Landing Leave.[28] Landing Leave was a short period of time given to soldiers who had recently arrived in England as a means of escaping their new military life for a few days before beginning the more gruelling aspects of training.

The ADMS, Lieutenant-Colonel J. W. Bridges, kept track of the number of troops in the Bramshott and Witley area, as well as the number of those who had presented themselves during the sick parade,[29] those who were in hospital, the number of cases of infectious diseases that the medical officers were monitoring, the number of contacts with infectious diseases that the segregation camps were monitoring, and the number of people in quarantine.[30] At this point in the

[27] Just as the medical officers reported to the ADMS, the ADMS reported to the Deputy Director Medical Services (DDMS) who advised the Commander of the Canadian Corps on all matters of the medical service. Snell, *C.A.M.C.*, 5.
[28] LAC RG III-B-2 Vol. 3607, 25-2-1 (Vol. 6) – Director Medical Services, London – Diseases, General Correspondence.
[29] Sick parades were the responsibility of the medical officer. They were held daily as a means for the soldiers to seek release from duties. The soldiers would present themselves and the medical officer would either treat them or send them elsewhere (such as the hospital) for treatment.
[30] Snell, *C.A.M.C.*, 5.

war the only reportable infectious diseases were: measles, German measles, mumps, scarlet fever, diphtheria, erysipelas, dysentery, cerebro-spinal meningitis, and of course, venereal disease.[31] As will be seen, another disease was soon added to the list.

In April 1918, Major G. G. Morris, a member of the General Staff at Bramshott, commended the new drafts of conscripted soldiers who arrived at the Camp for "show[ing] a keen interest in their work," and generally "working well."[32] As well, they appeared to be in relatively good health, as was the camp as a whole.[33] Still, that month, 870 men were admitted to No. 12 Canadian General Hospital, 102 with bronchitis, pleurisy, pneumonia, Pyrexia of Unknown Origins (PUO), or a combination of such. Seventy-one men from the 15th Reserve Battalion were admitted, eleven suffering from various forms of influenza-like ailments.[34] The average age of these soldiers was twenty-three while their average length of stay in hospital was sixteen days.[35] During the month, three soldiers died at the hospital, all of whom succumbed to pneumonia and its complications (see Appendix 2). Two of the three were from the 15th Reserve Battalion.[36] The first of the two men was Private George Obre from Wapella, Saskatchewan. Private Obre was admitted to the hospital on 3 April and died on the 21st at the age of twenty (see Figure 3). Conscripted on 17 January 1918, Private Obre had been in England for less than two months before he died.[37] The second man was

[31] According to the war diary entry for 14 April, the new draftees were arriving with a lot of venereal disease. LAC RG9 III-C-13 Vol. 4593, "Bramshott 2," 14 April 1918.
[32] LAC RG9 III-D-3 Vol. 4865, File no. 184 – War Diaries – Headquarters, Canadian – Bramshott – April 1918; LAC RG9 III-C-13 Vol. 4593, "Bramshott 2," 2 April 1918.
[33] LAC RG9 III-D-3 Vol. 4865, File no. 184 – War Diaries – Headquarters, Canadian – Bramshott – April 1918.
[34] Two were diagnosed with pneumonia, five with bronchitis, one with PUO, and three with influenza.
[35] LAC RG150 Vol. 541, Book 474. Admissions and Discharges Books of the Canadian Army Medical Corps Overseas – No. 12 Canadian General Hospital, Bramshott, April 1918.
[36] Totals calculated by author. Ibid.
[37] He disembarked in England on 4 March 1918. LAC RG150, Accession 1992-93/166, Box 7398-42, Item No. 545432 – Service Files of the First World War – Private George Wellington Obre, 257438.

Private Hugh Williams from Tate, Saskatchewan, who was admitted to hospital on 6 April 1918 and died four days later at the age of thirty. Private Williams had been conscripted on 23 January 1918 and had only been in England for three days before being admitted to the hospital.[38] Despite these deaths, the ADMS was more concerned about the increase in cases of measles and mumps throughout the camp as these were considered infectious diseases. During the outbreak of measles and mumps the medical personnel working at No. 12 Canadian General Hospital continued as normal with "Nothing to Report" other than the occasional inspection by a high-ranking official.[39]

Figure 3: The Headstone of Private George Obre, Canadian Virtual War Memorial (CVWM)

Interestingly, the outbreak of measles and mumps throughout April could be related to the outbreak of pandemic influenza. Symptoms for the diseases are quite similar. The primary symptoms of mumps include painful, swollen salivary glands, a fever and headache, muscle aches, weakness and fatigue, as well as a loss of appetite.[40] Similarly, measles symptoms include a fever, dry cough, a runny nose, a sore throat, inflamed eyes, a skin rash, and tiny white spots inside the mouth.[41] Additionally, the early symptoms of cerebro-spinal meningitis include a sudden high fever, a severe headache with nausea and vomiting, confusion or difficulty concentrating, sleepiness, no appetite, a stiff neck, and a skin rash.[42] All of these symptoms also appear in the

[38] LAC RG150, Accession 1992-93/166, Box 10393-30, Item No. 315133 – Service Files of the First World War – Private Hugh Thomas Williams, 257952.
[39] LAC RG9 III-D-3 Vol. 5036, File No. 859 – War Diaries – No. 12 Canadian General Hospital – April 1918.
[40] "Mumps," Mayo Clinic. https://www.mayoclinic.org/diseases-conditions/mumps/symptoms-causes/syc-20375361
[41] "Measles," Mayo Clinic. https://www.mayoclinic.org/diseases-conditions/measles/symptoms-causes/syc-20374857
[42] "Meningitis," Mayo Clinic. https://www.mayoclinic.org/diseases-conditions/meningitis/symptoms-causes/syc-20350508

medical files of Canadian soldiers who were diagnosed with and died from influenza in the fall of 1918. Common symptoms included a headache, red and inflamed throat, stiffness, a cough, chills, joint pain, sore eyes, flushed face, weakness, enlarged tonsils, and vomiting. Symptoms which some soldiers had while others did not include a sore throat, chest pain (particularly on the right-hand side), a dry or moist coated tongue, foul breath, reddened eyes, coughing up blood, rattled breathing, and a red rash.[43] Due to the similarity in symptoms, during the first wave of the pandemic, nurses and physicians could easily have confused one illness for the other. This could explain why some sick members of the 15th Reserve Battalion were sent to Aldershot Isolation Hospital (for cases of infectious disease) throughout the month rather than being kept at No. 12 Canadian General Hospital. Among the five men from the battalion who died elsewhere in England during the month were three men who died from "measles, broncho-pneumonia," and two who died from cerebro-spinal meningitis (see Appendix 1). Throughout the month, No. 12 Canadian General Hospital admitted 164 cases of mumps and twenty-three cases of measles/German measles, though we will never know how many of those were with the correct diagnosis.[44] In the meantime, momentous events on the Western Front magnified the need for trained reinforcements.

The Spring Offensives

On 21 March, the Germans had launched a massive series of offensives on the Western Front that, combined, have come to be known as Germany's Spring Offensive. Comprising four major

[43] The list of common symptoms was determined from a survey of the personnel files of the men from the 15th Reserve Battalion who died of influenza and influenza-like illnesses between 9 September and 18 October 1918. Names were compiled based on a search using the Commonwealth War Graves Commission's (CWGC) War Dead database then the medical records in each of the soldiers' personnel files were examined. See Appendix 1.

[44] Totals calculated by author. The measles/German measles diagnosis was much more present in the first part of the month compared to the second. For the purposes of this study, no more attention will be put on soldiers suffering from measles, cerebro-spinal meningitis, or mumps. Rather, statistics will focus on those suffering from illnesses more commonly linked to influenza such as bronchitis, PUO, pleurisy, and pneumonia. LAC RG150 Vol. 541, Book

successive offensives, the German Army's attacks were launched as a last-ditch attempt at victory before the resources and manpower of the American Expeditionary Force could be fully mobilized.[45] The principal attack, codenamed MICHAEL, took place in the Somme region and was intended to break the British lines and bring about their defeat, forcing the French to seek a negotiated settlement to the war. The other three attacks were intended as diversions meant to spread out the Allied forces. During the attacks, the Canadian sector of the front remained relatively unaffected and Canadian losses were slight.

During this time, the 46th Battalion was north of Paris training near the city of Arras. As the Germans continued their push, making fast progress in most areas, the 46th Battalion along with the rest of 10th Brigade to which it belonged were told to pack up and move to Hill 70 near Lens. The battalion remained in the area until it was relieved on 28 March and moved to Aubrey Camp near Maroeuil, then to the town of Oppy.[46] On 3 April, the battalion received twenty reinforcements, bringing its total strength up to forty-seven officers and 1,081 other ranks.[47] By 5 April, the fighting had cost 163,500 British casualties including 796 Canadians, with the French and Germans losing hundreds of thousands of men.[48]

In April, the 46th Battalion suffered a total of fifty-six casualties, twelve fatal, while two officers and eighty-three other ranks were received as reinforcements.[49] But perhaps as foretold in

474. Admissions and Discharges Books of the Canadian Army Medical Corps Overseas – No. 12 Canadian General Hospital, Bramshott, April 1918.

[45] The United States of America declared war on Germany on 6 April 1917 and began mobilization shortly afterwards with American troops first arriving in Western Europe by June 1917. However, it was not until midway through 1918 that the Americans had enough divisions on the ground to make a true difference in tipping the scales of power in the Allies' favour. See Nicholson, *Official History of the Canadian Army*, 362–67.

[46] LAC RG9 III-D-3 Vol. 4939, File No. 437 – War Diaries – 46th Canadian Infantry Battalion – March 1918.

[47] This total includes the nine officers and seventy-one other ranks that were away from the unit. LAC RG9 III-D-3 Vol. 4939, File No. 437 – War Diaries – 46th Canadian Infantry Battalion – April 1918; McWilliams and Steel, *The Suicide Battalion*, 137–38.

[48] LAC RG9 III-D-3 Vol. 4939, File No. 437 – War Diaries – 46th Canadian Infantry Battalion – April 1918; Nicholson, *Official History of the Canadian Army*, 368.

[49] Total calculated by author based on daily entries where applicable. Ibid.

the growing number of men becoming ill at Bramshott, gradually battle casualties were not the battalion's principal concern; by 23 April, "several Officers and a large number of other ranks [were] suffering from a form of Grippe."[50] Though the exact number of sick is unknown, the war diary goes on to say that the health of the battalion as a whole was not good and that men kept becoming sick, including the Commanding Officer (CO), Lieutenant-Colonel Herbert Dawson. By 25 April, the CO was in such a poor condition that he was sent to the Duchess of Westminster Hospital in Le Touquet and the Assistant Adjutant was evacuated to a field ambulance for treatment.[51] On 26 April, Lance Corporal "Pat" Burns, jotted in his diary, "Took sick with disease prevailing in Battalion. Nearly 100 cases."[52] According to Private "Jack" Featherstone, facilities for the sick were less than ideal, with men lying on the floor of an old granary for several days with nothing but a groundsheet underneath them and a single blanket to keep them warm.[53] By 27 April, the battalion made a request to the brigade to leave around sixty men in isolation at a nearby camp as they were unfit for moving into the lines. On the following day, an additional eighty-five other ranks were sent down to be billeted in huts near the transport lines in order to recuperate from the disease.[54]

During this time, other members the 4th Canadian Division had begun to suffer from a mild form of influenza.[55] As of 12 April, admissions from the division passed through No. 12 Canadian

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[50] 'La Grippe espagnol" was one of the common names for pandemic influenza that was known to be circulating during the first wave of the pandemic. Ibid.

[51] According to his personnel file, Lieutenant-Colonel Dawson was diagnosed with PUO. Though the war diary states that Lieutenant W. Marshsall was the Assistant Adjutant, his personnel file could not be found to confirm which field ambulance he was sent to. An Assistant Adjutant helped the Adjutant with the administration for the CO. Ibid.; LAC RG150, Accession 1992-93/166, Box 2370-27, Item No. 347776 – Service Files of the First World War – Lt-Col Herbert John Dawson.

[52] As quoted in McWilliams and Steel, *The Suicide Battalion*, 140.

[53] Ibid.

[54] LAC RG9 III-D-3 Vol. 4939, File No. 437 – War Diaries – 46th Canadian Infantry Battalion – April 1918.

[55] The total number of sick from the division evacuated to a casualty clearing station during the month was 496 with an average of sixteen members a day. The average strength of a divisional is about 12,000 men. This puts the number in perspective but it is still a significant temporary loss and drain. LAC RG9 III-D-3 Vol. 5026, File No. 820 – War

Field Ambulance.[56] By 29 April, the ADMS for the division recognized the outbreak as an epidemic, noting that the 10th Infantry Brigade was being hit particularly hard with the 46th and 50th Infantry Battalions suffering the worst.[57] With the exception of six days spent at Aubrey Camp at the beginning of the month, the 46th Battalion had either been in the lines or on the move since 11 March. Such a pace was clearly taking its toll. Though the war diary stated that, "all ranks [were] beginning to feel the need of a rest," none came until 6 May 1918 when they were finally relieved.[58]

By this time in the war, the German Army had managed to punch large bulges in the Allied lines, retaking the Somme and Passchendaele areas that the Allies had suffered so many dead to gain. Though they had not yet broken through, there was serious concern about how far and how quickly the Germans had advanced. So far, the CC had suffered comparatively little since three of its four divisions had been withdrawn from the lines.[59] Accordingly, in the months to come the CC would prove perhaps the only British corps left generally intact.[60]

A Summer of Training

On 1 May 1918, 150 men from Saskatchewan arrived as reinforcements for the 15th Reserve Battalion and were immediately placed in Frensham Pond Segregation Camp.[61] Meanwhile, by the

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Diaries – Assistant Director of Medical Services, 4th Canadian Division – April 1918. Interestingly, the epidemic in the 4th Division is not mentioned in the war diary for the DDMS for the CC.

[56] Field ambulances are not vehicles, rather they are each comprised of a stretcher bearer division and a tent division. While the stretcher bearers go out to gather the wounded, the tent division acts as a field hospital to provide basic treatment. LAC RG9 III-D-3 Vol. 5036, File No. 859 – War Diaries – No. 12 Canadian General Hospital – April 1918; McPhail, *The Medical Services: The Official History of the Canadian Forces in the Great War, 1914-19*, 67.

[57] LAC RG9 III-D-3 Vol. 5026, File No. 820 – War Diary – Assistant Director of Medical Services, 4th Canadian Division – April 1918.

[58] LAC RG9 III-D-3 Vol. 4939, File No. 437 – War Diaries – 46th Canadian Infantry Battalion – April 1918.

[59] LAC RG9 III-D-3 Vol. 4902, File No. 310 – War Diaries – 10th Canadian Infantry Brigade – April 1918.

[60] McWilliams and Steel, *The Suicide Battalion*, 140.

[61] Note that according to the War Diary for the Headquarters of Bramshott Camp, no new drafts from Saskatchewan arrived in May. However, due to the ADMS's role of keeping careful statistics for all incoming drafts, his War Diary is considered the more reliable source in this instance. LAC RG9 III-D-3 Vol. 5026, File no. 821 – War Diaries – Assistant Director of Medical Services, Bramshott – May 1918.

end of the first week of May the 46th Battalion had moved to a camp east of Vimy Ridge called Marqueffles Farm outside of Bouvigny.[62] The camp was located in a low-lying area of the ridge and had no real buildings beyond a pub and the battalion spent the remainder of May training there intensively. Each day the men worked on enhancing their physical fitness and marksmanship through drill, marches, exercise, digging, and shooting at the ranges, while also participating in lectures, courses, and specialized training.[63] In order to make the training less monotonous, competitions and sports days were held to challenge the soldiers and keep them engaged. In the evenings the men would drink at the *estaminets* set up by the French locals, play games such as Crown and Anchor, and visit the prostitutes normally gathered near soldiers' encampments.[64] Despite the known epidemic of 'la grippe' running through the battalion, no effort was made to keep the soldiers from fraternizing with civilians or other soldiers.[65] By the end of the month, the battalion had suffered twenty-three casualties including one death while it had received two officers and sixty-two other ranks as reinforcements bringing its total strength up to forty-eight officers and 1,028 other ranks.[66] The men might be needed soon enough since, in the meantime, the German Army had successfully pierced French defences all along the Chemins des Dames sector and advanced more than sixteen kilometers. This was certainly not the time for Allied forces to be ravaged by an epidemic.

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[62] LAC RG9 III-D-3 Vol. 4939, File No. 437 – War Diaries – 46th Canadian Infantry Battalion – May 1918.
[63] Courses were for training scouts, snipers, runners, etc. McWilliams and Steel, *The Suicide Battalion*, 141–42.; LAC RG9 III-D-3 Vol. 4902, File No. 310 – War Diaries – 10th Canadian Infantry Brigade – May 1918.
[64] McWilliams and Steel, *The Suicide Battalion*, 142–43; LAC RG9 III-D-3 Vol. 4939, File No. 437 – War Diaries – 46th Canadian Infantry Battalion – May 1918. An estaminet was a small establishment set up by French and Belgian civilians just behind the front lines to act as a bar, restaurant, and café for soldiers. They came in many different forms and sizes but they were always milling with men who cherished the institutions for bringing small comforts for a cheap price. "Civilian Estaminets – Vimy Foundation," accessed October 6, 2019, https://www.vimyfoundation.ca/25-july-1917/.
[65] In fact, the war diary makes no mention of the epidemic, only noting when officers returned after being ill. LAC RG9 III-D-3 Vol. 4939, File No. 437 – War Diaries – 46th Canadian Infantry Battalion – May 1918.
[66] Of these, seven officers and fifty-eight other ranks were detached. Ibid.; LAC RG9 III-D-3 Vol. 4902, File No. 310 – War Diaries – 10th Canadian Infantry Brigade – May 1918.

Since the 4th Canadian Division had been withdrawn from the front lines, things quieted down for the ADMS and its field ambulances. During battle (such as the month before) the field ambulance's main role was to collect the casualties from units in one area, provide them with medical care and treatment as needed (as much as possible in the forward zone), and determine whether the casualties could be returned to their units for duty, or needed to be evacuated further behind the lines for prolonged treatment.[67] Essentially, field ambulances performed the triage to determine where casualties needed to be sent. Wounded men followed one path through the medical system, first walking or being carried to a regimental aid post, an advanced dressing station, a main dressing station, a casualty clearing station, and a general hospital or convalescent hospital (See Figure 4). During battle, field ambulances did not retain any sick members.[68] Rather, they would evacuate them further back to casualty clearing stations located behind the lines and offering the best operating and hospital-style facilities that could be expected in a battle zone.[69] However, during quieter periods with few battle casualties but many sick such as during the summer of 1918, the process for sick personnel would change.

During May, members of the CAMC spent their time training, participating in sports against other field ambulances and soldiers, as well as overhauling their equipment in order to make repairs and get rid of excess.[70] During this time, if a soldier felt ill, he would report to the Regimental Medical Officer (RMO) at the day's sick parade. The RMO was under the command of the ADMS and was in charge of all aspects of the medical service for his unit. If the RMO decided that the man's ailment was minor, he would treat the man himself for up to three days, either allowing him

[67] The actual collection of the wounded was not done by members of the CAMC. Rather, each battalion contained sixteen men who acted as stretcher bearers. These men were trained by the medical officer for stretcher drill and were under his command during the course of the battle. Snell, *C.A.M.C.*, 6–7.
[68] Ibid., 8.
[69] Ibid., 6-7.
[70] Ibid., 13.

to continue with his normal duties, or excusing him from them. If the RMO determined that a longer period of time was needed in order for the man to recover, the soldier was sent to a field ambulance (see Figure 5). If he was likely to recover after a few days, he would remain at the field ambulance before being discharged back to his unit fit for duty. If his recovery would take longer than he was sent to the rest station operated by one of the field ambulances.[71] Men would stay at a rest station for between two weeks and a month being treated for and recovering from minor conditions. If they recovered, they would be sent to a convalescent hospital for four days to two weeks to regain their physical strength before being discharged back to their unit for duty.[72] If the ailment persisted and hospital care was required, the man would be evacuated by motor ambulance to a casualty clearing station further behind the lines.[73] Particularly during quieter months such as this, sick wastages were found to be reduced by retaining cases as close to their units as possible.[74]

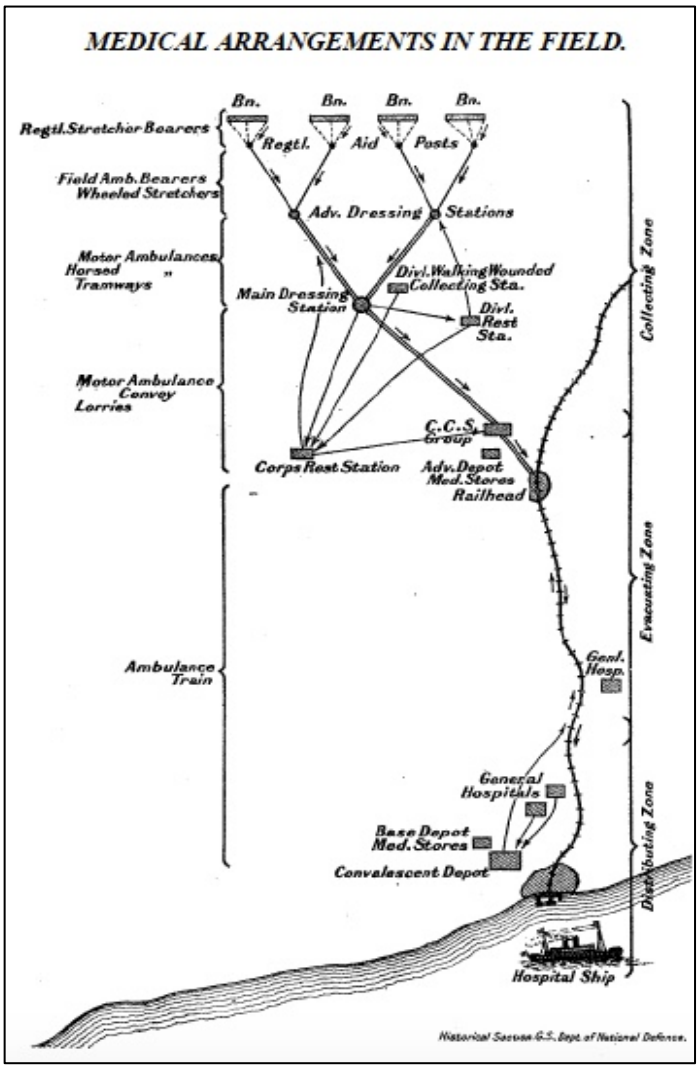

Figure 4: CAMC Battlefield Evacuations. Snell, *C.A.M.C.,* 10.

[71] Field ambulances typically operated a rest station for eight to ten weeks before the responsibility rotated to one of the other field ambulances attached to the division. Mark Humphries, *A Weary Road: Shell Shock in the Canadian Expeditionary Force, 1914-1918* (Toronto: University of Toronto Press, 2018), 45–46.
[72] Snell, *CAMC*, 163.
[73] Ibid., 8.
[74] Ibid., 7.

Even at times of rest and relative quiet such as this, the medical services in France could move around frequently and it remains difficult to determine exactly who was treating the soldiers of the 46th Battalion. From 7 to 8 May, the sick of 10th Brigade were being cleared by No. 13 Canadian Field Ambulance, and then by No. 11 Canadian Field Ambulance as of 9 May.[75] On 27 May No. 11 Canadian Field Ambulance turned the Canadian Corps Rest Station at Fresnicourt over to No. 3 Canadian Field Ambulance along with eleven officers and 164 other ranks sick.[76] Throughout the month the 4th Division only suffered 386 sick and ninety-three wounded men. During this time there was no other mention of the influenza epidemic among the troops, suggesting that the CAMC was able to handle the outbreak through their system of treating minor cases in the lines and evacuating more severe cases.[77] However, that does not mean that men did not die. On 11 May 1918 Private Harold Hughes succumbed to broncho-pneumonia while at No. 57 Casualty Clearing Station. Private Hughes had enlisted in March 1916, had served with the 46th Battalion since 1917, and was admitted as 'seriously ill' on 19 April before dying at the age of twenty-five.[78]

Figure 5: A Canadian Field Ambulance in the Forward Area Near Amiens, 1918. LAC PA-002990.

[75] LAC RG9 III-D-3 Vol. 5031, File No. 834 – War Diaries – No. 11 Canadian Field Ambulance – May 1918; LAC RG9 III-D-3 Vol. 5032, File No. 836 – War Diaries – No. 13 Canadian Field Ambulance –May 1918.; LAC RG9 III-D-3 Vol. 5031, File No. 835 – War Diary – No. 12 Canadian Field Ambulance – May 1918.
[76] LAC RG9 III-D-3 Vol. 5032, File No. 836 – War Diaries – No. 13 Canadian Field Ambulance – May 1918.
[77] LAC RG9 III-D-3 Vol. 5026, File No. 820 – War Diary – Assistant Director of Medical Services, 4th Canadian Division – May 1918.
[78] Note that in many of the CAMC Admissions and Discharges books the initial diagnosis was given as 'influenza' then was later crossed out and replaced with 'broncho-pneumonia.' In other instances, soldiers who came in with already very developed cases of pneumonia were simply diagnosed as such. Though it is possible that not all cases of pneumonia and broncho-pneumonia were a result of an initial infection with influenza, they are considered influenza deaths for the purposes of this study as the connection between the viral and bacterial infection is so prevalent. Other flu scholars such as Dr. Kandace Bogaert and Alex Rewenegan include pneumonia deaths in their influenza death

While the 46th Battalion was busy training in France, the 15th Reserve Battalion was equally busy in England training soldiers that were needed to replace all those lost during the earlier months of battle. During the first part of the month, the camp was relatively quiet with the exception of a visit from His Majesty King George V on 8 May causing much excitement among the troops (see Figure 6).[79] During this time, the 15th Reserve Battalion received no incoming drafts of new troops but sent out 548 men, fifty-four of whom went to the 46th Battalion.[80]

Throughout the month, the weather was good, as was the health of the camp as a whole.[81] However, at No. 12 Canadian General Hospital, an increasing number of patients from Bramshott Camp began being admitted for pneumonia, bronchitis, pleurisy, broncho-pneumonia, PUO, and influenza. Meanwhile, an outbreak of typhus fever in the nearby village of Chiddingfold and that of Hambleton, much further away, led the ADMS to place them out of bounds for all troops.[82] Ultimately, it was the responsibility of all members of the medical service to observe and curtail the spread of infectious disease among both troops and civilians. Placing certain areas out of bounds was one of the many ways in which the ADMS looked out for the health of the troops under his command and

Figure 6: His Majesty King George V Visiting Bramshott Camp on 8 May 1918. LAC PA-005355.

statistics and a similar practice will be followed throughout this analysis. LAC RG150, Accession 1992-93/166, Box 4591-27, Item No. 475544 – Service Files of the First World War – Private Harold Hughes, 911290.

[79] LAC RG9 III-C-13 Vol. 4593, "Bramshott 2," 8 May. LAC RG9 III-D-3 Vol. 4865, File no. 184 – War Diaries – Headquarters, Canadian – Bramshott – May 1918.

[80] Note that in this document there is no mention of any incoming troops from the No. 1 Base Depot (Saskatchewan). Ibid.

[81] Ibid.

[82] The village of Chiddingfold is nine kilometers away from Bramshott while Hambleton is 173 kilometers away, showing the degree to which the ADMS attempted to protect the troops in the vicinity of his camp as well as those who would leaving on leave and coming back to camp. LAC RG9 III-D-3 Vol. 5026, File no. 821 – War Diaries – Assistant Director of Medical Services, Bramshott – 21 May 1918.

ensured that the soldiers did not act as carriers to bring diseases elsewhere.[83] By 23 May there were 19,625 troops in the Bramshott area with 682 men in hospital. On the same day, the MOs held a meeting with the Inspector of Technical Equipment from the ADMS's office regarding how to supply medical and technical equipment to sick detention huts.[84] Sick detention huts acted as the equivalent of the rest stations in France; they were for soldiers who were believed to be able to recover relatively quickly, rather than be evacuated from their unit.

In total, throughout the month of May 913 men were admitted to No. 12 Canadian General Hospital. Of those, 128 were diagnosed with influenza or influenza-like diseases. Of the total number of men admitted, seventy-six were from the 15th Reserve Battalion of whom twenty-seven suffered from influenza or influenza-like illnesses. The average age of the men was 27 and the average length of stay in hospital was twenty days, four days longer than the previous month.[85] Interestingly, the men were coming from all different companies (each of approximately 150 men) of the 15th Reserve Battalion, suggesting that there was not one particular company that the outbreak was affecting most. Additionally, the men in hospital were being kept in a variety of different wards suggesting that there was not yet any effort on behalf of the medical personnel to keep all of the patients diagnosed with a similar illness in designated wards. In total, the hospital only had one man die from broncho-pneumonia during the month (see Appendix 2). He was not a member of the 15th Reserve Battalion.[86]

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[83] Snell, *C.A.M.C.*, 5.
[84] LAC RG9 III-D-3 Vol. 5026, File no. 821 – War Diaries – Assistant Director of Medical Services, Bramshott – 23 May 1918.
[85] Totals and averages calculated by author. LAC RG150 Vol. 541, Book 474-475. Admissions and Discharges Books of the Canadian Army Medical Corps Overseas – No. 12 Canadian General Hospital, Bramshott, May 1918.
[86] Totals calculated by author. Ibid.

Back in Canada, throughout May conscripts from across Saskatchewan arrived in Regina for service with the 1st Depot Battalion, Saskatchewan Regiment.[87] Shortly thereafter they were loaded on to trains and sent to port cities to board ships bound for England. A handful of officers accompanied drafts of two hundred to five hundred men until they reached their designated reserve battalions and were officially taken on strength. As May turned into June, more and more men arrived at the 1st Depot Battalion and prepared to go to war.

On 9 June the German Army launched its next major attack west of the Oise River. Although they broke through on the first day, the Germans were stopped by the French Third Army. American and French troops counterattacked, effectively stopping the German advance.[88] The German spring offensives were petering out and the front had stabilized. The Canadians had played but a minor role in the dramatic events that spring and, if anything, their strength was growing notwithstanding the incidence of disease. On 19 June the overall strength of the 46th Battalion was forty-nine officers and 1,039 other ranks.[89] Though no reference to it is made in the 46th Battalion's war diary, nor the 10th Brigade's war diary, on 20 June the ADMS of the 4th Division reported, "Epidemic of Influenza is going through the Division and many men are laid up."[90] Two days later: "There is still much Influenza throughout the Division."[91] The battalion received one officer and fifty-two other ranks as reinforcements.[92] Though men continued to fall ill, no members of the 46th Battalion died during the month.[93] It would appear that the lower mortality rate other military forces experienced during the first wave of the pandemic was echoed by the 4th Canadian Division.

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[87] Dennis, *Reluctant Warriors*, 48.
[88] Nicholson, *Official History of the Canadian Army*, 375–76.
[89] LAC RG9 III-D-3 Vol. 4939, File No. 437 – War Diaries – 46th Canadian Infantry Battalion – June 1918.
[90] LAC RG9 III-D-3 Vol. 5026, File No. 820 – War Diary – Assistant Director of Medical Services, 4th Canadian Division – June 1918.
[91] Ibid.
[92] LAC RG9 III-D-3 Vol. 4902, File No. 310 – War Diaries – 10th Canadian Infantry Brigade – June 1918.
[93] Determined based on an overview of all war dead from the 46th Battalion using CWGC's War Dead database.

At Bramshott Camp, training progressed as usual for the 15th Reserve Battalion. According to the camp's headquarters: "The general health of the troops is good, in spite of a slight epidemic of 'Spanish Flu.'[94] On 5 June, the ADMS determined that the sick detention huts would be taken on by the individual units; the 15th Reserve Battalion was now in charge of No. 4 Sick Detention Hut.[95] Interestingly, the epidemic is not mentioned in the ADMS's war diary despite the fact that the Admissions and Discharge books of No. 12 Canadian General Hospital clearly indicate a spike in admissions for influenza-like illnesses. Throughout the month, 902 men were admitted to No. 12 Canadian General Hospital, sixty-eight of whom were from the 15th Reserve Battalion. Of those 902, 170 men were diagnosed with influenza-like illnesses, eight of whom were from the 15th Reserve Battalion. The majority of sufferers trickled in during the second half of the month with the diagnosis of "influenza" becoming increasingly common.[96] Of the seven men who died at the hospital, three succumbed to pneumonia (see Appendix 2).[97] All those who suffered from influenza and were not discharged back to duty with their units were now more consistently being sent to Bearwood Convalescent Hospital in Wokingham thirty-five kilometers away.[98] By the end of the month, the strength of the units in the Bramshott area was 21,536 with 591 men reporting to sick parade on the morning of the 28th and 790 men in hospital. These figures clearly show that there were far more sick men than was normal.[99]

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[94] LAC RG9 III-D-3 Vol. 4865, File no. 184 – War Diaries – Headquarters, Canadian – Bramshott – June 1918.
[95] LAC RG9 III-D-3 Vol. 5026, File no. 821 – War Diaries – Assistant Director of Medical Services, Bramshott – June 1918.
[96] Compared to "bronchitis," "PUO," "pneumonia," etc.
[97] Totals calculated by author. LAC RG150 Vol. 541, Books 475-476. Admissions and Discharges Books of the Canadian Army Medical Corps Overseas – No. 12 Canadian General Hospital, Bramshott, June 1918.
[98] Up to this point, those suffering from influenza-like illnesses who were not discharged to duty had been sent to Bearwood, Woodcote Park Convalescent Hospital in Epsom, or elsewhere. Bearwood Convalescent Hospital's War Diary makes no mention of an epidemic of any kind. LAC RG150 Vol. 541, Books 474-476. Admissions and Discharges Books of the Canadian Army Medical Corps Overseas – No. 12 Canadian General Hospital, Bramshott, April to June 1918; LAC RG9 III-D-3 Vol. 5093, File No. 874 – War Diary – Bearwood Canadian Convalescent Hospital, June 1918.
[99] LAC RG9 III-D-3 Vol. 5026, File No. 820 – War Diaries – Assistant Director of Medical Services, 4th Canadian Division – 28 June 1918.

As all of this was transpiring in Europe, Canadian soldiers at home were experiencing a similar outbreak of disease, particularly in the eastern provinces. Public health records from British Columbia as well as medical records from military hospitals in Quebec, Ontario, and New Brunswick show that between January and June 1918 there was an increase of sufferers from influenza, pneumonia, and bronchitis among military personnel at this time.[100] Most significantly, it was affecting soldiers' training, and was rampant in Quebec and the Maritimes.[101] As Montreal and Halifax were major ports from which tens of thousands of soldiers travelled to and from Europe, the possibility for disease was heightened by the volume of people passing through. Soldiers from across the country travelled to and from these port cities by train. This mass movement is widely accepted as being the cause of the spread of pandemic influenza. In particular, it is blamed for bringing the pandemic to the prairies and the west.[102]

It is important to recognize that Saskatchewan and the rest of Western Canada experienced the influenza pandemic a bit differently than Central and Eastern Canada. When the herald wave of the pandemic struck the Maritimes and Central Canada hard in April of 1918, influenza rates in Western Canada rose only slightly in comparison (see Table 1). It was not until July 1918 that soldiers in Western Canada experienced higher rates of influenza and pneumonia than they had experienced earlier in the year, marking a delayed first wave of the pandemic.[103] This is significant

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[100] Humphries, *The Last Plague*, 68–90.
[101] Francis Dubois, Jean-Pierre Thouez, and Denis Goulet, "A Geographical Analysis of the Spread of Spanish Influenza in Quebec, 1918-20," in *Epidemic Encounters: Influenza, Society, and Culture in Canada, 1918-20*, ed. Magda Fahrni and Esyllt W. Jones (Toronto: UBC Press, 2012), 142–57.; Fahrni, "« Elles sont partout… ».”; and Rewegan et al., "The First Wave of the 1918 Influenza Pandemic among Soldiers of the Canadian Expeditionary Force," 639.
[102] Humphries, "Paths of Infection." Maureen Katherine Lux, "The Impact of the Spanish Influenza Pandemic in Saskatchewan, 1918-1919" (Masters, University of Saskatchewan, 1989), 35–36.
[103] Most studies of pandemic influenza in Canada, particularly in the Prairies and Western Canada, make little to no mention of the first wave of the pandemic. Historians such as Eileen Pettigrew and Esyllt W. Jones discuss the pandemic experience in the Prairies but begin the narrative in September 1918. Pettigrew, *The Silent Enemy*, 56–87. Esyllt W. Jones, *Influenza 1918: Disease, Death, and Struggle in Winnipeg* (Toronto: University of Toronto Press, 2007), 13.

as it potentially had a profound impact on the experiences of soldiers from Western Canada in the months to come. Infection by the influenza virus normally creates an immunological response that protects the individual from reinfection with the same strain. For this reason, it is hypothesized by virologists, epidemiologists, and anthropologists that infection from the spring/summer wave of pandemic influenza was likely to have led to at least a basic level of protection for any waves that followed.[104]

If evidence suggests that the Prairies, and specifically the province of Saskatchewan, only experienced a very mild wave of pandemic influenza in the spring, and a stronger, more defined outbreak in July 1918, then the majority of the new soldiers coming from those provinces would not likely have benefitted from the cross-protection of the first wave of the pandemic as those from the Maritimes and Ontario would have. As such, soldiers from Western Canada were more vulnerable as they were more likely to contract and develop complications of pandemic influenza later on. Moreover, these vulnerable men were sent to port cities such as Montreal and Halifax which were experiencing much higher morbidity and mortality rates during

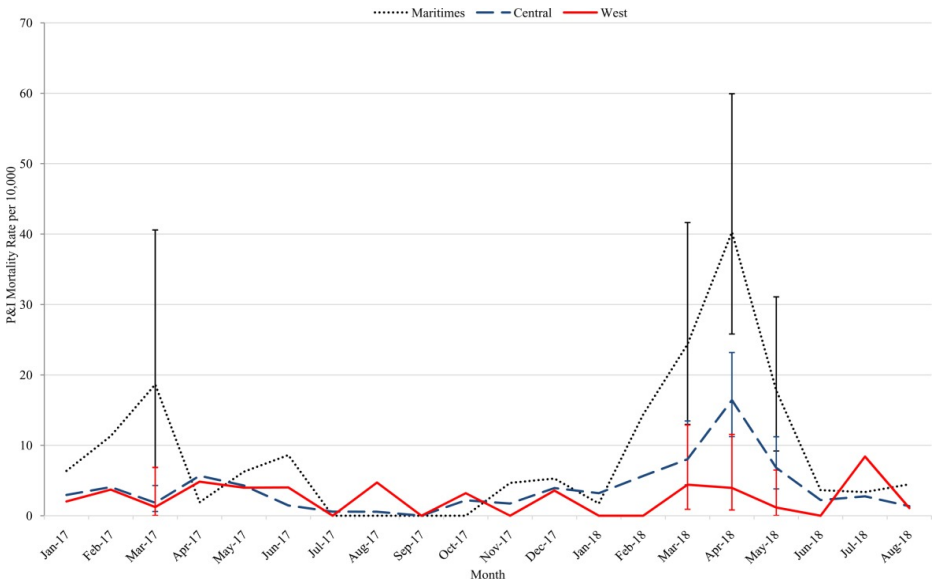

Table 1: Pneumonia and Influenza Mortality Rate per 10,000 Soldiers by Geographical Region from 1 Jan 1917 to 31 Aug 1918. Table from Rewegan et al., "The First Wave," 641.

[104] See Bogaert, "Cross Protection between the First and Second Waves of the 1918 Influenza Pandemic among Soldiers of the Canadian Expeditionary Force (CEF) in Ontario," 7232. And Rios-Doria and Chowell, "Qualitative Analysis of the Level of Cross-Protection between Epidemic Waves of the 1918–1919 Influenza Pandemic." And Barry, Viboud, and Simonsen, "Cross-Protection between Successive Waves of the 1918–1919 Influenza Pandemic."

both the first and second waves of the pandemic. The Saskatchewan soldiers who had been conscripted in May and June 1918 were being sent into the virologic equivalent of the proverbial lion's den.

The Turning Point

On 7 July the 46th Battalion went back into the lines.[105] By this point, the 13th Canadian Field Ambulance had moved to Écoivres and was now taking care of all of the "slightly sick" from the Division.[106] The 46th Battalion remained in the lines until 15 July when it was relieved and went to West Roclincourt Camp.[107] On the same day, the final German offensive of the summer began. The Aisne-Marne Offensive, part of the Second Battle of the Marne, began with an assault east and west of Reims. On 16 July it was confirmed that the CC and the Australians would form the main body of a large-scale assault at Amiens while on 18 July a massive Allied counterattack began on the Marne.[108] The Allies quickly pushed forward, forcing the Germans to retreat back across the Marne River. The Canadians would soon be back in the thick of the fighting. During the month of July, the 46th Battalion took on strength a total of forty-four soldiers, while seventy-seven were struck off strength. Of those, thirteen were sick. Of those thirteen, only two were for any influenza-like illness as both were diagnosed with PUO.[109] It would appear that the pandemic had not yet had a serious effect on the Canadian battalions fighting at the front.

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[105] McWilliams and Steel, *The Suicide Battalion*, 143.
[106] LAC RG9 III-D-3 Vol. 5026, File No. 820 – War Diaries – Assistant Director of Medical Services, 4th Canadian Division – July 1918; LAC RG9 III-D-3 Vol. 5032, File No. 836 – War Diaries – No. 13 Canadian Field Ambulance – 13 July 1918.
[107] LAC RG9 III-D-3 Vol. 4939, File No. 437 – War Diaries – 46th Canadian Infantry Battalion – July 1918.
[108] Rawlings, *Surviving Trench Warfare*, 188.
[109] Totals calculated by author. LAC RG150-7 Vol. 468 – Part II Daily Orders – 46th Canadian Infantry Battalion – July 1918.

As the men of the 46th Battalion rested and trained for a week, many men of the 15th Reserve Battalion at Bramshott were in their twelfth, thirteenth, and fourteenth weeks of training and were preparing to go to France while the camp received 2,410 new officers and other ranks, 274 of whom were for the 15th Reserve Battalion.[110] The general health and training progression of the troops was good although there continued to be a "slight epidemic of influenza."[111] Once again the war diary of the ADMS for the camp makes no mention of the epidemic. However, the number of admissions to No. 12 Canadian General Hospital had actually decreased compared to May and June. Throughout the entire month, 891 men were admitted to the hospital, 142 with influenza-like illnesses. Of the fifty-nine men admitted from the 15th Reserve Battalion, seventeen were diagnosed with influenza or influenza-like illnesses. Throughout the month, nine men died, seven from pneumonia, none of which were members of the 15th Reserve Battalion (see Appendix 2).[112] Throughout the second half of the month, the number of cases of influenza-like illnesses seemed to be lessening, suggesting that the first wave of the pandemic at Bramshott had peaked in June. From April to July there was a total of 3,576 patients admitted to No. 12 Canadian General Hospital, with 542 cases of influenza or influenza-like illnesses. From a total of twenty deaths, fourteen were for pneumonia.[113] Though these figures are high, compared to what was to come the first wave of the pandemic at Bramshott did not appear to be overly severe.

Back in France, on 21 July the men of the 46th Battalion moved back into the front lines where they remained until moving to Cliff Camp at Écoivres on the last day of the month.[114] The

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[110] LAC RG9 III-D-3 Vol. 4865, File no. 184 – War Diaries – Headquarters, Canadian – Bramshott – July 1918.
[111] Ibid.
[112] Totals calculated by author. LAC RG150 Vol. 541, Book 476. Admissions and Discharges Books of the Canadian Army Medical Corps Overseas – No. 12 Canadian General Hospital, Bramshott, July 1918.
[113] Totals calculated by author.
[114] LAC RG9 III-D-3 Vol. 4939, File No. 437 – War Diaries – 46th Canadian Infantry Battalion – July 1918; LAC RG9 III-D-3 Vol. 4902, File No. 310 – War Diaries – 10th Canadian Infantry Brigade – July 1918.

46th Battalion suffered thirty-two casualties, but the war diaries for the battalion, brigade, and the ADMS make no mention of influenza or sickness of any kind.[115]

Meanwhile, on 4 August 1918 drafts of newly conscripted Canadian soldiers left Halifax for Britain aboard HMT *Cassandra*. Among others onboard were 1,455 officers and other ranks from the 1st Depot Battalion, Saskatchewan Regiment.[116] These men were soon to become members of the 15th Reserve Battalion to be trained and sent forward as reinforcements as quickly as possible to infantry battalions such as the 46th. It was not a moment too soon since the German spring and summer offensives had been halted and the Allies were about to go over to the offensive. On 8 August 1918 the Battle of Amiens began, marking the first day of what would become known as Canada's Hundred Days. It remains to be seen if the Canadians learned from their experience during the first wave of the pandemic, or whether it merely lulled them into believing that they were prepared. The following chapter will follow these two battalions throughout August and September as the second, deadlier wave of the Influenza Pandemic began.

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[115] Ibid.

[116] Dates and the name of the ship was gathered from a survey of the personnel files of the men from the 15th Reserve Battalion who died of influenza and influenza-like illnesses between 9 September and 18 October 1918. Names were compiled based on a search using the CWGC's War Dead database then an examination of each individual personnel file (held by LAC) was conducted (See Appendix 1). Dates and statistics regarding HMT *Cassandra*'s voyage are from LAC RG24 Vol. 3728, "SS *Casandra*."

CHAPTER 3: AUGUST AND SEPTEMBER, 1918

As seen in the previous chapter, in the early summer of 1918 most of the Canadian Corps (CC) was not actively engaged in combat, giving the Canadians time to bring their infantry units back up to strength, and to train new reinforcements. In July, twenty-five drafts from Canada had arrived in England comprising of 4,375 men, bringing the reserve strength in England up to 30,139.[1] It seemed clear that the strengthened CC would be committed to battle before long. Estimated casualty rates were used as a means of determining how many reinforcements the Corps would need for the upcoming battles, although these estimates were not always accurate.[2] If there was a series of quick, successive battles with higher than anticipated casualties, there could be a major delay in units receiving their required reinforcements. Such was the case during August and September 1918.

8 August 1918 marks the start of the Battle of Amiens and the final hundred days of the First World War. The 46th Battalion was readied for what would prove an intensive three months of combat. Simultaneously, the 15th Reserve Battalion prepared to send reinforcements to France. Finally, drafts of soldiers from Saskatchewan were on their way to Bramshott Camp to join the 15th Reserve Battalion. While this was taking place, members of the Canadian Army Medical Corps (CAMC) continued dealing with the sick and wounded. The ways in which the CAMC dealt with sick casualties were different than those suffering from battle wounds, just as it treated sick personnel differently during quieter times than in the chaotic period of fighting that was to come.

This chapter explains the significance of wastage rates in the Canadian Expeditionary Force (CEF) and proceeds to examine the impact of the second wave of the influenza pandemic during

[1] Holt, *Filling the Ranks*, 205 Table 8.5.
[2] Ibid., 177.

September and October 1918 on the units earlier identified. This chapter continues the case-study approach previously established to determine what lessons, if any, were learned during the first wave of the pandemic that allowed for a speedier recognition and reaction during the much more virulent second wave. If the CAMC handled the first wave of the pandemic with relative ease, due partially to not having to contend with many wounded at the time, this chapter argues that the same cannot be said for the second wave. Rather, the pandemic struck just as the CC entered into sustained operations and weakened its reserve of trained reinforcements at a staggering pace.

Wastage Rates in the CEF

Wastage in an infantry battalion was calculated by the number of dead, wounded, missing, sick, deserters, and the number of men cross-posted to other units in a given period of time.[3] Wastage rates determined the number of reinforcements a front-line battalion received. Following every action, the commander of the unit received a Casualty State form which estimated the number of soldiers killed, wounded, and missing. Every Sunday, a Field Return was submitted to the Canadian Section of British General Headquarters (GHQ)[4] outlining the exact number of personnel held by the unit, as well as the Part II Orders which listed wastage and its corresponding causes. This form was effectively the request that the battalion submitted for reinforcements. The Canadian Section of GHQ then issued instructions to the Canadian Corps Reinforcement Camp (CCRC) in France to send reinforcements forward to the battalion and consequentially notified the Base

[3] Differing from the term "casualty" which refers to the number of dead, wounded, missing and taken prisoner. Ibid., 169.

[4] The Canadian Overseas Forces were administered by the Minister, Overseas Military Forces of Canada. However, because Canada was part of the British Empire, all active operations in the field were directed by the GHQ. The Canadian section of the British GHQ was created as the branch which represented the Minister. The General Officer in charge of the Canadian Section acted as the communication channel between the GHQ and the Minister, as well as between the heads of Canadians Formations in the field and the Minister. By 1918 the Canadian Section of the British GHQ controlled the administration of Canadian personnel in the field. Ministry of Overseas Military Forces of Canada, *Report of the Ministry Overseas Military Forces of Canada, 1918*, xii–xiii.

Depots (also in France) to send reinforcements to the CCRC. The Canadian Section would then order that reinforcements from the training camps in England be transferred to the Base Depots.[5] Such a system was effective but cumbersome, especially noticeable if a large number of casualties completely depleted the pool of reinforcements at the CCRC. If such occurred, it took an inordinate amount of time to get men through the various stages of the reinforcement stream.

Due to the complexity of the system and the potential for delays, whenever possible men earlier identified as wastage were recycled back into the reinforcement stream or the system was avoided entirely.[6] By 1915, it had been realized that evacuating sick soldiers meant time away from the unit for treatment, leave, convalescence, and reconditioning before they were able to return. This process could take months. Instead, it was determined that sick soldiers could be kept with their units or at field ambulance rather than be evacuated, meaning that they would not be struck off strength, nor counted towards the wastage rates for the battalion. Instead of meandering through the medical system to return months later, they would be discharged directly back to duty. Due to this shift in retaining sick personnel whenever possible, official wastage rates from illness plummeted.[7] But this also meant, in 1918, that official wastage rates did not realistically represent the impact that pandemic influenza had on the CEF, and that the higher levels of command did not have a good understanding of the impact of this disease on actual troop availability.

Calculating wastage rates became something of a shell game, and in Britain the army came under immense scrutiny for its treatment of sick soldiers as disease and infection took a major toll among the troops. Historian Mark Humphries explains that, "The army's mismanagement of

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[5] Such was the system by 1918 but this was not the case during the entirety of the war as the structure of the reinforcement system changed numerous times throughout the conflict. See Holt, *Filling the Ranks*.
[6] Holt, *Filling the Ranks,* 170.
[7] For his view on how such was the case in regards to the impact of shell shock on Canadian soldiers, see Humphries, *A Weary Road*, 45.

disease and the evacuation of wounded soldiers was a major public scandal in Britain that cast a long shadow over military medicine through the first years of the Great War, helping create a culture of obfuscation that sought to minimize any appearance of 'wastage' from preventable illness."[8] One such illness was influenza. In 1918 influenza was not considered a serious disease. During outbreaks of the common strains of influenza, only the very young and old were prone to complications which could render the disease fatal. For the majority of the population influenza was a disease that the average person could overcome with a few days of rest, but this was not an option always available to soldiers. It was not until October 1918 that influenza was taken much more seriously. It was believed that the majority of cases could be treated with relative ease within the unit, and doing so would return the men to duty far more quickly.

Due to the first wave's relatively mild impact on the CC, influenza does not appear to have been of particular concern for the Canadians in the summer of 1918. The situation was different for the British Expeditionary Force as it had been heavily engaged in operations at the time and was severely affected by extensive outbreaks of influenza in May and June. On 20 June 1918 the British Army Director Medical Services (DMS) issued special instructions stating that the primary objective of the medical services was to avoid evacuating sick personnel and that soldiers sick with influenza would be treated in the battle zone; the outbreak was not taken seriously. However, contradictorily, the very next day 3,000 beds at the hospital in Étaples, France were reserved specifically for cases of influenza from the First Army (British) who arrived by special ambulance trains labelled as "PUO" (Pyrexia of Unknown Origins) cases. The intention of this decision was to treat the men at the hospital, then immediately return them to their units, but as general hospitals had not been organized to function in the same way as casualty clearing stations or corps rest

[8] Ibid., 31.

stations, complications and delays arose as the beds filled up and there was nowhere to store kit and equipment.[9]

Evidence suggests that the CC followed the idea in the original instructions from the DMS by attempting to keep influenza patients as near to the front lines as possible. Nothing could be found to suggest that the CAMC ever designated any ambulance trains or hospitals specifically for influenza/PUO patients at any time during the war. Though the outbreak had worried the medical authorities, medical officer and historian A. E. Snell stated that, "By adopting every precaution, and owing to the excellent conditioning of the men, this disease [had] made little headway," though cases appeared well into July.[10] As will be seen, all evidence suggests that the experience of the first wave of the pandemic lulled the CAMC into believing that it would be able to handle another outbreak should one arise.

The Battle of Amiens

During the first days of August, the CC secretly moved from the Arras sector to the Somme front in preparation for the Battle of Amiens. During this time, each field ambulance was assigned to a specific brigade and became responsible for all of the brigade's medical arrangements. Dressing stations and inspection rooms were established at billets whenever Canadian troops were in an area for more than a few hours to deal with the sick and wounded. There the Regimental Medical Officers (RMOs) would determine what to do with the sick. It was impossible for field ambulances to retain sick personnel while on the move, so the RMOs had two options: either to

[9] William Grant Macpherson and Thomas John Mitchell, *Medical Services; General History: Medical Services During the Operations of the Western Front in 1916, 1917 and 1918; in Italy; and in Egypt and Palestine*, vol. 3 (London H.M. Stationery Off, 1921), 258–59.
[10] Snell, *C.A.M.C.*, 23.

retain the sick soldiers with the unit, or to evacuate them to a field ambulance that would then send them further back to a casualty clearing station.[11]

On 7 August, the men of the 46th Battalion reached Gentelles Wood near Amiens. Unfortunately, conditions at Gentelles Wood were poor when they arrived.[12] An attempt to hide how many soldiers were collecting led to overcrowding of men and horses in every area that could be used as cover. It was the role of the Sanitary Sections to ensure that the conditions in the areas where the CC was located was fit for soldiers. The officers commanding sanitary sections were supposed to inspect the area as well as advise on how to improve conditions and where to locate sanitary apparatus like latrines, urinals, and vermin disinfectors. One of their key responsibilities was to watch for signs of infectious disease and advise unit commanders on how to isolate the infected soldiers and disinfect billets, clothing, and blankets. Though the Canadians were only there a short while, an outbreak of dysentery among the previous occupants led to a sudden increase in the number of men sick with diarrhea.[13] Suspecting a possible outbreak of dysentery (categorized as an infectious disease) among their own troops, sanitary sections did what little they could. Fortunately for the 46th Battalion, few men appear to have been affected by the time that they moved into their battle positions in the early hours of 8 August.[14]

At 4:20 am, the artillery opened up and the Battle of Amiens began. Two hours later, the men of the 46th Battalion were advancing as part of the 4th Division at the rear of the assault. Within the 4th Division, the 10th Brigade was in divisional reserve with the 46th Battalion following at the very end of this brigade.[15] On the first day, the CC as a whole managed to advance more than eight

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[11] Ibid., 23–24.
[12] Ibid., 25.
[13] Ibid., 7, 25.
[14] There is no mention of illness or infectious disease affecting the battalion in their war diary. LAC RG9 III-D-3 Vol. 4939, File No. 437 – War Diaries – 46th Canadian Infantry Battalion – August 1918.
[15] McWilliams and Steel, *The Suicide Battalion*, 149.

miles, an unprecedented distance since the beginnings of trench warfare on the Western Front in 1914.[16] The men of the 46th Battalion had spent the day advancing behind the battle, seeing signs of heavy fighting but doing none themselves. Throughout the day the battalion advanced more than five miles.[17]

Even when 4th Division was in reserve, the medical services attached to it were prepared for casualties. Due to the fast-moving nature of the offensive, it was impossible for the CAMC to establish posts for evacuation during the battle. Instead, stretcher bearers of Nos. 11, 12, and 13 Field Ambulances were attached to the 11th, 12th, and 10th Brigades, respectively. They followed close behind the advancing infantry and dealt with the wounded as required.[18] No. 13 Field Ambulance sent four officers and 108 stretcher bearers forward to form the Advanced Dressing Station for 10th Brigade which received wounded Canadian, German, British, and French soldiers throughout the night (though none from the 46th Battalion).[19] The medical services of 4th Division struggled getting men from the Advanced Dressing Stations to the Main Dressing Station due to a lack of motor ambulances, but once there they were evacuated to casualty clearing stations as needed.[20]

In the morning on 9 August, the 46th Battalion received orders to advance in relief of the 72nd Battalion. The men were in the line by that afternoon where they immediately prepared the trenches and defences for a German counter-attack, which did not materialize. On the morning of 10 August, the 46th Battalion advanced towards the village of Maucourt. Since 8 August the battalion had

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[16] Nicholson, *Official History of the Canadian Army*, 407.
[17] McWilliams and Steel, *The Suicide Battalion*, 149–52.
[18] LAC RG9 III-D-3 Vol. 5026, File No. 820 – War Diaries – Assistant Director of Medical Services, 4th Canadian Division – August 1918.
[19] Library and Archives Canada (LAC) RG9 III-D-3 Vol. 5032, File No. 836 – War Diaries – No. 13 Canadian Field Ambulance – August 1918.
[20] Snell, *C.A.M.C.*, 29.

suffered seventy-five casualties.[21] The next day, the battalion relieved the 50th Battalion. On this day it received sixty-two reinforcements from the CCRC.[22]

The battalion continued in a holding pattern when, on 13 August, the news quickly spread that the Commanding Officer, Lieutenant Colonel Herbert Dawson, had collapsed in his dugout and had to be evacuated. Though the regimental history states that the cause of this collapse was "the flu," his personnel file simply gives the cause as "debility," meaning a general weakness of the body which was a symptom of influenza.[23] Up until that point, there had been no mention of influenza in the 46th Battalion in any of the sources, including the unit war diaries. Because a war diary makes no mention of sickness does not mean that it was not present. For cases of infectious disease during the Battle of Amiens, all those suffering from dysentery, suspected dysentery, or severe diarrhoea where to be transferred to No. 12 Casualty Clearing Station where a Dysentery Centre was established, with all other cases of infectious disease dispatched to a designated Casualty Clearing Station.[24] Interestingly, at this time, influenza was not yet considered an infectious disease. This seems to denote a marked difference in the way in which the CAMC handled infectious diseases compared to those not categorized as such. While men who were merely sick were treated by the RMO until they were fit for duty or evacuated if the case was severe, those suffering from an infectious disease were immediately evacuated to a casualty clearing station (presumably through a field ambulance). This system appears to have been effective since until this point, the 46th Battalion's war diary makes no mention of sick soldiers,

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[21] LAC RG9 III-D-3 Vol. 4939, File No. 437 – War Diaries – 46th Canadian Infantry Battalion – August 1918 and Appendix 9 "Detailed Casualty List No. 494."
[22] LAC RG9 III-D-3 Vol. 4939, File No. 437 – War Diaries – 46th Canadian Infantry Battalion – August 1918 and Appendix 11 "Detailed Casualty Lis No. 495." And LAC RG9 III-D-3 Vol. 5047, File No. 913 – War Diaries – Canadian Corps Reinforcement Camp – August 1918.
[23] McWilliams and Steel, *The Suicide Battalion*, 160. LAC RG150, Accession 1992-93/166, Box 2360-27, Item No. 347776 – Service Files of the First World War – Lieutenant Colonel Herbert John Dawson. LAC RG9 III-D-3 Vol. 4939, File No. 437 – War Diaries – 46th Canadian Infantry Battalion – August 1918.
[24] Snell, *C.A.M.C.*, 30–31.

nor of evacuating those suffering from infectious disease. However, an examination of the broader source base offers greater clarification.

Based on the Admissions and Discharges books of Nos. 11, 12, and 13 Field Ambulances, it would appear that all sick personnel from the 4th Division whose illnesses were not categorized as 'infectious' were brought to No. 11 Field Ambulance between at least 2 to 14 August 1918.[25] During those dates, the field ambulance only admitted twenty-seven men, six of whom were suffering from influenza and one from PUO, with many others suffering from debility and fatigue. The men were immediately evacuated to Nos. 7 and 33 Casualty Clearing Stations.[26] Though none of these men were from the 46th Battalion, it is still significant to note that influenza was present in the 4th Division. In fact, for the entirety of the month, No. 11 Field Ambulance admitted a total of 786 sick Canadians, sixty-one of whom were diagnosed with influenza, with an additional eighty-five admitted for PUO. Combined, influenza-like illnesses comprised the highest number of sick admissions for the month.[27] Meanwhile, the Admissions and Discharges books of Nos. 12 and 13 Field Ambulances show admissions primarily for battle wounds rather than illness.[28]

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[25] Nowhere in the field ambulance's war diary does it mention that it was designated to admit cases of infectious disease. The war diary of No. 13 Field Ambulance does confirm that No. 12 Field Ambulance was designated to evacuate all wounded for the 4th Division during the battle and mentions that it, too, was receiving a "steady stream of wounded all day." LAC RG9 III-D-3 Vol. 5031, File No. 834 – War Diaries – No. 11 Canadian Field Ambulance – August 1918; LAC RG9 III-D-3 Vol. 5031, File No. 835 – War Diaries – No. 12 Canadian Field Ambulance – August 1918; LAC RG9 III-D-3 Vol. 5032, File No. 836 – War Diaries – No. 13 Canadian Field Ambulance – August 1918.

[26] LAC RG150 Vol. 525, Book 261. Admissions and Discharges Books of the Canadian Army Medical Corps Overseas – No. 11 Canadian Field Ambulance, August 1918.

[27] The war diary for No. 11 Canadian Field Ambulance provides a helpful breakdown of exactly how many admissions they had for each illness. Canadians suffering from diarrhea totaled 121 which would be the highest if influenza and PUO admission totals were considered separately. LAC RG9 III-D-3 Vol. 5031, File No. 834 – War Diaries – No. 11 Canadian Field Ambulance – August 1918.

[28] LAC RG150 Vol. 526, Book 95. Admissions and Discharges Books of the Canadian Army Medical Corps Overseas – No. 12 Canadian Field Ambulance, August 1918; LAC RG150 Vol. 527, Books 297 & 298. Admissions and Discharges Books of the Canadian Army Medical Corps Overseas – No. 13 Canadian Field Ambulance, August 1918.

On 14 August, the 46th Battalion moved back to Warvillers where it began to reorganize and assimilate the 202 reinforcements that it had received from the CCRC the day before; it then moved further back to Le Quesnel.[29] Among them came the stretcher bearers of No. 13 Field Ambulance who had been in the lines as long as the men of the 46th Battalion.[30] With the reinforcements the battalion was able to bring the strength of its four companies back up to 150 other ranks each. Still, the 46th continued suffering casualties for the remainder of the month as the battalion's transport lines were hit by artillery fire, its support lines by gas shells, and some of its men rotated to relieve other battalions. When not engaged with the enemy, the soldiers spent their days reinforcing, deepening, and cleaning up the trenches. It was physically demanding work at a time when nearby enemy activity and artillery kept everyone on edge.[31] On 24 August the battalion returned to Gentelles Wood before finally moving back to Arras on 28 August.[32]

As of 31 August 1918, the 46th Battalion's total strength was forty-five officers and 1,052 other ranks. According to the war diary, during the month twenty-four of its men had died.[33] Additionally, the war diary for the 10th Brigade notes that the 46th Battalion suffered 164 wounded though due to the incoming reinforcements, it remained more or less at full strength.[34] According to the battalion's war diary, during the entire month, the battalion suffered 214 casualties, twenty-eight of whom were sick and evacuated to field ambulances.[35] Interestingly enough, this is the first time in the battalion's war diary where the total number of sick men evacuated to field ambulances was included in the breakdown of casualty totals, although the Part II Orders for the month only

[29] LAC RG9 III-D-3 Vol. 4939, File No. 437 – War Diaries – 46th Canadian Infantry Battalion – August 1918.
[30] LAC RG9 III-D-3 Vol. 5032, File No. 836 – War Diaries – No. 13 Canadian Field Ambulance – August 1918.
[31] LAC RG9 III-D-3 Vol. 4939, File No. 437 – War Diaries – 46th Canadian Infantry Battalion – August 1918.
[32] Ibid.
[33] Two officers and eight other ranks killed in action, seven other ranks who died from wounds due to gas, one officer and six other ranks who died of wounds, and zero missing. Ibid.
[34] LAC RG9 III-D-3 Vol. 4902, File No. 310 – War Diaries – 10th Canadian Infantry Brigade – August 1918.
[35] LAC RG9 III-D-3 Vol. 4939, File No. 437 – War Diaries – 46th Canadian Infantry Battalion – August 1918.

mentions a decrease in strength for twelve sick soldiers.[36] As all twelve are listed by name, medical records in each of their personnel files were examined for any mention influenza or influenza-like illnesses. Aside from the story about Lieutenant Colonel Dawson, there appeared to be only two men from the battalion who were admitted to field ambulances for PUO while the others suffered from a variety of other illnesses and injuries.[37] It seems plausible that the war diary and the Part II Orders mentioned only the number of sick men who were no longer considered part of the battalion's fighting force (denoted as a "decrease" in strength), as opposed to accurately reflecting the number of sick men that they had in total. References to the number of sick during the month were only for those sick enough to merit evacuation and therefore wastage rates for illness and disease are not fully represented.

Despite low numbers of sick personnel, the 46th Battalion had still lost men in August, necessitating a replenishment of its forces. That month, the 46th Battalion received a total of five officers and 243 other ranks as reinforcements.[38] As these reinforcements moved forward to join the unit, the reinforcement system kicked in to replenish the number of men at the CCRC. As troops were sent forward from Bramshott Camp, new drafts of soldiers arrived from Canada aboard troopships.

Influenza on Troopships

As the men of the 46th Battalion participated in the Battle of Amiens, new soldiers destined to be taken on strength by the 15th Reserve Battalion at Bramshott Camp travelled to England aboard HMT *Cassandra*. These men from Saskatchewan had boarded the ship in Montreal on 28

[36] Ibid.; LAC RG9 III-C-3 Vol. 4213, Folder 5 File No. 3 – Orders Battalion Part I and Part II – 46th Infantry Battalion, August 1918.
[37] The two soldiers diagnosed with PUO were Pte Albert Griffiths, 1009202 and Cpl Clifford Ostle, 74298.
[38] LAC RG9 III-D-3 Vol. 4902, File No. 310 – War Diaries – 10th Canadian Infantry Brigade – August 1918.

July before leaving Halifax a few days later and arriving in Liverpool on 15 August 1918.[39] Though there are few sources regarding the crossing itself, an understanding of the presence of influenza aboard ships at this time helps us understand the breadth of the pandemic.

Troopships played an important role in the history of the influenza pandemic of 1918-1919; they were the perfect breeding ground for infectious disease, as well as the perfect means of carrying the virus from one population to the next. Ports such as Halifax and Montreal were major hubs of activity as troopships returned the wounded, discharged, and those on leave to Canada before transporting fresh drafts of soldiers overseas. These port cities were abuzz with thousands of men moving through them.

In the historiography of the influenza pandemic, troopships have been blamed for bringing the second, more lethal wave of pandemic influenza to Canada, though alternative narratives have also been argued.[40] Yet, it seems incontestable that influenza was aboard many vessels moving between ports in Canada and England throughout the summer of 1918 and even caused a delay in bringing troops to England.[41] Influenza and pneumonia with a heightened mortality rate were present aboard at least five troopships travelling from Canada to England between 9 June and 25 August 1918. Those ships were HMT *Cassandra*, HMT *Pannonia*, HMT *Kia Ora*, HMT *Nellore*, and HMT *Atreus*.[42] Of these, the one hit most severely by pandemic influenza was HMT *Pannonia*. One Canadian private had been discharged from the ship and sent to No. 6 Station Hospital in Halifax on 31 July 1918 for pneumonia. Despite clear evidence of influenza onboard, the troopship was not quarantined as was customary.[43] Rather, before final embarkation in Halifax on 4 August

[39] LAC RG24 Vol. 3728 – "SS *Cassandra*."
[40] See Humphries, "Paths of Infection."
[41] Bogaert, "Military and Maritime Evidence," 51.
[42] Kandace Bogaert, "Casualties of War? An Ethnographic Epidemiology of the 1918 Influenza Pandemic Among Soldiers in Canada" (PhD, Hamilton, Ontario, McMaster University, 2015), 120.
[43] Bogaert, "Military and Maritime Evidence," 51, 56–57.

1918, the Adjutant[44] had recorded a total of eighty-three soldiers admitted to the ship's hospital for influenza or pneumonia. By the time the men disembarked in Liverpool on 15 August, a total of 151 cases had been admitted and four deaths had occurred.[45] Exactly why HMT *Pannonia* was not quarantined and still set out with so many sick soldiers onboard is unknown, though it is possible that the number of casualties anticipated from pandemic influenza during the crossing did not outweigh the need for reinforcements overseas.[46]

HMT *Cassandra* experienced an outbreak of pandemic influenza in June 1918. On 5 June one soldier was discharged to the hospital in Halifax with pneumonia while two others were sent for bronchitis. On 6 June, another soldier was discharged to the hospital for influenza. On 8 June, the day before the ship left, two privates were admitted to the ship's hospital, one suffering from influenza while the other died of septic pneumonia that same day.[47] Although it does not appear that any other deaths occurred due to influenza and its complications during the crossing, another eleven cases of influenza and pneumonia were admitted to the ship's hospital while many other men were admitted with colds and sore throats.[48] Despite the seemingly small scale of the outbreak, it still proves the presence of influenza among Canadian troops embarking at Halifax in June 1918.

Unlike its crossing in June, it is not known definitively that HMT *Cassandra* experienced an outbreak of pandemic influenza during the crossing in August 1918.[49] Although very few records could be found regarding HMT *Cassandra's* voyage as part of the convoy with HMT *Pannonia* in August 1918, it is likely that HMT *Cassandra* experienced a recurrence of influenza in August at

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[44] An adjutant is the administrative assistant for a commanding officer.
[45] Bogaert, "Military and Maritime Evidence," 54–57.
[46] Humphries, "The Horror at Home," 244; Humphries, "The Limits of Necessity," 29.
[47] The voyage in June 1918 is well documented while few archival sources could be located regarding the voyage in August 1918. LAC RG150 Vol 274 "Hospital Ships," HMT *Cassandra* Daily Orders Part II Dated June 1918.
[48] Bogaert, "Casualties of War? An Ethnographic Epidemiology of the 1918 Influenza Pandemic Among Soldiers in Canada," 125.
[49] Though documents were found at LAC regarding the crossings before and after this one, oddly very little could be located regarding this particular crossing.

which time the soldiers from Saskatchewan were travelling to England. Considering that the two ships followed the same route from Montreal to Halifax, then onward to Liverpool, HMT *Pannonia's* large-scale outbreak of pandemic influenza reinforces the notion that influenza was present in these Canadian ports. Though it cannot be known with absolute certainty, it is likely that some of the 2,074 soldiers who boarded HMT *Cassandra* between 28 June in Montreal and 4 August in Halifax were infected with influenza.[50] What can be proven at the very least, is that almost all of the men of the 15th Reserve Battalion who would later die of pandemic influenza throughout the fall wave travelled on HMT *Cassandra* during this voyage (see Appendix 1).

Making matters worse, throughout the summer of 1918 the main ports where Canadian troopships were arriving in the United Kingdom were also fighting outbreaks of influenza. The first wave of pandemic influenza appeared in the United Kingdom in Glasgow, Scotland in May, followed by outbreaks reported in port cities such as Portsmouth, Southampton, and Liverpool in June. These outbreaks are believed to have lasted until about 10 August, though it is difficult to mark a definitive end date.[51] On 15 August, HMT *Cassandra* arrived in Liverpool. There, the soldiers disembarked and boarded trains, destined for Bramshott Camp.[52] As was customary upon their arrival, on 16 August the 2,405 new soldiers of Bramshott Camp (including the thirteen officers and 1,430 other ranks from Saskatchewan) were brought to Frensham Pond Segregation Camp. Around this time two new segregation camps were constructed near Aldershot at Rushmore and Bourley Hill due to the rapidly increasing number of drafts arriving from Canada.[53] Though

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[50] LAC RG150 Vol. 274 – Part II Daily Orders – "Hospital Ships," HMT *Cassandra* – June 1918.
[51] It is important to remember that although scientists and historians alike refer to the "waves" of the pandemic, they are referring to a time when the number of sick dramatically increased. It is not to suggest that influenza was not present before and entirely disappeared between the waves, rather that it just was not as prominent. Warren Taylor Vaughan, *Influenza; An Epidemiologic Study* (Baltimore, Md., American Journal of Hygiene, 1921), 75–76, http://archive.org/details/influenzaepidemi00vauguoft.
[52] Dates were determined by a survey of personnel files and LAC RG24 Vol. 3728, "SS *Cassandra*."
[53] LAC RG9 III-D-3 Vol. 5026, File no. 821 – War Diaries – Assistant Director of Medical Services, Bramshott – August 1918.

initially only ten days were required in the segregation camp, on 12 August Routine Order No. 904 from the Adjutant General Major-General E. C. Ashton, had been issued stating that new arrivals from Canada must be kept in segregation for twenty-eight days.[54] Almost immediately there were complaints from officers regarding this elongated quarantine period being applied to them as well as other ranks but the rules held firm.[55] Perhaps this extended segregation period was a direct result of the outbreaks of influenza throughout the United Kingdom and on the troopships throughout the summer.

The new men intended for the 15th Reserve Battalion were among the first to experience this new twenty-eight-day period of segregation. These men from Saskatchewan were sent to Frensham Pond Segregation Camp.[56] However, due to the extended period of segregation required, drafts arriving after these men could be sent to any segregation camp in the area, including the two newly constructed ones. While in the segregation camp, the men of the 15th Reserve Battalion slept in large tents and began their training. During this time the medical officer conducted inspections of the troops every Wednesday afternoon.[57] Meanwhile, at Bramshott Camp, training continued normally and the health of the camp as a whole was good.[58] Sports competitions continued, the newly-created Bramshott Male Choir gave performances, and the nursing sisters and officers held dances at No. 12 Canadian General Hospital.[59]

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[54] Directorate of History and Heritage (DHH) Order Canadian Forces in the British Isles, Headquarters Canadians Routine Orders Jan 1918-Dec 1918, 273-274, 354.
[55] LAC RG III-B-2 Vol. 3607, 25-2-1 (Vol. 6) – Director Medical Services, London – Diseases, General Correspondence.
[56] LAC RG9 III-D-3 Vol. 5026, File no. 821 – War Diaries – Assistant Director of Medical Services, Bramshott – August 1918.
[57] LAC RG9 III-C-13 Vol. 4593, "Bramshott 2," 8 August 1918.
[58] LAC RG9 III-D-3 Vol. 4865, File no. 184 – War Diaries – Headquarters, Canadian – Bramshott – August 1918.
[59] LAC RG9 III-C-13 Vol. 4593, "Bramshott 2," August 1918.

Outbreaks at Bramshott

While life at Bramshott seemed to be relatively good, the Assistant Director Medical Services (ADMS) became increasingly worried due to an outbreak of cerebral-spinal meningitis among the new drafts in segregation.[60] As well, by 18 August there was a noticeable increase in the number of troops suffering from diarrhea.[61] Though those suffering severely from diarrhea were admitted to No. 12 Canadian General Hospital, those suffering from cerebral-spinal meningitis were sent to a special isolation hospital at Aldershot. On 19 August a few drafts were put in "strictest isolation" due to cerebral-spinal meningitis, while on 20 August the ADMS with the Sanitary Specialist from Aldershot visited Frensham Pond Segregation Camp.[62] They determined that the eight men infected with cerebral-spinal meningitis had come to England aboard the HMT *Nankin*. On 21 August, the intelligence diary for Bramshott Camp noted that not only is there "a good deal of Summer Diarrhoea amongst the troops in Bramshott just now [but] also the so called 'Spanish Flu.'"[63] This appears to be the first mention of "Spanish Flu," but the terminology had been in use by officers at Bramshott in June 1918 during the first wave. It appears as though "Spanish Flu" had quickly become the colloquial term used by the troops to describe what was then believed to be an epidemic while members of the CAMC referred to the illness as influenza, PUO, bronchitis, and other linked ailments. Though no other war diaries mention the Spanish Flu by this point, the medical personnel of Bramshott Camp contended with three outbreaks at one time: cerebral-spinal meningitis, diarrhea, and influenza. Making matters all the more challenging, some who suffered from pandemic influenza had diarrhea as a symptom, so much so that numerous diagnoses during the

[60] Ibid.
[61] LAC RG9 III-D-3 Vol. 5026, File no. 821 – War Diaries – Assistant Director of Medical Services, Bramshott – August 1918.
[62] LAC RG9 III-C-13 Vol. 4593, "Bramshott 2," 19 August 1918; LAC RG9 III-D-3 Vol. 5026, File no. 821 – War Diaries – Assistant Director of Medical Services, Bramshott – August 1918.
[63] LAC RG9 III-C-13 Vol. 4593, "Bramshott 2," 21 August 1918.

second half of the month were first stated as being influenza, then were later changed to diarrhea and some vice versa.[64] Meanwhile, those suffering from cerebral-spinal meningitis and influenza shared common symptoms such as headache, fever, and stiffness.

Within days more cases of cerebral-spinal meningitis appeared among soldiers who had travelled on a number of different troopships, proving that the outbreak had not been localized to the HMT *Nankin* as first thought, or at the very least, that the isolation techniques the medical services implemented had not proved effective and the virus had spread within the camp. It was then decided that all incoming troops would be sent to the segregation camp at Bourley until the outbreak at Frensham Pond was under better control.[65] While those sick with 'non-infectious diseases,' diarrhea and influenza, were treated at No. 12 Canadian General Hospital, all those suffering from cerebral-spinal meningitis were immediately sent to the Military Isolation Hospital in Aldershot.[66]

On 23 August, Colonel MacLaren, Deputy Director Medical Services (DDMS) and Lieutenant-Colonel Amyot visited the area and together with the ADMS, went to Aldershot for a conference regarding the outbreak of cerebral-spinal meningitis. There, it was decided that more tents were needed for Frensham Pond Segregation Camp in order to lower the number of people in each tent. The men were also encouraged to sleep outside whenever the weather permitted.[67] Whereas July had been wet and cold for most of the month at Bramshott, August was hot and dry, only raining for the first time in weeks on 23 August but continuing during the days that followed.

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[64] In a handful of instances, the diagnosis was changed to measles. LAC RG150 Vol. 541, Books 476 & 477. Admissions and Discharges Books of the Canadian Army Medical Corps Overseas – No. 12 Canadian General Hospital, Bramshott, August 1918.
[65] LAC RG9 III-C-13 Vol. 4593, "Bramshott 2," 22 August 1918.
[66] Ibid.
[67] LAC RG9 III-D-3 Vol. 5026, File no. 821 – War Diaries – Assistant Director of Medical Services, Bramshott – August 1918; LAC RG9 III-D-3 Vol. 5036, File No. 859 – War Diaries – No. 12 Canadian General Hospital – August 1918.

Despite the rain, the usual route march took place for all troops who were not too ill.[68] Unfortunately this might have added to the existing problem as a march in the rain would only weaken the strength of those who had already been exposed to illness. On 27 August, Frensham Pond Segregation Camp was placed out of bounds for all soldiers at Bramshott Camp due to the outbreak of cerebral-spinal meningitis.[69] Despite the one mention of the outbreak of 'Spanish Flu', no other sources mention influenza during the month, though weather conditions appear to have been ideal for it to flare up.

August was the month with highest number of admissions to No. 12 Canadian General Hospital so far with 916 men being admitted, though only twenty-five were from the 15th Reserve Battalion. Of those, three were diagnosed with influenza. A total of 161 men were admitted with influenza or influenza-like illnesses (twenty more than in July and only nine less than in June) and admissions were spread fairly evenly throughout the length of the month. As previously discussed, in June there had been a total of 170 admissions for influenza or influenza-like illnesses, while there were an additional 142 in July, suggesting that though there was perhaps a slight dip in July, but overall there was no dramatic decrease in influenza admissions to mark the end of the first wave of the pandemic. Of the four deaths that occurred, only one was due to influenza (see Appendix 2). Only sixty-six men were admitted for cases of diarrhea and/or dysentery, yet that outbreak is mentioned much more frequently than that of influenza.[70]

Regardless of the three outbreaks, it does not appear that the general flow of training or the sending of reinforcements was delayed much at Bramshott Camp. According to the war diary for

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[68] LAC RG9 III-C-13 Vol. 4593, "Bramshott 2," 23 August 1918.
[69] Interestingly, throughout all of this, the war diary for No. 12 Canadian General Hospital continues to state "Nothing to report," only noting visits from higher-ranking officers. One of the challenges for a study such as this one is that the level of detail fluctuates dramatically from one war diary to another. LAC RG9 III-C-13 Vol. 4593, "Bramshott 2," 27 August 1918.
[70] Totals calculated by author. LAC RG150 Vol. 541, Books 476 & 477. Admissions and Discharges Books of the Canadian Army Medical Corps Overseas – No. 12 Canadian General Hospital, Bramshott, August 1918.

the camp's headquarters, training was progressing satisfactorily while "the general health of the troops is good."[71] It appears as though the outbreaks had not yet permeated and compromised the camp because newly arrived troops were placed in segregation.

Despite the outbreaks, troops continued to arrive at the Bramshott Camp. It received thirteen officers and 1,430 incoming other ranks in August while sending 3,510 to front-line units including 862 men from the 15th Reserve Battalion, 187 of whom went to the 46th Battalion.[72] However, these figures seem rather small for this time period. By the end of August, Canadian training camps in England were full to the brim with men as a total of thirty-five drafts comprising 14,230 men had arrived from Canada bringing the reserve strength in England up to 34,531.[73] In fact, instructions were sent out to all registrars outside the province of Quebec to temporarily stop enlisting new soldiers.[74] The Canadian Corps was clearly preparing for many casualties to come, but the question remains as to whether the reinforcement system would be able to keep up. Just because so many men were in England did not mean that they were trained or physically capable of fighting. As the Canadian camps became increasingly crowded they simultaneously became the perfect breeding grounds for infectious disease and further outbreaks.

The Battle of the Drocourt-Quéant Line

While Bramshott Camp was experiencing the outbreaks of cerebral-spinal meningitis, diarrhoea, and influenza, the men of the 46th Battalion were again on the move. The Canadian Corps had to get into position to attack the Drocourt-Quéant Line between the towns of Drocourt

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[71] LAC RG9 III-D-3 Vol. 4865, File no. 184 – War Diaries – Headquarters, Canadian – Bramshott –August 1918.
[72] Ibid.
[73] For 1918 the monthly totals of drafts arriving in England was averaging 4,656 men. The total reserve strength in July was 30,139, already more than 5,000 men higher than in June. Holt, *Filling the Ranks*, 205 Table 8.5.
[74] Nicholson, *Official History of the Canadian Army*, 353.

and Quéant in Northern France. The Drocourt-Quéant Line was the first of a series of complex German defensive positions that were collectively known as the Hindenburg Line.[75] This series of defensive lines honeycombed with trenches, dugouts, bunkers, and masses of barbed wire bristling with machine guns was protected by hundreds of artillery pieces behind the lines. The Allies needed to pierce the Hindenburg Line to force the German Army out of France. At 5:00 am on 2 September, the Canadian Corps and the British forces began their attack. The 46th Battalion's objective was the already-shattered village of Dury, which it captured. Machine gun fire, rifle fire, and artillery fire had been intense as the men of the 46th Battalion advanced. During the German counterattack, casualties mounted as the order went out to hold Drury at all costs. The Germans eventually abandoned their attempts to reclaim the village. The following day, the men of the 46th Battalion continued their advance in the direction of the Canal du Nord, suffering more casualties as they went. The battalion was not relieved until the evening of 4 September when the exhausted men marched back to Vis-en-Artois, then Arras. In total, the battalion had suffered 310 casualties, fifty of whom had been killed with another twenty-four declared missing.[76]

On 5 September, the 46th Battalion received one officer and sixty-nine other ranks as reinforcements, not nearly as many as was required to bring them back up to strength.[77] On 11 September they received an additional eighteen reinforcements and continued to receive a smattering of men throughout the month. During the weeks following the battle, the battalion rested and trained even though poor weather sometimes impeded their ability to do so.[78] During this time the ADMS for the 4th Canadian Division noted that there were a "considerable number of sick in the Division." These sick casualties were being treated by both No. 12 Canadian Field Ambulance

[75] McWilliams and Steel, *The Suicide Battalion*, 161–62.
[76] Ibid., 162–69.
[77] LAC RG9 III-D-3 Vol. 4939, File No. 437 – War Diaries – 46th Canadian Infantry Battalion – September 1918.
[78] Ibid.

and No. 13 Canadian Field Ambulance.[79] On 12 September back in England, the new soldiers of the 15th Reserve Battalion at Frensham Pond Segregation Camp officially completed their twenty-eight-day period of segregation. As long as they did not show any signs of illness they were allowed to proceed on their Landing Leave.[80]

On 19 September, the men of the 46th Battalion along with the rest of 10th Brigade moved to the area around Quéant where training continued as the battalion prepared to re-enter the lines in the coming days. Around 20 September the new soldiers of the 15th Reserve Battalion returned to Bramshott Camp following their Landing Leave. Though the weather had been quite good in England during the first days of the month, by then it had turned cool and had begun to rain heavily. The new soldiers were housed in canvas tents in the North Camp at Bramshott with the rest of the 15th Reserve Battalion. Due to the rain and dampness, conditions in the tents were unpleasant. On 25 September Canadian military officials in Britain issued 1918 Routine Order No. 1115 outlining that "Epidemic Influenza (so called Spanish Influenza)" was officially added to the list of infectious diseases and now required an initial period of observation and quarantine of seven days.[81] As this new Routine Order went out, the CC was about to begin yet another major battle.

The Battle of Canal du Nord

On 25 September 1918, the 46th Battalion packed up and left the village of Bullecourt where it had been staying in order to relieve units of the 2nd Canadian Division in the front lines. The relief was difficult due to the single battalion taking over the area previously held by two battalions,

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[79] LAC RG9 III-D-3 Vol. 5026, File No. 820 – War Diaries – Assistant Director of Medical Services, 4th Canadian Division – 11 September 1918.

[80] No documents were located that outlined which, if any, men of the 15th Reserve Battalion remained in segregation versus being allowed to go on their leave. LAC RG III-B-2 Vol. 3607, 25-2-1 (Vol. 6) – Director Medical Services, London – Diseases, General Correspondence.

[81] DHH Order Canadian Forces in the British Isles, Headquarters Canadians Routine Orders Jan 1918-Dec 1918, 273-274, 354.

but the men of the 46th were in place near the village of Inchy by the morning of 26 September.[82] The operation to come was dubbed 'the most difficult of the war' by General Julian Byng, and for that reason the entire CC was gathering in the vicinity and preparing to cross the heavily defended dry canal.[83] Under construction when war was declared in 1914, the Canal du Nord was sixty-four feet wide with towering banks built up on both sides. Making matters all the more daunting, the canal itself was merely one of many lines of defences in the area, and the Germans controlled the higher ground on the east.[84] At 5:20 am on 27 September the artillery barrage began. Almost immediately the German machine guns opened up and their artillery came down heavily on the Canadians. Casualties mounted very quickly as the 46th Battalion, one of the two battalions from the 4th Canadian Division spearheading the assault, attempted to breach the Germans defences.[85]

During this battle, Nos. 11, 12, and 13 Canadian Field Ambulances worked tirelessly to evacuate the wounded collected by their stretcher bearers attached to their respective brigades.[86] Within one harrowing hour the 46th Battalion had successfully crossed the canal and reached its objective, but casualties had been so high that a reorganization of the badly depleted companies was necessary.[87] The next morning the battalion attacked again and casualties mounted. Without the men realizing it, the 46th Battalion was now leading the entire CC.[88] However, by this point there were so few fighting men left that the battalion's four companies were consolidated into two, Left Company and Right Company.[89] Despite many more challenges, the battalion managed to take

[82] LAC RG9 III-D-3 Vol. 4939, File No. 437 – War Diaries – 46th Canadian Infantry Battalion – September 1918.
[83] McWilliams and Steel, *The Suicide Battalion*, 172.
[84] Ibid., 172–73.
[85] Ibid., 177.
[86] LAC RG9 III-D-3 Vol. 5026, File No. 820 – War Diaries – Assistant Director of Medical Services, 4th Canadian Division – September 1918.
[87] LAC RG9 III-D-3 Vol. 4939, File No. 437 – War Diaries – 46th Canadian Infantry Battalion – September 1918.
[88] Ibid.
[89] McWilliams and Steel, *The Suicide Battalion*, 179.

the Douai-Cambrai Road by the evening of 28 September.[90] In so doing, they had managed to breach the formidable Hindenburg Line. On 29 September while the fighting in the area continued, the 46th Battalion was relieved and moved back into divisional reserve to recover.[91]

Though accomplishing much, the CC was now suffering very high casualty rates, particularly in the final days of September. Compounding the problem, many medical officers from the field ambulances and units of the 4th Canadian Division were killed or wounded, including the 46th Battalion's own Captain Walter Morgan who had been the battalion's RMO for almost a year.[92] The 46th Battalion itself had suffered "very very heavy casualties," losing thirty-three officers and 680 other ranks during the entire month.[93] The battalion's war diary makes no mention of losing anyone due to sickness during this time, though the 46th Battalion's Part II Daily Orders shows two men being discharged for sickness, with only one suffering from bronchitis.[94] However, the ADMS's war diary does include a tally of sick wastage for month; throughout September, 422 soldiers were evacuated to casualty clearing stations though suffering from what exactly is not stated.[95] Though influenza does not seem to have had an important effect on 46th Battalion yet, it soon would.

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[90] LAC RG9 III-D-3 Vol. 4939, File No. 437 – War Diaries – 46th Canadian Infantry Battalion – September 1918.
[91] Ibid.
[92] Though Captain Morgan would survive the war, he did not rejoin the 46th Battalion. RG9 III-D-3 Vol. 5026, File No. 820 – War Diaries – Assistant Director of Medical Services, 4th Canadian Division – September 1918; LAC RG150, Accession 1992-93/166, Box 6367-5, Item No. 204049 – Service Files of the First World War – Captain Walter Corneil Morgan.
[93] The 10th Brigade war diary lists slightly different figures stating that the 46th Battalion lost thirty-three officers and 684 other ranks. It should also be noted that in the appendices there is a list that states that certain officers and other ranks had since died of wounds or were now reported wounded rather than missing, etc. However, since it is unclear when the totals for the month were tabulated, it is unknown if those corrections were included in the final statistics or not so the figures used are as they appear in the battalion's war diary. LAC RG9 III-D-3 Vol. 4939, File No. 437 – War Diaries – 46th Canadian Infantry Battalion – September 1918; LAC RG9 III-D-3 Vol. 4902, File No. 310 – War Diaries – 10th Canadian Infantry Brigade – September 1918.
[94] LAC RG9 III-C-3 Vol. 4213, Folder 5 File No. 3 – Orders Battalion Part I and Part II – 46th Infantry Battalion, September 1918.
[95] LAC RG9 III-D-3 Vol. 5026, File No. 820 – War Diaries – Assistant Director of Medical Services, 4th Canadian Division – September 1918.

The Second Wave

As the CC continued to fight around the Canal du Nord and the 46th Battalion recuperated, back in England training was progressing at Bramshott Camp. The one major change now in place was that the training schedule was condensed from fourteen weeks to ten as there was such an urgent call for reinforcements in France.[96] Throughout the month the camp received a total of twelve officers and 950 other ranks from Canada, all but 150 of whom were from Quebec (presumably due to the cessation in enlisting men from provinces other than Quebec implemented in August). Throughout the month the 15th Reserve Battalion sent 298 other ranks on to France, eighty-one of whom were destined for the 46th Battalion, a far cry from what the battalion needed.[97]

As a whole, Bramshott Camp seems to have been capably handling the increase of outgoing reinforcements, just as the ADMS felt confident that the outbreaks of diarrhea and cerebral-spinal meningitis had been contained. There was no mention of any new illness in the camp until the sudden war diary entry on 28 September stating: "285 men of the 15th Res. Battalion on Sick Parade caused by epidemic of influenza among troops recently released from Segregation Camp: Bourley."[98] At the moment when the 46th Battalion was completely depleted and in desperate need of reinforcements, the 15th Reserve Battalion was enveloped by influenza.

While the ADMS referred to the epidemic as 'influenza,' the Canadian Headquarters for Bramshott used the now common term when he noted that "An epidemic of Spanish Flu broke out during the latter part of the month."[99] As it turns out, the epidemic of influenza was not isolated to

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[96] LAC RG9 III-D-3 Vol. 4865, File no. 184 – War Diaries – Headquarters, Canadian – Bramshott – September 1918. For the ramifications of a condensed training program, as well as many other details regarding the transformation of the Canadian infantry training program throughout the entirety of the war, see Holt, *Filling the Ranks*.

[97] LAC RG9 III-D-3 Vol. 4865, File no. 184 – War Diaries – Headquarters, Canadian – Bramshott – September 1918.

[98] Ibid.

[99] Ibid.

the 15th Reserve Battalion, nor was it only present during the second part of the month, though the mortality rates were significantly higher then. Based on the Admissions and Discharge books of No. 12 Canadian General Hospital, it is clear that influenza had infected a variety of battalions at Bramshott. By 29 September 1918, the hospital's authorized bed capacity had grown to 1,040.[100] During the entire month 961 new men were admitted; the hospital was full. Of those 961, 256 were suffering from influenza or influenza-like illnesses. Of the 189 men admitted from the 15th Reserve Battalion, 141 were suffering from influenza or influenza-like illnesses. In total, eight deaths occurred during the month, all but one due to influenza-like diseases (see Appendix 2). Of these deaths, two were men from the 15th Reserve Battalion while another soldier from that battalion died in Aldershot.[101]

The three soldiers from the 15th Reserve Battalion who died during the month were Private Robert Conn, Private Sell Dykstra, and Private Stanley Feindell. All three men were conscripted farmers who had joined the 1st Depot Battalion (Saskatchewan), Privates Dykstra and Private Feindell both on 23 May and Private Conn on 6 June. The men then all travelled to Montreal where they boarded HMT *Cassandra* with the other new soldiers destined for Bramshott Camp. On 2 September, Private Conn was admitted to Connaught Hospital in Aldershot and diagnosed with broncho-pneumonia where he died a week later at the age of 22.[102] On 14 September, Private Sell Dykstra was admitted to No. 12 Canadian General Hospital suffering from bronchitis. Private Dykstra died three days later from broncho-pneumonia. He was also only 22 years old.[103] Lastly,

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[100] LAC RG9 III-B-1-14 Vol. 1819, File no. R-29-14 – Assistant Director of Medical Services in England - Returns, 12 Canadian General Hospital, Correspondence – September 1918.
[101] Totals calculated by author. LAC RG150 Vol. 541, Book 477 & 478. Admissions and Discharges Books of the Canadian Army Medical Corps Overseas – No. 12 Canadian General Hospital, Bramshott, September 1918.
[102] The reason why Private Conn was treated at Connaught Hospital is unknown. LAC RG150, Accession 1992-93/166, Box 1909-30, Item No. 112270 – Service Files of the First World War – Private Robert John Conn, 277038.
[103] LAC RG150, Accession 1992-93/166, Box 2793-29, Item No. 370163 – Service Files of the First World War – Private Sell Dykstra, 268959.

Private Stanley Feindell was admitted to No. 12 Canadian General Hospital on 25 September for influenza. He died five days later on 30 September 1918 at the age of 21.[104] While Private Conn was buried at Aldershot Military Cemetery, Private Dykstra and Private Feindell were both buried at Bramshott (St. Mary) Churchyard.

No. 12 Canadian General Hospital's Admission and Discharge books do not tell the whole story. As the ADMS's entry states, 285 men of the 15th Reserve Battalion had presented to Sick Parade for influenza, yet there were only 189 men admitted to hospital. This confirms that the battalion's RMO was treating the mild cases within the unit, and only sending the more severe cases to No. 12 Canadian General Hospital. Unfortunately, no records from the 15th Reserve Battalion's medical officer could be located to determine exactly how many men he was treating. However, orders were soon issued outlining how men kept with their units were to be treated. There is no suggestion in the sources so far that those sick with influenza were being sent anywhere but No. 12 Canadian General Hospital, despite influenza's new categorization as an infectious disease. It seems that the effects of this order were still trickling down the chain of command and had not yet influenced how the medical services were reacting to the disease. The Influenza Pandemic's second wave was beginning, and though it seems that the CAMC recognized it as yet another outbreak, it did not react quickly. Rather, it seems that the medical services in England continued to treat the influenza outbreak in a manner similar to that adopted during the first wave. The CAMC in France simply began immediately evacuating all sick personnel since it had so many battle casualties with which to contend. As will be seen, Bramshott Camp would not be the only area infected with the more virulent and lethal form of the influenza virus. Rather, the pandemic's death toll would only continue to rise, and rise rapidly.

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[104] LAC RG150, Accession 1992-93/166, Box 3077-12, Item No. 390241 – Service Files of the First World War – Private Stanley Noble Feindell, 268962.

On 28 September 1918 after the CC effectively penetrated the Hindenburg Line with the 46th Battalion at the forefront, General Erich Von Ludendorff, Quartermaster-General of the German General Staff, demanded that the German government request an immediate armistice.[105] Though no one knew it yet, the war would soon be over. However, before that happened, more fighting and many more casualties would be incurred as the Allied forces, including the CC, began a fast-pace pursuit of the German Army through France and Belgium, liberating towns and villages as they went. In so doing, the Canadians simultaneously became vulnerable to a very different threat: their invisible enemy, pandemic influenza, was reappearing with a vengeance. It remains to be seen whether pandemic influenza exerted much influence over the CC's final days of war. The following chapter will follow the men at Bramshott Camp and those of the 46th Battalion during the final days of the First World War.

[105] McWilliams and Steel, *The Suicide Battalion*, 180.

CHAPTER 4: 1 OCTOBER TO 11 NOVEMBER 1918

By October 1918, the Canadian Expeditionary Force was actively engaged in the Hundred Days Campaign**.** Among the battalions fighting in the front lines was the 46th, serving as part of the 10th Canadian Infantry Brigade. As it continued to advance in its pursuit of the German forces through France, the 46th incurred hundreds of casualties. Despite such heavy losses, and with few reinforcements arriving, the 10th Brigade pushed on. Compounding matters was the fact that an outbreak of influenza had begun along the French coast and appeared to be creeping towards the front lines. By mid-October, men of the 46th Battalion and the remainder of the 10th Brigade were falling ill from influenza. Meanwhile, back at Bramshott Camp, the 15th Reserve Battalion – which was supposed to be sending reinforcements to the 46th Battalion in France – was in segregation as its men were suffering from a severe outbreak of influenza. Though the quarantine initially included just that battalion, it soon included all of North Camp, then all of Bramshott Camp as the virus quickly burned through the thousands of young soldiers stationed there. While military authorities scrambled to figure out how the epidemic had arrived at Bramshott and what to do about it, hundreds of men were being admitted to No. 12 Canadian General Hospital for influenza. As the month wore on, outbreaks of influenza were reported at other training camps such as Witley Camp in Surrey and Seaford Camp in East Sussex as the rest of the United Kingdom was engulfed in the second wave of the pandemic.

This chapter continues to follow the case-study approach established in the previous ones by examining the 15th Reserve Battalion and the 46th Battalion's experiences with pandemic influenza. The chapter details the developments throughout the month of October until the signing of the Armistice on 11 November 1918. Through a close examination of various war diaries, hospital Admission and Discharge books, personnel files, and other archival sources, this chapter argues

that the outbreak of pandemic influenza effectively hindered training and greatly hampered Bramshott Camp's ability to reinforce the front-line battalions. Additionally, the chapter aims to prove that by mid-October battalions in the front lines, including the 46th, were badly affected by epidemic influenza, with perhaps a deleterious effect on the battalion's ability to maintain the tempo of its operations considering its stream of reinforcements had dried to a trickle. The chapter pays close attention to the various ways in which the Canadian Army Medical Corps (CAMC) reacted and responded to the outbreak of pandemic influenza, highlighting the measures that it implemented and the forms of treatment used. The chapter demonstrates that though the quarantine measures at Bramshott Camp did not prove effective, the medical personnel handled the situation with a high degree of professionalism given the scale and speed of the outbreak. Finally, as with the previous ones, this chapter highlights some of the soldiers who succumbed to pandemic influenza in an effort to better understand the impact on the individuals involved and to appropriately recognize their sacrifice.

Outbreak at Bramshott

Assistant Director Medical Services (ADMS) Lieutenant-Colonel J. W. Bridges, dubbed 29 September the start of the influenza epidemic at Bramshott Camp.[1] On that day, he ordered the 15th Reserve Battalion into quarantine, the canteen and YMCA at the camp placed out of bounds, and for the men to sleep in their huts with their heads at their neighbour's feet.[2] Additionally, they were instructed to keep all windows and doors of their huts open as much as possible to allow for better ventilation, including when it rained. Lieutenant-Colonel Bridges then ordered the Commanding

[1] Library and Archives Canada (LAC) RG9 III-B-2 Vol. 3613, 25-3-57, "Epidemic of Influenza 15th Res Bn," 1 Oct. 1918.
[2] The war diary for the ADMS states that the 15th Reserve Battalion was placed in quarantine on 1 October but the report states the 29th.

Officer (CO) of the 15th Reserve Battalion, Lieutenant-Colonel C. D. MacPherson, to thin out the number of men sleeping in each hut to less than thirty to avoid over-crowding, to forbid smoking within the huts, to encourage his men to be outside in the fresh air as much as possible, and to only conduct light training during which the men would not be made to sweat. Meanwhile, arrangements were made for a disinfecting mobile sprayer to be brought from Aldershot Camp for each man to pass through as soon as possible.[3]

Of the 320 men from the 15th Reserve Battalion who presented at the Sick Parade on the morning of 1 October, thirty-three were so ill as to be admitted to hospital (though hospital admissions records show forty-five or fourteen percent).[4] That same day, the ADMS noted in his war diary that the Deputy Director Medical Services (DDMS) from Aldershot Command, Major-General Brown, and the Sanitary Specialist, Major Howell, both inspected No. 12 Canadian General Hospital at Bramshott. According to the war diary, after paying particularly careful attention to the Infectious Disease Annexe,[5] as well as the nursing sisters' quarters, Major-General Brown, "stated emphatically that the infectious Annexe as a hospital should be condemned, and additional quarters should be found for the sisters at once."[6] The hospital annexe was under canvas which was leaking. It was dark, was poorly insulated, and did not yet have any stoves for warmth – very different conditions than that of the permanent hospital (see Figure 7). As a temporary measure, it was agreed that men could stay in the annexe huts if absolutely required but only four

[3] LAC RG9 III-B-2 Vol. 3613, 25-3-7, "Epidemic of Influenza 15th Res Bn" dated 1 Oct. 1918 and "Epidemic of Influenza" dated 2 Oct. 1918.
[4] Presumably, this discrepancy is due to the fact that more cases were admitted the day after the dispatch of the telegram. LAC RG9 III-B-2 Vol. 3613, 25-3-7, Telegram "Bramshott Camp" 1 Oct. 1918; LAC RG150 Vol. 541, Book 479. Admissions and Discharges Books of the Canadian Army Medical Corps Overseas – No. 12 Canadian General Hospital, Bramshott, October 1918.
[5] Annexes were a building or collection of buildings added to the hospital after its initial construction. The Infectious Disease Annexe was reserved for patients suffering from infectious diseases to protect other patients from transmission.
[6] LAC RG9 III-D-3 Vol. 5026, File no. 821 – War Diaries – Assistant Director of Medical Services, Bramshott – 1 October 1918; LAC RG9 III-B-2 Vol. 3613, 25-3-7, "Influenza in Bramshott Area" p.3, 4 Oct. 1918.

Figure 7: A Permanent Ward of No. 12 Canadian General Hospital. Source: *The Bramshott Souvenir Magazine* (London: Polsue Ltd., 1918), 22.

men per hut which effectively decreased No. 12 Canadian General Hospital's bed capacity by 150 beds.[7] Major-General Brown believed that the huts of the annexes where the sick men were sleeping were much too small and poorly constructed to adequately treat infectious disease, particularly with an outbreak as virulent as this one. He insisted on reducing the number of sick men per hut in the annexe from nine to six, with only four per hut if the patients were seriously ill.[8] Though well-intentioned, such measures immediately created a problem for the medical personnel: there were now at least 100 fewer beds available in the Infectious Disease Annexe while the number of men being admitted with influenza – by then officially categorized as an 'infectious disease' – continued to climb. A shuffling of people began as Sick Detention Huts (huts used to treat mildly sick personnel by their Regimental Medical Officer [RMO]) and barrack huts (the sleeping quarters

[7] LAC RG9 III-B-2 Vol. 3613, 25-3-7, "Influenza in Bramshott Area" p.3, 4 Oct. 1918.
[8] LAC RG9 III-B-2 Vol. 3613, 25-3-7, "Epidemic of Influenza 15th Res Bn" 1 Oct. 1918.

of soldiers) in the immediate vicinity of the hospital were repurposed for the use of treating influenza patients who had been admitted to the hospital.[9]

On 2 October, Lieutenant-Colonel C. H. Dickson and Captain A. J. Lomas, Sanitary Officer, arrived from London in order to investigate the outbreak of influenza in the 15th Reserve Battalion and to find a way to increase the bed capacity of No. 12 Canadian General Hospital. No. 3 Sick Detention Hut's capacity was increased from thirty to fifty men, while an additional sixty-four beds were placed in the Red Cross Recreation Room, and arrangements were made to take over barrack huts from the 17th Reserve Battalion, whose men were not in isolation and whose huts were closest to No. 3 Sick Detention Hut, should more space be needed.[10] By this time, more than 300 cases of influenza from the 15th Reserve Battalion were being treated in-unit by their medical officer rather than being sent to the hospital.[11] Among them was Private William Hiron. Born in Somerset, England, Private Hiron had worked as a general store clerk in Saskatchewan before being conscripted on 11 June 1918. After crossing the Atlantic aboard HMT *Cassandra* and arriving in England on 15 August 1918, he fell ill and was treated in the sick detention hut for two weeks before being admitted to No. 12 Canadian General Hospital on 2 October. Private Hiron died the following day at the age of 33.[12] His story closely reflects those of the thirty-four other conscripts of the 15th Reserve Battalion who died of pandemic influenza throughout the month (see Appendix 1).[13]

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[9] Ibid.

[10] At camps such as Bramshott, the Red Cross usually had one if not several buildings where troops could gather for various social activities such as letter writing, concerts, teas, etc. The various national Red Cross associations played a big role in maintaining troop and prisoner health and morale during the First World War. See Sarah Glassford, *Mobilizing Mercy: A History of the Canadian Red Cross* (Montreal ; Kingston ; London ; Chicago: McGill-Queen's University Press, 2017). LAC RG9 III-D-3 Vol. 5026, File no. 821 – War Diaries – Assistant Director of Medical Services, Bramshott – October 1918.

[11] Ibid.

[12] LAC RG150, Accession 1992-93/166, Box 4386-40, Item No. 467003 – Service Files of the First World War – Private William Charles Hiron, 3352022.

[13] Two additional men of the 15th Reserve Battalion died in October at No. 12 Canadian General Hospital but their personnel files were unavailable therefore not all of their details are known (see Appendix 1).

In an attempt to stop the disease from spreading beyond the 15th Reserve Battalion, North Camp where it and the Young Soldiers' Battalion were quartered, was quarantined (see Figure 8).[14] To ensure that members of the 15th Reserve Battalion did not loiter or talk with members of the Young Soldiers' Battalion, guards were posted throughout the quarantined area.[15] Unfortunately, by this time four members of the Young Soldier's Battalion already had been admitted to hospital suffering from influenza. It appears that the original quarantine of the 15th Reserve Battalion had not proven effective or had been imposed too late. Though by this time in October the majority of hospital admissions for influenza were coming from the 15th Reserve Battalion, men from other battalions at Bramshott Camp had begun being admitted, as had men from nearby camps such as the Canadian Reserve Artillery from Witley Camp.[16]

The weather continued to be cold and wet and it was quickly realized that the huts and canvas tents throughout Bramshott Camp were not providing adequately warm accommodations for the men. Extra fuel and stoves were ordered along

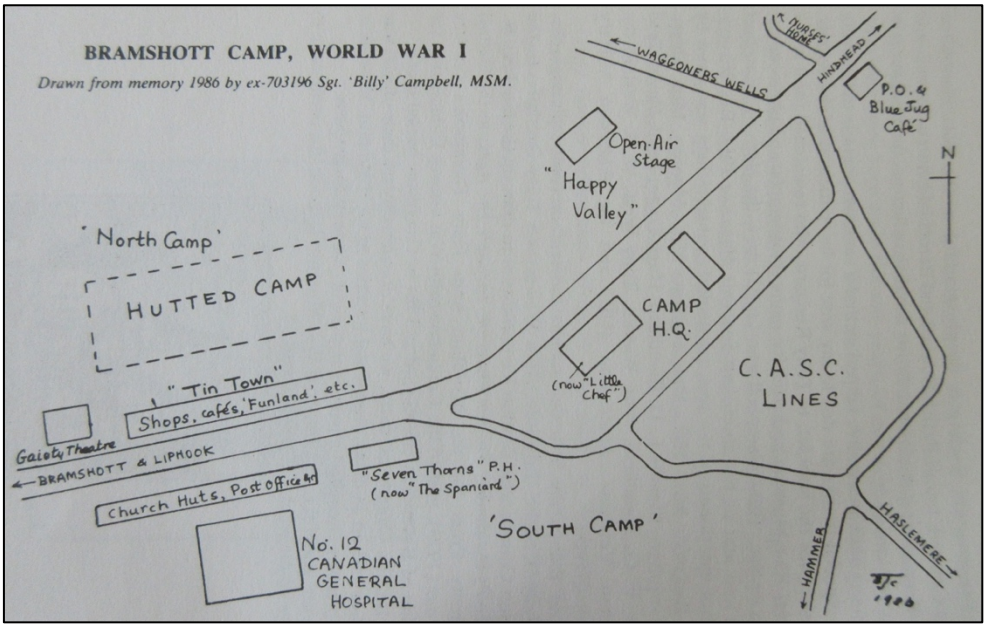

Figure 8: A Hand-Drawn Map of Bramshott Camp Showing North Camp.
Source: Giles, *Liphook, Bramshott and the Canadians*, 4.

[14] LAC RG9 III-D-3 Vol. 5026, File no. 821 – War Diaries – Assistant Director of Medical Services, Bramshott – 2 October 1918; LAC RG9 III-C-13 Vol. 4593, Bramshott (2) – Intelligence Department – Daily Diaries, October 1918.
[15] LAC RG9 III-B-2 Vol. 3613, 25-3-7, "Influenza Bramshott" p. 1 dated 5 Oct 1918.
[16] Totals calculated by author. LAC RG150 Vol. 541, Book 478. Admissions and Discharges Books of the Canadian Army Medical Corps Overseas – No. 12 Canadian General Hospital, Bramshott, October 1918.

with more blankets and food. The ADMS ordered that all healthy men were to be treated with Hine Atomisers (mobile sprayers) brought from Frensham Pond Segregation Camp and Aldershot. Treatment involved no more than thirty men standing three feet apart in an enclosed tent inhaling the spray for ten minutes at a time. The spray, consisting of steam with two percent sulphate of zinc, was to be used once a day for three consecutive days. Once each treatment was done, the men immediately proceeded to a tent beside the spray tent where a hot fire burned. There they were allowed to stay as long as it took to ensure that they would not be damp and get chilled when they left.[17] Though there were no definitive results showing that this treatment effectively kept those not yet infected from falling sick, the sprayers continued to be used throughout the month.

While the possibility of inoculating soldiers at Bramshott Camp was discussed, it was decided that such measures would prove fruitless as it was likely too late for a vaccine to do much good.[18] When it was realized that troopships were experiencing epidemics of influenza in June and July 1918, a committee had been created to discuss possible solutions. On 2 October 1918, Colonel W. B. Leisham, pathologist and British Army Medical officer, submitted a report outlining the use of anti-catarrhal vaccine, a mixture of dead pneumococcus, streptococcus, staphylococcus, bac-influenzae, and other bacterial cultures.[19] He explained that the anti-catarrh vaccine was helpful in curbing the spread of a mild epidemic and recommended that it be used on all troops likely to be exposed to infectious diseases before they boarded troopships. However, he also recommended that those who would be landing and placed in segregated camps in the future after having travelled

[17] LAC RG9 III-B-2 Vol. 3613, 25-3-7, "Influenza in Bramshott Area" p. 2 dated 4 Oct 1918 and LAC RG9 III-B-2 Vol. 3613, 25-3-7, "Epidemic of Influenza…" dated 2 Oct 1918.
[18] The report does not state specifically who discussed and discouraged the idea of inoculating the soldiers. The report was a briefing sent to the Assistant Director of Medical Services in England and is unsigned. Ibid., 2.
[19] Colonel Leisham's report was included in the file as an Appendix but due to the disorganized state of the collection it was unclear which document the appendix accompanied. LAC RG9 III-B-2 Vol. 3613, 25-3-7, "Memorandum on the use of Anti-catarrh Vaccine for the control of Influenza and other catarrhal diseases on Transports" p. 2-3 dated 2 Oct 1918.

on vessels that did not have any epidemics aboard be given what he described as, "a mixed vaccine to protect them against this disease without, however, insisting too much on the actual benefit to be derived."[20] Since the value of this latter vaccine could not be confirmed, and since the outbreak was already present at Bramshott, no attempt was made to vaccinate troops there.[21]

By 3 October, the epidemic continued to spread beyond the 15th Reserve Battalion despite the quarantining of all of North Camp. Of the 258 men admitted to No. 12 Canadian General Hospital between 1 and 3 October, 199 were diagnosed with influenza or influenza-like illnesses.[22] In addition to the men from the 15th Reserve Battalion there were now more cases from the 23rd Reserve Battalion, with a few others from the Young Soldiers' Battalion, 10th Reserve Battalion, Bramshott Depot Group, 20th Reserve Battalion, as well as Frensham Pond Segregation Camp, and Witley Camp.[23] Since the official 'start' of the influenza epidemic on 29 September, there had already been fifteen deaths, fourteen of which were members of the 15th Reserve Battalion including Private Edward Black, aged 23.[24] Born in Liverpool Private Black was conscripted on 25 June 1918 while working as a farmer in Kincaid, Saskatchewan. He boarded HMT *Cassandra* on 28 July 1918, arriving in England on 15 August 1918 only to be admitted to No. 12 Canadian

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[20] LAC RG9 III-B-2 Vol. 3613, 25-3-7, "Influenza in Bramshott Area" p. 3 dated 4 Oct 1918.

[21] For an examination of the measures taken to curb the spread of pandemic influenza onboard troopships throughout October 1918, see LAC RG III-B-2 Vol. 3513, 3-1-5 "Memo to DGMS" dated 24 Oct. 1918. Further discussions regarding the potential use of vaccinations were undertaken on 14 October when a conference was held at the War Office in London with representatives from the British Royal Army Medical College, St. Bartholomew's Hospital, St. Mary's Hospital, and Guy's Hospital. Though the discussion ultimately determined that a vaccine may be useful and should be created for British and Colonial troops, the decision came much too late to do any good. Further discussions regarding an influenza vaccine went on throughout November into 1919. LAC RG9 III-B-2 Vol. 3613, 25-3-7, "Proceedings of a Conference held at the War Office on October 14th, 1918 on the Utilisation of Vaccine for the Prevention and Treatment of Influenza," p.1; LAC RG9 III-B-2 Vol. 3613, 25-3-7, Memo dated 2 November from ADMS to AMD. A direction booklet for the vaccine published in 1919 is included in the file.

[22] Numbers calculated by author. LAC RG150 Vol. 541, Books 478 & 479. Admissions and Discharges Books of the Canadian Army Medical Corps Overseas – No. 12 Canadian General Hospital, Bramshott, October 1918.

[23] The Assistant Director of Medical Services' war diary only mentions on 4 October that members of battalions other than the 15th Reserve Battalion were also sick with influenza. LAC RG9 III-D-3 Vol. 5026, File no. 821 – War Diaries – Assistant Director of Medical Services, Bramshott – October 1918. LAC RG150 Vol. 541, Books 478 & 479. Admissions and Discharges Books of the Canadian Army Medical Corps Overseas – No. 12 Canadian General Hospital, Bramshott, October 1918.

[24] Totals calculated by author. Ibid.

General Hospital on 30 September 1918 for influenza (see figure 9). He succumbed to pneumonia four days later, forty-nine days after becoming a member of the 15th Reserve Battalion.[25]

No. 12 Canadian General Hospital was quickly running out of space due to the sheer number of daily admissions, so the medical personnel started using the barracks of the 17th Reserve Battalion to house new patients.[26] On the same day, Lieutenant-Colonel J. A. Amyot, Consultant in Sanitation, visited Frensham Pond Segregation Camp in order to determine whether the entire camp could be turned into a hospital. There is no evidence to suggest that Frensham Pond Segregation Camp was ever actually turned into a hospital, likely due to its inadequate accommodation for sick personnel as the entire camp was under canvas and was due to be closed before winter. Lieutenant-Colonel Amyot then briefed all of the medical officers in the area about the various precautionary measures to be taken to prevent the spread of influenza. Presumably these were the same as issued to the 15th on 1 October.[27] Similar outbreaks were being reported throughout the United Kingdom and other training camps though thus far no other camp seemed as hard-hit as Bramshott.[28] The second wave of the Influenza Pandemic had well and truly begun.

Figure 9: The Headstone for Private Edward Black. Source: CVWM

The Outbreak Escalates

By 4 October, the epidemic at Bramshott Camp was escalating out of control. The 15th Reserve Battalion already had 364 cases of influenza admitted to hospital (127 men on that day

[25] LAC RG150, Accession 1992-93/166, Box 771-45, Item No. 45979 – Service Files of the First World War – Private Edward Stanley Black, 3353402.
[26] LAC RG9 III-B-2 Vol. 3613, 25-3-7, "Influenza Epidemic in Bramshott Area" dated 3 Oct 1918.
[27] LAC RG9 III-D-3 Vol. 5026, File no. 821 – War Diaries – Assistant Director of Medical Services, Bramshott – October 1918.
[28] LAC RG9 III-B-2 Vol. 3613, 25-3-7, "Influenza Epidemic in Bramshott Area" dated 3 Oct 1918.

alone) while another 210 men were being kept in designated huts in the unit lines.[29] Of the 574 cases at the camp, there had thus far been nineteen deaths, primarily from the complications of broncho-pneumonia following the initial infection of influenza.[30] As the camp's Intelligence Department's daily diary understated it, "The epidemic of influenza in this Camp is assuming rather serious proportions."[31] Gatherings of people were no longer allowed throughout the entire camp unless for exercise outside. The canteens remained closed, and the dining room was closed forcing the men to eat in their huts. Sharing cutlery and mess tins was forbidden, cooks were carefully inspected for any signs of disease before they were able to prepare and serve food, and kitchenware and mess tins had to be sterilized using boiling water between uses.[32] Since medical personnel working with influenza cases could spread the disease, they were isolated from the rest of the hospital's personnel.[33]

Though medical officers from the CAMC were not allowed to enforce segregation and isolation themselves, they still took an active role in attempting to curb the spread of the epidemic. The medical officers for all the battalions with sick personnel began surprise visits to each hut throughout the night to ensure that these were being properly ventilated. Normally during outbreaks of infectious disease medical officers were required to conduct two examinations of the troops each day, but by 4 October they conducted three examinations per day to segregate any sick men at the

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[29] Although the number of 127 admissions on 4 October was calculated by the author using the Admissions and Discharges Books, the total number of men from the battalion in hospital would be very time-consuming to verify, and the total of men being treated in-unit impossible to verify. Therefore, these are the figures from the records. LAC RG9 III-B-2 Vol. 3613, 25-3-7, "Influenza in Bramshott Area" p. 1 dated 4 Oct 1918.

[30] According to the Admissions and Discharges Books, there had in fact been nineteen deaths between 29 September and 4 October, eighteen of whom were men from the 15th Reserve Battalion despite the report stating that seventeen deaths had occurred. LAC RG150 Vol. 541, Book 478. Admissions and Discharges Books of the Canadian Army Medical Corps Overseas – No. 12 Canadian General Hospital, Bramshott, September & October 1918; LAC RG9 III-B-2 Vol. 3613, 25-3-7, "Influenza in Bramshott Area" p. 1 dated 4 Oct 1918.

[31] LAC RG9 III-C-13 Vol. 4593, Bramshott (2) – Intelligence Department – Daily Diaries, October 1918.

[32] LAC RG9 III-B-2 Vol. 3613, 25-3-7, "Influenza in the Bramshott Area" p. 1-2 dated 4 Oct 1918.

[33] LAC RG9 III Vol. 1776 File No. D-7-14, "Influenza in the Bramshott Area" p. 3 October 1918.

earliest possible moment.[34] They would send the obvious cases straight to hospital and the suspected cases to special huts set aside for that purpose. Since the hospital did not have the facilities to handle so many patients so suddenly, milder cases had to be retained and taken care of in-unit until the hospital had more space and beds.[35] However, Lieutenant-Colonel Amyot recommended that, as soon as the hospital had increased its bed capacity, that "all cases, however mild, be sent into the hospital so as to reduce as much as possible the respiratory complications and the reduce the mortality" of the disease. There is no evidence to suggest that this was ever really done as milder cases continued to be treated in-unit since the hospital remained so busy during the entirety of the month.[36] Interestingly, Lieutenant-Colonel Amyot noticed how certain peoples seemed more likely to contract a severe form of the disease over others. Specifically, he ordered that "Any Indian and half-breeds [were] to be sent in on the first appearance of sickness, their resisting power to this disease being so low," though it is unknown how many indigenous men this actually affected.[37]

Further complicating matters, by this time the epidemic had spread to the medical personnel treating the sick; at least six nursing sisters and two medical officers from No. 12 Canadian General Hospital had fallen ill.[38] In an effort to create space for eighty more beds in the hospital, all medical personnel were moved out of their barrack quarters there and relocated to other buildings further away. In order to help the exhausted hospital staff, the CAMC sent fourteen additional medical

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[34] Directorate of History and Heritage (DHH) Orders Canadian Forces in the British Isles, Headquarters Canadians Routine Orders – Routine Order No. 904 and LAC RG9 III-B-2 Vol. 3613, 25-3-7, "Influenza in Bramshott Area" p. 2 dated 4 Oct 1918.
[35] Ibid., 1.
[36] Ibid., 3.
[37] It is very hard to discern indigenous soldiers from non-indigenous soldiers based solely on their Personnel Files. Ibid., 2.
[38] LAC RG9 III-D-3 Vol. 5026, File no. 821 – War Diaries – Assistant Director of Medical Services, Bramshott – October 1918. According to the hospital's Admissions and Discharges books, three CAMC other ranks had been admitted to the hospital for influenza in October. LAC RG150 Vol. 541, Book 478. Admissions and Discharges Books of the Canadian Army Medical Corps Overseas – No. 12 Canadian General Hospital, Bramshott, September & October 1918.

officers, fifty nursing sisters, and forty other ranks to Bramshott while 300 beds and equipment were ordered to be brought over from Aldershot. Additionally, a Specialist Sanitation Officer was sent to the area to focus solely on the epidemic while Colonel R. D. Rudolf, Consultant in Medicine, was sent to Bramshott to help advise on the most serious cases.[39] In the meantime, No. 12 Canadian General Hospital was placed out of bounds to anyone who did not need to be there.[40]

The epidemic continued to escalate despite the entire camp being put under quarantine on 5 October in an attempt to stop the spread of the disease to the surrounding community.[41] The severity of the situation was being closely monitored with daily reports and phone calls providing updates between Headquarters at Bramshott Camp and the ADMS in London. As per Routine Order No. 347 from the Adjutant-General's Branch, during outbreaks of infectious disease, Headquarters was to be notified of such in a weekly report stating the number of cases that had occurred in each group of contacts and the date when they believed that the quarantine would be lifted. But this outbreak of influenza warranted more than a weekly update and these went up the chain of command on a daily basis.[42] By this time there had been 650 reported cases of influenza of "all grades," including nine CAMC personnel from No. 12 Canadian General Hospital, and a reported total of nineteen deaths thus far, when in actuality there had been twenty-eight deaths since 29 September. Of the twenty-eight deaths, twenty-five were from the 15th Reserve Battalion.[43] According to Colonel Rudolf, thus far the staff of the hospital had been doing an

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[39] LAC RG9 III-B-2 Vol. 3613, 25-3-7, "Influenza Bramshott" p. 2 dated 5 Oct 1918.
[40] LAC RG9 III-D-3 Vol. 5026, File no. 821 – War Diaries – Assistant Director of Medical Services, Bramshott – 5 October 1918.
[41] LAC RG9 III-B-2 Vol. 3613, 25-3-7, "Influenza Bramshott" p. 2 dated 5 Oct 1918.
[42] DHH Orders Canadian Forces, Adjutant-General's Branch, 95.
[43] LAC RG150 Vol. 541, Book 478. Admissions and Discharges Books of the Canadian Army Medical Corps Overseas – No. 12 Canadian General Hospital, Bramshott, September & October 1918. Concluding this report is the statement: "This outbreak is of the same character as that experienced recently amongst American and New Zealand reinforcements. Our own transports have so far escaped a small outbreak on the steamship 'Pannonia' in August." As this report was written by General G. L. Foster, Director General of Medical Services for the Overseas Military Forces of Canada, it seems rather perplexing that even he was not aware of the full extent to which influenza had affected the Canadian troopships throughout the summer of 1918. One cannot help but wonder at how well

excellent job in ensuring that no man who was in hospital for another ailment was exposed to those sick with influenza.[44]

Unfortunately, the need to continue training despite the epidemic now running rampant throughout Bramshott Camp led to continued marches outside in the cool, wet weather. Though officers were advised to not force their troops to do anything too strenuous, fresh air and exercise for those not showing any symptoms or illness was still encouraged. Some soldiers who had begun to feel a bit sick attempted to 'soldier on' by continuing to participate in training. Unfortunately, in at least one instance this only exacerbated the problem. Private Charles Coppin, another conscripted soldier of the 15th Reserve Battalion, was being treated in-unit for influenza and pain in his legs while at Frensham Pond Segregation Camp after arriving in England on 15 August 1918. Coppin, a farmer from Saskatchewan, was allowed to leave the segregation camp after the usual period by which time the pain in his legs had subsided, though his cough continued. Upon returning from his Landing Leave, Coppin again felt ill, though he began to train with the unit rather than reporting sick. The pain in his legs returned and spread throughout his body, becoming so severe that on 27 September it caused him to fall. He was admitted to No. 12 Canadian General Hospital for influenza on 30 September. As his condition worsened, on 7 October Private Coppin underwent one of the more drastic treatments for influenza available at the time: the empyema operation (colloquially referred to in personnel files as 'needling'). This operation involved an incision in the man's chest near his ribs in order to insert a draining tube to release the bloody pus that was building

authorities in Canada were communicating the reality of the situation to those in England who were apparently unknowingly receiving many infected ships. LAC RG9 III-B-2 Vol. 3613, 25-3-7, "Epidemic of Influenza at Bramshott" dated 6 Oct 1918.

[44] LAC RG9 III-B-2 Vol. 3613, 25-3-7, "Influenza Bramshott" p. 2 dated 5 Oct 1918.

up in the chest cavity.[45] Unfortunately, the surgery was unable to save Private Coppin's life. He passed away in the early hours the next morning at the age of 33.[46]

On 8 October, Lieutenant-Colonel Amyot returned to Bramshott Camp and immediately recommended that all leave from the camp be suspended for at least ten days or until the epidemic had begun to subside. Additionally, he recommended that all Landing Leave be cancelled for the next month to prevent soldiers from bringing the disease back with them from all over England. Finally, he recommended that all soldiers convalescing from influenza should vacate the hospital as soon as possible to free up beds for more severe cases but only after ensuring that they were no longer contagious.[47]

Two days later, on 10 October, Major-General Foster sent a memo to Lieutenant-Colonel Bridges stating that until further instructions were received, a separate Weekly Return specifically for the number of influenza cases would be sent along with the regular Infectious Disease Returns.[48] Now that influenza was categorized as an infectious disease, it was being tracked alongside the other diseases with the same designation. But now, due to the various outbreaks of influenza throughout the United Kingdom, it was decided that influenza warranted even more than the usual monitoring.

By 12 October, a report tabulating influenza returns stated that 990 patients had been admitted to No. 12 Canadian General Hospital since 23 September while 289 men were being treated in-unit. Of those admitted to hospital, 258 men had been discharged while forty-five had

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[45] A detailed description of the procedure was located in his personnel file.
[46] LAC RG150, Accession 1992-93/166, Box 1987-43, Item No. 116468 – Service Files of the First World War – Private Charles Edgar Coppin, 256695.
[47] LAC RG9 III-D-3 Vol. 5026, File no. 821 – War Diaries – Assistant Director of Medical Services, Bramshott – October 1918; LAC RG9 III-B-2 Vol. 3613, 25-3-7, "Memo to AMDD" p. 2 dated 8 Oct 1918.
[48] The Infectious Disease Returns were basically a list of how many patients were suffering from each infectious disease each week at each hospital. LAC RG9 III-B-2 Vol. 3610 File 25-2-2 Vol. 18, – Infectious Diseases, Returns 21 Sept to 10 Nov 1918 – Memo "Weekly Return of Influenza Cases" dated 10 Oct. 1918.

died, thirty-nine of whom were members of the 15th Reserve Battalion.[49] Unfortunately, these statistics do not accurately represent the true figures. Rather, of the 1,474 men admitted to No. 12 Canadian General Hospital between 23 September and 12 October 1918, 1,104 (seventy-five percent) were suffering from influenza or influenza-like illnesses and fifty-four men (five percent of cases) had died, forty of which were members of the 15th Reserve Battalion.[50] Almost all of the forty men were farmers in their twenties who were in excellent physical shape. All but two of them had left Saskatchewan before the first wave of the pandemic hit Western Canada, had boarded HMT *Cassandra,* a ship with a known outbreak during an earlier crossing, and had arrived in England as the second wave of the pandemic was ramping up. The men's age and physical fitness coupled with their lack of cross-protection meant that when they were infected by the fall's more virulent strain of influenza, their chances of dying were that much higher (see Appendix 1). By this time, more than 5,000 men in Bramshott Camp were still sleeping in canvas tents despite the weather becoming increasing cold and the recognition that more influenza cases were developing among the men sleeping in tents than in barrack huts.[51] On 13 October, the ADMS's war diary mentions that the hospital had admitted ninety-four men within the past 24 hours alone.[52]

Beyond Bramshott

On 14 October, Lieutenant-Colonel Amyot wrote a four-page report detailing the epidemic of influenza among Canadian troops in all of England thus far. The main causes of the epidemic as

[49] It is unknown why this report is calculating totals from 23 September rather than the 29th. LAC RG9 III-B-2 Vol. 3613, 25-3-7, "Influenza Return, 23/09/18 till 10 a.m. 12/10/18."
[50] Totals calculated by author. Total includes eleven diagnosed with bronchitis, five with pneumonia, two with pleurisy, and one with PUO. LAC RG150 Vol. 541, Book 478. Admissions and Discharges Books of the Canadian Army Medical Corps Overseas – No. 12 Canadian General Hospital, Bramshott, September & October 1918.
[51] LAC RG9 III-B-2 Vol. 3613, 25-3-7, "Influenza Return, 23/09/18 till 10 a.m. 12/10/18."
[52] LAC RG9 III-D-3 Vol. 5026, File no. 821 – War Diaries – Assistant Director Medical Services, Bramshott – October 1918.

Amyot identified them were overcrowded training camps, wet and cold weather, the fact that thousands of Canadian troops slept in canvas tents, and that many of the troops at Bramshott were new soldiers unaccustomed to the hard conditions of military life. According to the report, all of these problems created the perfect conditions for an outbreak. Amyot reiterated the story that 500 new men from the 15th Reserve Battalion travelled around England during their Landing Leave and brought influenza back to Bramshott Camp with them. He further mentioned that the disease was already running rampant throughout the English population as well as that of New Zealand, the United States, and Canada, and mentioned his belief that the Germans had suffered quite severely from it in June and early July. He goes on to blame the American, New Zealand, and Canadian troopships for bringing, "a specially severe form of the disease" to England, suggesting that the responsibility for the presence of influenza in England is at least partially due to Canadian officials allowing sick troops to travel.[53] Such allegations are partially true as military necessity meant that troopships were allowed to leave Quebec and Halifax throughout the summer of 1918 despite known cases of influenza onboard.[54]

Neatly encapsulating the frustration felt by many other doctors and pathologists as well as the key challenge facing the Canadian military, the report states that, "The disease does not seem to be uniform in its character, giving the hint that we have not universally the same causative agent to deal with."[55] When the epidemic first began, the chief causative agent was believed to be *Bacillus influenzae*, or Pfeiffer's bacillus. First discovered in 1892 by German bacteriologist Richard

[53] LAC RG9 III-B-2 Vol. 3613, 25-3-7 "Influenza Amongst Canadian Troops in England," p.1 dated 14 October 1918.
[54] The historiography of the influenza pandemic in Canada has traditionally blamed troops returning home from England for bringing the second more lethal wave of pandemic influenza to Canada as well as spreading it throughout the country. It is also worth mentioning that there is an ongoing argument as to the actual origins of the 1918 virus. Some evidence suggests that the lethal virus first appeared in France in 1916 though now the more widely-accepted place of origin is the United States. See Humphries, "Paths of Infection."
[55] LAC RG9 III-B-2 Vol. 3613, 25-3-7 "Influenza Amongst Canadian Troops in England," p.1 dated 14 October 1918.

Pfeiffer, *Bacillus influenzae* was a small-rod shaped bacterium that had previously been isolated from the noses of flu patients. However, as the epidemic progressed, evidence of *Bacillus influenzae* could only be found in many, but not all, victims of influenza. Additionally, the current outbreak did not exhibit the normal signs of influenza. Rather, it appeared to be something else or that they were experiencing many simultaneous outbreaks of a similar disease. In an attempt to determine what (or what else) could be causing the outbreak, numerous researchers conducted experiments in order to better understand the nature of the disease.[56] Amyot mentioned that while the outbreak at Bramshott and Witley Camps in September-October was believed to be *Bacillus influenzae,* the outbreak in Liverpool in July had shown the presence of *Micrococcus catarrhalis* with *Pneumono-bacillus*. Complicating matters further was the presence of *Staphylococcus*, *Streptococcus*, and *Pneumococcus* among certain sufferers.[57] The inconsistencies among patients both in symptoms as well as bacterium baffled pathologists. The only thing of which they were certain was that whatever they were fighting was transmitted through droplets in the air emitted when an infected person coughed or sneezed, as well as through the contamination of eating and drinking utensils.[58]

Lieutenant-Colonel Amyot concluded his report by describing the various and efficient ways that the CAMC quickly reacted to address the outbreak and curb the spread of the disease beyond Bramshott Camp. Still, these efforts had proven unsuccessful. Though Bramshott Camp was reportedly infected first and remained the camp hit hardest by the epidemic, it had since spread to the other training camps: the outbreak at Bramshott was stated to have begun on 24 September, the

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[56] Heather L. Van Epps, "Influenza: Exposing the True Killer," *The Journal of Experimental Medicine* 203, no. 4 (April 17, 2006): 803, https://doi.org/10.1084/jem.2034fta.
[57] LAC RG9 III-B-2 Vol. 3613, 25-3-7 "Influenza Amongst Canadian Troops in England," p.1 dated 14 October 1918.
[58] The influenza virus was not isolated until years after the war. LAC RG9 III-B-2 Vol. 3613, 25-3-7 "Influenza Amongst Canadian Troops in England," p.1 dated 14 October 1918.

outbreak at Witley Camp on 4 October, and the outbreak at Seaford Camp on 8 October.[59] Though these dates seem to be based on the "first" influenza admissions to hospital, sick soldiers had been admitted to the hospital for influenza and influenza-like illnesses prior to 24 September 1918. According to Amyot's report, since 24 September Bramshott had admitted 556 cases to hospital with another 300 cases being treated in the lines and had suffered forty deaths thus far, while Witley Camp had admitted twenty men to hospital, was treating 212 cases in-unit, and had lost two men, with Seaford Camp admitting 107 men to hospital, treating an additional thirty in the lines, and having suffered four deaths.[60]

Though the statistics provided in Amyot's report are staggering enough and were likely included to provide an overview of the situation, they do not properly convey the scope of the epidemic. The Admissions and Discharges Books for No. 12 Canadian General Hospital tell an even grimmer story. From 1 to 14 October, 1,268 men were admitted to the hospital. Of those, 1,133 (eighty-nine percent) were diagnosed with influenza or influenza-like illnesses, more than double what Amyot reported. Of the 1,133 admitted men, two were diagnosed with bronchitis, one was diagnosed with pneumonia and all others were diagnosed with influenza, meaning that even if only those diagnosed specifically with influenza were included in the total, Lieutenant-Colonel Amyot's figures are still vastly under representative.[61] Considering that this report was sent to Colonel J. G. Adami, Assistant Medical Director, presumably with the intention of informing the higher-ranking officials of the situation, such large discrepancies could easily lead to a misunderstanding of the actual impact of the epidemic.

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[59] Note that this start date for the epidemic at Bramshott differs slightly from the one stated by the ADMS who said that the outbreak started on 29 September. Both of these dates actually seem incorrect as influenza was present in the camps before the 24th as shown by the Admissions and Discharges books from No. 12 Canadian General Hospital.
[60] Ibid., 2.
[61] It should be noted that for many who died, "broncho-pneumonia" was added to their diagnosis. Totals calculated by author.

One key element that the report does highlight correctly is that the 15th Reserve Battalion remained the hardest hit unit by far.[62] According to the hospital's Admissions and Discharges books, of the 1,133 men sick with influenza admitted to No. 12 Canadian General Hospital, 464 (forty-one percent) were from the 15th Reserve Battalion. Between 1 and 14 October, forty men from the 15th Reserve Battalion had died (see Appendix 1).[63] Among those who died was Private Roy Rumble. A farmer from Uren, Saskatchewan, Private Rumble was admitted to No. 12 Canadian General Hospital on 27 August 1918. He had arrived among the new drafts of soldiers from Canada on 15 August, and had fallen ill shortly after completing his segregation period at Frensham Pond Segregation Camp. His temperature chart shows wild fluctuations as he experienced bouts of fever and deep chills (see Figure 10). Rumble died on 7 October 1918 at the age of 21 after suffering for eleven days.[64] While Private Rumble suffered and succumbed, the virus continued to spread throughout Bramshott and the rest of England despite all efforts to

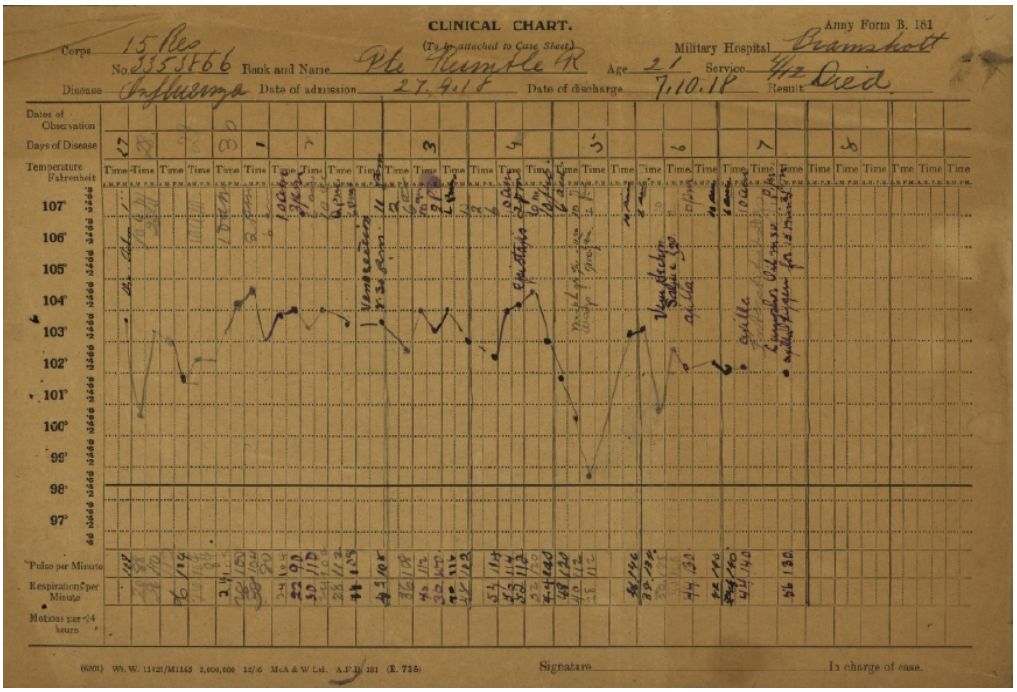

Figure 10: Private Rumble's Temperature Chart. Shows the various fluctuations he experienced during his 11 day stay at No. 12 Canadian General Hospital. Source: LAC RG150, Accession 1992-93/166, Box 8542-31, Item No. 617343.

[62] Ibid.
[63] Totals calculated by author. LAC RG150 Vol. 541, Books 478 & 479. Admissions and Discharges Books of the Canadian Army Medical Corps Overseas – No. 12 Canadian General Hospital, Bramshott, October 1918.
[64] LAC RG150, Accession 1992-93/166, Box 8542-31, Item No. 617343 – Service Files of the First World War – Private Roy Reginald Rumble, 3353866.

contain it. More and more men who were supposed to be going to France to replace the many casualties at the front-line were falling ill and unable to report for duty. Though reinforcements were needed, there were not enough healthy men to send.

Soon after Bramshott Camp was placed under the blanket quarantine, discussions began regarding the camp's ability to send drafts of reinforcements to France. On 14 October, Major-General Foster sent a memo to the Headquarters of the Overseas Military Forces of Canada at Argyll House in London which included Colonel Rudolf's report regarding the influenza outbreak at Bramshott Camp. In the memo, Major-General Foster stated that if any reinforcements were required from the Bramshott area, that, "they may be sent with a minimum of risk" as long as the intended men were separated and kept in strict segregation for four days beforehand.[65] While in segregation they would have twice-daily inspections by a medical officer and if during those four days no new cases presented themselves, the draft could be sent but only after notifying the War Office of the circumstances. To ensure that Headquarters had a true understanding of the scope of the epidemic, the memo went on to list the number of 'Contacts' at each camp, meaning the number of men who were not themselves sick but had been exposed to the disease in some way. According to the list, all 22,000 troops at Bramshott Camp were considered contacts.[66]

The following day, orders were issued to begin segregating between 700 and 800 men at Bramshott Camp. They were to be separated into special huts in order to prepare them to be sent onwards as drafts following their successful completion of the four-day segregation period.[67] On 16 October, Lieutenant-Colonel Amyot went to the War Office in London to discuss the finer details of sending infectious disease contacts onwards as reinforcements. With Lieutenant-Colonel

[65] LAC RG9 III-B-2 Vol. 3613, 25-3-7 "Memo to The Secretary, OMFC Argyll House" dated 14 October 1918.
[66] Interestingly, while all troops at Bramshott Camp were considered contacts, all troops of the CER Group at Seaford and all troops in the Artillery Group at Witley were considered contacts (about 3,000 men each). Ibid.
[67] LAC RG9 III-B-2 Vol. 3613, 25-3-7 Telegram to Headquarters Canadian Bramshott dated 15 October 1918.

Bridges it was decided that contacts could be released following the four-day segregation period as long as no new cases arose among the soldiers during that time. However, if a single case was to appear, the entire hut of men would no longer qualify for the draft. Furthermore, if arrangements were not available to move the draft upon the completion of their four-day segregation period, the men were to remain in strict segregation until the accommodations could be arranged. Finally, the officers determined that the acceptance of these drafts would be entirely up to the "Canadian Authorities" in France, and that it was the responsibility of the War Office to ensure that these authorities understood the conditions from which the drafts were coming.[68] Though all of these decisions were made with the best intentions to protect all those who had (theoretically) not been exposed yet, such measures meant that many men remained unavailable as reinforcements at so critical a time on the Western Front.

Though such decisions suggest that every effort was being made to ensure that the men being sent to France showed no signs of being sick, it simultaneously put the onus on the officers in France to decide whether to introduce these potential carriers of the disease into their units or not. Furthermore, these decisions appear to have been made without mention of the obviously key detail that the Canadian Corps Reinforcement Camp (CCRC) in France was already known to be experiencing its own outbreak of influenza.[69] Though its war diary makes no direct mention of an outbreak, it does show a steady stream of men being sent to hospital each day. Considering that the average daily strength of the camp for the month of October was 310 officers and 9,074 other ranks,

[68] Unfortunately, the document does not specify which "Canadian Authorities" that they are referencing here, though presumably they are referring to the Commanding Officer of the Canadian Corps Reinforcement Camp and/or of the individual units receiving the drafts. LAC RG9 III-B-2 Vol. 3613, 25-3-7Memorandum dated 16 October 1918.
[69] The ADMS for the 4th Canadian Division's war diary entry on 5 October mentions sending an officer to the camp in order to help with the epidemic of influenza there. LAC RG9 III-D-3 Vol. 5026, File No. 820 – War Diaries – Assistant Director Medical Services, 4th Canadian Division – October 1918.

one can only imagine how quickly epidemic influenza could spread throughout it.[70] Therefore, even if the drafts of men leaving England showed no signs of infection, they were being sent to a camp that itself was already fighting an outbreak. Such risk demonstrates that there was either a lack of communication regarding the severity of the outbreak in France with authorities in England, or that the risk was deemed acceptable considering the necessity of getting more men to the front. As with the troopships carrying sick men from Canada, it would appear that military necessity once again outweighed the greater risk of a mass epidemic amongst front-line troops. Meanwhile, though they may not have known the exact cause for the delay, units in the front lines were noticing that fewer reinforcements were coming down the line, and that was not good news.

Influenza and the 46th Battalion in France

While the epidemic of influenza had begun to rage throughout England, the men of the 46th Battalion in France were recuperating after their successful crossing of the Canal du Nord. The battalion had withdrawn from the front lines for a much-needed rest and by 2 October it had moved to Inchy-en-Artois, and then Arras on 7 October. While away from battle, the men spent their time training and waiting for reinforcements to refill their ranks.[71] The 46th Battalion's strength had been greatly depleted in the previous weeks and the flow of reinforcements coming up the lines had noticeably dwindled.[72] Since the 1st of the month, the 46th Battalion had received no reinforcements.[73]

[70] The war diary for the camp's ADMS could not be located. LAC RG9 III-D-3 Vol. 5047, File No. 913 – War Diaries – Canadian Corps Reinforcement Camp – October 1918.
[71] LAC RG9 III-D-3 Vol. 4940, File No. 437 – War Diaries – 46th Canadian Infantry Battalion – October 1918.
[72] McWilliams and Steel, *The Suicide Battalion*, 183–84.
[73] LAC RG9 III-D-3 Vol. 4940, File No. 437 – War Diaries – 46th Canadian Infantry Battalion – October 1918.

Despite the epidemic of influenza raging in England, only a few mentions of it could be found in the sources from France. The war diary for the 46th Battalion and the 10th Brigade[74] make no mention of influenza or any other form of infectious disease affecting them.[75] However, the war diary for the ADMS for the 4th Canadian Division, Colonel C. A. Peters, stated that on 5 October 1918 a captain was sent to the CCRC at Aubin St-Vaast (sixty kilometers west of Arras), "to look after epidemic of Influenza."[76] While the war diary goes on to note that an officer from No. 11 Canadian Field Ambulance was evacuated sick, it also noted that officers and other ranks of the CAMC frequently travelled to England on leave, suggesting that those at the front might have been unaware of the severity of the outbreak there.[77] While the war diary for No. 11 Canadian Field Ambulance[78] makes no mention of illness, the war diary for No. 12 Canadian Field Ambulance mentions that as of 7 October the unit was experiencing large sick parades from both the 12th Canadian Infantry Brigade as well as the locals in the vicinity of Écoivres (forty kilometers west of Arras). The large sick parades continued until 13 October, though the war diary states that this field ambulance only admitted a few patients.[79] Finally, No. 13 Canadian Field Ambulance, which was assigned to the 10th Brigade and moved where they moved, was operating the brigade's rest station at Maroeuil (seven kilometers west of Arras). Despite this role, its war diary also makes no mention of disease present among the men or the civilian population.[80]

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[74] Ibid.; LAC RG9 III-D-3 Vol. 4902, File No. 310 – War Diaries – 10th Canadian Infantry Brigade – October 1918.
[75] LAC RG9 III-D-3 Vol. 4940, File No. 437 – War Diaries – 46th Canadian Infantry Battalion – October 1918.; LAC RG9 III-D-3 Vol. 4902, File No. 310 – War Diaries – 10th Canadian Infantry Brigade – October 1918.
[76] LAC RG9 III-D-3 Vol. 5026, File No. 820 – War Diaries – Assistant Director Medical Services, 4th Canadian Division – October 1918.
[77] It should be noted that nothing in the war diaries suggest that the ADMS was aware of the epidemic raging in England but it seems unlikely that he had not been warned or at the very least heard rumors of an outbreak.
[78] LAC RG9 III-D-3 Vol. 5031, File No. 834 – War Diaries – No. 11 Canadian Field Ambulance – October 1918;
[79] LAC RG9 III-D-3 Vol. 5031, File No. 835 – War Diaries – No. 12 Canadian Field Ambulance – October 1918. The Admissions and Discharges books for the field ambulance confirm that from 1 to 15 October there were thirty-three admissions for PUO, six for influenza, two for bronchitis, and one for pleurisy. LAC RG150 Vol. 526, Book 273. Admissions and Discharges Books of the Canadian Army Medical Corps Overseas – No. 12 Canadian Field Ambulance, October 1918.
[80] LAC RG9 III-D-3 Vol. 5032, File No. 836 – War Diaries – No. 13 Canadian Field Ambulance – October 1918.

Notwithstanding this, the field ambulance's Admissions and Discharges book shows a different story. Though the books show no entries from 1 to 8 October, between 8 and 14 October they show that a total of thirty-one patients were admitted. Of those, ten were suffering from Pyrexia of Unknown Origins (PUO) while one was diagnosed with bronchitis and one with influenza. Of the total number of admissions, three men were from the 46th Battalion though none of them was diagnosed with influenza or influenza-like illnesses. Though it does not appear that the men of the 46th Battalion had been affected by epidemic influenza yet, it was certainly around them as members of the 44th and 50th Battalions were admitted to No. 13 Canadian Field Ambulance for it.[81] Rather than not yet being infected, the more likely scenario is that men from the 46th Battalion were not yet sick enough to be admitted to the field ambulance, and instead were being treated in their unit so as to avoid being evacuated. Considering just how few men the 46th Battalion had at this time and how few reinforcements were arriving, it seems probable that the unit would have sent away only the very serious cases to avoid losing men to the medical evacuation stream. Regardless, it is clear that even if the men of the 46th Battalion were not yet infected by influenza, it was certainly creeping ever closer to them.

Beyond Capacity

As influenza increasingly threatened the men of the 46th Battalion in France, the personnel of No. 12 Canadian General Hospital in England continued to struggle to treat all of the sick men being admitted. By 14 October, No. 12 Canadian General Hospital had been able to expand its capacity to include an additional 650 beds after taking over various huts in the surrounding area.

[81] Totals calculated by author. Such low admissions make sense considering that the brigade was away from the front lines during this time. LAC RG150 Vol. 527, Books 299 & 299A. Admissions and Discharges Books of the Canadian Army Medical Corps Overseas – No. 13 Canadian Field Ambulance, October 1918.

But this was still insufficient for the number of seriously sick men piling in, so the milder cases had to be treated in their own lines.[82] Compounding the capacity problem was a precautionary measure forcing all soldiers who were discharged from hospital after having suffered from influenza to be placed in specially designated huts in their respective lines for a period of ten days. Only upon completion of these ten days and only if they showed no further symptoms were the men allowed to rejoin their unit.[83] It remains unclear whether this measure was enforced for only those diagnosed with influenza, or whether it included those also suffering from influenza-like illnesses such as bronchitis or pneumonia.

According to Lieutenant-Colonel Amyot's report from 14 October, all units having twenty or more cases of influenza in their ranks were immediately put under a strict segregation. While the entirety of the Bramshott Camp remained in quarantine, only a handful of units at Witley and Seaford Camps were quarantined.[84] Additionally, on 15 October, Witley Camp was asked to keep all men sick with influenza at the nearby Canadian Special Hospital rather than send them to No. 12 Canadian General Hospital due to the lack of available space.[85] Meanwhile, ongoing concern regarding the thousands of Canadians still sleeping in canvas tents throughout various camps meant that wherever possible units with only a few sick members were ordered to move to free up huts for other units who were in tents. For this reason, a few units were moved out of the Witley area.[86] Though such was done with the best of intentions, this movement could easily have led to a spread of the virus. Since the moving of units was not possible at Bramshott due to the scope of the

[82] LAC RG9 III-B-2 Vol. 3613, 25-3-7 "Influenza Amongst Canadian Troops in England," p.2 dated 14 October 1918.
[83] This idea was first suggested by Lt-Col Amyot on 8 October, then became a principal topic of discussion on 12 Oct LAC RG9 III-B-2 Vol. 3613, 25-3-7, "Memo to AMDD" p. 1 dated 8 Oct 1918; LAC RG9 III Vol. 1776 File No. D-7-14, "Influenza – Return of Early Convalescents to Lines," dated 12 Oct. 1918;" LAC RG9 III-B-2 Vol. 3613, 25-3-7 "Influenza Amongst Canadian Troops in England," p.3 dated 14 October 1918.
[84] Based on an overview of files in LAC RG9 III Vol. 1776 File No. D-7-14 Vols. 1-3.
[85] LAC RG9 III Vol. 1776 File No. D-7-14, "Influenza Patients" dated 15 Oct. 1918.
[86] Based on an overview of files in LAC RG9 III Vol. 1776 File No. D-7-14 Vols. 1-3.

outbreak, Amyot recommended that tents be taken from Fresham Pond Segregation Camp wherever possible to double up the canvas walls and floorboards of the tents at Bramshott.[87]

Since Bramshott Camp was still under a strict quarantine, new drafts from Canada had to be sent elsewhere. For example, new soldiers from Saskatchewan arriving on 25 September 1918 aboard HMT *Durham Castle* were sent to Kinmel Park, a training camp in North Wales close by Liverpool. Among these recently arrived men was Private Frank Meyers. Born in Minnesota Private Meyers was working as a mechanic's assistant in Shaunavon, Saskatchewan before voluntarily enlisting on 21 June 1918 with 1st Depot Battalion, Saskatchewan Regiment. Private Meyers died of broncho-pneumonia on 18 October 1918, the same day he was admitted to Kinmel Park Hospital in Rhyl, Wales. He was only 20 years old and had been in the United Kingdom and a member of the 15th Reserve Battalion for only 24 days (see Figure 11).[88] Though Private Meyers was not present at Bramshott Camp nor treated in No. 12 Canadian General Hospital, he has still been included in this work as he was a member of the 15th Reserve Battalion and acts as a reminder that a handful of men from the 15th Reserve Battalion died away from Bramshott (see Appendix 1). Additionally, he serves as a reminder that even this late into 1918 there were still young men volunteering to enlist despite the fact that the vast majority of drafts now arriving in the United Kingdom consisted of conscripted soldiers.

Figure 11: The Headstone of Private Frank Meyers Source: CVWM.

While the new men of the 15th Reserve Battalion began their segregation period and training at Kinmel Park, on 22 October, Colonel

[87] LAC RG9 III-B-2 Vol. 3613, 25-3-7 "Influenza Amongst Canadian Troops in England," p.3 dated 14 October 1918.
[88] LAC RG150, Accession 1992-93/166, Box 6147-28, Item No. 191487 – Service Files of the First World War – Private Frank Meyers, 3353035.

Adami visited Bramshott and Witley. According to him, 21,849 men were at Bramshott Camp, 2,442 of whom were members of the 15th Reserve Battalion. According to the report, between 30 September and 22 October, seventy deaths had occurred at Bramshott with only fifteen deaths occurring at Witley. Of those at Bramshott, forty-five were members of the 15th Reserve Battalion.[89] However, according to the Admissions and Discharges books for No. 12 Canadian General Hospital, forty-four men from the 15th Reserve Battalion had died between 1 and 16 October (see Appendix 1).[90] Meanwhile, eighty-nine men in total had died between 1 and 22 October – all from influenza and its complications.[91] Once again, the figures being reported do not appear to be accurately representing the severity of the situation at Bramshott Camp.[92]

The Second Wave of Influenza Abating

On 23 October, Colonel Rudolf once again visited Bramshott Camp. Following his visit, he reported that, "The epidemic seems to have temporarily – at any rate – abated," with fewer cases having been admitted to hospital compared to the week before.[93] He goes on to explain how the five percent mortality rate continued, but that this overstated the mortality of the disease as so many of the less-severe cases were being treated at the camps by the units rather than the hospital.[94] However, the mortality figures being reported thus far were inaccurate. Rather than fifty-three deaths as was shown in Colonel Rudolf's report (noticeably fewer than the seventy reported by

[89] LAC RG 9 III-B-2 Vol. 3752, 3-1-1-5, "Notes of visit to Bramshott and Witley," dated 22 Oct. 1918.
[90] The forty-fifth and final death from the 15th Reserve Battalion for the month of October was Private Meyers on 18 October but because he was not at No. 12 Canadian General Hospital when he died, he has not been included in these figures.
[91] The three other members of the 15th Reserve Battalion who died in October 1918 noted above had not been included in these statistics as they were not being treated at No. 12 Canadian General Hospital and therefore are not included in the Admissions and Discharges books.
[92] Once again, the reason for the discrepancies in the figures is unknown.
[93] LAC RG9 III-B-2 Vol. 3613, 25-3-7, "Influenza at Bramshott" dated 24 Oct. 1918.
[94] Ibid.

Colonel Adami), the camp had actually suffered ninety-five deaths between 1 and 23 October.[95] Considering the 1,664 admissions for influenza during those dates, the mortality rate for cases admitted to the hospital was actually 5.7 percent.[96] Despite the discrepancies in the various reports, Colonel Rudolf was correct in suggesting that the epidemic at Bramshott Camp was on the wane.

Those who were still being admitted to No. 12 Canadian General Hospital for influenza were all being treated in a relatively uniform way by being kept warm, staying in bed, and receiving general nursing for as long as they suffered from a fever, as well as for a few days afterwards.[97] According to Colonel Rudolf, patients were nourished, "as well as possible," and stimulants were used freely for bad cases with some patients receiving glucose intravenously while others were given quinine, salicin, oil of cinnamon, and antistreptococcic serum (though it is clear from the report's tone that all of these were administered experimentally).[98] The report concludes that though some medical officers had themselves fallen sick during the epidemic, none thus far had died, and that overall Colonel Rudolf believed that the, "Influenza situation at Bramshott…[was] well underhand."[99]

Just as the outbreak at Bramshott seemed to be waning, major concern arose on 25 October when it was realized that nearly six hundred raw soldiers had been granted their Landing Leave following their twenty-eight day stay at Frensham Pond Segregation Camp which was not under quarantine at the time. Major-General Foster was concerned that this could lead to a recurrence of the outbreak that Bramshott Camp experienced when the new soldiers returned to their various training camps. Therefore, he ordered that special huts be set up at all training camps where all

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[95] Totals calculated by author. LAC RG150 Vol. 541, Books 478 & 479. Admissions and Discharges Books of the Canadian Army Medical Corps Overseas – No. 12 Canadian General Hospital, Bramshott, October 1918.
[96] These figures only consider admissions and deaths in October and do not include figures from earlier months.
[97] Ongoing monitoring after the fever broke was considered quite important by this time as severe cases often experienced a second wave of fever which was more likely to lead to the patient's death.
[98] LAC RG9 III-B-2 Vol. 3613, 25-3-7, "Influenza at Bramshott" dated 24 Oct. 1918.
[99] Ibid.

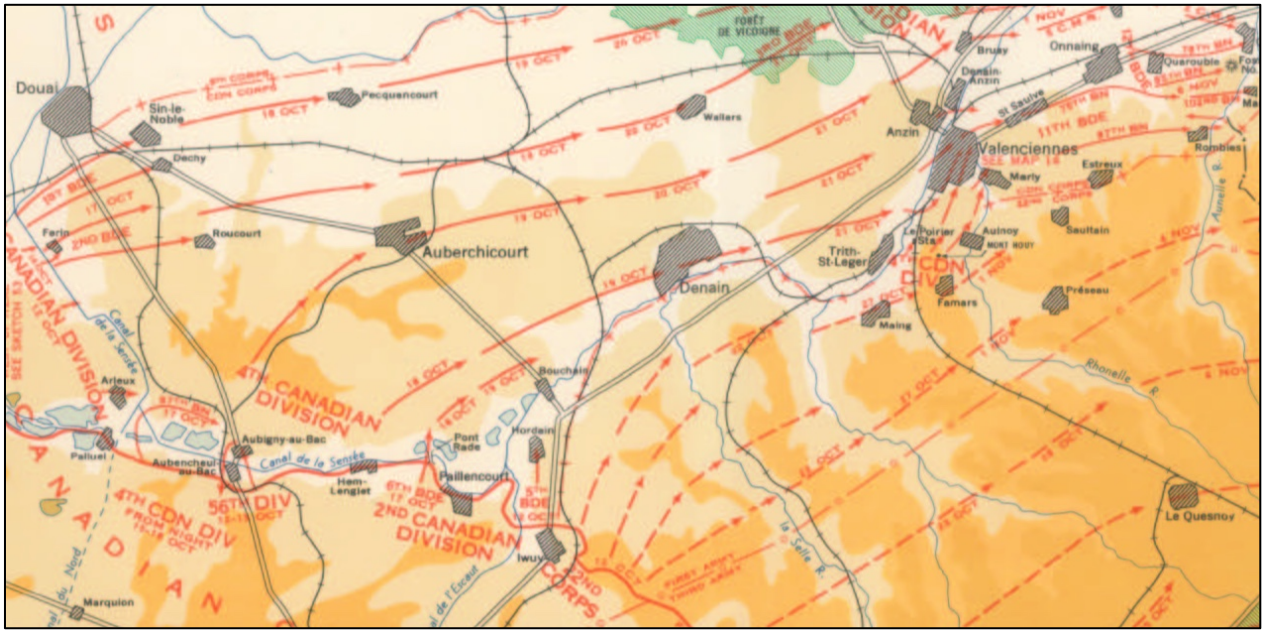
those returning from leave would remain until they were deemed no threat.[100] On 28 October, Foster sent an urgent request to the Headquarters of the Overseas Military Forces of Canada urging that all but the most necessary leave in England be cancelled due to the epidemic still raging throughout the United Kingdom.[101] Additionally, he noted that they were finding it increasingly difficult to find hospital facilities to treat the men who fell ill while on leave, and that at Seaford Camp there remained 1,800 men sleeping in canvas tents, noting that, "In Seaford the greatest number of cases, the severest cases and the greatest percentage of deaths have been amongst the men under canvas." Though he pled for proper accommodation and the construction of huts, it seems the War Office ignored his pleas.[102] Meanwhile, more than 5,000 men at Bramshott Camp still remained in canvas huts. Yet, despite the known presence of influenza still at the camp as well as all around it, on that same day Bramshott Camp's quarantine was lifted.[103]

The 46th Battalion's Pursuit

As all of this was transpiring at Bramshott Camp in England, the 46th Battalion in France had returned to the front lines and was focused on pursuing the withdrawing German Army, as was the entire Canadian Corps. On 14 October, the members of the 46th Battalion found themselves on the western bank of the Canal de la Sensée near Fressiers, only three miles from the position that they had vacated on 28 September (see Map 2).[104] On 16 October, the battalion suffered one killed, and six wounded when some men attempted to cross the canal and gather information about the Germans on the other side.[105] By this time, the unit also had at least four soldiers evacuated for

[100] LAC RG9 III-B-2 Vol. 3613, 25-3-7, Memo from the Director-General Medical Services dated 25 Oct. 1918.
[101] LAC RG9 III-B-2 Vol. 3613, 25-3-7, "Influenza Epidemic," dated 28 Oct. 1918.
[102] No documents could be found suggesting that the War Office responded positively.
[103] LAC RG9 III-D-3 Vol. 4865, File no. 184 – War Diaries – Headquarters, Canadian – Bramshott – October 1918.
[104] LAC RG9 III-D-3 Vol. 4940, File No. 437 – War Diaries – 46th Canadian Infantry Battalion – October 1918.
[105] Ibid.

influenza-like illnesses including Private Daniel Griffin. Private Griffin enlisted in Moosejaw, Saskatchewan on 18 December 1915 and arrived in England in August of 1916. After training at Witley Camp, he was transferred to the 46th Battalion on 25 May. Private Griffin was admitted to No. 13 Canadian Field Ambulance on 15 October 1918, diagnosed with PUO, and immediately sent to No. 11 Canadian Field Ambulance.[106] From there he flowed through the CAMC's evacuation stream reaching No. 5 General Hospital in Rouen the following day. On 21 October his



Map 2: The Advance of the 46th Battalion, October 1918. Shows the Canal de la Sensée east of Aubigny-au-Bas (bottom left corner) where the 46th Battalion was on 14 October 1918 and the trajectory it, along with the rest of the 4th Canadian Division, followed towards Valenciennes. Source: Nicholson, *Official History of the Canadian Army*, 482.

diagnosis was changed from PUO to influenza. Private Griffin was only able to rejoin his unit in the field on 24 December 1918, over two months after he had been evacuated. He remained a member of the unit until he was demobilized on 10 June 1919 at the age of 26.[107] Private Griffin demonstrates that not all men evacuated for influenza died. Rather, some were able to return after

[106] LAC RG150 Vol. 527, Books 299 & 299A. Admissions and Discharges Books of the Canadian Army Medical Corps Overseas – No. 13 Canadian Field Ambulance, October 1918.
[107] LAC RG150, Accession 1992-93/166, Box 3828-30, Item No. 430803 – Service Files of the First World War – Private Daniel Urban Griffin, 781469.

a long period of time. Though it was a good thing that soldiers were able to eventually return to their units, it does also highlight the degree of wastage that pandemic influenza caused.

While Private Griffin and the handful of casualties were being evacuated from the front lines, during the night of 17 October the rest of the 46th Battalion crossed the Canal de la Sensée and began slowly making its way through Fressiers. As the men made their way through the village, then onto Fechain, they encountered no resistance.[108] On 18 October, the 46th Battalion passed through the town of Marcq before encountering German soldiers near the town of Monchecourt and being stalled near Emerchicourt until that night when artillery support allowed the advance to continue.[109] The following day was spent marching with no signs of German soldiers as the men of the 46th Battalion marched through Mastaing and Roeulx. In Roeulx, the battalion was greeted by cheering civilians.[110] After getting a much-needed rest in Roeulx, the 46th Battalion moved on towards Denain but was unable to take it until the morning of 21 October after the village had been abandoned by the Germans. Here too the Canadians were greeted by throngs of cheering civilians though they kept moving until reaching Rouvignies that night. On this day the battalion received its first reinforcements since they had begun the pursuit – a total of twelve men.[111] On 22 October the 46th Battalion found itself near the village of Trith-St. Leger along the Canal de l'Escaut. No German soldiers were found in the area and by morning the Canadians could see the outskirts of

[108] LAC RG9 III-D-3 Vol. 4940, File No. 437 – War Diaries – 46th Canadian Infantry Battalion – October 1918.
[109] McWilliams and Steel, *The Suicide Battalion*, 186–88. And LAC RG9 III-D-3 Vol. 4940, File No. 437 – War Diaries – 46th Canadian Infantry Battalion – October 1918.
[110] Ibid.
[111] Ibid.

Valenciennes.[112] The 46th Battalion returned to Denain. There they stayed for a few days resting, cleaning up, and training. Still no reinforcements arrived.[113]

On 23 October a depot for sick civilians was opened in Denain.[114] By this time, another soldier from the 46th Battalion had been admitted to No. 13 Canadian Field Ambulance for influenza and had been evacuated.[115] Though it does not appear that influenza had been seriously affecting the men of the 46th Battalion up until this point, on 27 October the whole battalion took part in a Medical Parade where they all had to gargle a solution to disinfect their throats.[116] They continued to hold occasional "Gargle Parades" into November.[117] Such actions suggest that even if the battalion only had a few cases of disease in their ranks, the CAMC was trying to ensure that the rest of the men did not get sick. Meanwhile, No. 13 Canadian Field Ambulance had admitted fifty-five soldiers suffering from influenza-like illnesses between 1 and 21 October with almost all of the diagnoses being PUO.[118]

At 3:15 pm on 29 October the men of the 46th Battalion set off once again, this time towards the village of Thiant.[119] On 30 October, the 46th Battalion was behind the 44th and 47th Battalions as they began their advance towards the ridge that protected the southern entrance to Valenciennes.

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[112] McWilliams and Steel, *The Suicide Battalion*, 189–91.
[113] LAC RG9 III-D-3 Vol. 4940, File No. 437 – War Diaries – 46th Canadian Infantry Battalion – October 1918.
[114] Unfortunately, the war diary does not state which of the 4th Divisions' field ambulances is operating the depot nor what the civilians were sick with. LAC RG9 III-D-3 Vol. 5026, File No. 820 – War Diaries – Assistant Director Medical Services, 4th Canadian Division – October 1918.
[115] It should be noted that although Lance Corporal William Glover, 255659 had been diagnosed by the field ambulance as suffering from influenza, his diagnosis was later changed to trench fever. Changes in diagnosis such as this were fairly common, therefore the last diagnosis in the medical records is the one used throughout this study. LAC RG150, Accession 1992-93/166, Box 3592-55, Item No. 420667 – Service Files of the First World War – Lance Corporal William Stanley Glover, 255659.
[116] LAC RG9 III-C-3 Vol. 4213, File Part 5.2 Folder 5 File 3 – Part II Orders – 46th Canadian Infantry Battalion – 27 October 1918.
[117] LAC RG9 III-C-3 Vol. 4213, File Part 5.2 Folder 5 File 3 – Part II Orders – 46th Canadian Infantry Battalion – 1 & 13 November 1918.
[118] Totals calculated by author. During this period the field ambulance had admitted a total of 229 men, meaning twenty-four percent of the total admissions at that time were for influenza-like illnesses. LAC RG150 Vol. 527, Books 299 & 299A. Admissions and Discharges Books of the Canadian Army Medical Corps Overseas – No. 13 Canadian Field Ambulance, October 1918.
[119] LAC RG9 III-D-3 Vol. 4940, File No. 437 – War Diaries – 46th Canadian Infantry Battalion – October 1918.

The intention of the assault was for the 44th and 47th Battalions to advance following a massive artillery barrage sweeping up over the ridge. Once they had reached their target, the 46th Battalion would advance through the 44th Battalion then attack along the southern edge of Valenciennes. The 46th Battalion faced a wide front that included a large suburb that was occupied by German troops. The task was a formidable one, let alone considering that the 46th Battalion only had twenty-one officers and 384 men left for the operation when typically, a battalion consisted of about 1,000 men.[120] Though the battalion badly needed reinforcements, the outbreak of pandemic influenza meant that the reinforcement stream coming from the 15th Reserve Battalion had ground to a halt.

In fifteen days, the battalion had received only twelve reinforcements despite vastly depleted numbers. According to the war diary of the 10th Brigade, during the entire month the 46th Battalion suffered a total of 130 casualties while receiving sixty-eight reinforcements. The 47th and 50th Battalions received even fewer reinforcements (thirty-four and thirty-one, respectively) despite suffering similar casualties, while the 44th Battalion received 328 reinforcements despite suffering only sixty-seven casualties.[121] Such discrepancies suggest that there was a problem with the reserve units reinforcing the 46th, 47th, and 50th Battalions.

As has been discussed, the 15th Reserve Battalion, which reinforced the 46th Battalion, was afflicted by an outbreak of influenza and was quarantined at Bramshott Camp in early October, drastically limiting its ability to send reinforcements to France. Similarly, the 21st Canadian Reserve Battalion (Alberta) which reinforced the 50th Battalion was also located at Bramshott Camp, and lost a large number of men to influenza and was affected by the camp-wide quarantine

[120] McWilliams and Steel, *The Suicide Battalion*, 195–96.
[121] LAC RG9 III-D-3 Vol. 4902, File No. 310 – War Diaries – 10th Canadian Infantry Brigade – October 1918.

which affected its ability to send reinforcements.[122] The 1st Canadian Reserve Battalion (British Columbia) reinforced the 47th Battalion and was located at Seaford Camp in Sussex.[123] Seaford was also experiencing an outbreak of influenza during the month of October 1918.[124] Finally, the 13th Canadian Reserve Battalion (New Brunswick) which reinforced the 44th Battalion as of August 1918 was located at Bramshott Camp, but on 24 October it and the Young Soldiers' Battalion were transferred to Witley Camp about thirteen kilometers away.[125] It would appear as though the 13th Reserve Battalion had been considered healthy enough to be transferred to Witley, which was not under a blanket quarantine at the time despite also experiencing an epidemic of influenza. Rather, only specific battalions at Witley Camp with more than twenty sick soldiers were in quarantine.[126] During the month of September, the 13th Battalion only admitted a total of five men to hospital while the 21st Battalion admitted twelve, none of whom were suffering from influenza or influenza-like illnesses. Then, in October, only fifty-nine men from the 13th Reserve Battalion were admitted to No. 12 Canadian General Hospital for influenza compared to the 528 from the 15th Reserve Battalion and 462 from the 21st Reserve Battalion (see Table 2).[127]

Due to the 13th Battalion having so few sick men during September and October, it would have been able to continue sending soldiers to the front long after the blanket-quarantine was implemented at Bramshott. The 13th Battalion's training was likely far less interrupted than was

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[122] LAC, "Reserve Battalions," 47.; LAC RG9 III-D-3 Vol. 4865, File no. 184 – War Diaries – Headquarters, Canadian – Bramshott – October 1918; LAC RG150 Vol. 541, Books 478-480. Admissions and Discharges Books of the Canadian Army Medical Corps Overseas – No. 12 Canadian General Hospital, Bramshott, October 1918.
[123] Ibid., 2.
[124] LAC RG9 III-B-2 Vol. 3613, 25-3-7 "Influenza Amongst Canadian Troops in England," p.1 dated 14 October 1918.
[125] LAC, "Reserve Battalions," 41. LAC RG9 III-B-1-14 Vol. 1776 File No. D-7-14 Part 2 – Assistant Director Medical Services in England – Diseases, Infections "Flu"; LAC RG9 III-D-3 Vol. 4865, File no. 184 – War Diaries – Headquarters, Canadian – Bramshott – October 1918.
[126] Based on an overview of documents in LAC RG9 III-B-1-14 Vol. 1776 File No. D-7-14 Part 2 – Assistant Director Medical Services in England – Diseases, Infections "Flu."
[127] Totals calculated by author. LAC RG150 Vol. 541, Books 477-480. Admissions and Discharges Books of the Canadian Army Medical Corps Overseas – No. 12 Canadian General Hospital, Bramshott, September and October 1918.

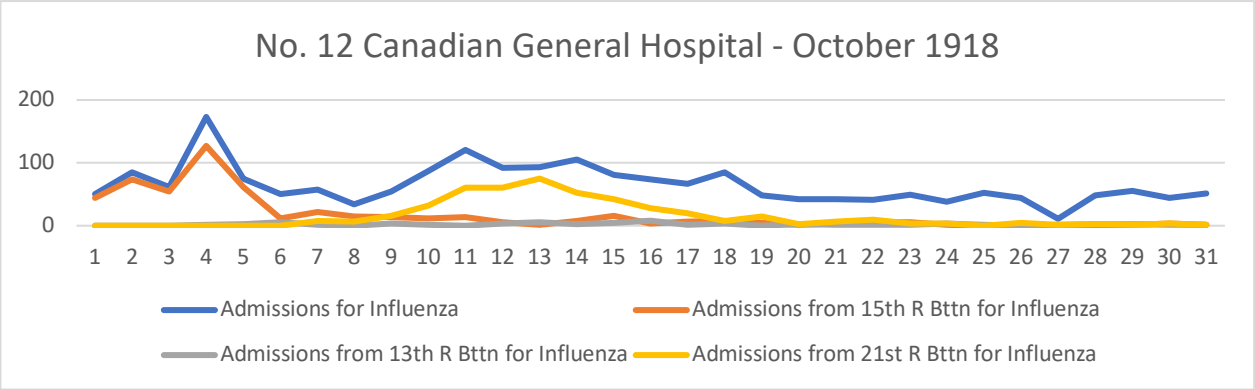

Table 2: Admissions at No. 12 Canadian General Hospital. Totals calculated by author. Source: LAC RG150 Vol. 541, Books 477-480, Admissions and Discharges Books of the Canadian Army Medical Corps Overseas – No. 12 Canadian General Hospital, Bramshott, October 1918.

that of the 15th Reserve Battalion, and its men were more likely to pass the four-day segregation period established for sending drafts of reinforcements to France during the quarantine. Once the 13th Battalion was moved to Witley Camp, it was no longer hindered by any quarantine measures and could send drafts freely. All of this explains why, despite the fact that the 44th Battalion had received the vast majority of the brigade's reinforcements that month despite suffering the fewest casualties of the entire brigade.[128] As can be seen in Table 3, despite very high casualty rates throughout September among each of the battalions, none received similarly high numbers of reinforcements. Though reinforcements continued arriving throughout October, they in no way made up for the number of casualties experienced that month or the month before, meaning that each of the four battalions were fighting during the final months of the war significantly under-strength.

Of the four reserve battalions, only the 13th Battalion from eastern Canada contained men healthy enough to be sent to the front in large numbers. This reinforces the notion that western Canada's delayed first wave of pandemic influenza meant that their men were affected more severely compared to those from eastern Canada who had already experienced the first wave of the

[128] LAC RG9 III-D-3 Vol. 4902, File No. 310 – War Diaries – 10th Canadian Infantry Brigade – April to November 1918.

	44th Bttn		46th Bttn		47th Bttn		50th Bttn	
	R	C	R	C	R	C	R	C
April	209	53	85	59	80	62	128	35
May	59	20	64	23	85	3	41	7
June	63	5	53	4	85	0	63	2
July	38	15	22	32	32	27	41	7
August	325	324	248	172	290	190	337	253
September	296	719	192	717	19	577	41	501
October	188	25	122	30	96	73	172	33
November	328	66	68	130	34	133	31	126
Totals:	1506	1227	854	1167	721	1065	854	964

Table 3: Reinforcements and Casualties of 10th Brigade, 1918. R= Reinforcements Received, C= Casualties Suffered. Casualties include all those listed as killed, wounded, or missing as well as both officers and other ranks. Data taken from the War Diary for the 10th Canadian Brigade and may not reflect the exact figures in each battalion's war diary. Source: LAC RG9 III-D-3 Vol. 4902, File No. 310 – War Diaries – 10th Canadian Infantry Brigade – April to November 1918.

pandemic prior to arriving in England. Furthering this notion is an observation from Colonel Adami on 22 October who noted that, in regards to the epidemic at Bramshott Camp, "the Western men who had prolonged open air training in Camp in Canada, and appeared to be splendidly fit, suffered far more severely than the French Canadians who had only recently left their civilian employment."[129] Though Colonel Adami erroneously attributed the experiential difference (at least partially) to the circumstances from which the men came, it seems more plausible that the geographical difference was much more significant.

Advice Comes Too Late

On 30 October a report on the measures for the prevention and treatment of influenza was distributed to all medical officers in the Bramshott area. This document outlined how bed rest was essential for the treatment of all cases regardless of how mild a form they may be treating. Moreover, the patient should be kept in bed for at least two days after his temperature had fallen

[129] LAC RG 9 III-B-2 Vol. 3752, 3-1-1-5, "Notes of visit to Bramshott and Witley," dated 22 Oct. 1918.

as 'considerable exhaustion' and fatigue were a common feature of the disease and could make the patient relapse. Additionally, the document explained that fresh air was a necessity in the wards for influenza patients so that, whenever possible, all windows should be kept open while extra blankets be distributed for warmth. As well, it detailed that treatment in the open air was particularly good for pneumonia cases and encouraged medical officers to bring pneumonia patients outside in an area protected from the wind after giving them extra layers for warmth. Finally, the document outlined how there was believed to be no merit in attempting to lower fevers using anlicylates or aspirin despite conceding that aspirin could be used to ease head and body pain.[130]

According to this report, the recommended methods of treating the severely ill and the slightly ill differed. Those suffering from only mild cases of the disease required little in regards to drug treatment other than the occasional use of saline diuretics and diaphoretics, as well as the use of tincture of camphor for those with an irritable cough. Additionally, it was recommended that patients irrigate their nasal passages three to four times a day using potassium permanganate or an alkaline solution. For more severe cases, bromide followed by a mixture of bromide and cholrak hydrate a few hours later could be administered to help patients sleep, while opiates could be used to relieve an irritable and exhausting cough (though it was discouraged from being used simply to help patients sleep). Alcohol was recommended for serious cases as was the administration of oxygen for patients who began to show blueness in their faces and extremities. Finally, the administration of stimulants, strychnine, digitalin, strophanthin, pituitrin, and other medications was left up to the medical officer in charge, as was the use of other serums and saline solutions.[131]

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[130] LAC RG9 III Vol. 1776 File No. D-7-14 "Memorandum on the Prevention and Treatment of Influenza – General Preventative Measures," p.1 dated 30 Oct. 1918.
[131] Ibid., 1-3.

Though the "Memorandum on the Prevention and Treatment of Influenza" is clearly intended to be useful for medical officers overwhelmed with influenza patients, it would seem that the advice came too late to do much good at Bramshott Camp as by then the epidemic was definitively declining. In the last week of October, 'only' 252 men were admitted to No. 12 Canadian General Hospital for influenza, 140 fewer than the week before (see Table 4). In total, throughout the month of October a staggering 2,333 men were admitted to No. 12 Canadian General Hospital, (1,372 than the month before). Among the total admissions there were 2,008 men diagnosed with influenza or influenza-like illnesses – 1,752 more than in September. 549 men of the 15th Reserve Battalion were admitted, 528 of whom were suffering from influenza and influenza-like illnesses. Of the 142 total deaths during the month, all were from influenza and its complications, while forty-four (thirty-one percent) of the men were from the 15th Reserve Battalion (see Appendix 2).[132]

Dates October 1918	Total Admissions	Admissions for Influenza+	Admissions from 15th R Bttn	Admissions from 15th R Bttn for Influenza+	Deaths from Influenza+
1	80	50	45	44	6
2	107	85	76	74	4
3	71	62	56	54	4
4	180	173	127	127	4
5	78	75	62	62	9
Week #1 Totals:	**516**	**445**	**366**	**361**	**27**
6	55	50	13	13	3
7	59	57	22	22	4
8	38	34	15	15	4
9	61	54	14	14	4
10	94	87	12	12	3
11	128	121	15	14	1
12	102	92	8	6	5

[132] Totals calculated by author. LAC RG150 Vol. 541, Books 478-480. Admissions and Discharges Books of the Canadian Army Medical Corps Overseas – No. 12 Canadian General Hospital, Bramshott, October 1918.

Week #2 Totals:	**537**	**495**	**99**	**96**	**24**
13	101	93	1	1	2
14	112	105	10	8	1
15	108	81	18	16	2
16	94	73	4	4	5
17	73	67	9	7	5
18	93	85	8	8	7
19	55	48	6	5	1
Week #3 Totals:	**636**	**552**	**56**	**49**	**23**
20	50	42	4	1	6
21	58	42	4	4	2
22	53	41	7	6	7
23	60	49	6	6	6
24	53	38	1	1	5
25	64	52	0	0	10
26	54	44	1	0	4
Week #4 Totals:	**392**	**308**	**23**	**18**	**40**
27	13	11	0	0	3
28	56	48	0	0	4
29	71	55	1	1	6
30	55	44	4	3	7
31	57	51	1	1	7
Week #5 Totals:	**252**	**209**	**6**	**5**	**27**
Grand Total:	**2,333**	**2,009**	**550**	**529**	**141**

Table 4: Breakdown of Admissions at No. 12 Canadian General Hospital, October 1918. Table shows the weekly total admissions at No. 12 Canadian General Hospital at Bramshott Camp as calculated by the author. "Influenza+" refers to all diagnoses for influenza and influenza-like diseases. Source: LAC RG150 Vol. 541, Books 478-480. Admissions and Discharges Books of the Canadian Army Medical Corps Overseas – No. 12 Canadian General Hospital, Bramshott, October 1918.

If anything, the report from 30 October demonstrates the sheer number of different symptoms and treatment methods that the medical officers were juggling. Making matters all the more frustrating, an update from Lieutenant-Colonel Rudolf on 7 November stated that "Every imaginable variation of the disease has occurred" and that despite the various treatments being

tried, "in no case have there been any striking results."[133] It appeared as though this form of influenza varied significantly and needed to be treated on an individual basis.

The Bigger Impact of the Outbreak

Though the number of cases of influenza was steadily declining, the impact of the epidemic at Bramshott was beginning to be sorely felt. According to the war diary for the Headquarters at Bramshott, during the month of October the epidemic had, "seriously interfered with training," while the subsequent quarantine had affected the number of drafts being sent to France.[134] Training troops became next to impossible not merely due to the number of them undergoing treatment but also because these men needed lengthy recovery periods.[135] If a soldier had only been in hospital for a week or two, his training could still be delayed for a month, if not more. Some soldiers had been hospitalized for more than thirty, and sometimes even sixty days. There were at least seventy-three patients with influenza or influenza-like illnesses who were admitted to the hospital in October and remained there for more than sixty days.[136] All of these factors meant that it was very hard to have a large, healthy group of trained men to send to France. Contracting influenza in late September and October meant that one was lost to the war effort.

Despite the quarantine, throughout the month of October a total of 1,938 other ranks were sent to France from Bramshott Camp. Among those were 105 men from the 15th Reserve Battalion, only thirty-three of whom were intended for the 46th Battalion.[137] Compared to the months before, both the total number of outgoing drafts from the camp as well as the number of outgoing drafts

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[133] LAC RG9 III-B-2 Vol. 3613, 25-3-7, "Influenza Epidemic in Bramshott," dated 7 November 1918.
[134] LAC RG9 III-D-3 Vol. 4865, File no. 184 – War Diaries – Headquarters, Canadian – Bramshott – October 1918.
[135] Ibid.
[136] LAC RG9 III-B-1-14 Vol. 1819, File no. R-29-14 – Assistant Director of Medical Services in England - Returns, 12 Canadian General Hospital, Correspondence – September 1918.
[137] LAC RG9 III-D-3 Vol. 4865, File no. 184 – War Diaries – Headquarters, Canadian – Bramshott – October 1918.

from the 15th Reserve Battalion had gone down despite the high casualty rates being experienced at the front lines during the Hundred Days Campaign (see Tables 5 & 6). The diminished number of drafts leaving Bramshott was a direct consequence of the quarantine. As stated by Bramshott Camp's Intelligence Department in its daily diary, on 3 October "The Draft of 472 Other Ranks held in readiness to proceed overseas to-night left about 34 short owing to the quarantine placed on the 15th Res Bttn whose quota were detained from the draft." [138] At the beginning of the month when only the 15th Reserve Battalion was quarantined all of their prospective drafts were held back while the remainder went on. Even fewer drafts managed to get through the vigorous screening process implemented in order to weed out all of the sick men.

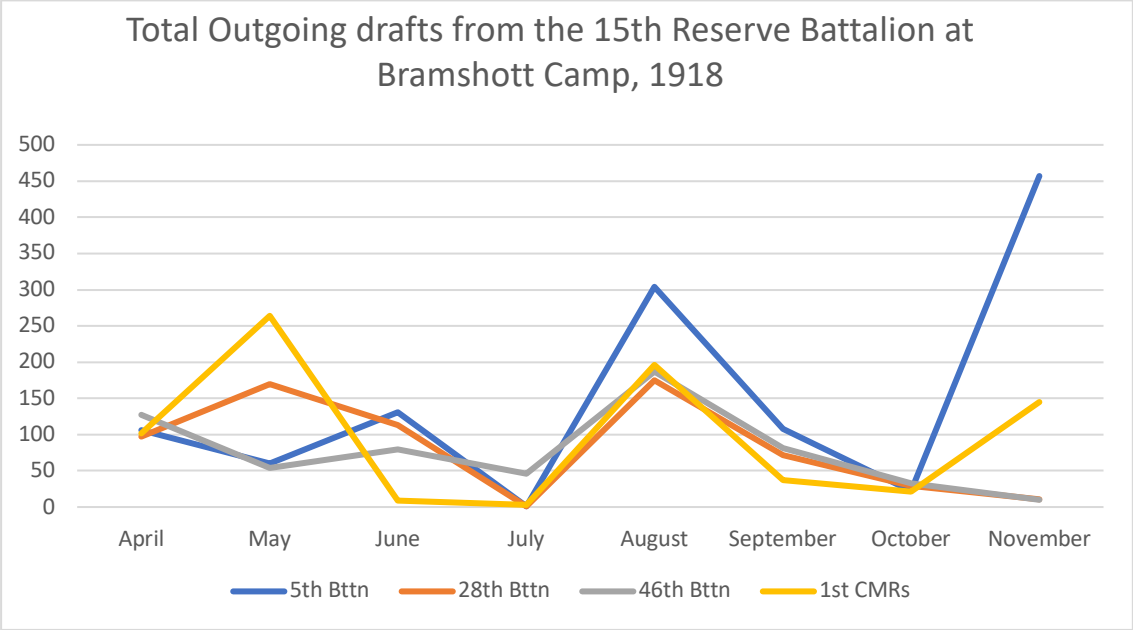

Table 5: Total Outgoing Drafts from the 15th Reserve Battalion. Table shows the total number of outgoing drafts from Bramshott Camp in 1918. Note the sharp increase in August as well as the declining numbers from September to November. Totals calculated by author. Source: LAC RG9 III-D-3 Vol. 4865, File no. 184 – War Diaries – Headquarters, Canadian – Bramshott – April to November 1918.

The diminishing number of drafts leaving Bramshott as well as other training camps affected by outbreaks of influenza had left their mark. On 4 November, Lieutenant-Colonel G. H. Cassels

[138] LAC RG9 III-C-13 Vol. 4593, Bramshott (2) – Intelligence Department – Daily Diaries, October 1918.

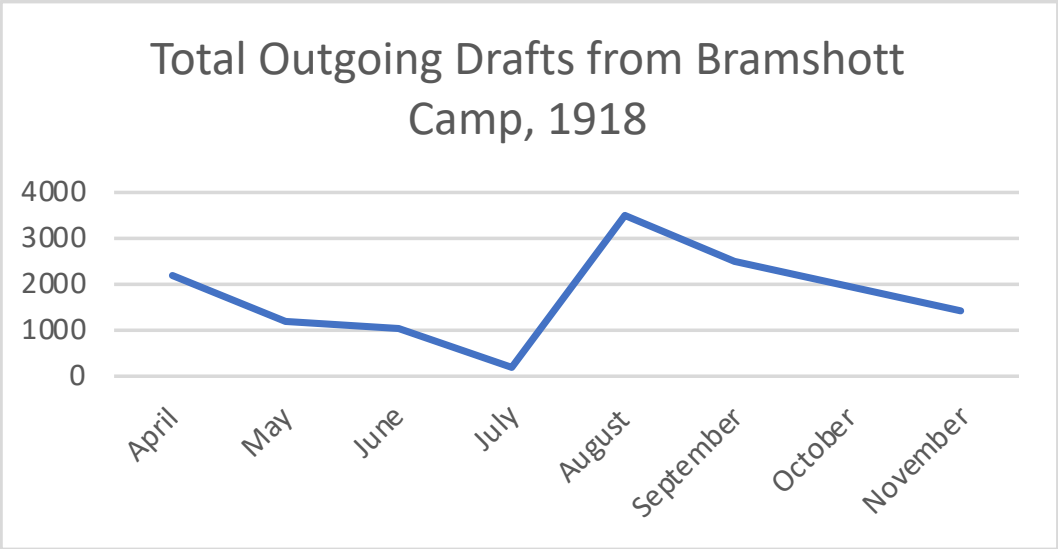

Table 6: Total Outgoing Drafts from Bramshott Camp, 1918. Table shows the total number of outgoing drafts from Bramshott Camp in 1918 divided by each reserve battalion sending forward reinforcements. Note how low each of the reserve battalion's output is for the month of October when the camp was in quarantine. Totals calculated by author. Source: LAC RG9 III-D-3 Vol. 4865, File no. 184 – War Diaries – Headquarters, Canadian – Bramshott – April to November 1918.

on behalf of Brigadier-General R. J. F. Hayter of the Adjutant General's Branch, sent a memo to the Director General of Medical Services stating that due to, "the urgent necessity for despatching drafts overseas as strong numerically as possible for the maintenance of Canadian formations in France, it is desired that quarantine in the Areas should be placed only on those Sub-areas or Lines where it is an absolute necessity; without, however, in any way prejudicing the health of or subjecting to any undue risks Troops not infected."[139] They were walking a fine line indeed while trying to find the balance between sending men to help those in France, and not spreading the disease to troops who had potentially not yet been infected. Their solution was to maintain the quarantine measures only when absolutely necessary. Additionally, Hayter requested that the restrictions on leave be withdrawn, "the first possible moment, as soon as the situation will permit," in order to allow the men proceeding overseas some leave before they were despatched.[140] Meanwhile, despite everything going on in England, officers and other ranks at the front such as

[139] LAC RG9 III-B-2 Vol. 3613, 25-3-7, Memo to the DGMS, dated 4 November 1918.
[140] Ibid.

those from the 46th Battalion continued to travel to England on leave, then return to their unit throughout this entire period.[141]

The Armistice

On 1 November, the men of the 46th Battalion were in position near Thiant but quickly suffered casualties from a heavy bombardment of gas and high explosive shells. At 5:15 am, their own massive barrage came down on the Germans' positions. While the 44th Battalion led the advance on Valenciennes, the 46th Battalion followed closely behind the barrage and 'mopped up,' the challenging role of clearing the battlefield of enemy soldiers that were missed by the battalion ahead of them.[142] Because the battalion had so few infantry soldiers left to work with, they created mop up parties using cooks, batmen, band members, and anyone else that they could find.[143]

Though the advance started off as planned, German resistance was strong. Heavy casualties were suffered as the men of the 46th Battalion mingled with those of the 44th Battalion while they pushed forward. There were still a large number of German soldiers in the area, so each cellar and hiding place had to be carefully cleared. By the time that the 46th Battalion officially reached the position where it was to leapfrog through the 44th Battalion to advance alone, it was down to only 300 men.[144] Regardless of the challenge, the 46th Battalion continued its push forward, all companies managing to reach their objectives by 9:00 am. There they managed to establish positions. Though the Canadians had suffered severe casualties (eighty killed and 300 wounded), the Germans suffered significantly more (1,800 prisoners and 800-900 dead) before Valenciennes

[141] LAC RG 150-7 Vol. 468 – Part II Daily Orders – 46th Canadian Infantry Battalion – October 1918; LAC RG9 III-C-3 Vol. 4213, File Part 5.2 Folder 5 File 3 – Part II Orders – 46th Canadian Infantry Battalion – October 1918.
[142] LAC RG9 III-D-3 Vol. 4940, File No. 437 – War Diaries – 46th Canadian Infantry Battalion – November 1918.
[143] McWilliams and Steel, *The Suicide Battalion*, 195–96.
[144] Ibid., 196–98.

was taken. By 10:00 pm when then 46th Battalion was relieved, it had suffered thirty-four killed, two missing presumed dead, and ninety wounded, leaving only 279 survivors to straggle back.[145] With the success at Valenciennes, the Canadians had effectively broken through the last German fortification in France.

On 2 November the 46th Battalion returned to Thiant where it remained to rest and train. On 6 November, Operation Order No. 65 was issued instructing each field ambulance of the 4th Canadian Division to open a small rest station for the sick of their respective brigades.[146] On 7 November, the men of the 46th moved to Valenciennes, where they participated in a parade and found comfortable billets.[147] On 10 November, twenty-six other ranks arrived as reinforcements for the 46th Battalion with an additional twenty-three men arriving the following morning.[148] By this point, more and more men of the 10th Brigade were falling ill with influenza. Between 1 and 11 November, No. 13 Canadian Field Ambulance alone had admitted a total of 1,240 men, 164 of whom were diagnosed with influenza-like illnesses. While in October most diagnoses were for PUO, now sixty-three percent of those 164 men were diagnosed with influenza. On 11 November, three men from the 46th Battalion were evacuated for influenza.[149] The epidemic had finally caught up with them. Despite everything, the 46th Battalion was preparing to go back into action once again when word was received that all hostilities would end at 11:00 am on 11 November.[150] At

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[145] Ibid., 202.
[146] LAC RG9 III-D-3 Vol. 5026, File No. 820 – War Diaries – Assistant Director Medical Services, 4th Canadian Division – November 1918.
[147] LAC RG9 III-D-3 Vol. 4940, File No. 437 – War Diaries – 46th Canadian Infantry Battalion – November 1918.
[148] Ibid.
[149] The men are: Private John Piggot, 437315, Private Leonard Joseph, 437712, and Private Edward Shuttleworth, 91091. Totals calculated by author. LAC RG150 Vol. 527, Book 299A. Admissions and Discharges Books of the Canadian Army Medical Corps Overseas – No. 13 Canadian Field Ambulance, November 1918.
[150] LAC RG9 III-D-3 Vol. 4940, File No. 437 – War Diaries – 46th Canadian Infantry Battalion – November 1918.

10:00 am a short service was held in the main square of Valenciennes with the men of the 46th Battalion in attendance among a throng of civilians.[151]

Between 24 September and 11 November 1918, 2,355 cases of influenza were admitted to No. 12 Canadian General Hospital from the Bramshott area.[152] Though these figures seem high, they only represent the number of cases severe enough to be admitted to the hospital. In total, 176 deaths occurred at the hospital, all from influenza and its complications. Among them were forty-six men of the 15th Reserve Battalion.[153] So many deaths in such a short amount of time left a lasting impression on Bramshott Camp as well as the surrounding area. As a local book recounting Bramshott Camp's history states: "Day after day the sad funeral parties moved slowly down the road from the hospital to the church (12 on November 8th alone), traversing the camp from end to end, in full sight of the survivors training or exercising – until some funerals, it is said, were held at night."[154] In addition to the dismal sight of so many funeral parties on the overall morale of the camp and surrounding community was the added challenge of burying so many dead. On 30 October, Lieutenant-Colonel Bridges sent a memorandum to Major-General Foster stating that there were thirty-two bodies awaiting burial at No. 12 Canadian General Hospital, some of which had been there since 25 October.[155] On 5 November, Lieutenant-Colonel Bridges received a message from No. 12 Canadian General Hospital which stated that, "the conditions for the disposal of the remains of patients who have recently died in hospital are in a very unsatisfactory state, due

[151] McWilliams and Steel, *The Suicide Battalion*, 203–4.
[152] Totals calculated by author. LAC RG150 Vol. 541, Books 477-480. Admissions and Discharges Books of the Canadian Army Medical Corps Overseas – No. 12 Canadian General Hospital, Bramshott, September to November 1918.
[153] Totals calculated by author. Of those, there were twenty-four with bronchitis, ten with pneumonia, nine with pleurisy and one with PUO. Ibid.
[154] Giles, *Liphook, Bramshott and the Canadians*, 14.
[155] LAC RG9 III-B-1 Vol. 1777, File No. D-10-14 Vol. 2 Memo "Contract for Coffins," dated 30 October 1918.

to the difficulty in obtaining coffins."[156] This difficulty was in large part due to the fact that the business in Aldershot with the contract to construct the coffins was short of workers and supplies due to the epidemic of influenza.[157] Such accounts act as a reminder that the epidemic affected more than just the soldiers themselves.

Though there is no way of knowing exactly how many men at Bramshott Camp were treated by their units, and therefore the full impact of influenza on the 15th Reserve Battalion, the experience of No. 12 Canadian General Hospital sheds much light on the scope of the outbreak and the response of the CAMC. As has been discussed, there were a variety of ways in which the CAMC and the Headquarters of the Overseas Military Forces of Canada attempted to curb the spread of the disease and treat the sick both in the camp and the hospital. But ultimately the virus manifested in so many forms, causing so many different symptoms that medical officers were required to treat each case on an individual basis. Meanwhile, the measures implemented at Bramshott Camp were used as a model at other training camps such as those at Witley and Seaford. Despite such measures, soldiers at these camps and elsewhere still died of pandemic influenza, though no battalion is believed to have suffered as many deaths as the 15th Reserve Battalion.

While so many men were sick, training at Bramshott Camp was severely affected, meaning that fewer drafts could be sent to France. Meanwhile, the 46th Battalion in France was suffering large numbers of casualties during the final days of the war as it pursued the German Army through France. No documentary evidence was located to suggest that Major Dawson was aware of exactly what was causing the delay in getting reinforcements. Additionally, no documentation could be found which outwardly stated that the 46th Battalion were affected by pandemic influenza, though it was certainly present in the brigade and battalion throughout October and November. Just as we

[156] LAC RG9 III-B-1 Vol. 1777, File No. D-10-14 Vol. 2 Memo dated 5 November 1918.
[157] Ibid.

will never know exactly how many men were treated in the lines at Bramshott, we are unlikely to ever know the full impact of influenza on the men of the 46th Battalion as many sick men were likely treated in the lines to avoid the time-consuming process of a medical evacuation. However, what this chapter has shown is that the second wave of the Influenza Pandemic much delayed the reinforcement stream and the Canadians' ability to get trained soldiers to the front lines.

While 11 November 1918 marks the end of the First World War, it does not mark the end of the war against influenza. Rather, thousands of sick soldiers remained in hospital fighting for their lives. While worldwide celebrations marking the Armistice created new paths of infection, men continued to die from influenza at No. 12 Canadian General Hospital.[158] Making matters worse, the end of the war meant that a large number of Canadian soldiers returning from France would soon be crowding the camps in England as part of the demobilization process. Immediately, Canadian authorities were concerned about the effect that the epidemic would have on getting soldiers home.[159] The second wave of the pandemic was not yet over and the looming threat of the third had already begun.

[158] For example, the province of Saskatchewan's Victory Parades began during the night of 11 November 1918 and is believed to have invigorated the pandemic, leading to November being the worst month in the province with more than 2,500 deaths. Lux, "The Bitter Flats," 9.
[159] LAC RG9 III-B-2 Vol. 3613, 25-3-7, "Drafts to Canada - Influenza Precautions," dated 12 November 1918.

CONCLUSION: AFTER THE ARMISTICE

The Armistice on 11 November 1918 marked the end of the war but not the end of all of the war's battles. Rather, one battle remained: the fight against the flu. From 11 to 30 November, an additional 628 men were admitted to No. 12 Canadian General Hospital, 183 of whom were suffering from influenza or influenza-like illnesses. Throughout all of November there was a total of 966 admissions to the hospital, among which 355 were diagnosed with influenza or influenza-like illnesses. Of the 119 men of the 15th Reserve Battalion who were admitted, sixteen were for influenza or influenza-like illnesses. As time wore on, the number of deaths began to diminish; while another nine men died in November after the Armistice for a monthly total of forty-two, only eight men died throughout all of December. While the 15th Reserve Battalion had been hit particularly hard in October, it had only one member die in November and December respectively (see Appendix 2).[1]

The final death of 1918 for the 15th Reserve Battalion was Private Harold Hood, a conscript from Wolseley, Saskatchewan. Private Hood was a farmer who had joined the 1st Depot Battalion in Regina on 18 June 1918. From there, he boarded a train to Montreal, embarked on HMT *Cassandra*, and set-sail for Europe. Private Hood arrived in England on 15 August 1918, was taken on strength by the 15th Reserve Battalion and entered Frensham Pond Segregation Camp. As he began to train to be a reinforcement in France, he started feeling unwell. Private Hood was admitted to No. 12 Canadian General Hospital on 24 September 1918.[2]

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[1]Totals calculated by author. LAC RG150 Vol. 541, Books 480 & 481. Admissions and Discharges Books of the Canadian Army Medical Corps Overseas – No. 12 Canadian General Hospital, Bramshott, April 1918.
[2] Library and Archives Canada (LAC) RG150, Accession 1992-93/166, Box 4479-12, Item No. 463749 – Service Files of the First World War – Private William Charles Hood, 3352569.

When the Influenza Pandemic of 1918-1919 is remembered, people often mention the speed with which the virus killed, some highlighting how individuals could die within days or even hours of showing the first symptom.[3] What is often forgotten, among the many other facets of the pandemic, is that some people suffered for much longer. One such case is Private Hood. When he first joined the military Hood was fit with light brown hair and grey eyes. Standing at 5' 10" and weighing 157 pounds he would make an ideal infantryman. He was in peak health when he joined and yet because of pandemic influenza, he never saw combat. Instead, he died on 9 December 1918 in a hospital in England. He is among the many soldiers who died after the war because of their service but whose deaths are often overlooked as they were not battle casualties. Private Hood died at the age of 21 and though he ultimately succumbed to the secondary infection of empyema, his cause of death was stated clearly throughout his personnel file: influenza.[4] Private Hood is a reminder that influenza could strike fast or slowly, and that it worst afflicted those typically at the peak of health. At the same time, he is a reminder that the worldwide Influenza Pandemic of 1918-1919 was comprised of hundreds of millions of individual stories, so many of which have not been acknowledged, or have been entirely misunderstood, by the historiography of the pandemic.

This study has highlighted the stories of some of the many individuals who died of pandemic influenza while members of the Canadian Expeditionary Force. In so doing, it has questioned the long-standing tradition in military history of focusing solely on 'glorious' deaths in battle and those who died of wounds received in battle. Rather, it has established that these soldiers from Saskatchewan who were conscripted into service and sent to Europe only to die of disease are

[3] Kolata, *Flu*, 4.
[4] LAC RG150, Accession 1992-93/166, Box 4479-12, Item No. 463749 – Service Files of the First World War – Private William Charles Hood, 3352569.

equally deserving to have their stories told. In particular, the full cost of pandemic influenza in the Canadian Expeditionary Force needs to be recognized.

The first chapter of this work provided a brief overview of the influenza virus which caused the outbreak in 1918, as well as a summary of Canada's role in the First World War up until March 1918. The second chapter introduced the 15th Reserve Battalion, the 46th Battalion, and the Canadian reinforcement stream. As well, it introduced the Canadian Army Medical Corps (CAMC) and the basic procedures that it followed for treating the sick in England and France. The chapter discussed how the men at Bramshott Camp began suffering and dying from influenza in April 1918 while the men of the 46th Battalion began falling ill from 'la grippe' by mid-April. The chapter went on to explore how the outbreaks progressed in both areas before tapering off slightly by the end of July while the new drafts of conscripts from Saskatchewan were preparing to go overseas.

The third chapter explored the outbreaks of disease at Bramshott Camp while also following the 46th Battalion's advance in France throughout August and September. As the battalion participated more actively in battles it suffered 889 casualties and received 440 reinforcements. Meanwhile, the new soldiers from Saskatchewan had arrived aboard HMT *Cassandra* and were put into Frensham Pond Segregation Camp. By the end of September, the new arrivals of the 15th Reserve Battalion were out of segregation while No. 12 Canadian General Hospital became full with patients suffering from influenza.

The final chapter examined the experiences of the 15th Reserve Battalion and the 46th Battalion throughout October to the end of the war on 11 November 1918. In France, the men of the 46th Battalion continued their advance against the German Army, suffering casualties as it went but receiving only a smattering of replacements. At the moment when reinforcements were needed most in France, next to no men were able to leave Bramshott Camp due to pandemic influenza and the safety measures implemented by the CAMC throughout the camp. While such measures were

done in an attempt to not send sick soldiers to the front, military necessity began to take precedence and pressure mounted to send reinforcements forward. Meanwhile, evidence of outbreaks of pandemic influenza in France showed that the second wave of the pandemic was creeping towards the men of the 46th Battalion.

As a whole this study has shown that the Influenza Pandemic of 1918-1919 affected the Canadian Expeditionary Force's Hundred Days Campaign in a way that, until now, has not been recognized. The case studies of the 15th Canadian Reserve Battalion (Saskatchewan) in England and the 46th Canadian Infantry Battalion (South Saskatchewan) in France help to highlight the importance of the reinforcement stream in 1918, as well as the greater cost of conscription from the Military Service Act of 1917. Evidence suggests that the scope of the pandemic at Bramshott Camp was greater than has been reported, and that more soldiers at the camp died from the outbreak than previously understood. Additionally, though the 15th Reserve Battalion has been blamed, and consequently remembered, as the battalion that brought pandemic influenza to Bramshott Camp, this study has proved that influenza was already present in the camp before the new drafts of men arrived in August 1918. Furthermore, the study has argued for the important role of cross-protection between the first and second waves of the pandemic. The delayed first wave in Western Canada meant that the new soldiers from Saskatchewan were more likely to fall seriously ill during the second wave. Finally, it has shown the degree to which the CAMC responded to the outbreak and the various techniques that they used in an attempt to curb the spread of the disease as well as treat the men who were suffering from it. In so doing, it has examined the role of military and medical officials in times of pandemic.

Today, Canada's Hundred Days campaign is celebrated triumphantly as a symbol of Canadian prowess during the First World War. Yet, a major event at the epicenter of this story has been omitted from the narrative. This study has attempted to rectify that. What still remains to be

studied is the role that the third wave of pandemic influenza had on the Canadian Expeditionary Force after the signing of the Armistice on 11 November.

On 15 November, Major-General G. L. Foster, Director General of Medical Services, sent a memo to the Headquarters of the Overseas Military Forces of Canada in London as well as all other Canadian Assistant Directors of Medical Services stating that "The epidemic of influenza amongst Canadian Troops is still in existence but is diminishing materially."[5] Major-General Foster claimed that the reason for this decline was in large part due to the many precautionary measures that the CAMC had implemented, but he noted that there were still many susceptible troops and the battle against the disease had to go on. Since few precautionary measures had been implemented among civilians and other military forces, Foster believed that all leave should continue to be withheld. Furthermore, he listed new recommendations to ensure that soldiers returning to Canada were not infected. Included was the recommendation that no men convalescing from influenza were to be returned until they had completed ten days in segregation, that no man coming back from leave be considered for repatriation for at least a week even if he showed no signs of infection, that leave should only be granted for very urgent matters, and that all men detailed to Canada should first undergo a strict isolation period of four days to ensure that they were not sick before being allowed to embark.[6] In so doing, Foster was recommending that all of the strict measures that the CAMC had implemented in October in regards to sending reinforcements from England to France now be observed in regards to sending men back to Canada. Such a recommendation suggests his confidence in the measures' effectiveness.

[5] LAC RG9 III-B-2 Vol. 3613, File No. 25-3-7 – Director of Medical Services, London – Memo "Details to Canada, Influenza Precautions," dated 15 Nov 1918.
[6] Ibid.

Foster knew that Canadian military authorities were in a precarious position regarding demobilization during the pandemic and made his trepidations clear. In the same memorandum, he warned that "If men in transport to Canada developed the disease even in a minimum proportion to those coming this way, after their experience of war, it would be very difficult to explain satisfactorily to those at home burials at sea and pneumonias landed and afterwards dying in Canada. No risk in the present state of things is justified."[7] The reason for such a warning was because the Home Front had also been ravaged by the second wave of the Influenza Pandemic.[8] Making matters worse, victory parades and street parties celebrating the Armistice had led to a sudden reinvigoration of the disease in some provinces such as Saskatchewan, as large gatherings of people created new routes of transmission among the previously uninfected.[9] There already had been an outcry from civilians blaming the Canadian military for the severity of the outbreak given that the connection between troop movements and the spread of the disease throughout the country had not gone unnoticed.[10] The Canadian military had the responsibility to do everything in its power to ensure that as few more men were lost to influenza as possible.

The trouble was, the influenza pandemic was only one of many concerns that Canadian military authorities were trying to address as they began the post-Armistice advance into Germany as well as the slow demobilization process. On 19 November, Foster received a reply to his letter but not the one for which he had hoped: "Taking all things into consideration, the C.G.S. (Chief of the General Staff, Lieutenant-General Sir R. E. W. Turner) has decided that in the interest of the Canadian Force as a whole, leave must be reopened…"[11] As the reply goes on to explain, this

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[7] LAC RG9 III-B-2 Vol. 3613, File No. 25-3-7 – Director of Medical Services, London – Memo "Details to Canada, Influenza Precautions," dated 15 Nov 1918.
[8] See Pettigrew, *The Silent Enemy*.
[9] Lux, "The Bitter Flats," 9.
[10] See Humphries, "The Limits of Necessity."
[11] LAC RG9 III-B-2 Vol. 3613, File No. 25-3-7 – Director of Medical Services, London – Telegram from the Overseas Military Forces of Canada Headquarters to the Director of General Medical Services, dated 12 Nov. 1918.

decision was a direct result of reports from various Canadian commands complaining of how upset the men were at having no leave, and how restless they were becoming due to their desire to go home.[12] The repercussions of this decision are just one of the many areas in which further research is required to gain greater understanding of the impact of pandemic influenza on another key element of the Canadian First World War experience: demobilization.

While this study has examined the effect of pandemic influenza during the first two waves of the outbreak, further study is required to understand how the Canadian Expeditionary Force dealt with the third wave of the pandemic in the early months of 1919 and its greater repercussions. In early 1919 the number of sick soldiers at No. 12 Canadian General Hospital rose anew. On 18 February 1919, Colonel H. M. Robertson, Officer Commanding No. 12 Canadian General Hospital, sent an urgent message to Lieutenant-Colonel J. W. Bridges, the Assistant Director of Medical Services, stating that "Funerals of patients dying in this Hospital are being delayed owing to [Headquarters] not being able to supply fatigue parties to dig graves."[13] Robertson requested that Bridges bring the issue immediately to the attention of the Director General Medical Services in London.[14] That same day, Robertson ordered six hospital personnel to dig graves as there were no other men available to do so and the families of the deceased were present and anxiously awaiting the funerals.[15] This would suggest that there was a very large number of sick personnel at the Camp, and at the same time, suggests that the camp was not in a state of quarantine as civilians were visiting. Did the CAMC handle the third wave of the outbreak differently than the first two, and if so, why?

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[12] Ibid.
[13] LAC RG9 III-B-1 Vol. 1777, File No. D-10-14 Vol. 2 Telegram dated 18 February 1919.
[14] Ibid.
[15] LAC RG9 III-B-1 Vol. 1777, File No. D-10-14 Vol. 2 Memo to Assistant Director Medical Services, Canadians, Bramshott dated 19 February 1919.

Along with the pandemic's third wave and its various effects, other possible areas for research include examining the impact of the pandemic on other forces besides the infantry, its effects on other training camps and their ability to send reinforcements forward, as well as its toll on the personnel of the CAMC. Furthermore, other case studies could be conducted to see whether the experiences of the 15th Reserve Battalion and the 46th Canadian Infantry Battalion were unique or far more representative of a common experience. This study suggests in a preliminary manner that the experiences of the 15th Reserve Battalion and the 46th Battalion from Saskatchewan would be representative of other battalions from Western Canada who also experienced a delayed first wave of the pandemic in Canada.

The official historian for the CAMC, Sir Andrew McPhail, claimed that during the First World War, "There were 45,960 cases [of influenza], of which 2,672 were amongst officers and 43,288 in the other ranks. Of these 776 ended in death."[16] This study has shown that at No. 12 Canadian General Hospital, there was a total of 3,322 admissions for influenza and influenza-like illnesses from April to November of 1918. Of those, 205 men died. The 15th Reserve Battalion alone admitted a total of 751 men and lost forty-nine men (see Appendix 2). Considering that these statistics do not even include the hundreds, if not thousands of men who suffered from milder cases of the disease but were treated by their unit, as well as the fact that these figures represent the experience of a single hospital, it should be considered that McPhail's statistics may not accurately reflect the situation. Though the full scope of the outbreak will likely never be known due to the changing nature of the disease, what this study has shown is that the Influenza Pandemic of 1918-1919 had an important effect on the Canadian First World War experience. After a hundred years, it is time that we recognize the role of flu on the front.

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[16] McPhail, *The Medical Services,* 266.

APPENDIX 1

Service No.	Surname	Forename	DOB	Date of Attestation (A)/ Conscription (C)	Location of Enlistment	Occupation	Rank	Date of Embarkation	Place of Embarkation	Date of Disembarkation	Place of Disembarkation	Ship	TOS by 15th	Date of Admission	Hospital	Diagnosis	Date of Death	Age	Cemetery	Grave
150395	FRASER	JAMES	26-06-1875	A 5 Nov 1915	Brandon, Manitoba	Tailor	Corporal	24-04-1916	Canada	05-05-1916	England	*Lapland*	14-10-1917	N/A	N/A	Drowned	03/01/1918	44	DUNNOTTAR CEMETERY, STONEHAVEN	A. 92.
257262	LINFOOT	JOHN ALEXANDER	09-06-1892	C 15 Jan 1918	Regina, Saskatchewan	Farmer	Private	18-02-1918	Canada	04-03-1918	Liverpool	*Saxonia*	04-03-1918	11-03-1918	Isolation Hos Aldershot	Measles, Broncho-Pneumonia	18/03/1918	26	ALDERSHOT MILITARY CEMETERY	AA. C.19.
256752	DIXON	William	10-09-1887	C 8 Jan 1918	Regina, Saskatchewan	Farmer	Private	18-02-1918	Canada	04-03-1918	Liverpool	*Saxonia*	04-03-1918	19-03-1918	Isolation Hos Aldershot	Measles, Broncho-Pneumonia	19/03/1918	30	ALDERSHOT MILITARY CEMETERY	AA. C21.
1069987	MACGRAY	Benjamin Horton	19-09-1892	A 21 Jan 1918	Quebec	Freight Car Inspector	Private	18-02-1918	Halifax	04-03-1918	Liverpool	*Saxonia*	04-03-1918	01-04-1918	Isolation Hos Aldershot	Measles, Broncho-Pneumonia	03/04/1918	25	ALDERSHOT MILITARY CEMETERY	AA. C23.
257558	PARRY	HENRY RICHARD	20-03-1891	C 18 Jan 1918	Regina, Saskatchewan	Clerk	Private	Unknown	Unknown	N/A	N/A	*Missanabie*	25-03-1918	30-03-1918	Died onboard ship	Measles, Broncho-Pneumonia	03/04/1918	28	GLASGOW WESTERN NECROPOLIS	P. 2588.
256482	BUNCE	JOHN	15-11-1891	C 3 Jan 1918	Regina, Saskatchewan	Farmer	Private	24-03-1918	Canada	03-04-1918	England	*Missanabie*	04-04-1918	04-04-1918	Isolation Hos Aldershot	Cerebro-Spinal Fever	09/04/1918	26	ALDERSHOT MILITARY CEMETERY	AA. C25.
257952	WILLIAMS	Hugh Thomas	21-05-1888	C 23 Jan 1918	Regina, Saskatchewan	Section Hand	Private	24-03-1918	Canada	03-04-1918	England	*Missanabie*	04-04-1918	06-04-1918	No. 12 Cdn Gen Hos	Pneumonia, Bronchitis	10/04/1918	30	BRAMSHOTT (ST. MARY) CHURCHYARD	I. C. 2.
257234	LITTLEJOHN	ROBERT OLLIVER	28-02-1897	C 15 Jan 1918	Regina, Saskatchewan	Farmer	Private	18-02-1918	Canada	04-03-1918	Liverpool	*Saxonia*	04-03-1918	11-03-1918	Isolation Hos Aldershot	Measles, Bronchitis	10/04/1918	21	ALDERSHOT MILITARY CEMETERY	AA. C26.
1069862	SIMPSON	William Langford	18-07-1882	A 15 Dec 1917	Quebec	Junior Nurse	Private	18-02-1918	Halifax	04-03-1918	Liverpool	*Saxonia*	04-03-1918	22-03-1918	Isolation Hos Aldershot	Cerebro-Spinal Meningitis	16/04/1918	36	ARBROATH EASTERN CEMETERY	O. 86.
257438	OBRE	GEORGE WELLINGTON	17-07-1897	C 17 Jan 1918	Regina, Saskatchewan	Farm Labourer	Private	18-02-1918	Canada	04-03-1918	England	*Saxonia*	04-03-1918	03-04-1918	No. 12 Cdn Gen Hos	Pleuro-Pneumonia, Empyema	21/04/1918	20	BRAMSHOTT (ST. MARY) CHURCHYARD	I. B. 14.
257193	JOHNSON	Albert	17-02-1886	C 15 Jan 1918	Regina, Saskatchewan	Grain Buyer	Private	09-04-1918	Halifax	20-04-1918	Liverpool	*Metagama*	20-04-1918	20-05-1918	No. 12 Cdn Gen Hos	Pleurisy, Obstruction of Bowels	20/05/1918	32	BRAMSHOTT (ST. MARY) CHURCHYARD	I. B. 9.
258686	SPROULE	Stanley Leroy	15-01-1895	C 12 March 1918	Regina, Saskatchewan	Farmer	Private	09-04-1918	Halifax	20-04-1918	Liverpool	*Metagama*	20-04-1918	08-05-1918	Gen Hos Liverpool	Pleurisy, Empyema, Purulent Pericarditis	18/06/1918	22	LIVERPOOL (KIRKDALE) CEMETERY	VI. C.E. 118.
277038	CONN	ROBERT JOHN	3-08-1896	C 6 June 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-2018	Liverpool	*Cassandra*	16-08-1918	02-09-1918	Connaught, Aldershot	Broncho-Pneumonia	09/09/1918	22	ALDERSHOT MILITARY CEMETERY	AA. C39.
268959	DYKSTRA	Sell	29-08-1896	C 23 May 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	16-08-1918	14-09-1918	No. 12 Cdn Gen Hos	Bronchitis, Broncho-Pneumonia	17/09/1918	22	BRAMSHOTT (ST. MARY) CHURCHYARD	II. C. 17.
268962	FEINDELL	STANLEY NOBLE	31-10-1896	C 23 May 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	15-08-1918	25-09-1918	No. 12 Cdn Gen Hos	Influenza, Broncho-Pneumonia	30/09/1918	21	BRAMSHOTT (ST. MARY) CHURCHYARD	II. C. 9.
276836	FOLSTER	William Alexander Robert	8-07-1896	C 4 June 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	15-08-1918	29-09-1918	No. 12 Cdn Gen Hos	Influenza, Empyema, Broncho-Pneumonia	01/10/1918	22	BRAMSHOTT (ST. MARY) CHURCHYARD	II. C. 7.
259843	JONES	Dalton	4-6-1896	C 3 May 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	16-08-1918	24-09-1918	No. 12 Cdn Gen Hos	Influenza, Broncho-Pneumonia	01/10/1918	22	BRAMSHOTT (ST. MARY) CHURCHYARD	II. C. 13.
269007	MACDONALD	Angus	23-02-1895	C 23 May 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	16-08-1918	30-09-1918	No. 12 Cdn Gen Hos	Influenza	01/10/1918	24	BRAMSHOTT (ST. MARY) CHURCHYARD	II. C. 5.
3353296	ALTMAN	PAUL	17-03-1896	C 25 June 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	16-08-1918	26-09-1918	No. 12 Cdn Gen Hos	Influenza, Broncho-Pneumonia	02/10/1918	22	BRAMSHOTT (ST. MARY) CHURCHYARD	II. C. 14.
494238	BARRY	JOHN Joseph	29-09-1896	C 20 June 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	16-08-1918	26-09-1918	No. 12 Cdn Gen Hos	Influenza, Broncho-Pneumonia	02/10/1918	22	GRAYSHOTT (ST. JOSEPH) ROMAN CATHOLIC CHURCHYAR	A. 01.
260726	BLACKBURN	WALTER Fredman	30-11-1895	C 14 May 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	15-08-1918	30-09-1918	No. 12 Cdn Gen Hos	Pneumonia	02/10/1918	24	BRAMSHOTT (ST. MARY) CHURCHYARD	II. C. 10.
260343	JOHNSON	JOE ROY WALFORD	23-01-1896	C 9 May 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	15-08-1918	30-09-1918	No. 12 Cdn Gen Hos	Bronchitis, Pneumonia, Influenza	02/10/1918	22	BRAMSHOTT (ST. MARY) CHURCHYARD	II. C. 11.
3352028	ADAMS	ROSSITER JOHN GEORGE	02-05-1897	C 13 June 1918	Regina, Saskatchewan	Farmer & Rancher	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	16-08-1918	01-10-1918	No. 12 Cdn Gen Hos	Influenza, Broncho-Pneumonia	03/10/1918	21	BRAMSHOTT (ST. MARY) CHURCHYARD	II. C. 4.
3352035	AUSTFJORD	SIGURJON	24-09-1897	C 13 June 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	16-08-1918	26-09-1918	No. 12 Cdn Gen Hos	Influenza, Broncho-Pneumonia	03/10/1918	21	BRAMSHOTT (ST. MARY) CHURCHYARD	II. C. 8.
3353402	BLACK	Edward Stanley	07-06-1895	C 25 June 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	15-08-1918	30-09-1918	No. 12 Cdn Gen Hos	Influenza, Pneumonia	03/10/1918	23	BRAMSHOTT (ST. MARY) CHURCHYARD	II. C. 12.
260581	FERRIS	THOMAS EARL	15-02-1896	C 11 May 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	15-08-1918	03-10-1918	No. 12 Cdn Gen Hos	Broncho-Pneumonia, Influenza	03/10/1918	21	BRAMSHOTT (ST. MARY) CHURCHYARD	II. C. 6.
3352022	HIRON	WILLIAM CHARLES	29-07-1885	C 11 June 1918	Regina, Saskatchewan	General Store Clerk	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	15-08-1918	02-10-1918	No. 12 Cdn Gen Hos	Influenza	03/10/1918	33	BRISTOL (ARNOS VALE) CEMETERY	Q. 907.
260317	PRITCHARD	THOMAS HILL	08-01-1896	C 9 May 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	15-08-1918	02-10-1918	No. 12 Cdn Gen Hos	Influenza	04/10/1918	22	BRAMSHOTT (ST. MARY) CHURCHYARD	III. C. 29.
256393	BAKKE	August	24-05-1896	C 3 Jan 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	15-08-1918	25-09-1918	No. 12 Cdn Gen Hos	Influenza, Broncho-Pneumonia	04/10/1918	22	BRAMSHOTT (ST. MARY) CHURCHYARD	III. C. 27.
3352947	BUNSE	Frederick Willian	29-08-1896	C 20 June 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	15-08-1918	30-09-1918	No. 12 Cdn Gen Hos	Influenza	04/10/1918	22	BRAMSHOTT (ST. MARY) CHURCHYARD	III. C. 26.
3353433	HAMELIN	MICHEL	28-12-1893	C 25 June 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	15-08-1918	26-09-1918	No. 12 Cdn Gen Hos	Influenza	04/10/1918	21	GRAYSHOTT (ST. JOSEPH) ROMAN CATHOLIC CHURCHYAR	A. 03.
3352151	CLIFFGARD	CLARENCE	23-03-1895	C 13 June 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	16-08-1918	23-09-1918	No. 12 Cdn Gen Hos	Influenza, Broncho-Pneumonia	05/10/1918	23	BRAMSHOTT (ST. MARY) CHURCHYARD	III. C. 25
3352093	KNAUS	WILLIAM EDWARD	02-07-1897	C 13 June 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	16-08-1918	30-09-1918	No. 12 Cdn Gen Hos	Influenza, Broncho-Pneumonia	05/10/1918	21	GRAYSHOTT (ST. JOSEPH) ROMAN CATHOLIC CHURCHYAR	A. 02.
3353802	OGILVIE	Walter George	22-10-1896	C 29 June 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	16-08-1918	30-09-1918	No. 12 Cdn Gen Hos	Influenza, Broncho-Pneumonia	05/10/1918	22	BRAMSHOTT (ST. MARY) CHURCHYARD	III. C. 24.
260774	PATON	LAWRENCE FINDLEY	20-03-1895	C 11 May 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	15-08-1918	29-09-1918	No. 12 Cdn Gen Hos	Influenza, Broncho-Pneumonia	05/10/1918	23	BRAMSHOTT (ST. MARY) CHURCHYARD	II. C. 2.
3353820	PAULSON	Joseph	13-07-1898	C 29 June 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	15-08-1918	30-09-1918	No. 12 Cdn Gen Hos	Influenza, Broncho-Pneumonia	05/10/1918	20	BRAMSHOTT (ST. MARY) CHURCHYARD	III. C. 15.
268576	RONEY	JAMES FRANKLIN	27-06-1896	C 18 May 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	15-08-1918	30-09-1918	No. 12 Cdn Gen Hos	Influenza	05/10/1918	22	BRAMSHOTT (ST. MARY) CHURCHYARD	III. C. 28.
260116	BELL	Thomas John	23-07-1897	C 7 May 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	16-08-1918	27-09-1918	No. 12 Cdn Gen Hos	Influenza, Broncho-Pneumonia	06/10/1918	21	BRAMSHOTT (ST. MARY) CHURCHYARD	III. C. 9.
277628	BORGERSON	Bernhard CONSTANTIN	17-08-1896	C 11 June 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	16-08-1918	02-10-1918	No. 12 Cdn Gen Hos	Influenza	06/10/1918	22	BRAMSHOTT (ST. MARY) CHURCHYARD	III. C. 19.
3353326	CAMPBELL	GEORGE LAING REID	22-01-1896	C 25 June 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	16-08-1918	30-09-1918	No. 12 Cdn Gen Hos	Influenza (severely toxic), Broncho-Pneumonia	07/10/1918	23	BRAMSHOTT (ST. MARY) CHURCHYARD	III. C. 16.
3352178	CURRY	Lester Emmet	03-07-1895	C 13 June 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	15-08-1918	04-10-1918	No. 12 Cdn Gen Hos	Influenza, Broncho-Pneumonia	07/10/1918	23	BRAMSHOTT (ST. MARY) CHURCHYARD	III. C. 21.
3353817	PETERSON	Henry Arnold	11-09-1897	C 29 June 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	16-08-1918	01-10-1918	No. 12 Cdn Gen Hos	Influenza, Broncho-Pneumonia	07/10/1918	21	BRAMSHOTT (ST. MARY) CHURCHYARD	III. C. 17.
3353866	RUMBLE	Roy Reginald	11-05-1897	C 29 June 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	15-08-1918	27-09-1918	No. 12 Cdn Gen Hos	Influenza	07/10/1918	21	BRAMSHOTT (ST. MARY) CHURCHYARD	III. C. 22.
268848	RYGH	OSCAR	13-12-1894	C 21 May 1918	Regina, Saskatchewan	Farmer	Private	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	02-10-1918	No. 12 Cdn Gen Hos	Influenza	07/10/1918	23	BRAMSHOTT (ST. MARY) CHURCHYARD	III. C. 13.
291489	LIDDLE	George Washington	06-02-1897	A 17 December 1915	Unknown	Farmer	Private	13-11-1916	Canada	20-11-1916	England	*Olympic*	09-08-1918	04-10-1918	No. 12 Cdn Gen Hos	Influenza	08/10/1918	21	BRAMSHOTT (ST. MARY) CHURCHYARD	III. C. 20.
256695	COPPIN	CHARLES EDGAR	18-05-1885	C 5 Jan 1918	Regina, Saskatchewan	Merchant, Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	16-08-1918	30-09-1918	No. 12 Cdn Gen Hos	Influenza	08/10/1918	33	BRAMSHOTT (ST. MARY) CHURCHYARD	III. C. 11.
3352704	MacTAVISH	DONALD ELMER	10-03-1897	C 18 June 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	16-08-1918	01-10-1918	No. 12 Cdn Gen Hos	Influenza, Broncho-Pneumonia	08/10/1918	21	BRAMSHOTT (ST. MARY) CHURCHYARD	III. C. 4.
3352284	PATRIQUIN	WILLARD	25-02-1889	C 14 June 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	16-08-1918	02-10-1918	No. 12 Cdn Gen Hos	Influenza	08/10/1918	27	BRAMSHOTT (ST. MARY) CHURCHYARD	III. C. 18.
3352524	JENKINS	Walker Allen	15-02-1896	C 15 June 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	16-08-1918	27-09-1918	No. 12 Cdn Gen Hos	Influenza	09/10/1918	21	BRAMSHOTT (ST. MARY) CHURCHYARD	III. B. 12.
4090428	McGUIRE	ELMER	01-08-1891	C 15 May 1918	Regina, Saskatchewan	Bushman	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	15-08-1918	27-09-1918	No. 12 Cdn Gen Hos	Influenza, Broncho-Pneumonia	09/10/1918	27	BRAMSHOTT (ST. MARY) CHURCHYARD	III. C. 14.
3352288	RICHARDSON	ERIC MELLVILLE	13-06-1892	C 14 June 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	15-08-1918	30-09-1918	No. 12 Cdn Gen Hos	Influenza, Pneumonia	10/10/1918	26	BRAMSHOTT (ST. MARY) CHURCHYARD	III. B. 13.
3353940	TORKELSON	CHARLES	29-05-1918	C 29 June 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	15-08-1918	29-09-1918	No. 12 Cdn Gen Hos	Influenza	10/10/1918	21	BRAMSHOTT (ST. MARY) CHURCHYARD	III. C. 8.
268996	LOVE	WILLIAM ROGERSON	25-04-1896	C 23 May 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	15-08-1918	01-10-1918	No. 12 Cdn Gen Hos	Influenza	11/10/1918	22	BRAMSHOTT (ST. MARY) CHURCHYARD	III. C. 2.
1018606	FENNER	Laurence Henry	09-10-1889	A 16 July 1916	North Battleford, Sask	Motor Engineer	Private	17-04-1917	Halifax	29-04-1917	Liverpool	*Northland*	02-04-1918	04-10-1918	No. 12 Cdn Gen Hos	Influenza	12/10/1918	29	BRAMSHOTT (ST. MARY) CHURCHYARD	III. C. 12.
277299	CORNEY	Frederick William	13-04-1897	C 8 June 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	15-08-1918	01-10-1918	No. 12 Cdn Gen Hos	Influenza	14/10/1918	21	BRAMSHOTT (ST. MARY) CHURCHYARD	III. C. 5.
269053	CLARK	Row William	19-09-1894	C 23 May 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-01-1900	Liverpool	*Cassandra*	15-08-1918	30-09-1918	No. 12 Cdn Gen Hos	Influenza, Broncho-Pneumonia	15/10/1918	23	BRAMSHOTT (ST. MARY) CHURCHYARD	III. B. 7.
277540	DRURY	Norman Goultin	15-01-1897	C 11 June 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	15-08-1918	27-09-1918	No. 12 Cdn Gen Hos	Influenza, Broncho-Pneumonia	16/10/1918	21	BRAMSHOTT (ST. MARY) CHURCHYARD	III. B. 1.
260992	HOEHNE	ELMER EMIL	11-09-1897	C 16 May 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	15-08-1918	30-09-1918	No. 12 Cdn Gen Hos	Influenza, Broncho-Pneumonia	16/10/1918	21	BRAMSHOTT (ST. MARY) CHURCHYARD	III. B. 2.
277359	SHIPPY	Melvin Orle	06-07-1896	C 8 June 1918	Regina, Saskatchewan	Farmer	Private	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	27-09-1918	No. 12 Cdn Gen Hos	Influenza	16/10/1918	22	BRAMSHOTT (ST. MARY) CHURCHYARD	III. B. 5.
3353035	MEYERS	Frank	12-12-1897	A 21 June 1918	Regina, Saskatchewan	Mechanic	Private	10-09-1918	Canada	25-09-1918	England	*Durham*	25-09-1918	18-10-1918	Kinmel Park	Broncho-Pneumonia	18/10/1918	20	BODELWYDDAN (ST. MARGARET) CHURCHYARD	429
3353624	MACKAY	GEORGE LESLIE	30-06-1895	C 27 June 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	16-08-1918	27-10-1918	No. 12 Cdn Gen Hos	Influenza, Broncho-Pneumonia	04/11/1918	22	BRAMSHOTT (ST. MARY) CHURCHYARD	III. A. 24.
3354184	ROBINSON	Fred	03-10-1890	C 29 June 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	16-08-1918	17-09-1918	Epsom	Rheumatic fever, endocarditis, myalgia, influenza	07/11/1918	28	EPSOM CEMETERY	Screen Wall, K. 96.
3352569	HOOD	William Charles	10-02-1897	C 18 June 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	16-08-1918	24-09-1918	No. 12 Cdn Gen Hos	Influenza	09/12/1918	21	BRAMSHOTT (ST. MARY) CHURCHYARD	II. A. 19.
2188525	WOOD	Ernest John	16-06-1898	A 26 Feb 1917	Regina, Saskatchewan	Gas Engineer	Private	28-05-1917	Halifax	09-06-1917	Liverpool	*Olympic*	10-10-1918	02-01-1919	Kinmel Park	Influenza, Broncho-Pneumonia	08/01/1919	20	BODELWYDDAN (ST. MARGARET) CHURCHYARD	472
269475	MAINLAND	William Wallis	01-01-1897	C 28 May 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	15-08-1918	21-11-1918	No. 12 Cdn Gen Hos	Pericarditis, Influenza	11/01/1919	21	BRAMSHOTT (ST. MARY) CHURCHYARD	II. D. 4.
3352643	KIRBY	AUSTIN	26-01-1897	C 18 June 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	16-08-1918	12-01-1919	No. 12 Cdn Gen Hos	Intestinal Obstruction	12/01/1919	21	BRAMSHOTT (ST. MARY) CHURCHYARD	II. D. 2.
259141	ORR	Fred Herbert	23-09-1895	C 15 April 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	16-08-1918	N/A	N/A	Fell from train, died on impact	15/01/1919	23	CHESTER-LE-STREET (ROPERY LANE) CEMETERY	H. 218.
269113	RUTTEN	Theodore	23-05-1895	C 23 May 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	16-08-1918	10-02-1919	Ripon	Influenza, Broncho-Pneumonia	17/02/1919	23	RIPON CEMETERY	G. 204.
268680	BADGER	John Hannibal	24-11-1896	C 24 May 1918	Regina, Saskatchewan	Rancher	Private	26-07-1918	Halifax	02-08-1918	Liverpool	*Nankin*	15-08-1918	23-04-1919	Ripon	Influenza, Broncho-Pneumonia	04/05/1919	23	STOCKPORT BOROUGH CEMETERY	BN. Ch. 110.
1263637	WESTMAN	David Albert	01-11-1892	C 5 March 1918	Regina, Saskatchewan	Farmer	Private	24-03-1918	Canada	03-04-1918	England	*Missanabie*	04-04-1918	14-04-1919	Ripon	PUO, Influenza	15/05/1919	27	RIPON CEMETERY	F. 263.
276939	NISHIMURA	SANNOSUKE	16-11-1894	C 4 June 1918	Regina, Saskatchewan	Farmer	Private	28-07-1918	Montreal	15-08-1918	Liverpool	*Cassandra*	15-08-1918	08-05-1919	Ripon	Tubercle of Intestine	14/07/1919	24	RIPON CEMETERY	F. 256.

Deaths of Men from the 15th Reserve Battalion from January 1918 to July 1919

Details compiled by the author using Commonwealth War Graves Commission's War Dead database and Library and Archives Canada RG150 Accession 1992-93/166 Personnel Records of the First World War.

No. 12 Canadian General Hospital, 1918								
	Total Admissions	**Total Admissions for Influenza+**	**Total Deaths**	**Deaths from Influenza+**	**Total Admissions from 15th R Bttn**	**Admissions from 15th R Bttn for Influenza+**	**Deaths from 15th R Bttn**	**Deaths from 15th R Bttn From Influenza+**
April	870	102	3	3	71	11	2	2
May	913	128	1	1	76	27	0	0
June	902	170	7	3	68	8	0	0
July	891	142	9	7	59	17	0	0
August	916	161	4	1	22	3	0	0
September	961	256	8	7	189	141	2	2
October	2333	2008	142	142	549	528	44	44
November	966	355	42	41	119	16	1	1
Totals:	8752	3322	216	205	1153	751	49	49

Totals calculated by author. “Influenza+” refers to influenza as well as all influenza-like illnesses. Source: LAC RG150 Vol. 526, Books 474 to 480. Admissions and Discharges Books of the Canadian Army Medical Corps Overseas – No. 12 Canadian Field Ambulance, April to November 1918.

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