

Library and Archives Canada Cataloguing in Publication

**Miasma to Microscopes: The Russian Influenza Pandemic in Hamilton / D.
Ann Herring and Sally Carraher, editors.**

Includes bibliographical references and index.

ISBN 9780978241735

**Print catalogue data is available from Library and Archives Canada, at
www.collectionscanada.gc.ca**

Cover Design: Gary Jowett

Group Photo: Zeljko Rubignoni

Miasma to Microscopes

The Russian Influenza in Hamilton

D. Ann Herring and Sally Carraher, editors

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Contents

FIGURES AND TABLES	vii
1 Miasma to Microscopes <i>D. Ann Herring and Sally Carraher</i>	2
2 Early Nineteenth-Century Influenza: A Prequel to the Russian Influenza <i>Marie K. Lim</i>	8
3 Fatal Manifestations: Symptomatology of the Russian Influenza <i>Melissa Mrmak</i>	16
4 Vital Imbalances, Vapours or Viruses? <i>Kelly Hancock</i>	22
5 The Impact of Influenza: A Global Perspective <i>Natasha K. Maris</i>	30
6 The Russian Flu Rushes to Hamilton <i>Samantha Thompson</i>	40
7 Pandemic Influenza in Hamilton <i>Kelly A. Martel</i>	50
	iii

8	Were Influenza Deaths in Hamilton Socially Structured? <i>Devan Schafer</i>	60
9	Influenza Was Not the Only Disease Out There! <i>Lisa Emes</i>	68
10	“Sickness of the Mind”: Epidemic Influenza and Mental Illness <i>Vanessa Colasanti</i>	76
11	Economic Prosperity: A Response to Influenza in Hamilton <i>Melinda Spry</i>	84
12	Understanding Influenza through Home Remedies <i>Marta Montero</i>	90
13	Doctor in the House: Hamilton’s Practitioners in the Late Nineteenth Century <i>Frances Murray</i>	98
14	The Hospital: Treatment Center or Social Clique? <i>Gabrielle S. Toth</i>	108
15	Invisible Pathogens, Invisible Caregivers <i>Sarah K. Byford</i>	114
16	Flu Talk: the Language of Russian Influenza in Hamilton <i>Meghan Steenhoek</i>	122

17		
	Flushing Away the Flu: Hygienic Systems of Thought in Hamilton	
	<i>Emilia Rubignoni</i>	130
18		
	“Be Warned”: Advertising during the Russian Influenza Pandemic	
	<i>Courtney A. Hartwick</i>	
19		138
	Influenza Goes In and Out of Fashion	
	<i>Jennifer Alonso</i>	
		144
20		
	The Blame Game: Exploring Illness and Scape-goating in the Late Nineteenth Century	
	<i>Stephanie Da Silva</i>	
		152
21		
	Dead and Buried: The Afterlife in Times of Influenza	
	<i>Jessica Monnaie</i>	
		158

Figures and Tables

FIGURES

Figure 2.1:	Immigrants Boarding a Ship	13
Figure 5.1:	Map of 1891 World Climatic Zones	
Figure 5.2:	Peak Mortality Rates of the 1889 Russian Influenza across Continental Europe	32
Figure 5.3:	Number of Deaths from Influenza and Pneumonia in London, Berlin, and Paris, September, 1889-April, 1890	34
Figure 5.4:	Graph Depicting Waves of Influenza from September 1889- February 1892	38
Figure 6.1:	Global Spread of Russian Influenza, 1889-90	42
Figure 6.2:	Reported Russian Influenza Plotted against Existing Railway Networks in 1889	45
Figure 7.1:	Monthly Influenza Deaths	53
Figure 7.2:	Weekly Influenza Deaths	54
Figure 7.3:	Influenza Mortality Rates by County	55
Figure 7.4:	Age Specific Mortality Rates	55
Figure 7.5:	Influenza Mortality Curves in Certain Epidemic Years	56
Figure 9.1:	Registered Deaths and Communicable Diseases in Hamilton from September 1889 to September 1890	70
Figure 9.2:	Communicable Disease Deaths in Hamilton,1889-1891	71
Figure 9.3:	Percentage of Total Deaths from Communicable Diseases in Hamilton, from 1889 to 1891	73
Figure 10.1:	Hamilton Psychiatric Hospital circa 1888	80
Figure 13.1:	Microscope Believed to be Used by Dr. William Osler	99
Figure 13.2:	A Surgeon Bleeds a Young Woman	101
Figure 13.3:	Dr. A.E. Malloch, 1844-1919	103
Figure 13.4:	Dr. Ingersoll Olmsted, 1864-1936	104
Figure 13.5:	Dr. Thomas Bertram	104
Figure 13.6:	Hamilton Medical and Surgical Society Fee Schedule	105

Figure 15.1:	St. Joseph’s Hospital, John Street South, 1890	116
Figure 15.2:	Miss Cadenhead and Miss Ross, 1890	117
Figure 16.1:	Frequency of Causes of Death Terminology in Wentworth County 1889-91	125
Figure 16.2:	“Ingalls Has the Grippe”	126
Figure 16.3:	Frequency of Influenza Terms in Medical Journals, 1889-1892	128
Figure 17.1:	Hamilton’s First Pump House is Located in the Industrial Sector in the Northern Part of the City	132
Figure 17.2:	Hamilton Waterworks	133
Figure 17.3:	Pears’ Soap Advertisement	134
Figure 17.4:	Late Nineteenth-Century Ceramic Toilet	135
Figure 18.1:	Percentage of Influenza Ads in Relation to Death Rate	139
Figure 18.2:	Percentage of Influenza-Related Ads in Relation to Death Rate	140
Figure 19.1:	A Family Threatened by Influenza is Prepared for a Large Scale Bleeding	149
Figure 21.1:	Christ Church Cemetery	158
Figure 21.2:	Broken, Unreadable and Mould-Covered Gravestones at Christ Church Cemetery	160
Figure 21.3:	Gravestone Material	161
Figure 21.4:	Gravestone Styles	162

TABLES

Table 2.1:	Influenza Pandemics	9
Table 7.1:	Determining Factors of Pandemic Influenza	50
Table 13.1:	Dr. Langstaff’s Average Annual Rate of Bloodletting by Venesection and Cupping	102
Table 16.1:	Frequency of Influenza Terms in Medical Journals, Sample of 20 Articles, 1889-92	128
Table 21.1:	Age Profile of Hamilton Gravestones, 1889-90	160

1

Miasma to Microscopes

D. Ann Herring and Sally Carraher

While many readers will be familiar with the well known “Spanish Influenza”, a term that refers to the iconic 1918 influenza pandemic, its predecessor, the Russian Influenza – a pandemic that occurred in several waves during the late nineteenth century (1889-94) – seems to have been lost from public memory. Yet, in a mere four months it spread rapidly around a world that was becoming increasingly interconnected by ships and railways (Valleron *et al.* 2010). The details of the pandemic’s progress and effects were extensively reported in newspapers and medical periodicals. The people of Hamilton were well aware of its movements long before it reached the city. As an illness that seemed to manifest itself simultaneously in mild and severe forms, doctors of the period were at a loss to explain what was causing such widespread and variable suffering (Smith 1995:55). This was a time when medical authorities debated whether disease was caused by miasma – noxious odours and poisonous gases – or by invisible bacteria that could only be seen with a microscope; a time in which the public was essentially left to its own devices to treat the illness popularly known as “la grippe”.

Although in some ways the Russian Influenza seemed oddly familiar, especially in terms of the active role played by the media in shaping public understandings of the pandemic (Mussell 2007), in other ways it proved to be strikingly different from more recent influenza pandemics, such as occurred in 2009. In 2009, rapid laboratory identification of the virus as the H1N1 strain of influenza – the same virus associated with the 1918 pandemic – prompted dramatic responses from the World Health Organization and national public health bureaucracies. During the Russian Influenza of 1889-90, however, there was no clear consensus on what was causing the illness; neither were there effective treatments, nor effective public health infrastructures in place.

Miasma to Microscopes

Written by fourth-year Honours Anthropology students studying infectious disease at McMaster University, this book tells the story of how the Russian Influenza came to the city of Hamilton, and how its citizens understood and coped with successive waves of “la grippe” that washed over the city in 1889-90. This story is revealed through the analysis of a rich body of cultural artifacts, including newspaper accounts, medical journals, photographs, personal diaries, registered deaths, and funeral records, obituaries, city council minutes, public health reports, and tombstones. Our subject matter ranges from the details of mortality in Hamilton during the Russian Influenza pandemic to its impact on the spirit of the city.

Our book begins by placing the 1889-90 Russian Influenza within the history of epidemics in Canada. Marie Lim notes that although widespread influenza epidemics occurred in the nineteenth century (such as in 1846-47), there do not appear to be any records of influenza epidemics in Hamilton before 1889. This makes the 1889-90 period particularly interesting because it represents, as far as we can tell, the city’s first experience of an influenza pandemic. There are many reasons, however, why influenza epidemics might have occurred previously in Hamilton without being identified. Melissa Mrmak considers the difficulty associated with defining “influenza” in the late nineteenth century in light of how variable the physical symptoms of the illness seemed to be, and the diversity of explanations for disease that coexisted in Hamilton and elsewhere. Kelly Hancock delves into these explanatory models for illness and disease and explores the ideas that formed the foundations for these competing views.

Natasha Maris places the 1889-90 Russian Influenza pandemic in global perspective, showing how its spread and severity in different regions of the world was mediated by social and geographical factors, such as railway networks and climate. From the global stage, Samantha Thompson brings the pandemic closer to home by charting the likely sea and overland routes by which influenza travelled to Hamilton, reaching the city by early January, 1890. Once established in Hamilton, Kelly Martel’s analysis of registered deaths for Hamilton chronicles the rise and fall of influenza mortality from 1889 to 1891. She demonstrates that the Russian Influenza pandemic period of January to May, 1890 displays the classic hallmarks of epidemic influenza, with higher than expected death rates among people in the prime of life. Devan Schafer considers whether the burden of influenza was shared evenly among Hamilton’s residents, making the case that influenza mortality often occurs disproportionately among economically

disadvantaged segments of society. Adding to the complexity of the problem, influenza was not the only infectious disease affecting people during this period; influenza interacts with and is capacitated by other diseases, such as pneumonia and tuberculosis. Lisa Emes explores the registered deaths for Hamilton for 1889 to 1891 to identify other contagious diseases that prevailed in the city, concluding that concurrent infections likely exacerbated influenza mortality during the pandemic. While we tend to focus our attention on the physical ramifications of infectious diseases such as influenza, the 1889-90 pandemic brought to the attention of medical professionals the relationship between influenza, depression, and suicide. Vanessa Colasanti probes death records and newspapers to determine whether there is any evidence in Hamilton for this tragic association.

How did the citizens of Hamilton cope during the pandemic? Melinda Spry examines the reaction of municipal officials to the rising rates of influenza deaths in the city during the winter of 1890. She argues that city officials were more concerned about supporting the growing prosperity of the rapidly industrializing city, rather than hindering its economic progress by closing schools and businesses to stem the tide of infection. In contrast to the marked lack of action by city officials, the women of Hamilton played a major part in responding to influenza as caregivers to the sick and dying. The home was the primary place where the sick convalesced in the care of female relatives, or, in the case of middle and upper class families, hired nurses. As Marta Montero shows, home remedies printed in ladies' literature and cookbooks, and the design of "sickrooms", reveal domestic understandings of health and treatments used for illnesses like influenza. The nursing profession in Hamilton, as explained by Sarah Byford, was undergoing professionalization during this time. Whereas previously nurses were essentially treated as servants, new training programs and the influence of Florence Nightingale were changing perceptions of the role.

Effective treatments for influenza did not exist in the 1890s, even though doctors of the period had a good knowledge of human anatomy and symptomatology. Frances Murray describes the lives of Hamilton's doctors during the pandemic and the difficulties they faced in responding to an epidemic at a time when medical understanding and explanatory frameworks were undergoing rapid change. Although most of the sick were treated at home, some doctors treated patients in the hospital. Nineteenth-century hospitals, in fact, were only used as a last resort and were largely places for treating the homeless and destitute; "pay patients" and "free patients" (poor patients whose hospital bills

Miasma to Microscopes

were paid by the City) came to be differentially defined and treated. Like the larger medical profession itself, Hamilton's City Hospital was undergoing significant change during the Russian Influenza. However, newspaper accounts for the period, Gabrielle Toth argues, reveal that hospital doctors were engaged in in-fighting around hospital governance issues instead of advocating proper treatment for patients.

Perceptions of the Russian Influenza were not shaped solely by the actions of doctors, nurses, and caregivers – but also in more subtle ways by their use of terminology. Meghan Steenhoek explores the contrasting language used to discuss influenza in medical journals and newspapers, arguing that it reveals the belief systems of writers and their intended audience. The terminology used in medical journals reflected the growing influence of germ theory and biomedical reductionism, which circulated within a relatively small professional audience. The surrounding public, however, continued to speak of the epidemic in older terms that reflected humoral systems of understanding. This emphasis on older systems of medical thought can also be seen in the actions of the city health officials in the wake of the 1889-90 epidemic. Ema Rubignoni maps out improvements made to Hamilton's sanitation system aimed at eliminating the noxious gases (miasma) many believed caused diseases, such as influenza.

Epidemics can take on a social life of their own well beyond the physical effects of the disease. Courtney Hartwick looks for evidence of germ panic (Tomes 2000) – general public anxiety relating to a disease or epidemic – in advertisements during the Russian Influenza. Advertisers selected particular words, images, and testimonials to convince readers that even seemingly mild symptoms could prove deadly if their products were not purchased. Such exaggerated claims, aimed at increasing sales, were likely influential in shaping public reactions to the epidemic. Jennifer Alonso makes the case, moreover, that newspaper editorials, survivor accounts, poetry and art served to sensationalize influenza and made it a fashionable disease. Influenza fell out of fashion when its depiction as an exotic visitor from abroad was replaced with the image of a common, domestic illness akin to a severe cold. As a new disease or epidemic is named and characterized, marginal or stigmatized social groups are often blamed for its occurrence. Stephanie Da Silva illustrates this principle with several historical examples, and then shows how discussions of the origins of the Russian Influenza reveal xenophobic attitudes toward foreigners, in Hamilton and abroad. Finally, it is important to consider how the ordinary people responded not just to

the epidemic itself, but to the people who succumbed to it. Jessica Monnaie considers whether the experience of influenza in Hamilton was sufficiently traumatic to elicit special forms of representation on the gravetones of people who died from it. In contrast to the drama and germ panic evident in public media, Monnaie was unable to find evidence of special treatment or memorialisation of individuals who died during the Russian Influenza pandemic in the four cemeteries serving the Hamilton area in the late nineteenth century, except for a small sample of graves for individuals from the same family. Clearly, public representations and private personal responses to an epidemic may be quite different.

The anthropology of infectious disease, the area of inquiry from which this book was written, aims to uncover the complex and entangled relationships through which human societies and epidemic diseases shape each other. The story of the Russian Influenza pandemic in Hamilton reveals the city's place in a global economy and information network, and how its people were affected and transformed by the arrival of pandemic influenza in 1889.

Acknowledgements

We would not have been able to undertake this project, let alone complete it in three months, without the extraordinary support of many people. In particular, we extend our deepest thanks to Dr. Aubrey Cannon, Chair of the Department of Anthropology, who provided us with the seed money needed to print the book. Without Dr. Cannon's financial support and belief in our book project, it never would have come to fruition. Many librarians and archivists helped the authors identify and retrieve the newspapers, public health reports, images, maps, funeral records and death records that form the basis for each chapter. Their kindness and patience made it possible for students who were initially inexperienced at working in an archival setting to become passionate, professional researchers and accomplished authors. We are especially grateful to the staff at the Hamilton Archives, Anne McKeage at the History of Medicine Library at McMaster University, Cathy Moulder and Gordon Beck at the Lloyd Reeds Map Collection in Mills Library, and Rick Stapleton at McMaster's Archives and Research Collections. We also gratefully acknowledge the assistance of Dr. J. David Richardson, Dr. E. (Ted) Smith, The Hamilton Academy of Medicine, Sandra Kiemele and the staff of the Dundas Museum and Archives. We are grateful to

Miasma to Microscopes

David Earn from the Department of Mathematics at McMaster University for allowing us access to the large database of registered deaths for Hamilton (Government of Ontario 1889-91).

Gary Jowett designed our great book cover. We cannot thank him enough for the extraordinary amount of time he donated to this project by listening to ideas about our concept for the book, and then patiently incorporating them into a series of designs from which we selected the one you see on the cover. Zeljko Rubignoni (Ema's father) kindly took the group photograph of the authors on the back cover. Family and friends pitched in to help complete many of the other tasks involved in making this book, and helped us further by making financial contributions to cover our printing costs. In particular, we could not have produced our book without generous donations from Joe Da Silva of Ippolito Fruit and Produce 1998 and Joel Ippolito of Ippolito Produce; The Hamilton Spectator; and Bruce Byford of Arbex Forest Consultants, to whom we give our heartfelt thanks.

Printer.ca made sure everything was printed properly and according to schedule. This book would not have been possible without all of our supporters. Thank you!

2

Early Nineteenth-Century Influenza: A Prequel to the Russian Influenza

Marie K. Lim

“Of considerable significance is the rapidity with which influenza can spread and form into epidemics or pandemics, and the great distances this disease can travel” (Hackett 2002:88).

Influenza has a long history. Since as early as 1557, the world has experienced numerous influenza pandemics that originated in Asia and spread to Africa, Europe, Asia Minor, and northwest Africa (Potter 2001). Modern research has revealed that the original emergence of the influenza virus is a consequence of the domestication of pigs and ducks (Diamond 2002).

One way to predict how fast a disease will spread is by determining its R_0 factor. This estimates the number of people who get infected from an already infected person – the greater the R_0 factor, the faster the disease spreads. The influenza virus has an R_0 of 10, which means that it is highly infectious. It spreads easily by droplet infection thorough coughing and sneezing (Sherman 2006). Outbreaks of influenza can be divided into two categories: epidemic and pandemic. An epidemic is a rise in influenza cases above baseline in a particular geographical area. A pandemic is far more widespread and is usually on a global scale (Van-Tam & Sellwood, 2010). When discussing pandemic influenza statistics, it is important to distinguish morbidity from mortality. In an epidemic, morbidity refers to the significant illnesses, complications, and hospitalizations associated with a particular disease. Mortality refers to the number of deaths that occur above the statistical baseline of expected deaths from that disease (Cox & Subbarao 2000). There have been a number of influenza epidemics and pandemics prior to the Russian Influenza. These likely influenced how the world reacted when the 1889-90 influenza pandemic emerged and spread.

Pandemics in the Nineteenth Century

Patterson (1985) asserts there were two pandemics in the nineteenth century: one in 1830-31 and 1833; another probable pandemic in 1836-1837; and a serious but non-pandemic episode in 1847-1848. These outbreaks of influenza affected various world regions (Table 2.1).

Pandemic Year	Origin	Places Affected
1830-31/32	China	China, southeast Asia, India, Europe, North America
1833	Russia	Europe Australia, northern Canada, South Africa, Java, Penang,
1836-37	Unknown	Europe, Syria, Egypt
1847-48	Russia	Europe, Mediterranean

Table 2.1: Influenza Pandemics (Patterson 1986:32-48).

The 1830-33 pandemic in Europe spread westward from Russia through cities such as Perm and St. Petersburg, and reached southeast Asia through ships that sailed from continental Europe. It is unique because there were several waves. The pandemic began in China in the winter of 1830 and spread to parts of southeast Asia, India, and Russia. In 1831-32, the pandemic reached North America and recurred in Europe from 1832-33. The pandemic in southeast Asia was reported as exhibiting high morbidity and low mortality but this is probably due to underreporting of cases in the region. In Europe, it was considered widespread, but mild (Patterson 1986:32-6).

During 1833 another influenza pandemic emerged and may have been a second wave of the 1830-31 pandemic. It was initially reported in several Russian cities and spread westward towards Constantinople, Syria, and Egypt. This particular pandemic had a high morbidity rate in Europe in comparison to the 1830-31 pandemic, although case-mortality rates remained low (Patterson 1986:37). Patterson notes that both young and old were equally stricken but it is unknown if individuals who contracted the disease in the previous pandemic gained immunity from the 1833 strain (1985:574-5).

Influenza emerged again in 1836-37 and displayed an unusual spatial pattern, spreading from north to south rather than the more usual east to west. Outbreaks were reported in Australia and South Africa in mid-October of 1836.

This was followed by reports of its appearance in Java and Penang in November the same year. Influenza was also recorded in Hudson's Bay Company districts in northern Canada during the fall of 1836 (Patterson 1986:39). Europe was again hit by the pandemic in 1836 with the earliest reports originating from Russia (Patterson 1985:575-576). This strain produced high morbidity and mortality rates that differed from place to place. Most affected European cities such as Berlin, Dublin, and London reported unusually high death tolls. The disease claimed about 3,000 lives in Dublin; 1,018 in Paris; and 348 in London (Patterson 1986:41). A majority of the deaths occurred among the elderly due to other complications such as secondary pneumonia (Patterson 1984).

The 1847-48 pandemic was prevalent in Europe, particularly in the western and Mediterranean regions. Its origins are still unknown, although the earliest known activity was recorded in Russia (Patterson 1986). An account in 1848 by Thomas Peacock states that a typhus outbreak in 1846 preceded the 1847-48 influenza pandemic in locations near Ireland (Peacock 1848). Although morbidity was extensive, it was experienced to a lesser degree than in earlier pandemics. According to Dixey (1892), an estimated 5,000 influenza deaths occurred in London. Patterson (1986:46) concludes that the disease was generally mild, except in Geneva, where there was a heavy toll, particularly among the elderly. This pandemic as a whole is quite unusual because it was widespread and severe in Europe. However, it did not seem to spread as widely as the previous two pandemics.

Evidence of Pandemic and Epidemic Influenza in North America

There are a limited number of accounts written about influenza outbreaks prior to 1889. Few of the pandemics reported in the Old World (Table 2.1) have been documented in North America. One Hamilton Daily Spectator article in 1889 lists several occurrences of influenza in 1800, 1803, 1831, 1833, 1837, and 1848 reported in Chicago, but claims, "There has been no epidemic of catarrh since 1843" (The Hamilton Daily Spectator 1889n). The definition of "catarrh" is ambiguous and had varying meanings in different places. In this context, it probably refers to an acute influenza, resulting in a cold, cough, thirst, lassitude, and watery eyes. The term can be misinterpreted because "catarrh" can also refer to the common cold (Antiquus Morbus 2010).

Miasma to Microscopes

An early account written by Shadrach Ricketson (1808), a physician in New York, mentions that influenza has prevailed in North America since as early as 1733. His account tells of an outbreak of influenza in 1807 and pays particular attention to its effects on New York. He mentions that an individual was attacked by influenza on his passage from Canada during the first fall month. A letter from the Bay of Quinte in northern Canada also hints that the disease did not pass through the country until the last months of the fall (Ricketson 1808:10). This suggests that influenza was present in Canada in the late eighteenth century, although it is not clear whether it occurred in epidemic form.

The 1830-1831 pandemic may have reached North America through individuals traveling from Europe, emerging at a later period. The only cities that reported influenza in late 1831 are Philadelphia, Boston, and Cincinnati (Patterson 1984:574). James Wilson (1881:18) mentions that in January and February, 1832, influenza afflicted inhabitants in certain regions of the United States, but does not specify where. One of the rare accounts of influenza written during this period occurred in Burke County, Georgia, where the disease appeared to be mild (Baldwin 1832).

Epidemic influenza probably also reached Canada but there are only a few written records to verify this. Paul Hackett (2002) writes that in the mid-1840s epidemic influenza was virtually an annual event in the Petit Nord. There were a series of widespread influenza epidemics that swept through the western interior of Canada between 1835 and 1850 (Hackett 2002:180). The epidemic of 1835 in the Petit Nord was considered to be the most destructive. An account written by Reverend David Jones mentions “there is an influenza becoming very prevalent, + [sic] which I fear will prove very fatal to infants + [sic] aged invalids; it exceeds in malignity any epidemic I have witnessed in the country” (Hackett 2002:180). This strain did not affect a particular age group and it caused high mortality. A second, less severe outbreak occurred in 1837. Although some people died during the epidemic, the symptoms differed from those observed in 1835, indicating that this was probably a different strain. An account by Reverend William Cockran notes that the disease “passed through the Indians of the Plains from the United States” (Hackett 2002:182-183).

One of the early pandemics observed in Canada occurred in 1836-37. The Hudson’s Bay Company recorded an outbreak of influenza in the Northern Department, particularly in the Athabasca and Peace River districts (Ray 1976:146). It is not known when the disease reached western Canada but there are

reports as early as 29 May, 1837 that mention that Aboriginal people living in the district of Fort Dunvegan had become ill (Ray 1976).

This epidemic period in Canada coincides with increasing immigration, particularly from the European continent. Trade between North America and Europe was also frequent, as exemplified by the business transacted by the Hudson's Bay Company. The completion of the Erie Canal in 1825 and other waterways as well as advances in transport technology resulted in an increase in human travel. This definitely increased the spread of disease throughout Canada and the United States (Hackett 2002). There is mention of a cholera epidemic introduced by Irish immigrants in 1832 (Bothwell 2006:191) but there is no mention of influenza.

Hamilton's Experience with Influenza before 1889

Hamilton was a growing town in the nineteenth century and it gained status as a city in 1846 (Henley 1996). It is unlikely that this city was spared from influenza outbreaks as we know these occurred in other growing cities in the province such as Toronto.

There is sparse information on the 1832 influenza pandemic in Hamilton, but there are mentions of cholera outbreaks there and in other parts of northern Canada. It is said that Irish immigrants brought the disease to Hamilton in 1832 (Lenihan 2002). Hamilton was one of the ports where immigrants landed and it is possible that individuals moving through the ports also suffered from influenza. A resolution passed on June 23, 1832 states:

The Lieutenant Governor requests that you will take immediate measures for causing all vessels bound for the port of Burlington Bay or Hamilton to be visited by a person authorized by the Board of Health in order that the infected person on board may be disposed of as the Board may think fit (Freeman 2001:35).

This resolution attempted to regulate the spread of disease, but there seems to have been hostility directed from residents toward immigrants arriving on ships and even toward other ships that arrived in the port of Hamilton (Freeman 2001). The pandemic of 1846-47 coincides with the Great Famine of Ireland (known today as the "Irish Potato Famine"). There was a rise in

Miasma to Microscopes

migration of people from Ireland to North America. Hamilton was one of the ports where Irish emigrants landed.

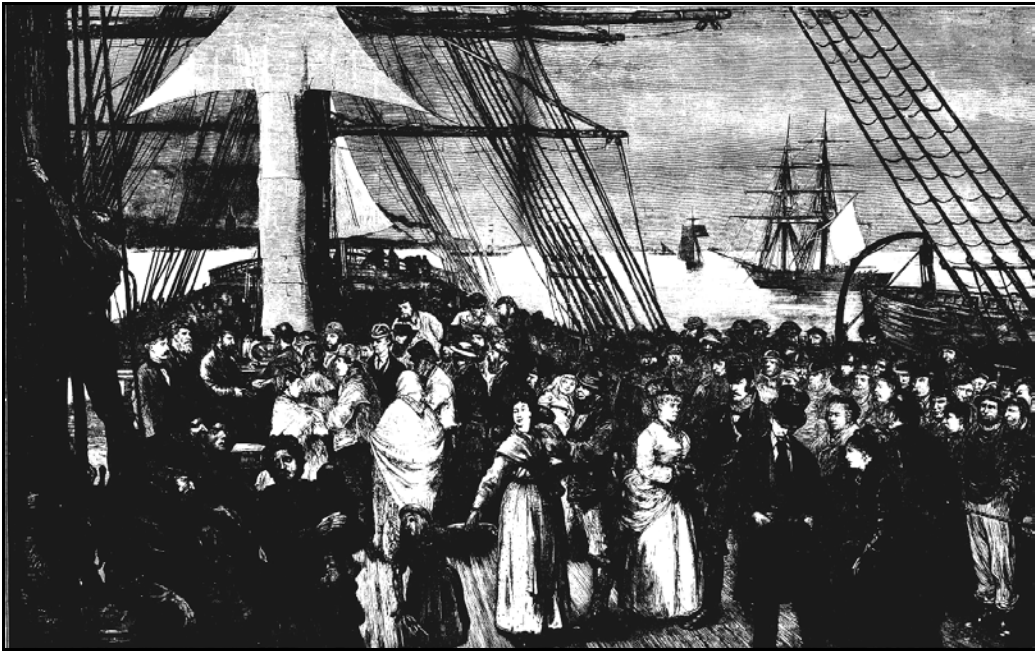


Figure 2.1: Immigrants Boarding a Ship (Author Unknown 1875:220).

A local news article published 17 April, 1847 mentions the immigration of people from Scotland and Ireland “in consequence of the distress still prevailing in those countries, and Hamilton will doubtless be destined to receive a large portion of those who may arrive in Canada” (The Hamilton Daily Spectator 1847a). Previous cholera epidemics had affected the city in 1832 and 1834, leading Mayor Ferrie to believe that immigrants would bring the disease again (Weaver 1982). The Hamilton Daily Spectator (1847a) also suggests that no time should be lost in preparing “emigrant sheds” to temporarily house newcomers to the city in order to prevent the spread of disease in the city. Another article states:

A good deal of sickness prevails among the emigrants at the sheds in this city, but we believe there is, as yet, no appearance of any contagious disease, or anything that might deter the citizens from visiting the unfortunate creatures, and administering to their wants. We rejoice to see

that the Corporation are doing everything in their power to get an hospital ready to receive the sick, and that the Board of Health are exerting themselves to alleviate the present sufferings of such as are laboring under disease in the sheds (The Hamilton Daily Spectator 1847b).

The city might have been ready for any outbreak of disease, but the sickness that is mentioned is never identified. A follow-up article written three days later notes that there have been six deaths and that sixty-nine individuals were receiving medical treatment in the immigrant sheds, but does not mention any illness (The Hamilton Daily Spectator 1847c).

The influenza pandemic of 1846-47 also coincided with the typhus epidemic in North America brought by the Irish emigration (Bothwell 2006). Typhus is different from influenza but both display similar symptoms such as headaches, chills, high fever, coughing, and severe muscular pain (Sherman 2006:121). Brian Henley (1996) writes that the city's preventive measures prevented a cholera epidemic. This is surprising because John Weaver (1982) mentions that there were typhus and smallpox cases in the city. The city was probably not disease free at the time, even though measures had been taken to prevent cholera. If other diseases were overlooked, it is possible that city officials also overlooked influenza.

Typhus had become a focus of concern for city officials in 1846-47 because of the influx of Irish immigrants fleeing the potato famine and Hamilton was a port of entry during the period. Attempts to quarantine individuals with influenza in Hamilton's immigrant sheds would have had no effect on its spread because of the disease's high R_0 factor.

Influenza Epidemics in Hamilton: An Unsolved Mystery

The lack of written records about Hamilton prior to the Russian Influenza in 1889-90 makes it challenging to determine if the city had experienced earlier influenza epidemics and pandemics. There may be various reasons why influenza is not mentioned in the few histories written about the city. Detailed record keeping of diseases was likely absent. Other parts of Canada, such as northern Ontario and western Canada, which were part of the territory controlled by the Hudson's Bay Company, did keep sufficient records, enabling historians to identify influenza epidemics and pandemics in the area. It is possible that

Miasma to Microscopes

epidemic influenza was present in Hamilton but was not regarded with the same concern as it was in the north. Hamilton was a port and it is possible that there were cases of influenza but they were not sufficiently severe to attract the attention of the general public. That said, it is also possible that influenza pandemics may not have reached Hamilton until 1889. This leads to the question, how do diseases become noticed during a time when a nation like Canada was slowly developing?

The nineteenth century was a time of many changes in North America. One of the major events was the large influx of migrants from Europe. This shift in the population also led to the development of canals, waterways and railways; a key to the increase and speed of the spread of disease throughout the landscape in 1889 (Thompson, Chapter 6). By the time the Russian Influenza emerged, the world was moving towards modernization and the development of cities such as Hamilton.

Patterson (1986) writes that the Russian Influenza is far better documented than previous outbreaks and its behaviour resembles pandemics that occurred later on in history. The emergence of the Russian Influenza was probably a major shock to the world in 1889 in terms of its severity and spread. Even with major socio-economic changes that had occurred in the gap between the pandemics of 1846-47 and 1889-90, the world was probably not prepared for the impact of the Russian Influenza. Other diseases, such as cholera in 1832 and typhus in 1846, seem to have overshadowed and perhaps even erased the memory of prior outbreaks of influenza. North America, moreover, had a different history of experience with influenza compared to other parts of the world and, as such, may have been less prepared when the Russian Influenza struck in 1889-90.

3

Fatal Manifestations : Symptomatology of the Russian Influenza

Melissa Mrmak

“I find that there are many varieties and degrees of the affection; it strikes different people in different ways. As yet I have not seen any case that did not yield readily to treatment, but there is no telling what the developments of the next few days may be” (The Hamilton Daily Spectator 1890il).

In 1889, the city of Hamilton was greeted by an unwelcome visitor. Influenza was already well known to Europe and had begun to make its way towards Hamilton. Though influenza has been documented throughout history, there are inconsistencies in its symptomatology (Porter 1832:19). Often, physicians’ recommendations and suggestions put forth by the media are taken as fact, and are not questioned. In turn, such misrepresentations may strongly influence a society’s understanding and interpretation of illness. In studying the history of past diseases, it is important to note differential diagnosis and try to account for variations in symptomatology.

This chapter examines the diversity of symptoms associated with the 1889-90 Russian Influenza, explores discrepancies in the interpretations of symptoms on the part of patients and doctors, and considers explanations as to why these disparities existed.

Facing the Flu: Symptoms

As influenza consumed the world in the late nineteenth century, fear and distress surrounding this perceived foreign ailment shook the emerging biomedical field. Though it was evident that an epidemic was at Hamilton’s doorstep, many doctors were unsure of the consequences that would soon accompany the dreaded

Miasma to Microscopes

influenza. In a variety of instances, both patients and doctors seem to have deemphasized the symptoms of influenza. In some cases, physicians' reports indicate that the symptoms of influenza were of little "inconvenience to the patient" (Porter 1832:42). Many doctors felt that influenza could be explained as a more serious case of the common cold because the symptoms expressed by both appear similar:

The patient has a light fever and then a violent headache, which is followed by inflammation of the larynx and of the vocal chords. This is accompanied by a severe congestion of the mucous membrane and then comes the sneezing and the fearful feeling of lassitude, which is really the protest of an overtired system against the abuse, which most persons inflict upon it during the cold season (The New York Times 1889b).

Moreover, the severe manifestations that often accompanied influenza were accounted for by secondary complications (Greenwood 1918:563). One doctor's report refers to influenza as "complicated with severe bronchitis or pneumonia" (Milman 1890:n.pag.). Additionally, there are instances documented in the Hamilton newspapers of citizens contracting a mild type of influenza, which had the potential to become more severe if cases developed into pneumonia (The Hamilton Herald 1889b). The idea that the subsequent ramifications of influenza led to severe suffering and fatality, and not influenza itself, was a popular belief in both the medical world and media (The Globe & Mail 1889c:1).

Further accounts of patients' experiences with influenza indicate its milder features. One victim of the disease shared in the belief that influenza was of little significance: "knowing that it was not dangerous I proceeded to doctor myself by the light of common sense" (The Hamilton Herald 1890c). Although the Russian Influenza was spreading rapidly, it is evident in the downplaying of the severity of symptoms that many in Hamilton did not consider the epidemic to be very malignant.

Tightening its Grip

In contrast, the severity of symptoms and fear associated with influenza has been well recorded in doctors' journals and case reports. While some physicians viewed influenza as nothing more than a serious case of a cold, others suggested the opposite:

“La Grippe differs entirely from any other previous kind of influenza. It is climatic, contagious and infectious. Another fact in connection with it is that it visits the seat of disease which is incident to the person attacked such as the kidneys, liver, lungs and heart” (The Hamilton Herald 1890c).

Another report paints a more devastating picture:

“From the very first moment of its attack, it has occasioned so much suffering as to confine the patient to his bed for upwards of a week, and to be with difficulty controlled by the most prompt and active treatment – in many other cases again, it has resulted speedily in death” (Porter 1832:42).

These elaborate descriptions of influenza suggest that the disease was regarded as dangerous and worrisome. Eade explains, for example, that the malady affects “almost any organ or function of the body” (1891:308). It has also been documented that “many patients complain of a sense of considerable soreness within the thorax, or chest, and a severe pain on coughing, especially in the forehead or in the eye-balls” (Porter 1832:40). In many instances influenza was described in great detail through the use of metaphor and dramatic language (Alonso, Chapter 19).

Further details of patient experiences are available in newspaper articles published during the epidemic. According to one news article, “the grip is becoming alarmingly prevalent, and in some cases the symptoms are quite violent” (The Hamilton Daily Spectator 1890i1). Additional reports of patient symptoms include “severe headaches, pains about the loins and back, accompanied by chills and high fever” (The Hamilton Herald 1889b). In one instance, an influenza sufferer discusses his symptoms as “coughing and feeling generally pretty sick” (The Hamilton Herald 1889c). This analysis of archival

Miasma to Microscopes

information indicates that many citizens of Hamilton suffered greatly from influenza.

Why was there Variability?

Although there are clear discrepancies in the descriptions of the severity of influenza, it is also possible that influenza was masked by symptoms of other illnesses. Some doctors acknowledged the varying expression of the symptoms, “although the influenza, like other epidemic diseases, exhibits a general resemblances of symptoms in most of those attacked, yet there is not by any means a complete uniformity” (Porter 1832:33-34). Discrepancies in severity were suggested to depend on “the degree of predisposition presented by some individuals to inflammation of the chest, the lungs and throat, than by others” (Porter 1832:42). Thus some of the disparities in the expression of the disease were attributed to individual differences in the sufferers themselves.

The ability to distinguish influenza from other prominent illnesses at this time was difficult, and prescribing remedies therefore became problematic. Consequently, physicians’ prescriptions were tailored to individual cases, “the treatment should vary with the marked character of the symptoms” (The Hamilton Herald 1890k). Although physicians applied the principles of differential diagnosis, many remedies at that time followed the humoral and miasmatic theories of disease causation (Montero, Chapter 12).

The different manifestations of influenza symptoms were further suggested to “arise from the greater degree of exposure to cold and variations of temperature to which one class of patients are liable, than another” (Porter 1832:42). In contrast, Greenwood considered influenza to be “independent of both climatic and meteorological conditions” (1918:563). These opposing arguments demonstrate that doctors came to different conclusions about the same symptoms presented in cases of the disease. In exploring past – and present – diseases, such subjective biases must be considered. As the prevailing humoral theory began to diminish, the development of a new paradigm – the germ theory – began. Therefore, some of the differences in opinion of medical professionals at the time may have resulted from this shifting medical perspective in the nineteenth century (Hancock, Chapter 4).

Toward a Better Understanding

To truly understand the experiences of Hamilton's citizens during the Russian Influenza pandemic, we look beyond the physical symptoms and delve into the perceptions of the public and physicians to appreciate the emotional currents that permeated the city. The inconsistencies between accounts discussed above may be indicative of a dramatization of influenza symptoms, as well as the pandemic itself. This variation may also provide insight into individual differences in the expression of symptoms, and the impact of the transition in medical paradigms of the period. In making a diagnosis, physicians of the time had to rely on the physical manifestations of influenza; today, they are assisted by laboratory-confirmation of the presence of the virus. As the methods of coping with illness have changed, so have our interpretation of health and disease, which must be reviewed when attempting to understand the implications of past epidemics (Singer & Clair 2003:424).

4

Vital Imbalances, Vapours, or Viruses?

Kelly Hancock

“If it is a terrifying thought that life is at the mercy of the multiplication of these minute bodies, it is a consoling hope that Science will not always remain powerless before such enemies...” (Pasteur 1878:n.pag.).

Biomedicine, the Western medical paradigm today, was in its infancy during the 1889-90 Russian Influenza pandemic. At the birth of a new era in medical practice old theories change or are discarded in favour of emerging knowledge. This rearrangement of thought and action is evident in the varied opinions about the causes of influenza circulating in the medical profession during the late nineteenth century. Each physician had particular beliefs about disease causation which were situated within a larger explanatory model for disease causation. I investigated how different physicians in Hamilton, Ontario understood and categorized the causes of influenza toward the end of the nineteenth century. I examined coverage of influenza in three newspapers: The Hamilton Herald, The Hamilton Daily Spectator, and The Globe and Mail and analyzed research articles and correspondences published in the scientific journal, The Lancet, from 1 December, 1889 to 30 April, 1890.

Explanatory Models

Arthur Kleinman defines an explanatory model as “the notions about an episode of sickness and its treatment that are employed by all those engaged in the clinical process” (Kleinman 1980:105). Explanatory models are not only employed in a clinical setting, but also form a framework within which patients and their families understand a specific instance of illness. A person’s explanatory model influences their choice of treatment as well as the practitioner they consult

Miasma to Microscopes

(Kleinman 1980). It is not necessary for all clinicians to agree on nosology and, indeed, during the late nineteenth century, they often did not. Disagreements about the causes of disease reflect various explanatory models that different physicians used to define and explain medical phenomena. The particular theories held by any medical practitioner affect the way in which the disease process is conceptualized. An explanatory model then is a system of thinking about disease and illness, a framework within which discussions of etiology, course of illness, and treatment can occur. How a practitioner thought about the causes of disease would inform his or her opinion as to possible and appropriate preventative measures as well.

Humours, Miasma, or Germs: What Causes Disease?

Humoural theory defines good health as a balance of the four “humours” of the body. These are characterized as either hot or cold, and wet or dry (Fox 1988:370). Thus, ill health arises from an imbalance of these four necessary fluids and treatment would be focused on restoring the vital balance by the judicious use of purgative and restorative methods, bleeding being one of the most recognized treatments today.

The miasmatic theory of disease grew out of this humoural system in the eighteenth century. Miasma is defined as “an influence or atmosphere that tends to deplete or corrupt, a vaporous emanation” (Merriam-Webster 2003:783). Consequently, exposure to noxious or foul air was given as the cause of any disease that might occur in a person. This theory held that air becomes foul through exposure to a corrupting influence, whether that influence was sewage, corpses, or putrid mud. Subscribers to miasmatic theory hold that smell equals disease, and public health measures were undertaken to keep people safe from emanations: by creating closed sewers; removing piles of refuse; and promoting ventilation (Halliday 2001:1469). The emphasis on filth in miasmatic theory drove efforts to clean up urban streets during the Victorian period (Barry 2005:50).

Miasmatic thinking did not entirely replace the humoural system; rather, it fit neatly within this older system of thought by explaining disease as a miasmatic influence upon an already unbalanced system (Fox 1988). During a heat wave in 1858, the much-polluted Thames River gave off such a smell that the inhabitants of London dubbed it the “Great Stink” (Johnson 2006:206). When mortality rates

during the heat wave did not change, despite this great “cloud of miasmatic air” (Johnson 2006:206), miasmatic thinking began to lose ground to newly emerging explanations for disease.

By the late nineteenth century, the germ theory began to take hold in medical consciousness. A major competing model at this time, the zymotic theory of disease, holds that chemical elements may start a chain reaction within the body that creates disease (Tomes 1998). Germ theory, first posed by F. G. Jakob Henle in his 1840 essay, instead holds that microorganisms inside the body cause disease (Barry 2005:51). This theory won further validation just prior to the outbreak of the 1889-90 Russian Influenza pandemic when Robert Koch laid out a series of conditions that must be met in the laboratory before a specific microorganism could be said to cause a specific disease. Koch’s postulates (also known as the Henle-Koch postulates) have become the gold standard for infectious disease research still in use today. Later, Koch’s discovery of the tuberculosis bacillus in 1882 added further weight to the fledgling theory (Barry 2005:51). Although the germ theory forms the basis for biomedical theory today, it was not the only medical opinion that prevailed during the Russian Influenza pandemic.

Causes of Influenza: Microbes

Opinions as to whether influenza is caused by a microscopic agent were divided in nineteenth-century Hamilton. In an article in the Hamilton Herald, the author asserts that influenza does not “breed pestilential germs” (The Hamilton Herald 1890i). A Parisian doctor stated that “there is no such thing as an influenza microbe... simply the pneumonia microbe developed to an extraordinary extent by influenza” (The Hamilton Daily Spectator 1890j). He goes on to say that “la grippe...has a singular and unexplained property of preparing the way for a splendid crop of pneumonia microbes” (The Hamilton Daily Spectator 1890j).

Others embraced the opposing view that influenza is caused by a microbe or a germ (The Hamilton Herald 1889b, 1890c; The Globe & Mail 1889b:1). Articles published in Hamilton seem to use three terms interchangeably to describe this new microscopic life: “germ”, “microbe”, and “bacteria”. The term “virus” is not written anywhere in the local papers but does appear in the pages of the medical journal, The Lancet (The Lancet 1890a:265; The Lancet 1890c:406-7). This explanation of causation involving a microorganism is

Miasma to Microscopes

derived from germ theory. The microorganism is often portrayed however as acting in concert with, or being acted upon by, other influences. The particular influences that are identified are a clue to which other theory has been merged with germ theory.

The Causes of Influenza

Climate

Climate-related explanations are commonly found in the Hamilton press during the Russian Influenza pandemic. In fact, this idea comes up more often than any other single published hypothesis. Any explanations that hold climactic conditions responsible for the pandemic tend to implicate unusual temperatures, as in this rather dramatic quote published in the Herald; “a green Christmas makes a fat graveyard” (The Hamilton Herald 1890c).

Warmer-than-usual winter temperatures are cited in several articles. Physicians in Montreal asserted that “the present mild, damp weather is regarded as favourable to its introduction and spread” (The Globe & Mail 1889a:1). In Hamilton, another news article stated, “the change in the weather has assisted the spread of ‘la grippe’ very considerably” (The Hamilton Herald 1890e). Some even argued that extreme cold is a hindrance or check to the spread of influenza (The Hamilton Herald 1890a).

Environmental temperature is a major theme featured in lay explanations as to the causes of influenza. Interestingly, elements of both humoral and germ theory are apparent in these explanations. Dramatic temperature changes are often posited as causing influenza, illustrated by a quote in The New York Times:

Medical men say, too, that in general the disease is a bad inflammation of the mucous membrane, which becomes influenza, because of the constant and rapid changes in temperature and the ever shifting degrees of dryness and moistness of the atmosphere (The New York Times 1889b).

Explanations that point to winter weather as assisting the causative agent seem to draw on germ theory. They cast the ambient temperature in a supportive role, much as popular wisdom does today when defining winter and early spring as “flu season”.

Body Temperature

Temperature is frequently cited as an important causal factor for influenza, not only in the environment, but also within individual bodies. An article from the *Lancet* states,

An ordinary cold is brought about by the action of varying temperatures on the nasal passages. A sudden change from breathing the atmosphere of a warm room to the cold air outside will produce congestion of the mucous membranes...this congested surface forms a favourable nidus [sic] for the influenza germ” (*The Lancet* 1890a:127).

The author goes on to say that while a normal mucous membrane can resist the inhaled germ load, a congested one cannot, and so the microbe is absorbed into the blood and influenza results. Published in a prestigious international medical journal, this article combines two major explanatory models by proposing that the imbalance in temperature weakens the body to the point that it becomes vulnerable to infection by germs. Temperature is also seen as helping a case of influenza to progress, as in the case of a doctor whose death was hastened because he persisted in taking a cold bath daily though afflicted with influenza (*The Globe & Mail* 1890d:1). Even today the idea persists that sudden temperature changes or extreme temperatures weaken the immune system. For example, the onset of winter raises concerns about catching a cold from going out-of-doors under-dressed.

Atmosphere

The president of a New York medical college said in 1890, “The name influenza comes from the suggestion that the malady was due to the influences of the heavenly bodies...[Influenza]...arises mysteriously and appears to have its origin in the atmosphere” (*The New York Times* 1890b).

Mass gatherings of people have often been implicated in the spread of infection. One theory states that the Russian Influenza:

Miasma to Microscopes

...has its origin in the great shrines and monasteries of Russia, where hundreds and thousands of pilgrims, tramping from all parts of the vast empire, annually congregate and are packed together in incredible squalor, filth and disease...it is a plausible notion that they set in motion also those poisoned air currents which have been working such havoc around the globe (The Globe & Mail 1891).

The belief that crowding invites infection also appears in the Hamilton Herald in 1890: “So far the death rate of this healthy city has not increased beyond the average, but the air seems to be laden with the deadly germs of that now famous Russian malady, ‘la grippe’” (The Hamilton Herald 1890).

Often, the air or wind was believed to act in combination with meteorological and atmospheric changes. Local physicians stated that “3,000 miles of salt water must have a purifying and deodorizing effect and in all probability kills the fatality of the disease before it could reach America” (The Hamilton Herald 1890). If foul vapours were responsible for the disease, after having traveled such a long distance, through all manner of weather systems and the like, the “poisoned air” would likely arrive purified and attenuated.

In an example that merges germ theory with elements of miasmatic theory, a Dr. Edson opined that the disease “which most people are inclined to attribute to the atmosphere, is really caused by bacteria. These germs of influenza were diffused through the atmosphere...” (The Hamilton Daily Spectator 1889m). Edson claims a microbial origin for the disease, but sets these germs in a nebulous cloud floating about in the atmosphere with no specific location.

Contagion and Infection

No general agreement could be reached as to whether influenza is contagious, infectious, or neither, or both. One news article posits that influenza is contagious and infectious (The Hamilton Herald 1890b), while another rejects the notion that the disease is infectious and goes on to state “...the idea of isolating victims is ridiculous” (The Hamilton Daily Spectator 1889m).

A curious case is mentioned by a city physician, which seems certainly to prove that the disease is most infectious. A young man received a letter from some friends in New York, who told him

they were suffering from ‘la grippe’. He commenced sneezing before he had finished the letter, and straightaway put himself into the hands of a Carlton street physician. He had, however, but a mild attack” (The Globe & Mail 1890c:16).

The author concludes that influenza is so infectious that coming into contact with something such as a letter written by an infected person is sufficient to spread influenza. Infection is cited again and again as the mechanism whereby influenza is acquired, often as a result of contact with contaminated goods. Instances include infection in a customs officer responsible for packages from England on an isolated island (The Lancet 1890a:376), and in a woman suffering from influenza who wrapped presents in her sickroom, which, upon delivery, were blamed for cases amongst the family and servants of the recipients (The Lancet 1890b:138).

The Old, the New and Medical Pluralism

A certain degree of medical pluralism, defined as “the employment of more than one medical system” (Wade *et al.* 2010), is to be expected where competing theories of causation abound. Bacteriology was a relatively new science when the Russian Influenza arrived in Hamilton in the winter of 1889-90. Dmitri Ivanovsky would soon demonstrate that an infectious agent smaller than bacteria could be passed through a fine filter intact, thereby providing the impetus for the advancement of virology as a medical discipline. Meanwhile, viruses were an etiological concept that had to be taken on faith (Kelly 2010).

Doctors in Hamilton could no more agree on the exact cause of influenza than doctors elsewhere. Neither was there agreement as to whether influenza should be considered an infectious or contagious disease. In both news media and professional medical journals, we see that physicians and the public engaged in a medical pluralism made up of several contemporary explanatory models.

5

The Impact of Influenza: A Global Perspective

Natasha K. Maris

“The disease is evidently of easy diffusion, but presents no grave characteristics”
(United States Marine Hospital Service 1890g:71).

“An influenza pandemic occurs when a new influenza virus emerges and spreads around the world, and most people do not have immunity” (WHO 2010c:n.pag.). The 1889-90 Russian Influenza was a disease outbreak that affected the entire world. However, pandemics have varied physical and social effects on people living in different regions. To achieve a fuller understanding of the 1889-90 Russian Influenza in Hamilton, it is important to examine other world regions affected by the pandemic in order to reconstruct the big picture on a global scale.

This chapter discusses the physical and social effects of influenza on the regions of the world through the lens of structural functionalism. The world is one whole body, and thus, cannot be fully understood by only studying separate parts. It is important to consider the parts as they relate to the whole body. Using this framework, I highlight some factors that likely influenced the different experiences with Russian Influenza in various world regions.

Global Impact

The Russian Influenza pandemic displays several distinctive features. The number of deaths worldwide is widely debated, but it is estimated that approximately 300,000 deaths occurred from influenza and directly-related complications, and that influenza affected between 25-50% of populations (Sellwood 2010:43). The disease spread rapidly around the world with the result that “we see the whole of Europe attacked within six weeks, and the entire surface of the earth overrun in six months” (United States Marine Hospital Service 1890b:12). Most of the

Miasma to Microscopes

information available on the pandemic comes from the northern hemisphere. There are two plausible explanations for this: the first is that the northern hemisphere had a higher attack rate than the southern hemisphere, and the second is that reporting may have been less diligent in southern regions. The first explanation is more likely because for both seasonal and pandemic influenza, the highest levels of morbidity are expected to occur in the usual influenza season period for an area. In the temperate climate zones this is usually the winter months (WHO 2010c), and the Russian Influenza pandemic began in December, 1889. It is likely that influenza in the late nineteenth century had a greater effect on the north due to its climate, as all heavily-affected areas lie north of the warmer temperate zone (Figure 5.1).

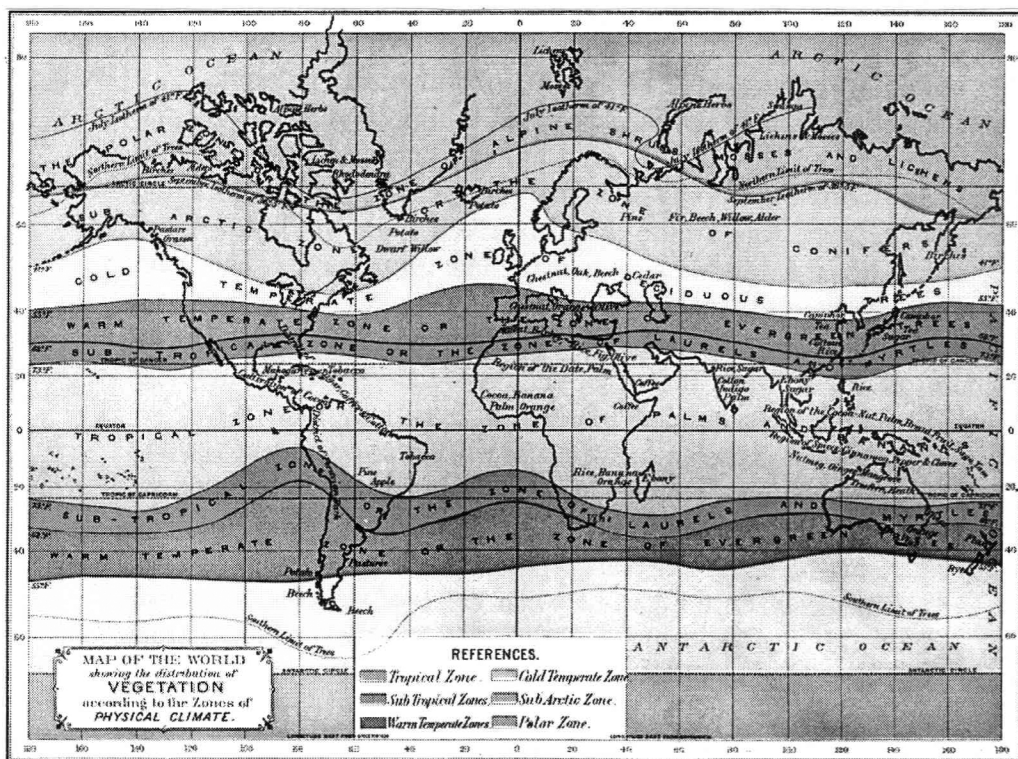


Figure 5.1: Map of 1891 World Climatic Zones (Houston 1891).

Europe

The impact of influenza was widely reported across Europe where a substantial number of individuals suffered from the disease. It is generally understood from news reports that the Russian Influenza diffused across the continent shortly after the outbreak was first recognized in St. Petersburg: “First influenza-related deaths in Europe were recorded on 14 December, 1889” (The Lancet 1889b). As of December 1889, the disease had already affected thousands. In St. Petersburg alone, some 26,000 people were suffering from the malady which had spread to more or less all the towns in Russia (The Hamilton Daily Spectator 1889a). In Berlin at that time, “... few families have escaped the plague, and a third of the population has been ill with it” (United States Marine Hospital Service 1889a:448).

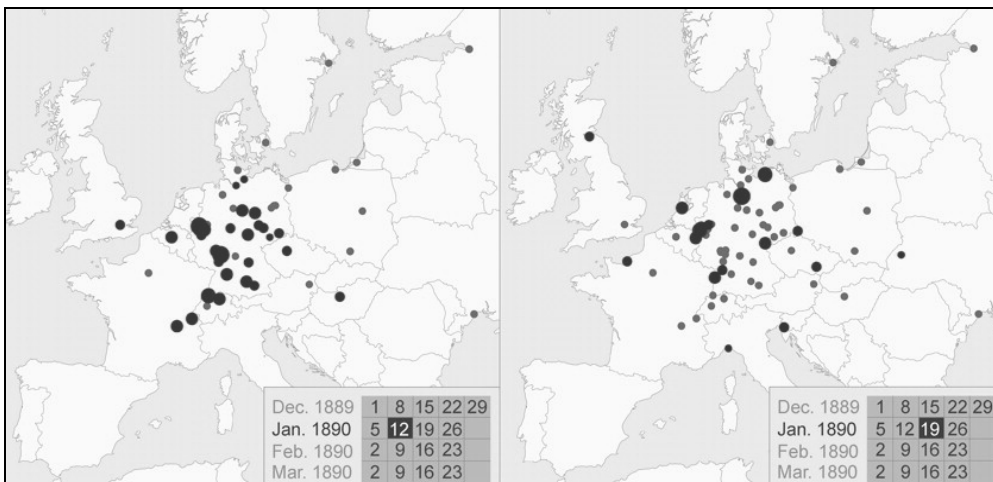


Figure 5.2: Peak Mortality Rates of the 1889 Russian Influenza across Europe (Valleron *et al.* 2010).

Figure 5.2 displays influenza mortality rates in Europe during the peak of the pandemic (12-19 January, 1890), where the larger dots represent heavily affected areas and the smaller dots represent less affected areas. It is evident that the greatest impact occurred in central Europe in mid-January, 1890. The number of deaths in many areas, however, was relatively low compared to the number of cases. This can be seen during the week of 11 January, 1890 (generally after the

Miasma to Microscopes

peak in Europe), where Amsterdam experienced 1,274 cases and five deaths (United States Marine Hospital Service 1890g:67).

The general consensus among European academic and media sources is that the first wave of the Russian Influenza was relatively mild, particularly in comparison to other prevailing diseases at the time, such as cholera and typhus. When the epidemic first emerged in Russia, it was reported that many of the cases in St. Petersburg were mild and no influenza-related deaths had occurred (The Lancet 1889a). Through December, 1889 the disease remained mild, although the number of cases was continuously increasing. In Berlin, on 21 December, 1889 there were “5,793 cases of influenza officially reported, apparently in a very mild form, and that no deaths have occurred from that disease” (United States Marine Hospital Service 1890d:35). By 20 January, 1890 over 2,000 cases were reported in Italy, and mild cases of the disease prevailed not only at Rome, but also throughout the country (United States Marine Hospital Service 1890g:68).

By the end of the first wave, however, parts of Europe experienced high death tolls. Madrid, Spain reported on 2 January, 1890 that 200 deaths occurred in one day (United States Marine Hospital Service 1890e:4). The population in Vienna also suffered severely and on 3 January, 1890 officials informed the public that “the statistics of mortality in this city during the last week show an increase of 50 percent over the normal rates” (The Globe & Mail 1890a). These reports indicate that there was considerable variability in the impact of the first wave of the Russian Influenza pandemic across Europe.

In order to discover when peak mortality occurred during the first wave of the pandemic, I compiled data from three European cities: London, Berlin and Paris (Figure 5.3). The first wave began to emerge in London during November, 1889 and peaked in all cities in January, 1890. By April, 1890, the first wave of the pandemic was essentially over, however, it began to decline much earlier than this. In Rouen, France for example, on 15 January, 1890, it was evident that the epidemic was receding, having reached its height between 30 December, 1889 and 2 January, 1890 (United States Marine Hospital Service 1890g:69). Newspapers not only provided vital statistical information on numbers of cases and deaths, but they also reveal how attitudes toward the disease changed as it progressed. Media sources report on denials of the epidemic’s existence, cures,

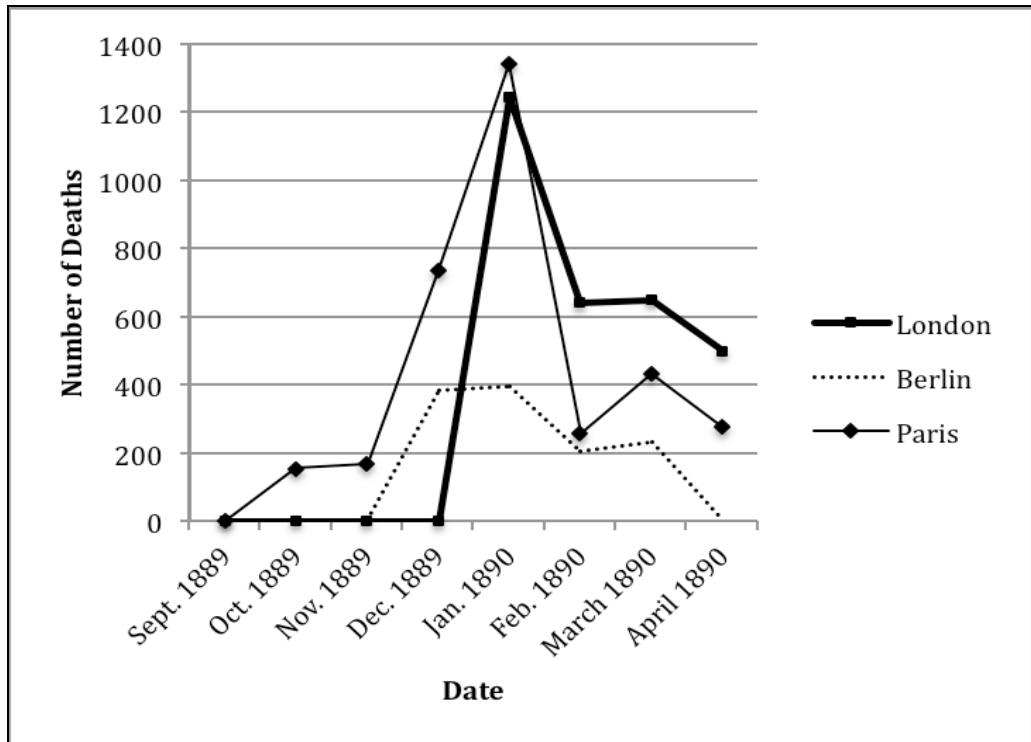


Figure 5.3: Number of Deaths from Influenza and Pneumonia in London, Berlin, and Paris, September, 1889- April, 1890 (Government of Ontario 1889; Dixey 1892).

hypotheses about its cause, and the closing of public places. In Germany, for example, “The National Zeitung censured individuals who spread pessimistic theories about the epidemic” (United States Marine Hospital Service 1889a:448) and “the medical press refutes the theory that there is any connection between the influenza plague and cholera, although it is known to be a fact that cholera has repeatedly appeared after an influenza epidemic” (United States Marine Hospital Service 1889a:448).

At the beginning of the epidemic there appears to have been little fear of contracting or dying from the illness. On 11 December, 1889, officials in Paris stated, “special preventative measures are considered unnecessary” (United States Marine Hospital Service 1889a:449). However, as the epidemic progressed and morbidity rates increased, there was a change of tone in newspapers and medical reports. In December, 1889 a public health report from Madrid states, “There are

Miasma to Microscopes

a large number of persons suffering here. The post-office [sic] has been hit so hard that special arrangements have been made for the delivery of letters. One popular minor theatre has been closed because all of the members are sick” (United States Marine Hospital Service 1890d:35). The closing of schools also became a common social response, as seen in Vienna: “The influenza is increasing here. The board of health has ordered that the schools be closed until Jan. 7” (The Hamilton Daily Spectator 1889a).

North America

The Russian Influenza pandemic is well documented in North America and was the second relatively mild pandemic to occur that century, the earlier outbreak being the influenza pandemic of 1847-1848 (Hoeling 1961:7-8). The Russian Influenza first appeared in Canada in Halifax, Montreal and then in Toronto between 21 and 31 December, 1889 (Hopkirk 1913:53). In Kingston, Canada, Russian Influenza was first reported on 24 January, 1890: “Influenza is prevalent, few families have escaped yet” (United States Marine Hospital Service 1890f:55). In Toronto, Canada, “Official returns show that 500,000 persons in the city and suburbs, accounting for 42 per cent of the population, have suffered from the influenza” (The Globe & Mail 1890b). In Ottawa on 3 February, 1890 “Reports received at the Indian Bureau show that “la grippe” has appeared on the reservations of the Northwest, and has filled the Indians with great terror” (United States Marine Hospital Service 1890g:71). Data for the number of deaths specifically from Aboriginal peoples is not available or does not exist; however, it is worth taking note of this special circumstance. The peak of the pandemic in Canada was reached in the last few days of December, 1889 and the first few days of January, 1890. By 7 January, 1890 the epidemic was waning in Montreal (The Globe & Mail 1890b). In fact, influenza was decreasing in Europe and Canada after the first week of January.

In the United States, the Russian Influenza had an especially strong impact along the eastern coast. The disease raged through this region and took many lives with it. Between 4 January, 1890 and 25 January, 1890 approximately 1,085 deaths occurred from influenza in New York City alone. Even after the peak of the outbreak, the many influenza and influenza related deaths continued to be registered (United States Marine Hospital Service 1890c, 1890d, 1890e). In contrast, from December, 1889, Public Health Reports from California note that

“Influenza was quite prevalent throughout the State, although not having yet attained the severity which characterizes the disease as reported from Europe and the Eastern States. No deaths from it have yet been reported” (United States Marine Hospital Service 1890d:30). As of February, 1890 over one half of the southern California population had been infected (an estimated 32,000 people) without a single fatality (United States Marine Hospital Service 1890h:74). The epidemic in the United States began to come to an end in late January. In Portland, Oregon on 25 January, 1890 “the number of deaths, although nearly double the average, shows a large falling off from last week” (United States Marine Hospital Service 1890e:40). The overall decline in cases appears in mid-to-late January, similar to the temporal pattern observed for Canada and Europe.

Mexico and the Caribbean experienced influenza later than North America and Europe. The Russian Influenza reached Yucatan, Mexico in late December, 1890, and is reported as having first struck Indigenous people (United States Marine Hospital Service 1890d:36). The death toll was highest in regions where Indigenous people resided. “Among the natives of the interior the disease is making great havoc, as with them it often terminates in pneumonia and death” (United States Marine Hospital Service 1890e:45). The epidemic peaked in Mexico approximately one week after it peaked in Europe, Canada and the United States. Reported from Yucatan on 6 January, 1890, “The influenza known as ‘la grippe’ prevails here to a considerable extent. From six to eight persons in the city of Merida proper daily die of this disease” (United States Marine Hospital Service 1890e:45). Mexico had the highest death tolls reported from Central America, however many islands reported that the disease was prevalent, but that cases were not fatal. In December, 1889 the grippe appeared in Cuba and affected nearly everyone, but claimed only a few victims (United States Marine Hospital Service 1890e:44). Influenza did not reach the Bahamas until late January, 1890 and only mild cases were found. No deaths resulted and influenza had disappeared by 8 February, 1890 (United States Marine Hospital Service 1890h:82). Influenza made its way south through Central America, but its impact was less severe than in Canada and the Eastern United States.

Asia and the Southern Hemisphere

It is difficult to uncover detailed records and reports on influenza in Asia and the southern hemisphere because they are either inaccessible or do not exist. The

Miasma to Microscopes

absence of records does not necessarily signify that influenza did not affect these areas of the world as greatly as the northern hemisphere, but rather that cases may have been underreported. Influenza may have had a lower impact on these areas due to the lack of high-speed transportation systems such as railways to help the disease quickly diffuse. During 1901 Asia had a total of 42,057 railroad miles; South America had 32,583, and Africa had 14,270, all of which are insignificant compared to Europe's 181,760 miles (Hopkins & Bond 1905).

Despite the dearth of efficient transportation systems, there was contact between all these regions. Information is available on the date the Russian Influenza first appeared in many countries, including major city centers in Asia, South America, Africa, and Australia. The first reports of epidemic influenza in Africa occurred in Cairo and Alexandria in Egypt, as well as in Morocco, Algiers, Tunisia, Cape Verde, and Libya between 1 January, 1890 and 10 January, 1890. In Asia, the disease was initially reported in Hong Kong, China, Japan, and Singapore during the week of 21 January, 1890 and 31 January, 1890. The first reports of influenza in South America occur in Buenos Aires and Rio de Janeiro between 1 February, 1890 and 10 February, 1890. The last area of the globe to be affected was Australia and New Zealand, where the disease was not reported until March, 1890 (Hopkirk 1913). By studying when the Russian Influenza reached these areas of the world, we can construct a timeline in order to understand how the disease circumnavigated the globe (Thompson, Chapter 6).

It Comes in Waves

As is the case for many pandemics in human history, the Russian Influenza came in multiple waves (Figure 5.4). London displays a distinct three-wave cycle, whereas Berlin and Paris display only two waves. It is unclear whether London's third cycle was an aberration or whether the other two cities simply lack data on a third cycle. It is clear that London was hit the hardest, particularly during the third wave. Meanwhile, public health reports from Paris on 16 January, 1890 reveal more about the two waves experienced in France. "The epidemic began early in December, and it passed through two successive periods. During the first period of 15 days grippe held the field alone, generalizing with its usual rapidity, but causing no mortality. This is the so-called benign phase. In the second phase pneumonia made its appearance, complicating the grippe and increasing the death

rate. This is the phase of complication” (United States Marine Hospital Service 1890g:70).

The primary focus of this book, and chapter, is the first wave of the Russian Influenza pandemic, but is worth noting that influenza continued to persist for years after the initial outbreak. What we have seen is that the first wave of influenza had a deeper impact on the northern hemisphere with higher rates of attack and mortality than the southern hemisphere.

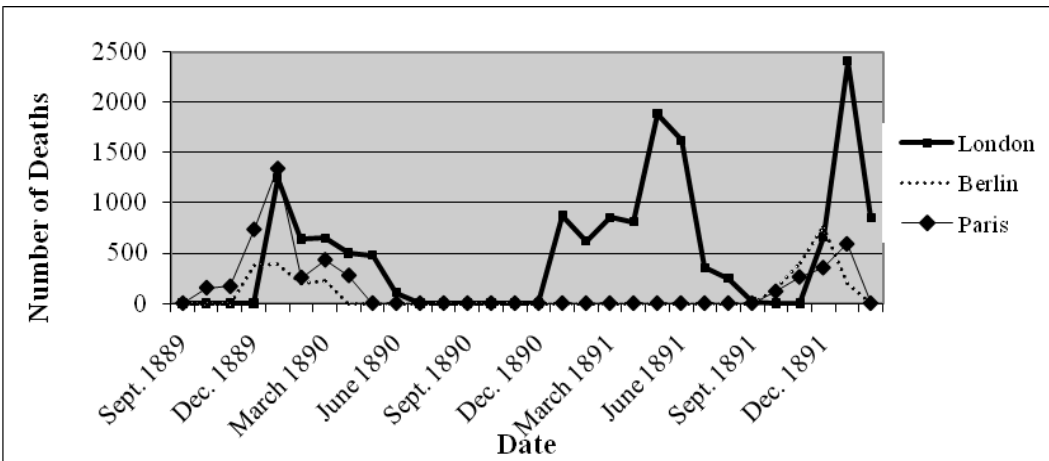


Figure 5.4: Waves of Epidemic Influenza, September, 1889-February, 1892 (Dixey 1892:33-60).

Piecing the World Together

Over the course of six months, the Russian Influenza made its way around the world and impacted regions on various levels. Factors such as climate, transportation development and media attention have played a role in the physical and social effects experienced by people around the globe. The evidence provided in this chapter suggests that the pandemic had a greater impact on the northern hemisphere than the southern hemisphere. It must be acknowledged, however, that there is more information for Europe and North America, than is available for Asia and the southern hemisphere, either because records for the latter are unavailable or do not exist. It is interesting to note, however, that climatic factors and the extensive railway networks that existed in the northern hemisphere may

Miasma to Microscopes

have led to more severe outbreaks of the Russian Influenza pandemic in this region. Worldwide variation in social and environmental factors, therefore, helped to shape the impact that influenza had on the world.

6

The Russian Flu Rushes to Hamilton

Samantha Thompson

“...the present epidemic seems to have been more rapid in its progress from country to country. Some believe this due to the more rapid means of travel these days” (Porter 1890:114).

The Russian Influenza “was the first pandemic to occur in a highly connected world” (Valleron *et al.* 2010). Its rapid spread was greatly facilitated by advanced transportation systems in the nineteenth century. I examine this transformation into a highly-connected world using globalization theory (Robertson 2001). Since railways and ships were the major modes of transportation in the nineteenth century, these are explored as probable modes by which the Russian Influenza travelled to Hamilton, Ontario. The military is also highly mobile, and has also been considered as a potential mechanism through which influenza was transmitted to North America.

The Path of the Russian Influenza

While the name “Russian Influenza” suggests the epidemic began in Russia, Hopkirk (1913) suggests that it actually originated in Turkestan, Kazakhstan in June of 1889. This influenza was later found in eastern Russia, and later again in western Siberia and southeastern Russia, by 20 October, 1889. By the last few weeks of October, 1889 influenza was epidemic in St. Petersburg (Hopkirk 1913), which is the city that contemporary media most often identified as the source of the epidemic.

By 7 December, 1889, the epidemic reached Berlin and Vienna (The Hamilton Daily Spectator 1889i). On 11 December, 1889 influenza was reported in Paris and then in London on 13 December (The Hamilton Daily Spectator

Miasma to Microscopes

1889g, 1889i). The first mentions of influenza in the United States occur on 17 December, 1889 in New York City and then on 18 December, 1889 in Boston (The Hamilton Daily Spectator 1889b, 1889k). The first mention of the Russian Influenza in Canada occurs in Halifax on 23 December, 1889 (The Hamilton Daily Spectator 1889c). This date was also officially recognized as the commencement of the epidemic in Canada (Provincial Board of Health of Ontario 1890).

Russian Influenza then made its way to Montreal and Ottawa by 2 January, 1890 (The Hamilton Daily Spectator 1889h). The Hamilton Herald (1890k) also reports epidemic influenza in Hamilton on 2 January, 1890. After it reached Hamilton, influenza spread throughout Ontario to cities such as Cornwall, Niagara Falls, Picton, Sunderland, Petrolia, Brampton, St. Catharine's, Kingston, Paris, Lindsay, Dunnville, and Owen Sound by 20 January, 1890. This is just one month after it initially entered the United States (Figure 6.1). In short, the Russian Influenza spread rapidly from Europe to Hamilton and surrounding towns and cities, in an east-west direction. Globalization theory (Robertson 2001) explains that the spread of influenza into Hamilton was facilitated by the modes and technological state of transportation available at the time. For example, Skog *et al.* (2008) demonstrate that influenza spread in Sweden via the Swedish railway networks.

International Trade and Transportation

During the nineteenth century, Canada played an important role in international trade and freight and passenger shipping. Between 1870 and 1890 Canada experienced a 25% growth in population, largely due to immigration (Andreae 1997:3). As the nation became more tightly connected to the rest of the world, Russian Influenza arrived at many shipping and immigration ports. The disease was able to travel overseas in the short period of time that it did because “transatlantic travel by boat took less than six days at that time” (Valleron *et al.* 2010:1).

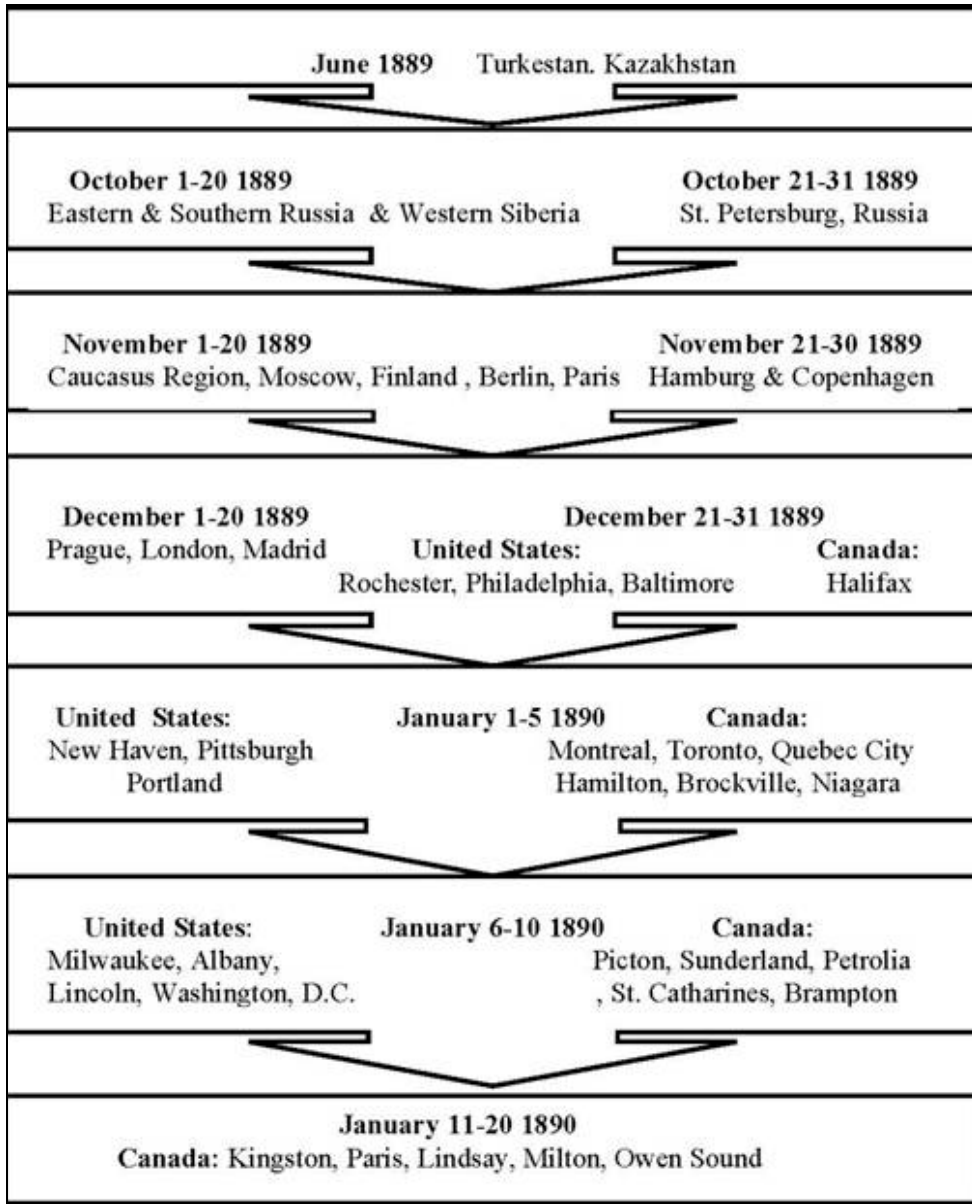


Figure 6.1: Global Spread of Russian Influenza, 1889-90 (The Hamilton Daily Spectator 1889b, 1889c, 1889e, 1889g, 1889i, 1889j, 1889k, 1889l, 1890r1; Hamilton Herald 1889b, 1890k; Hopkirk 1913; The New York Times 1889c; United States Marine Hospital Service 1890a).

Miasma to Microscopes

Five ocean ports served Canada's international trade in the nineteenth century: Halifax, Nova Scotia; Saint John, New Brunswick; Quebec City; Quebec; Montreal, Quebec; and Vancouver, British Columbia. Halifax provided the shortest sailing route between Britain and the eastern seaboard of North America. Quebec City is Canada's oldest commercial port, while Montreal is at the head of the Saint Lawrence River, and was the dominant port on this river in the nineteenth century. Vancouver was the newest port and was used in 1890 as the terminal for the Canadian Pacific Railway. Water traffic in the nineteenth century began carrying all types of goods and bulk cargo. Inland navigation of passengers and freight was focused on the Saint Lawrence River and the Great Lakes (Andreae 1997:5). Although Montreal was considered an excellent port facility, it was shut down during the winter months due to ice. From December to mid April, transatlantic trade continued in Halifax and Saint John through their ice free ports. Halifax, Saint John, and Portland took over all international trade from Montreal and Quebec City during the winter (Andreae 1997).

The Russian Influenza erupted in North America in the winter months of 1889-90 (Figure 6.2). The disease had to have arrived by water via Halifax, rather than Montreal or Quebec City which would have been ice-bound. In fact, Russian Influenza was first reported in Canada in Halifax on 23 December, 1889 (The Hamilton Daily Spectator 1889g). The epidemic was reported in Montreal and Hamilton on 2 January, 1890, which indicates it could not have travelled from the former to the latter (The Hamilton Daily Spectator 1889h; The Hamilton Herald 1890n).

Travel between Canada and the United States

Transportation to the United States in the nineteenth century was facilitated largely by railways, and by ships and ferries. Connections between Canada and the United States were needed for a variety of reasons; to supply agricultural products and timber; provide passenger transport; and to create a route for the Canadian Pacific Railway to reach the ice-free ocean ports (Andreae 1997:104). These transportation routes from the United States may have constituted alternate or supplementary routes by which the Russian Influenza reached Canada and, eventually, Hamilton.

The Grand Trunk Railway (GTR) and the Canadian Pacific Railway

(CPR) connected Chicago and the United States Midwest to the ice-free Atlantic ports (Andreae 1997:104). Southwestern Ontario's location is important as it lay along the shortest route between Chicago and the Atlantic ports. Therefore Southwestern Ontario would have been exposed to people traveling either to or from Chicago. By 1867 the New York Central Line was opened, connecting New York to Chicago via Ontario (Andreae 1997:126). Again, stops would have been made in Ontario allowing for the spread of influenza from the United States if there had been cases aboard the train.

In 1867, a train ferry was in place to provide service between Windsor, Ontario and Detroit, Michigan. In 1873 people were then able to move between Canada and the United States by the Canadian Pacific Car and Transfer Company, which moved trains across the Saint Lawrence River between Prescott, Ontario and Ogdensburg, New York. That same year the Canadian Southern rail line stretched from Chicago, Illinois to Buffalo, New York passing through Ontario, with a train ferry on the Detroit River (Andreae 1997).

A considerable amount of shipping between Canada and the United States occurred on the Great Lakes – carrying passengers, general merchandise, timber products, grain, coal and iron ore. Coal, for example, was shipped from Pennsylvania to markets around the Great Lakes through Lake Erie ports (Andreae 1997:128). Such trade connections created opportunities for diseases to spread between the two countries.

The first cases of Russian Influenza in the United States were reported in New York and Boston. American seaports served as vital points of connection between North America and Europe during the nineteenth century. The five largest seaports during the nineteenth century were Boston, Baltimore, New Orleans, New York, and Philadelphia. New York was in the nineteenth century one of the world's truly global cities (Rodrigue *et al.* 2009), a role that emerged because of the city's advantageous port location. The location also allowed rail travel through New York's hinterland region to link it with Albany and Buffalo. New York was also considered to be the immigration gateway to North America (Rodrigue *et al.* 2009). This brief history tells us that New York and Boston may have been struck first by the Russian Influenza because they were major port cities.

Miasma to Microscopes

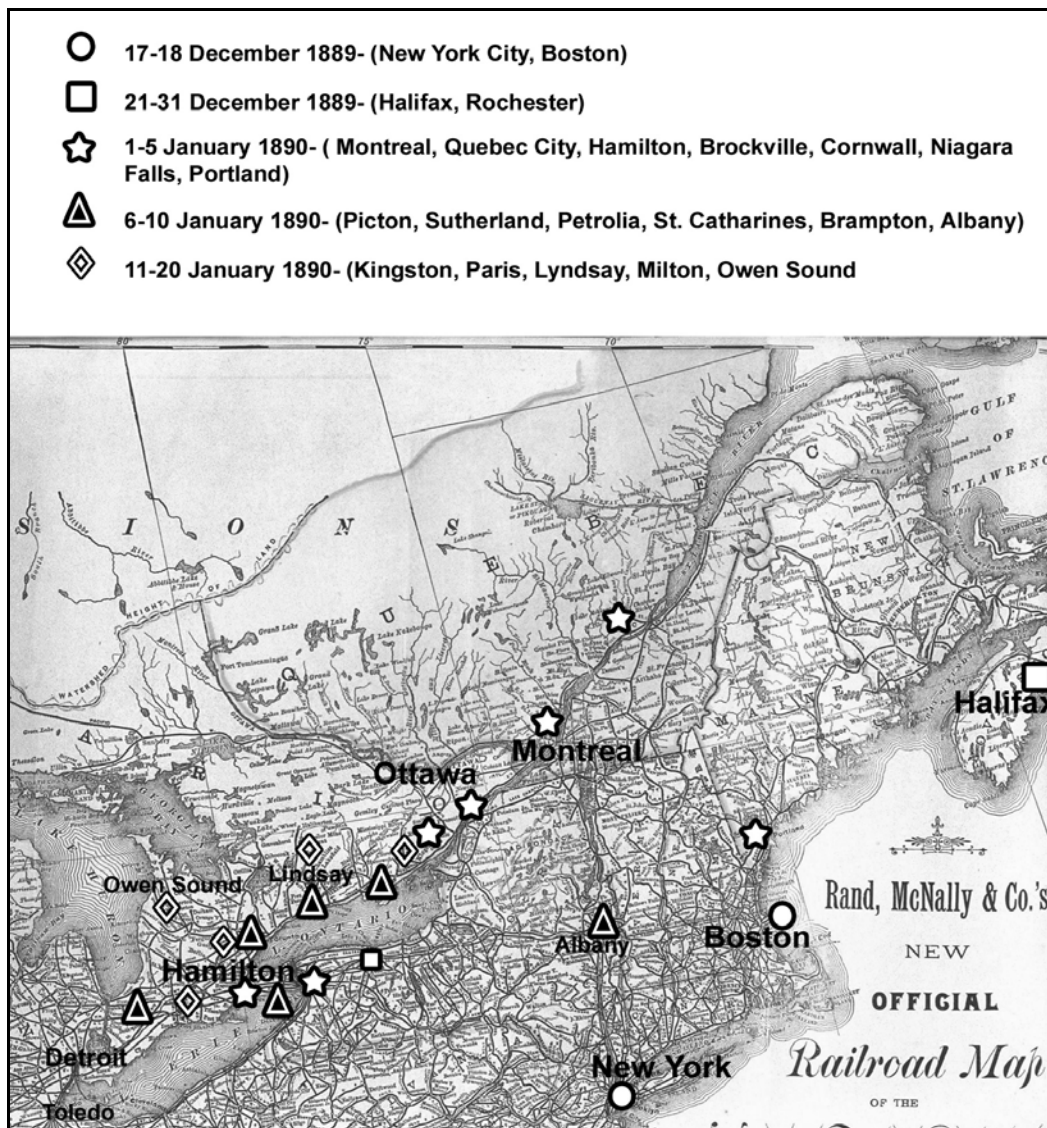


Figure 6.2: Reported Movement of Russian Influenza, 1889 (The Hamilton Daily Spectator 1889b, 1889c, 1889e, 1889g, 1889i, 1889j, 1889k, 1889l, 1890r1; The Hamilton Herald 1889b; 1890k; Hopkirk 1913; McNally 1895; United States Marine Hospital Service 1890a).

During the nineteenth century, Canada relied on the United States as a trade partner, used its railway route to the Atlantic ice-free ports in the winter, and participated in passenger travel between the two countries. In North America, the Russian Influenza reached New York and Boston before any cases were reported in Canada. Therefore since travel between Canada and the United States was easily facilitated at the time, it is possible that the Russian Influenza spread into parts of Canada from New York and Boston via railways, ships between the Great lakes, and ferry services.

Transportation within Canada

During the nineteenth century, the railways were a fast means of transportation year round. It was likely that the Russian Influenza reached Hamilton and various other cities in Ontario through the Canadian railway system (Figure 6.2). In 1876, the first national railway, the Intercolonial (ICR), was completed linking the Maritimes with Quebec and Ontario. In 1885 the Canadian Pacific Railway was developed which linked Montreal and the Pacific Coast. In 1889, the Canadian Pacific Railway completed a short line railway between Saint John and Montreal. In the late nineteenth century the Grand Trunk Railway (GTR) ran from Quebec, through Southwestern Ontario, with various tracks stretching to the rest of Ontario, all the way to Windsor and the United States (Andreae 1997).

It was through these railways that Montreal and Quebec City may have acquired Russian influenza, as their ports would have been blocked by ice at that time. These major rail lines, along with various other adjunct lines, reached the majority of Ontario's cities. Each city in Ontario reporting cases of influenza was located along one of the railway lines (Figure 6.2). The hinterland regions, which consisted of rural dwellings, had little to no connections to the railways and coincidentally were not mentioned in the influenza reports in the newspapers.

In 1870, the main line between Montreal and Toronto carried four passenger trains per day each way, and by 1893 it carried six per day each way (Andreae 1997:104). In 1889-90 there would have been people traveling between the two cities with great speed, explaining how the Russian Influenza was able to spread to virtually all of eastern Canada within a month.

Between 1879 and 1888, the northern Hamilton and the northwestern lines operated jointly as the North and North Western Railway Line (Andreae 1997:128). This rail line, along with the Grand Trunk Railway traveled through

Miasma to Microscopes

Hamilton as hub, allowing travel in any direction in Ontario. Since Hamilton was linked by railway to so many other cities the definite route of influenza transmission to the city is impossible to determine. However it would be fair to assume that the Russian Influenza reached Hamilton by rail because several lines passed through the city. Also up until this point Hamilton was not identified as a major port city, so most likely had to come into contact with influenza from people using railway travel. The close contact between cities created by the railway networks in Canada and the United States is supported by mathematical models that suggest the connectedness of cities is the most important factor in determining pandemic spread (Harmon 2010).

The Military as a Source of Influenza

During the nineteenth century, American and Canadian military men constantly traveled between countries and back home. Like immigrants and other travelers who may have brought the Russian Influenza to Hamilton via boat or rail, members of the military have also been considered as possible sources of transmission.

The movements of the marines are particularly well documented by the United States Marine-Hospital Service (USMHS) in Weekly Sanitary Reports. These reports also record who contracted influenza at various locations during the pandemic. The USMHS, which supplied many of these reports, was created by U.S. President John Adams to care for disabled seamen. It was also charged with the task of controlling epidemic diseases through quarantine and disinfection measures. Therefore the USMHS had considerable information on the spread of influenza at the time.

On 13 December, 1889: "...the influenza epidemic has made its appearance here [Antwerp], and many soldiers of the garrison are ill with it" (Weekly Sanitary Report 1889a). On 26 December, 1889, the Weekly Sanitary Report reports that the U.S. Revenue Steamer Gallatin arrived at the New Haven harbor in Massachusetts with a large number of the crew disabled with influenza (United States Marine Hospital Service 1890a). It is clear from these reports that the U.S. marines were affected by influenza. There is no concrete evidence they were spreading the disease around the globe, but it is possible that they contributed to its spread because of the mobile and global nature of their job.

The Canadian military was stationed overseas during the nineteenth

century, which allowed influenza to spread to Canada when soldiers returned. For example, towards the end of the nineteenth century, Britain colonized territories in Africa and Asia for strategic and economic purposes (Canadian War Museum 2008). From 1880 to 1890 the fourth Cavalry Regiment was an eastern Ontario militia unit with headquarters at Prescott, Ontario (Canadian Military History Gateway 2010). Since the military was frequently traveling between countries, the opportunity to come into contact with various diseases was likely.

In 1878 The National Quarantine Act was passed to prevent the introduction of contagious and infectious diseases to the U.S. and was implemented by the USMHS (United States Marine Hospital Service 1889b). Since this Act was in place before the Russian Influenza entered North America, one can assume that military ships would not have knowingly brought influenza cases into the U.S. On the third of January, 1890 a report states, “Tangier quarantined. Influenza on board...” (United States Marine Hospital Service 1890b). The military was taking influenza seriously but also pursuing quarantine measures implemented by the 1878 Act. The board of health reinforces this on 24 January, 1890 by stating, “...the following diseases should be reported by the port surgeon to the sanitary commissioners if landed and taken to any place other than the colonial or military hospital...epidemic influenza...” (United States Marine Hospital Service 1890d).

The Canadian and American militaries both succumbed to Russian Influenza, but it is impossible to determine if they were the source of its spread to North America. The Canadian and American military were traveling worldwide and had easy had access to ports along the eastern coast when they returned. However, it is unlikely that the American military was a major contributor to the spread because the Sanitary Reports indicate cases of influenza were being reported and quarantined. There is always the possibility, however, that influenza was unnoticed, untreated, and thus, unreported.

How did the Russian Influenza Come to Hamilton?

The exact path the Russian Influenza took to reach Hamilton remains unknown. The dates of the reports of epidemic influenza make it clear the disease entered North America along the east coast. It may have entered any port on the eastern seaboard, but it probably entered through the New York or Boston ports because these places had the earliest reports of influenza. Transmission of influenza into

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Canada could have occurred through several routes. It is likely the Russian Influenza entered Canada by the Halifax seaport in mid December or by rail after entering the United States. It is unlikely that the Russian Influenza entered Canada through Montreal's seaport, as it was closed in the winter months due to ice. Furthermore, epidemic influenza was reported in Montreal and Hamilton on the same day, making it highly unlikely that the disease spread from one to the other city. Regardless of the seaport through which influenza entered North America, it most likely traveled through Ontario to Hamilton by the most rapid means of transportation: the railways. The scarcity of reports of Russian Influenza in hinterland regions means that either influenza failed to reach these areas or the major newspapers were not reporting the cases. If these areas had Russian Influenza, the epidemic likely spread from the major cities by rail. With these more rapid means of transportation in a growingly connected world, it is no wonder that the Russian Influenza traveled to Hamilton in such a rapid fashion.

7

Pandemic Influenza in Hamilton

Kelly A. Martel

“La grippe has at last made its appearance in Hamilton and there are many sufferers from the famous malady...That the disease is prevalent and spreading in this city there is scarcely a doubt. Within the last few days hundreds have been afflicted with it” (The Hamilton Herald 1890k).

Pandemic Influenza
1) Wide geographic expression
2) Traceable disease movement
3) Explosiveness, high attack rates
4) Minimal population immunity
5) Novelty, new genetic variation
6) Infectiousness
7) Contagiousness
8) Severity

Table 7.1: Criteria for Classifying
Pandemic Influenza (Morens *et al.* 2009).

All evidence indicates that the Russian Influenza definitely reached Hamilton by January, 1890 (Thompson, Chapter 6). What happened once the epidemic spread amongst the city’s residents? It has been suggested that demography is one of the best understood and predictable parts of human behaviour (Howell 1986). A demographic analysis allows researchers to reveal patterns in an epidemic that are unobservable by examining different data sets in isolation.

In order for an influenza outbreak to be considered a pandemic, it must meet certain criteria (Patterson 1985; Morens *et al.* 2009). I examined the Government of Ontario’s death registry for Wentworth County (1889-91) to

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reconstruct the spread of influenza throughout the city in the winter of 1889-90 and determine whether this outbreak was indeed the same type of epidemic influenza characteristic of the Russian Influenza pandemic reported in other cities.

What is a Pandemic?

Taubenberger and Morens (2009) suggest that the common conception of influenza pandemics today is actually fairly recent. The terms “pandemic” and “epidemic” were used interchangeably throughout the seventeenth and eighteenth centuries and are used interchangeably in public discourse today. A “pandemic” is generally understood as a world-wide epidemic. In the case of influenza, the term “pandemic” also includes the assumption that a new antigenic variant of the influenza A virus has appeared (Patterson 1985).

It was not until the 1889-90 Russian Influenza appeared and spread globally that the term “pandemic” was “rescued from near obscurity and reattached to the remarkable global emergence of influenza” (Morens *et al.* 2009: 1019). As a result of the 1918-19 Spanish Influenza pandemic and most recently, the 2009-10 H1N1 influenza pandemic, our current perception of pandemic behavior may be biased toward these more severe types of influenza (Taubenberger & Morens 2009). When examining past and present outbreaks, particular key features determine whether an influenza pandemic has occurred (Table 7.1). These features include: 1) wide geographic extension; 2) disease movement/ traceability; 3) high attack rates and explosiveness; 4) minimal population immunity; 5) novelty associated with a new variation; 6) infectiousness; 7) contagiousness; and 8) severity (Morens *et al.* 2009).

In order to discern whether the 1890-91 influenza outbreak in Hamilton was indeed attributable to Russian Influenza and was not just strain of seasonal influenza, the results of this study should conform to as many of these criteria as possible.

The Demography of Death

I examined influenza deaths extracted from the death registry of Ontario (Government of Ontario 1889-91). A total of 1,521 deaths were transcribed from the Wentworth County Death Registry into a Microsoft Excel database. The first and last name of the decedent were recorded, as well as their sex, date of death,

age, occupation, place of birth, cause of death, duration of illness, religious affiliation, and the name of the attending doctor. Any individual entry that was missing information was excluded from this study.

Wiselka (1994) suggests that the clinical features of influenza are often indistinguishable from other viral respiratory infections and can only be confirmed by laboratory tests. Since laboratory tests were not used in 1889-90, doctors relied on a variety of other criteria to diagnose influenza (Hancock, Chapter 4; Murray, Chapter 13). Quantification of influenza deaths is complicated because death certificates often fail to list influenza as the primary, underlying, or contributory cause of death (Cox & Subbarao 2000). Fleming *et al.* (1999) suggest that although certified causes of death may not be directly identified as influenza, the associations are causal and can be inferred to result from it. Due to the vagaries of interpreting nineteenth-century physicians' reports (Ravenscroft 2010) and the difficulties involved with transcribing historical handwritten records, calculating influenza mortality in the past is challenging. This problem has been discussed by Potter (2001), who suggests that identification of influenza becomes less secure the further back in time one goes.

Of these 1,521 deaths, 240 died of influenza, as defined by my search parameters. I classified influenza deaths as all deaths caused by bronchitis, asthma, congestion of the lungs, fluid of the lungs, influenza, inflammation of the lungs, and "la grippe" and then calculated mortality rates and age specific mortality ratios by week from 1 September, 1889 to 31 March, 1891. In this study, the disease-specific mortality rate is calculated as the number of deaths from a particular cause (influenza), divided by the total number of deaths in a given time period and place (Streiner & Norman 1998). The age specific mortality ratio is calculated as the total number of influenza deaths in a particular age range divided by the total number of deaths in the same age range.

In order to place the influenza outbreak into a broader temporal context, I examined influenza deaths from 1 September, 1889 to 31 March, 1891, which constitutes the study period for this analysis. Any influenza deaths that occurred between 1 January, 1891 and 31 May, 1891 are considered to have occurred during the pandemic period.

Miasma to Microscopes

Influenza in Hamilton, 1890-91

During the study period, the 240 influenza deaths make up 15.78% of the 1,521 deaths in Hamilton. Of these, 105 occurred during the pandemic period, making of 43% of all deaths in Wentworth County during the Russian Influenza pandemic period, thus indicating that the city experienced higher influenza mortality during the pandemic period.

The monthly and weekly distribution of influenza deaths in Wentworth County from 1 December, 1889 to 31 March, 1891 display a peak in influenza deaths lasting from January, 1890 through the end of May, 1890 (Figures 7.1, 7.2). The Russian Influenza arrived in Hamilton at the beginning of January, 1890 and weekly death tolls continued to climb until the beginning of February, 1890. After this peak, a steady decline in deaths can be observed into late March, 1890. Until May, 1890, a series of sharp spikes and declines smaller than January's initial peak occur. These smaller second and third waves are similar to those observed in larger cities throughout the world during the study period. Influenza deaths tapered off at the end of May and remained stagnant until the end of December 1890. Another spike in deaths can be seen into the end of the study period.

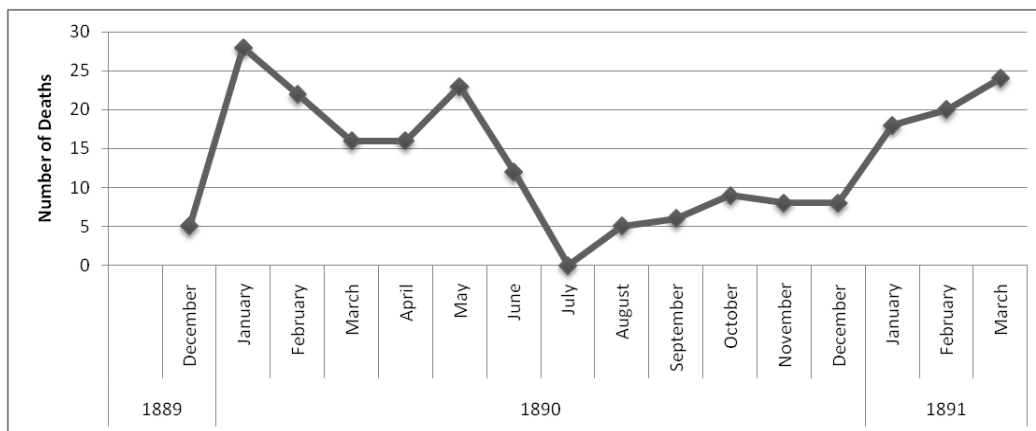


Figure 7.1: Monthly Influenza Deaths (Government of Ontario 1889-91).

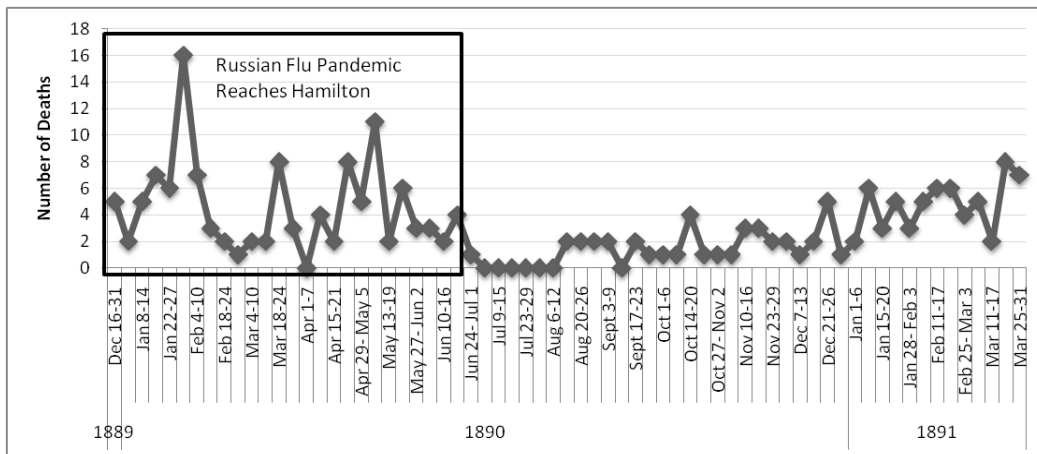


Figure 7.2: Weekly Influenza Deaths (Government of Ontario 1889-91).

In 1889, Wentworth County was divided into 11 county divisions: Ancaster; Barton; Beverly; Binbrook; Hamilton (City); Dundas; East Flamboro; Glanford; Saltfleet; Waterdown; and West Flamboro. Without considering population size and other factors, overall, the highest number of influenza deaths occurred in Hamilton. However, when accounting for population size, Beverly displays the highest rate of influenza deaths during the pandemic period and study period (Figure 7.3). Each township experienced higher rates of influenza mortality during the pandemic period, except for Waterdown, Glanford and East Flamboro. Specifically, Binbrook, and Beverly counties seemed to have had substantially higher rates of influenza mortality during the pandemic period than the study period.

A total of 115 males and 121 females died during the study period. The proportion of male deaths that occurred during the study period was 49%, while 47% of the male deaths occurred during the pandemic period. Conversely, 51% of the female influenza deaths occurred throughout the study period, while 44% occurred during the pandemic period. This means that throughout the study period slightly more females died of influenza than males; however, during the pandemic period more males died than females. However, overall the mortality distribution based on sex was fairly equal among males and females.

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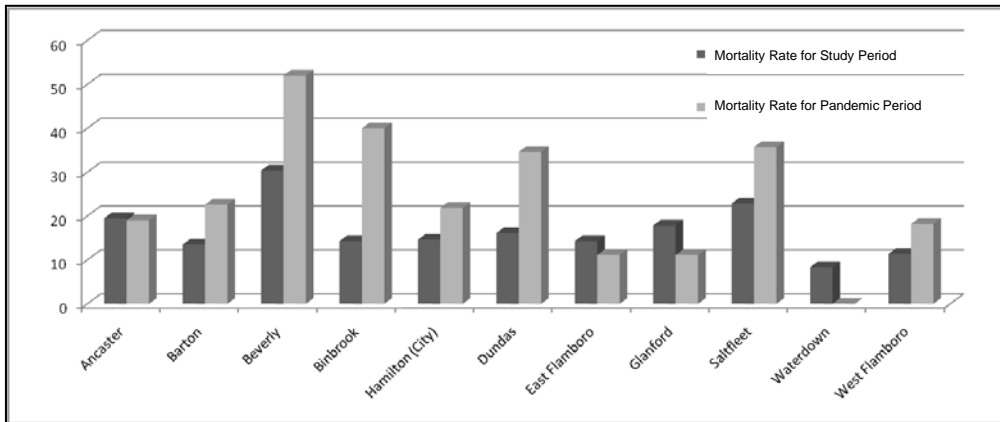


Figure 7.3: Influenza Mortality Rates by County (Government of Ontario 1889-91).

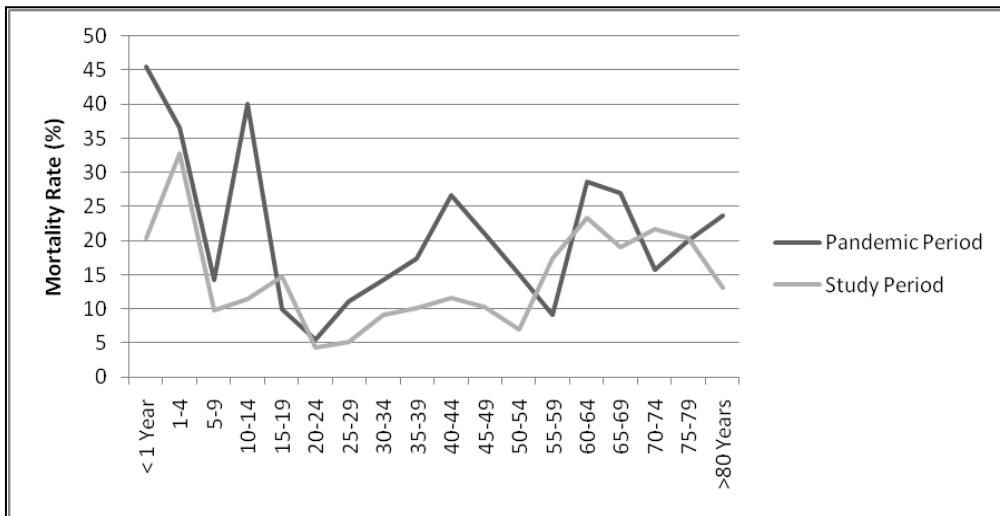


Figure 7.4: Age-Specific Mortality Rates (Government of Ontario 1889-91).

Throughout the study period, the age-specific distribution of influenza deaths display a relatively normal influenza death curve (Figure 7.4). This typically U-shaped distribution of deaths is characterized by high infant and elderly mortality rates and low mortality among youths and young adults (Glezen 1996). In contrast, the pandemic period does not show this typical U-shaped curve (Figure 7.4). Instead, a spike in deaths can be observed among adults between the ages of 25 and 54 years of age, making the W-shaped death distribution

characteristic of epidemic influenza (Figure 7.5), similar to the curve observed during the infamous 1918-19 Spanish Influenza pandemic.

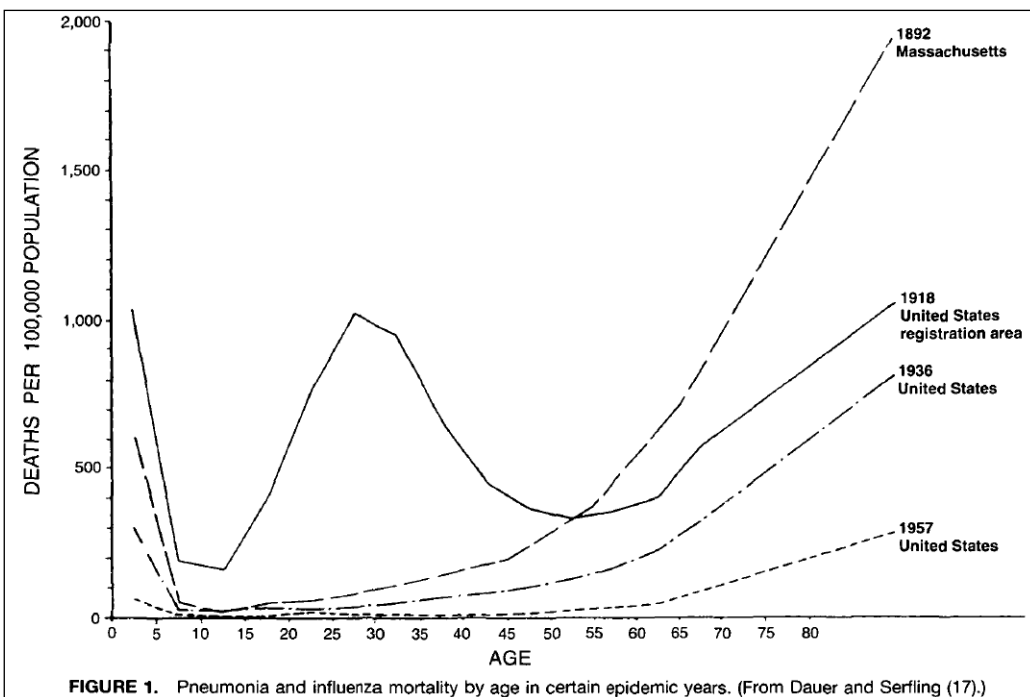


Figure 7.5: Influenza Mortality Curves (Glezen 1996:66).

A Pandemic, or Just Seasonal Influenza?

Was Hamilton's influenza outbreak in the winter of 1889-90 actually the result of the Russian Influenza pandemic? According to Morens *et al.* (2009), the first two characteristics that identify pandemic influenza deal with geographic spread and traceability. It is known that the Russian Influenza was not limited to certain areas and populations. Its geographic spread extended throughout several continents (Maris, Chapter 5). The movement of the Russian Influenza from place to place can be traced fairly accurately (Thompson, Chapter 6).

In their examination of the Russian Influenza outbreak, Valleron *et al.* (2010) conclude that the mortality peak in the United States occurred on 12 January, 1890. This is consistent with the Hamilton influenza death data,

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confirming that the Russian Influenza arrived in Hamilton and peaked in mid-January, shortly after it did in the United States. The third and fourth characteristics of pandemic influenza suggest that attack rates must be high and explosive, with minimal population immunity (Morens *et al.* 2009). Research by Fleming (1999) using data from Wales, England and the Netherlands from the 1980s indicates that influenza epidemics usually last about 10 weeks. This is also consistent with the 1889-90 pandemic time period data for Hamilton, where roughly 10 weeks separates the first influenza death to the first peak in deaths (Figure 7.2). Potter (2001) suggests that influenza can be considered epidemic if the morbidity and mortality of the current flu period exceeds that of the previous period. In an article from the Hamilton Daily Spectator (1890p1), a statistical list constructed by Dr. Ryall shows that there were, in fact, more deaths in January, 1890 than in January, 1889. We can conclude that Hamilton's experience of influenza during the pandemic period conforms with the third and fourth postulates.

In order for an outbreak to be considered pandemic, especially in the case of influenza, it must be associated with a new variation or strain (Morens *et al.* 2009). In terms of pandemic influenza, there is an assumption that a major new variant of the influenza A virus appeared. Studies conducted on elderly persons suggest that the 1889-90 Russian Influenza pandemic was caused by an H2 virus, a variant of the influenza A virus (Patterson 1985).

The final three postulates – infectiousness, contagiousness, and severity – are used to more generally discern whether an illness can be considered pandemic. Infectiousness means that an illness must be caused by a pathogenic microorganism or agent. Contagiousness refers to an illness that can be spread from person to person. Severity implies that the infection is serious and that fatality is a likely outcome (Morens *et al.* 2009). Hamilton's 1890-90 influenza outbreak conforms to all of these final three characteristics.

This dataset is further limited in that the filter used to query influenza deaths did not include certain causes of death that were actually influenza but were not recorded using any of the key words. For instance, Glezen (1996) suggests that causes of death listed as cardiac or pulmonary disease in death records may also actually be a result of influenza. If these causes of death were also included, the filter could have yielded different results. In general, the results of my study are consistent with other secondary literature. The Russian Influenza spread across the globe at an alarming rate, and eventually reached Hamilton.

Once established in Hamilton, this outbreak demonstrated features typical of pandemic influenza (Table 7.1).

8

Were Influenza Deaths in Hamilton Socially Structured?

Devan Schafer

“In fact it seems as if this plague came around for the special purpose of determining people’s social standing” (The Hamilton Daily Spectator 1890kl).

Hamilton in the late nineteenth century was, in the manner of many industrializing cities, comprised of widely stratified socio-economic classes. Wealthy merchants and professionals shared the city with unskilled labourers and the unemployed, and all of these groups were vulnerable in some sense to the Russian Influenza which swept through the city in the winter of 1889-90. However, these groups did not share equally the burden of influenza, and wealth insulated the upper class from the worst of the epidemic whilst offering no such protection for the poor.

Influenza has historically been a socially-structured disease, with economically disadvantaged individuals being the most vulnerable to it. I examined socioeconomic data and the influenza death records for Ontario to see if the same was true in Hamilton during the Russian Influenza epidemic. Although available data are limited, I attempt to reconstruct the distribution of wealth within late nineteenth-century Hamilton and to explore the influence that the unequal distribution of wealth may have exerted upon the health of the different classes.

A Critical Perspective toward Disease

The relationship between health and social status has been acknowledged in the medical sciences for decades. Studies of differences in morbidity, length of

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illness, and mortality based upon varying socioeconomic indicators add a valuable dimension to contemporary understandings of disease (Feinstein 1993:279). However, it was not until the pioneering work of the likes of Paul Farmer that the role played by social factors, such as economic inequality, was appreciated with respect to the emergence and manifestation of infectious diseases (Farmer 1996:262). Farmer's critical approach is perhaps best illustrated by his perspective on malaria. Farmer points out that the classification of malaria as a "tropical disease" obscures the fact that it is also largely a disease of the poor. "Tropical" implies an inevitability to the disease; eliminating the disease would be as feasible as eradicating the tropics. Viewing disease with a conscious eye on social dimensions shifts ideas of causality and responsibility, and this has repercussions for possible prevention and treatment approaches (Farmer 1996).

Today, Hamilton remains as a city with a sharp divide between the rich and the poor, and influenza still poses a potential threat to public health. Better understanding the social structuring of the disease in 1889-90 may help contemporary public health administrators anticipate the effects of future influenza outbreaks.

How is Influenza Socially Structured?

There is, unfortunately, a lack of data available with which to compare the experience of the Russian Influenza and the socio-economic status of specific individuals in Hamilton. Information on morbidity is nearly non-existent outside of a few newspaper reports, and the lack of residential and other demographic data in funeral records for the period makes it impossible to link these to the city directory, rendering spatial analysis of influenza related deaths impossible. The social structuring of Russian Influenza in Hamilton can only be approximated by considering studies of influenza elsewhere.

Influenza has historically had a social dimension, though this has not always been appreciated by researchers. Sverren-Erik Mamelund (2006) points out that many of those who have examined the 1918 Spanish Influenza have concluded that it was, essentially, a "democratic disease" in which the wealthy and the destitute were equally susceptible. However, Mamelund's own research on the Spanish Influenza contradicts this. Using Kristiana (modern day Oslo) as a case study, he examined the mortality rate for influenza in two different parishes in 1918 and 1919. Mamelund divided the population of the two parishes into an

upper, a middle, and a lower class. Frogner, traditionally the wealthier of the two parishes, contained a much larger proportion of upper and middle class individuals than the parish of Gronland-Wexel. This is reflected in both measurements of wealth Mamelund examined, as Frogner's residents had an average individual income six times that of Gronland-Wexel, as well as larger personal residences. Mamelund (2006) then demonstrated that residents of Gronland-Wexel had a forty-nine percent higher mortality rate from influenza than residents of Frogner.

In a study of the 1957 Asian Influenza in Louisiana, Dunn and colleagues (1959) administered a series of surveys to determine how widespread the outbreak of influenza was in Tangipahoa Parish. The survey respondents were divided based on which school their children attended, as the schools served as accurate proxies of a family's wealth. Families whose children attended the lower-class schools suffered higher morbidity from influenza, with an average of just over 50% of family members contracting the disease. At the other end of the spectrum, only around 24% of family members whose children attended the upper and middle class schools were diagnosed with the disease (Dunn *et al.* 1959). In the United States, one study found that poor adults are twice as likely to contract influenza compared to the more affluent (Dutton *et al.* 1992:164). Likewise, a 2001 United States study based on data from 1979 to 1989 revealed that poorer individuals, measured by education, occupational status and family income, display a higher mortality rate for a number of diseases, and socioeconomic status is a particularly strong indicator for influenza mortality (Singh & Siahpush 2001). Measured by education alone, a 1960 data set for white males showed that those in the study who had the least amount of education were 159% more likely to die from influenza than those with the highest levels of education (Syme & Berkman 1976:3). A similar study, based on one year's worth of data from the Madrid region of Spain, found that influenza and pneumonia mortality rates increase as years of education decrease (Regidor *et al.* 2003). What is clear from these studies is that influenza historically has affected the social classes unequally.

The City of Hamilton

Historian Michael Katz identifies nineteenth-century Hamilton's residents as being transient, with a significant number of people residing in the city for only a short period before moving on. For example, there is a notable disparity between

Miasma to Microscopes

the names listed in the census of 1851 and those in the assessment roll of 1852 taken just three months later, indicating that there was a considerable amount of movement in a time period as short as three months. The wealthy who owned property, however, were far more likely to stay in Hamilton, meaning it was the poorer members of the working class, shifting from job to job and city to city, that comprised this transient segment of Hamilton society (Katz 1975). This means that even if the content of the funerary records and the city directory overlapped in the winter of 1889-90, we may only have a still frame of what might have actually been a rapidly changing moving picture. This limits the ability to study the social structure of the city at that time. It is worth noting, however, that the rate of owner-occupied houses increased in the later nineteenth century (Doucet & Weaver 1991); as a result, it is likely that the population in 1890 was a little less fluid than it had been forty years earlier.

Adding to the difficulty of studying the social structure of death during this period, no government instituted welfare program was in place that would have kept records of needy residents. Instead, the responsibility for assisting poor and destitute residents in Hamilton fell to citizens groups such as the Ladies Benevolent Society. This association kept records of its work and noted who received aid; however, almost none of the individuals listed in the Society's records appear in the census. Members of the lower class are difficult to pin down because of their transiency, but also because this bottom rung of society's ladder historically has been officially ignored. It is hardly likely that a government that was ignorant of the existence of the most impoverished when they were alive would suddenly take an interest upon their death, so in all likelihood the deaths of these individuals went unrecorded as well (Katz 1975:26-7).

With a relatively stable middle and upper class then, it is unsurprising that a geographic pattern of residence is easier to reconstruct for them. Generally speaking, as the city grew in the mid to late nineteenth century, wealthier residents tended to live towards the southern part of the city, near the escarpment. The less fortunate found themselves congregating near the southern shore of Burlington Bay, as well as to the east of the wealthy escarpment community (Bouchier & Cruikshank 2004:468). Katz (1975) writes, however, that this pattern was not really that significant, and that the different social classes of Hamilton actually intermingled in terms of their areas of residence.

The most detailed analysis of Hamilton's settlement patterns comes from the work of Michael Doucet and John Weaver. Using municipal assessment roll data from 1876, they divide the city's population based upon occupation, with professionals and proprietors making up the wealthiest class, followed by white collar workers, then skilled and semi-skilled labourers, and finally common labourers. Dividing the city into four quadrants, with James Street serving as the north-south axis and King Street as the east-west axis, the authors calculated the total number of individuals in each occupational class in the whole city as well as the number of individuals in each class per quadrant. They then compared data from the city and by quadrant to establish the proportion of each class residing in each quadrant. The results support the type of residential integration which Katz (1975) describes. The majority of the population resided in the north-west quadrant of the city, and between 40-45% of all professionals, white collar workers, and common labourers resided in this quadrant, with skilled and semi-skilled labourers being slightly underrepresented in comparison (33%). The other areas contained more even proportions of each group (Doucet & Weaver 1991).

A closer analysis reveals however that within these broadly homogenous quadrants, there is some clustering corresponding to occupational status. The north end of the city along the waterfront was home to most of Hamilton's industry and thus many of its skilled and unskilled labourers. The Great Western Railway yard, for example, was constructed in the 1850s and drew a substantial number of labourers to the area near its waterfront location. Nearby factories, such as a coal gas plant and a farm implements plant, were also centres where skilled and semi-skilled labourers tended to cluster. Manufacturing centres in the city's core attracted some unskilled workers as well (Doucet & Weaver 1991).

The northeast quadrant as a whole was home to roughly equal proportions of Hamilton's professionals and common labourers. However, in the far northeastern part of the city, the congregation of the railroad yard, a jailhouse, a soap factory, and sewer outfalls into Burlington Bay created what Doucet and Weaver (1991:454) describe as an undesirable and "noxious" area in which only the poorest labourers lived. Closer inspection of the northwest and southeast quadrants also reveals a pattern obscured by the quadrant analysis. A ridge cutting across the northeast quadrant was home to some of the wealthiest members of the city, but as the ridge declined and approached the waterfront the quality of housing declined as well, with wealthy estates eventually giving way to crowded shacks. Similarly, in the southeast quadrant the wealthy lived in the higher

Miasma to Microscopes

elevation homes, while the poor were consigned to live in the poorly drained, crowded conditions in the “valleys” between the ridges (Doucet & Weaver 1991:455).

Russian Influenza in Hamilton

The combined work of several authors makes a convincing case that influenza was a socially structured disease (Syme & Berkman 1976; Dutton *et al.*1992; Singh & Siahpush 2001; Mamelund 2005). Similarly, Doucet and Weaver’s (1991) account of the city of Hamilton portrays a city with clear social stratification. Based on the socioeconomic structuring of residence patterns, the segment of Hamilton which should have been hardest hit by the 1889-90 Russian Influenza would have almost certainly been the poorest, for whom no official records exist. The unemployed and underemployed individuals who were unable to rent, let alone own property would have been at greater risk for a number of reasons.

An obvious likely major risk factor may be that many of these individuals suffered from malnutrition. It stands to reason that a group reliant (at least partially) as they were on handouts was unable to consume a diet meeting all their nutritional needs. Malnutrition could increase the risk of falling prey to infectious diseases (Mamelund 2006:928), meaning that this group would have been more susceptible to a number of co-infections, including pneumonia (Emes, Chapter 9). Curiously, they might not have suffered from a lack of access to health care professionals; Mamelund (2006) reports no differential mortality based on access to professional care for the Spanish Influenza in Oslo. Doctors were largely ineffective in 1918 to combat influenza, and were presumably no better in 1890.

Treatment as a whole was not ineffective, however. Attentive home care was perhaps the most successful treatment option employed (Mamelund 2006), and was the predominant form of treatment in the late nineteenth century (Byford, Chapter 15). It is likely though that this was rarely if ever an option for those on Hamilton’s economic margins. Most likely lacking homes, let alone the financial stability required to be either an effective giver or receiver of home care, means that, when combined with poor nutrition, Hamilton’s poorest citizens would have almost certainly faced a higher mortality rate from the disease than anyone else in the city. Those slightly better off, the common labourers in Doucet and Weaver’s analysis, would have in many ways faced increased risk due to the same factors

that confronted the homeless. Many could not have afforded to take off work in order to receive proper care (Mamelund 2006). Malnutrition may have been an issue, albeit not to the same extent as it was for the poorest segments of society. In contrast to the very poor, common labourers may have actually been at an increased risk for contracting the disease because of their working environment. Mamelund (2006:936) speculates that the potential for influenza to spread in Gronland-Wexel was increased because the working class both lived and worked together in local factories. A similar situation existed in Hamilton, with limited public transportation meaning that groups of workers lived near and obviously worked at major places of employment like the factories and the rail yard. Simply going to work then may have placed common labourers at an increased risk for infection. Another factor that would have increased the risk for the working poor was small, crowded housing (Doucet & Weaver 1991:454-5). Crowded conditions facilitate the spread of influenza (Larson *et al.* 2009:71) and so the northeast corner of the city, with its crowding and unsanitary conditions, could well have been the area of Hamilton with the greatest clustering of the disease.

The risk factors described above for the working poor and the destitute would obviously be less significant the farther up the socio-economic ladder one stood. Hamilton's wealthiest citizens lived and worked in more sanitary and spacious conditions (Doucet & Weaver 1991), likely had access to enough food to ensure better nutrition, and could probably afford to take the necessary time to recover if they did contract influenza. Skilled labourers and white collar employees, a sort of loosely-defined and disparate middle class, would probably have been better off than the common labourers and marginally worse off than the upper class. It is reasonable to conclude based on available evidence that the Russian Influenza affected Hamilton's citizens differently based on their differing socioeconomic status. Studies of nearby or similar economically structured cities might also help to shed light on the subject.

9

Influenza Was Not the Only Disease Out There!

Lisa Emes

“The great increase in the death rate, however, has been mostly due to the complications of bronchitis and pneumonia...Owing to the weak condition in which influenza leaves the heart, the pneumonia has been tolerably fatal” (Smith & Campbell 1890:94).

From 1889 to 1891 the Russian Influenza is implicated in the deaths of approximately 240 people in the city of Hamilton. Although influenza spread throughout the city, other diseases were prevalent during the same period. It was often these other communicable diseases – not influenza – that caused mortality during and after this epidemic (Dixey 1892). In the late nineteenth century, respiratory diseases were common causes of death around the world. Pneumonia, bronchitis, and tuberculosis were the leading causes of death during the Russian Influenza in both Europe and North America (Dixey 1892:7). What were the major communicable diseases that affected so many people during the influenza epidemic in Hamilton?

This chapter examines how the Russian Influenza can be linked to other health problems during the pandemic. Individuals sick with influenza have weakened immune systems and are therefore more likely to contract other diseases (Singer 2009:167). Using the City of Hamilton death records for 1889-91, I examined the major illnesses that resulted in deaths for this three year period (Government of Ontario 1889-91), to explore whether excess mortality and syndemic influenza occurred in Hamilton during the Russian Influenza pandemic.

Was Russian Influenza part of a Syndemic?

Syndemics have played a major role in the history of health and disease. A syndemic is defined as “the concentration and deleterious interaction of two or more diseases or other health conditions in a population, especially as a consequence of social inequity and the unjust exercise of power” (Singer 2009:4). The term syndemic was introduced by Merrill Singer in the mid-1990s. He wanted to focus more attention on the synergistic interactions between diseases and the health effects of these simultaneous diseases upon populations. A key point of a syndemic is that underlying social conditions directly affect population health, for better or for worse. Individuals who live in impoverished, crowded conditions are more likely to be infected by one or more diseases. For example, tuberculosis is common in poverty-stricken neighbourhoods because of the large number of people living in close proximity to each other. These individuals may also be suffering from other conditions linked to social circumstances such as malnutrition, poor hygiene, and lack of medical care. Once these individuals have been infected, they are less likely to be able to fight off the disease and therefore become infected with active tuberculosis (Singer & Clair 2003:429).

The 1918-19 Spanish Influenza is considered to have been an influenza syndemic because of the large number of influenza-infected people who died from other diseases compounded by poor living conditions. Most victims of the 1918-19 pandemic were co-infected with the influenza virus and one or more strains of a variety of other virulent diseases. Pneumonia was the most common cause of death in 1918, followed by tuberculosis. The Spanish Influenza arrived in North America just before the end of World War I. Approximately half of the U.S. soldiers fighting in the war fell ill with influenza and other respiratory diseases. The crowded conditions and limited food supply contributed to the rapid spread of influenza and pneumonia during the 1918-19 pandemic (Singer 2009).

The registered deaths for Hamilton from 1889 to 1891 provide limited information on socioeconomic status. It is thus difficult to prove that syndemic influenza occurred in Hamilton during this time. However, the 1918-19 Spanish Influenza data displays many similarities to the earlier 1889-90 Russian Influenza, indicating that perhaps this earlier epidemic was also syndemic in nature. Svern-Erik Mamelund (2006) concluded that during the Spanish Influenza pandemic in Oslo, the working class experienced a higher influenza mortality rate than those in the upper classes. Many individuals in the lower classes were

suffering from malnutrition and living in unsanitary and crowded conditions. These factors increased the likelihood of illness and death from influenza among Hamilton’s lower class population (Schafer, Chapter 8).

There was a dramatic increase in the number of all deaths as well as the number of communicable diseases in January 1890, when the Russian Influenza emerged in Hamilton (Figure 9.1). The Hamilton Herald reported that the first death from influenza was on 2 January, 1890. The number of deaths in January 1890 increased considerably and began to decline in February (The Hamilton Herald 1890). Deaths from communicable diseases follow the same pattern. From examining this data, it is plausible that Hamilton experienced an influenza syndemic during the early 1890s.

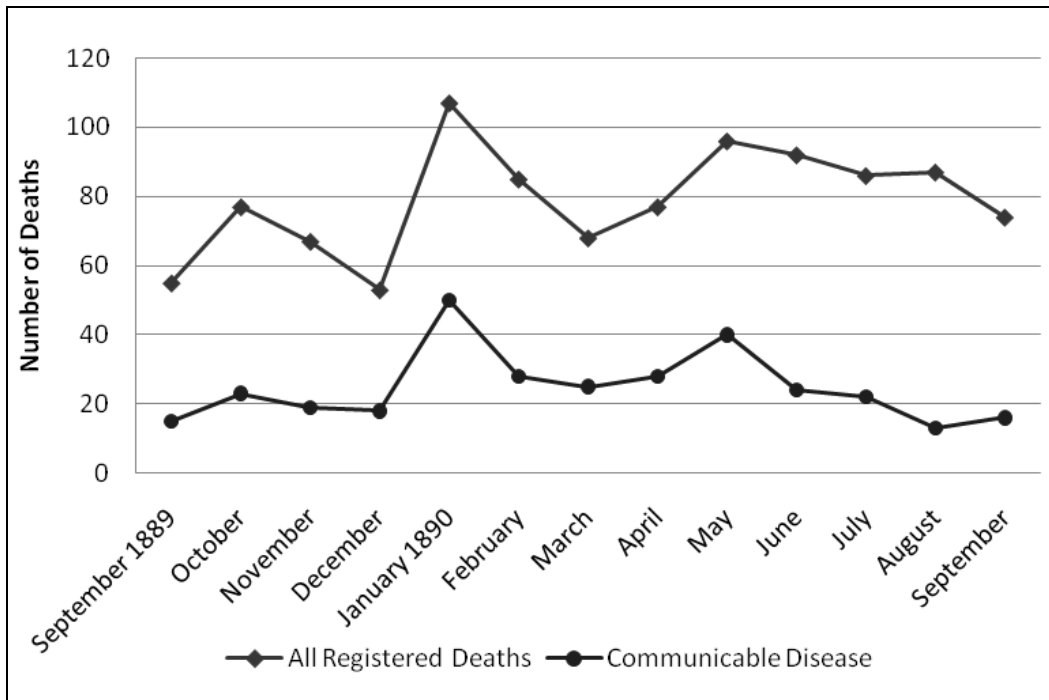


Figure 9.1: Overall and Communicable Disease Mortality Rates in Hamilton, 1 September, 1889-30 September, 1890 (Government of Ontario 1889-91).

Communicable Diseases

Communicable diseases are caused by pathogenic microorganisms spread from person to person either directly or indirectly (WHO 2010a). Figure 9.2 shows the deaths from communicable diseases in Hamilton from 1889 to 1891. The most common causes of death in each year are pneumonia, tuberculosis and bronchitis.

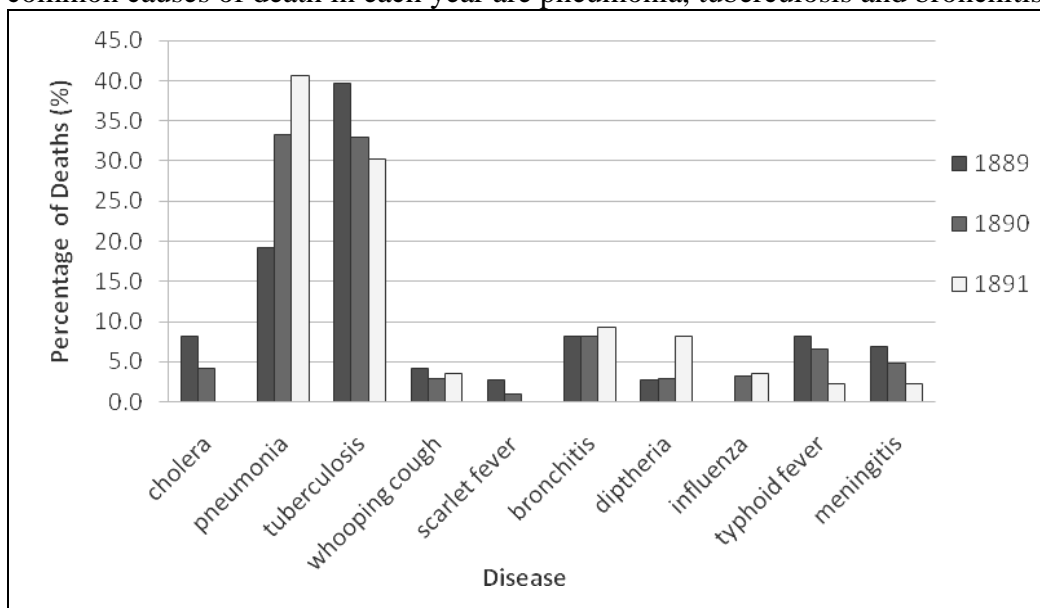


Figure 9.2: Communicable Disease Mortality in Hamilton, 1889-1891 (Government of Ontario 1889-91).

Pneumonia is a respiratory disease that can be caused by several agents, including various viruses, bacteria, and fungi. Pneumonia often presents following other respiratory diseases such as influenza (Canadian Lung Association 2010a). Pneumonia can be transmitted by air-borne droplets or by inhaling foreign objects such as food or dust (WHO 2010b). Influenza was often associated with pneumonia during the Russian Influenza epidemic in Hamilton. In 1889, pneumonia accounted for 19% of all deaths from communicable diseases. When the Russian Influenza arrived in 1890, communicable deaths from pneumonia increased from 19% to 33% of all death. In 1891, pneumonia deaths further increased to 40% of total mortality.

Tuberculosis is an ancient disease and was formerly classified as “consumption” or “phthisis”. This respiratory disease is caused by *Mycobacterium tuberculosis* and usually affects the lungs and upper respiratory tract (Health Canada 2009c). Tuberculosis is transmitted through air-borne droplets from an individual infected with an active case of the disease, but it is not as contagious as some other communicable diseases. Many individuals who are exposed to tuberculosis never develop symptoms of infection. However, if an individual has a weakened immune system, they are more likely to progress into symptomatic tuberculosis and develop an active case of the disease (Health Canada 2009c). During the Russian Influenza, individuals who were infected with tuberculosis may have died more quickly because of the additional immunological stress of contracting influenza. In 1889, approximately 40% of individuals in Hamilton died of tuberculosis. The percentage of deaths from tuberculosis gradually decreased in 1890 and 1891.

Bronchitis was another common cause of death in 1889, 1890 and 1891. However, the percentages of deaths from bronchitis were low compared to deaths from pneumonia and tuberculosis. In each of the three years approximately 8% of people died from bronchitis. This is significant because bronchitis outweighs deaths from influenza in all three years. Even during the peak of the Russian Influenza epidemic, only 3% of deaths from communicable diseases were attributed to influenza. Bronchitis occurs when an individual’s bronchi are inflamed and results in shallow and laboured breathing. Bronchitis is usually caused by a virus and infects an individual’s airways. This disease is transmitted through the air or through direct contact with an infected person (Canadian Lung Association 2010b).

Influenza was not the leading cause of death during 1889-91 (Figure 9.2). Pneumonia and tuberculosis were the leading causes of death in each of the three years. Throughout the 1889-90 Russian Influenza epidemic, pneumonia is frequently mentioned as a complication of influenza. The Hamilton Daily Spectator continuously published articles regarding influenza and pneumonia. One article states that “only one death has occurred in Hamilton which is directly traceable to influenza — that of Mr. Fuller; but in this case the disease was complicated with the more fatal pneumonia” (The Hamilton Daily Spectator 1890j1). Another article published in the Hamilton Daily Spectator also stated that many individuals were dying of pneumonia (The Hamilton Daily Spectator 1890c1).

Miasma to Microscopes

It is interesting to note that tuberculosis is not published in any newspaper articles as a common cause of death during this period. It appears that the media focused on influenza as a highly contagious disease that caused discomfort and illness to a large number of Hamiltonians. Influenza was often complicated by secondary infections leading to pneumonia, bronchitis and tuberculosis. These diseases were the leading causes of death from 1889 to 1891, but were virtually unnoticed by the media because of their prevalence as a cause of death in the general population. As the Russian Influenza spread, the media sensationalized influenza mortality.

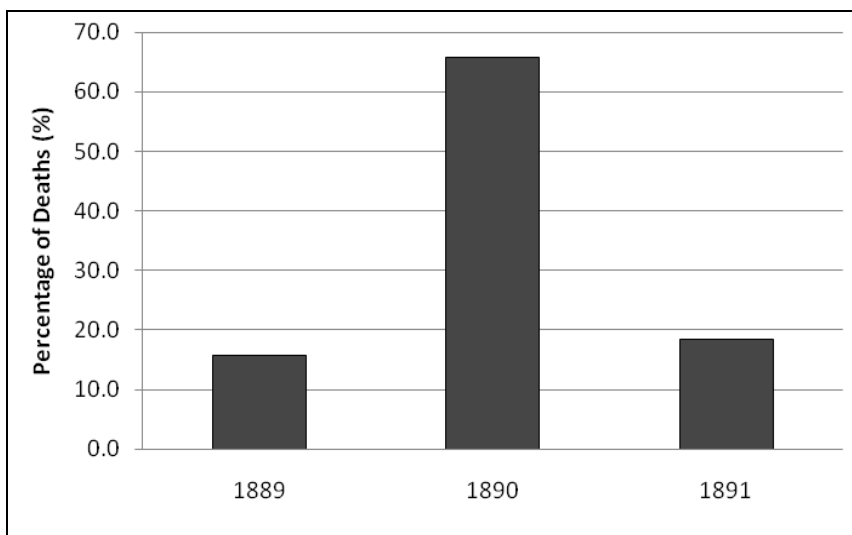


Figure 9.3: Communicable Disease Mortality Percentages in Hamilton, 1889-91 (Government of Ontario 1889-91).

What Happened in 1889-91?

Excess mortality is a term used by epidemiologists to describe the “number of deaths actually recorded in excess of the number expected on the basis of past seasonal experience” (Assaad *et al.* 1973:219). Syndemic influenza is also related to excess mortality because of the interaction of multiple diseases and the underlying social conditions in a population (Singer & Clair 2003:431). The increase in the number of deaths during the Russian Influenza epidemic in

Hamilton is likely due to excess mortality. Although sufficient data on morbidity and mortality is not available for influenza seasons prior to 1890, it is assumed that influenza caused excess mortality in 1890. The percentage of deaths in 1889 and 1891 were drastically different than 1890 (Figure 9.3). In 1890, approximately 65% of individuals died of communicable diseases compared to 15% in 1889 and 18% in 1891.

The percentage of deaths from tuberculosis decreased in 1891 from 32% to 30%. Although this is not a dramatic decline, it is still worth exploring. Deaths in 1891 reported as being caused by tuberculosis may have declined because many carriers of the disease died during the Russian Influenza epidemic. Carriers of tuberculosis may have had weakened immune systems which predisposed them to infection with the influenza virus. A similar event took place after the 1918-19 Spanish Influenza when there was a drop in the number of deaths from tuberculosis (Singer 2009:169). During Spanish Influenza, the percentage of deaths from tuberculosis and other respiratory diseases declined. It was reported that influenza is an important factor in the appearance of latent tuberculosis (Vaughan 1921:212).

From 1889 to 1891, residents of the city of Hamilton were already dealing with high mortality from communicable diseases. On top of this, a major outbreak of influenza occurred. When comparing this flu to the 1918-19 Spanish Influenza, it is assumed that a syndemic occurred because of the high fatality rate during the Russian epidemic. Unfortunately, the statistics from 1889-91 are lacking in detail that definitively prove a syndemic. Amongst the communicable diseases, pneumonia, tuberculosis and bronchitis accounted for the highest percentage of deaths for the residents of the city of Hamilton. Recent research has established a link between influenza and excess mortality from communicable diseases in later flu epidemics. Individuals with the Russian Influenza frequently had a weakened immune system and were prone to become ill and die from another disease (Singer 2009:167). In the city of Hamilton from 1889 to 1891, influenza was not reported as a leading cause of death but influenza can be implicated as a contributor to excess mortality. Although data from 1889-91 is vague or absent, the Russian Influenza was accompanied by other communicable diseases that likely infected individuals simultaneously or concurrently, resulting in their death.

Sickness of the Mind: Epidemic Influenza and Mental Illness

Vanessa Colasanti

The man had written that he had suffered from sleeplessness for nearly nine months and felt 'unfit for anything'. Returning a verdict of 'suicide while of unsound mind', the coroner concluded that influenza had 'set up disorder to the mind by affecting the muscles to the heart, which prevented a proper supply of blood to the brain' (Honigsbaum 2010:23).

Little has been written about the 1889-90 Russian Influenza pandemic in Canada, especially in Hamilton; even less is known about the affects of epidemic influenza upon mental health during this time. Infectious diseases can affect psychological well-being. In the case of the Russian Influenza, observers saw many more cases of post-influenza psychoses than normal occurrences of psychoses resulting from other types of fevers, called “post-febrile insanities” (Althaus 1893:167). This chapter examines the mental illnesses Hamiltonians suffered with during the Russian Influenza epidemic from 1889 to 1890. I focus on cases of post-influenza suicide and depression.

For this analysis I follow a clinical definition of depression. According to Health Canada (2009b), depression is defined as a period that lasts longer than two months during which a person feels worthless and hopeless. Following this definition, today depression is understood by psychiatrists as an illness that can be treated, often with psychological counseling, anti-depressant medications, or some combination of these treatments.

A bout of influenza was understood to be characterized by an acute-onset febrile illness attended by headache, backache, pain in the extremities, and catarrhal symptoms (Jordan 1927:10). Following Farmer’s critical epistemology of emerging infectious diseases I ask, “What is obscured in this way of

Miasma to Microscopes

conceptualizing disease?” (1999:40). However, many long-term effects of influenza, such as depression or other psychological disorders, are absent from the description. Yet, as I demonstrate in this chapter, the lack of scholarly attention paid to this matter does not mean that epidemic influenza does not exert strong, long-lasting psychological effects within populations.

Are Influenza, Depression, and Suicide Linked?

Although reports on depression and other mental illnesses are difficult to find in late nineteenth-century Hamilton, observers elsewhere noticed that the Russian Influenza had long-term effects. For instance, a notable sudden increase in suicides occurred in 1890-1894 in London, Norfolk, and Dublin, for which approximately half of the coroners' reports listed influenza as a primary cause (Smith 1995:71). Explanations for post-influenza mental illnesses varied. Some doctors favoured neurological models, arguing that influenza “runs up and down” the nervous system, causing disorder and pain in different parts of the body. Others favoured psychological and psychodynamic interpretations. A few doctors doubted a causal relationship between influenza and mental disorders (Honigsbaum 2010:311).

Although most current research focuses on the 1918-19 Spanish Influenza pandemic, interestingly remarks about the relationship between influenza, depression, and suicide are evident for the 1889-90 Russian Influenza pandemic. Weaver's (2009:192) study of suicide in New Zealand during this earlier pandemic found several examples of influenza-related deaths. In 1902, for example, an Auckland physician believed influenza was responsible for the suicide of a young man who was free of domestic or money problems. In 1904, another doctor expressed: “He had been suffering from influenza. It is just possible that the depression caused by influenza may have made him commit suicide” (Weaver 2009:192).

In Edinburgh, a resident pathologist at Morningside Asylum was interested in the association between the influenza epidemic, “lowered nervous action and vitality” (Clouston 1891:598) when he observed that admissions to the asylum in 1890 for depression exceeded those for mania. At the West Sussex County Asylum in 1900, at least 23 people deemed “insane” were admitted, but only four had experienced previous “insanity attacks” (Smith 1995:72). Coroners' verdicts of suicide increased by 25% in England and Wales between 1889 and

1893, and in 1893, peaking at 85 per 1 million – “the highest on record” (Smith 1995:72). In Paris, the suicide rate rose 23% during the 1889-90 period (Smith 1995:72). Was the same trend happening in Hamilton? There may have been cases in which suicide and depression were linked to influenza, but there are no statistics.

It is important to note that even when statistics exist for mental health disorders, these likely under-represent the total number of people affected in the population. In the nineteenth century, individuals were deemed to have mental illnesses based on their social conduct and expressions (Weaver 2009:305). Many of them would have fallen outside the purview of official knowledge and statistics because they were not treated in asylums or workhouses. In addition, even the census information supplied by families was far more likely to be understated than to overstate the true number of insane (The Lancet 1890e:431).

Accounts like these are difficult to find for Hamilton during the 1889-90 Russian Influenza period, but it seems plausible that the epidemic here too would similarly influence mental health. Primary data that links depression and suicide to influenza may be absent from archival records for Hamilton simply because of poor record keeping. Suicide cases were not always included in county record-keeping because “In Ontario, during this period, coroners were also county officers and the counties were not diligent about keeping their records” (Weaver 2010, personal correspondence).

Women and Babies, Men and Work

Men and women are both affected by depression and suicide, but appear to experience it in different gendered contexts. For example, current research suggests that women are more susceptible to depression, while men are more likely to commit suicide (Office for National Statistics 2010). Sources of depression vary by gender as well, with many women becoming depressed due to the loss of a child and many men due to socio-economic stress. The purpose of this section is not to draw a line between genders and their reactions to influenza, but to illustrate that both men and women were affected by influenza and depression.

During the 1889-90 epidemic, many women contracted influenza during pregnancy. This led to a large increase in the number of infant deaths due to premature birth. The peak in this type of influenza-related infant death occurred

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during the fifth week of the pandemic (Dixey 1892). Pre-natal exposure to influenza, moreover, has been associated with an increased risk of schizophrenia in later adult life (Honigsbaum 2010). Additionally, influenza induces abortion and causes stillbirths among women in labour (Jordan 1927). Numerous stillbirths can be found in the death records for Hamilton at this time and some 22 occurred from January to March in 1890 (Archives of Ontario 1889).

Mental illness among men increased during the Russian Influenza pandemic. Interestingly, this increase in male suicides led physicians to make a connection between influenza and “nervous debility” (Honigsbaum 2010:313). Suicide and depression among males was triggered by their return to work before fully recovering from influenza (Honigsbaum 2010). Men were considered to be the breadwinners and if they were unable to support their family, their inability to do so could have had serious mental effects.

Doctors and Treatment

Diagnostic methods to assess whether cases of insanity were caused by influenza were well documented during the 1918-19 Spanish Influenza pandemic. However, physicians used different diagnostic methods three decades earlier. Honigsbaum (2010:302) suggests that doctors in 1889-90 did not know how to properly diagnose influenza due to their unfamiliarity with its pandemic behaviour (Martel, Chapter 7).

With respect to the treatments for mental illnesses, primary accounts from the period often cite that patients required a change of air and scene, and to avoid excitement and worry. Champagne or whisky and Apollinaris water was generally used to treat depression. For treatment of general paralysis after influenza, mercury with large doses of iodide of potassium was recommended; alcohol was prohibited (Althaus 1893). Treatments for schizophrenia, dementia, and other mental illnesses have either not been acknowledged or are extremely hard to find. It is difficult to determine whether any form of treatment was successful, but in cases of suicides the records only capture unsuccessful outcomes (Weaver 2009).

Mental hospitals were, and continue to be, extremely important institutions for “healing” mentally ill patients. At the end of the nineteenth century mental hospitals became increasingly overcrowded. In 1876, the Hamilton Psychiatric Hospital (Figure 1) opened. In European mental hospitals, most patients suffered severe and persistent forms of illness and usually left in

coffins. In this era of therapeutic pessimism, psychiatrists made no attempt to develop new treatment methods; individuals with mental illnesses continued to be neglected (Pols n.date:25).

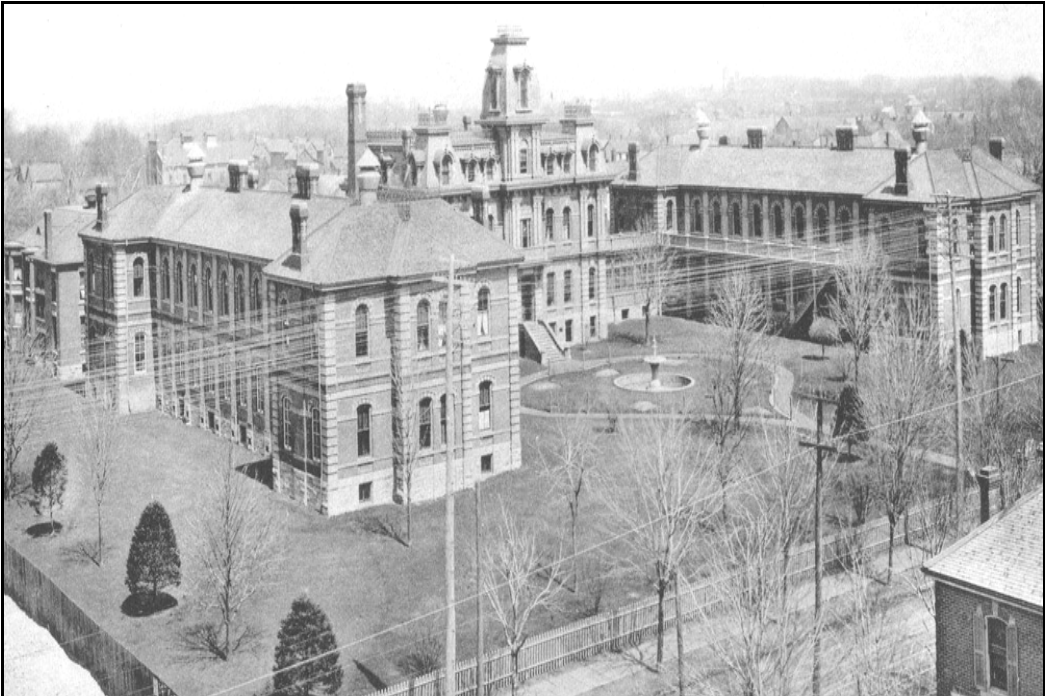


Figure 10.1: Hamilton Psychiatric Hospital circa 1888 (McMaster University 2010).

In contrast, late nineteenth-century Ontario experienced a period of reform and transformation in the treatment of insanity as new approaches were taken (Moran & Wright 2006:37). Moral therapy for the insane, advocated by Philippe Pinel in the late eighteenth century and William Tuke of the Quakers' York Retreat in the nineteenth century, infiltrated the new programs of Ontario asylums (Moran & Wright 2006:37). Whether these programs were successful is unknown.

The 1889 Russian Influenza brought into focus the relationship between influenza, depression, and suicide because of reports of confusion and psychosis after this global influenza pandemic (Weaver 2009:193). As Sir William Osler wrote, “almost every form of disease of the nervous system may follow

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influenza” (cited in Weaver 2009:193). Twentieth century medical investigators also agreed that influenza disturbed mental stability (Weaver 2009).

In Black and White

It is difficult to establish a relationship between influenza, depression, and suicide in Hamilton during the 1889-90 Russian Influenza pandemic. Newspaper articles discuss the possibility of a relationship between influenza, depression, and suicide, such as “Death’s Russian Grip” (The Hamilton Herald 1890c), which notes that physicians were alarmed to observe profound depression resulting from the aching head and body during influenza. The article indicates that the theory is supported by recent suicides in New York of people known to have been suffering from the disease. On 9 January, 1890 “Not Death’s Grip” mentions depression and influenza: “Pains in the back, chest, and head and a general feeling of depression are the symptoms of which all complain” (The Hamilton Herald 1890j).

The Hamilton Daily Spectator reported on influenza and suicide in parts of the United States. On 2 January, 1890, a 38 year-old woman died after throwing herself from a three-story window. She was suffering a violent attack of la grippe (The Hamilton Daily Spectator 1890y1). On 3 January, 1890 a man sick with la grippe who had been taking large doses of quinine reportedly became insane and then shot and killed himself in New Haven, Connecticut, (The Hamilton Daily Spectator 1890z1). In New York, on 3 January, 1890, four people committed suicide – supposedly as a result of the despondency caused by influenza (The Hamilton Daily Spectator 1890z1).

Death Records

Despite the general acknowledgment that influenza, depression and suicide were linked during the 1889-90 Russian pandemic, records in Hamilton for such a linkage are impossible to find. Death records for the period provide minimal information on causes of death, and rarely mention suicide or depression (melancholia). However, there are a few cases of suicide. One is the case of Gilian Cook, 60 years of age, who died on May 17, 1889 due to suicide (Archives of Ontario 1889). A matching cause of death from Blachford & Sons funeral

home (Hamilton Branch of the Ontario Genealogical Society 1889) further supports the evidence in the registered death record.

Another registered death indicates that a 33 year old woman named Emily Wilkinson died on 15 May, 1890 from insanity after being ill for about three weeks (Archives of Ontario 1889). Neither of cases could be linked to a funeral record which might have provided more details on their causes of death. The key issue is that none of the examples cited above are known to have suffered from influenza prior to their deaths.

Re-Classifying Influenza

It is evident that mental illnesses occur after a bout of influenza. Influenza has an impact on the nervous system and, in particular, can lead to depression (RC Psych 2010). Blood serum tests for Influenza B, moreover, show that its presence is significantly associated with a history of suicide attempts (Cowen 2010). A 2001 study from a University of British Columbia psychiatrist, Professor Cai Song, has shown that depressed patients have abnormalities in their immune system and, conversely, that alterations in the immune system can trigger a chemical imbalance in the brain that results in depression (Thomson 2001). The risk of suicide among individuals with major depression, moreover, “is estimated to be twenty times greater than expected in the general population and suicide ideation is widespread in psychiatric patients” (Weaver 2009:377).

Influenza, in fact, is not simply an acute infectious disease. Doctors in 1889 and today understand that influenza causes complications of the nervous system, which range from lethargy to lassitude, to more serious conditions like depression, and can result in psychoses sufficient to trigger suicidal thoughts (Honigsbaum 2010:311). Given the significant influences of the disease upon mental health, influenza should be classified as a chronic disease. I believe the evidence supports a probable association between influenza, depression, and suicide during the 1889-90 Russian Influenza in Hamilton.

Economic Prosperity: A Response to Influenza in Hamilton

Melinda Spry

If we have chosen the position in life in which we can most of all work for mankind, no burdens can bow us down, because they are sacrifices for the benefit of all; then we shall experience no petty, limited, selfish joy, but our happiness will belong to millions, our deeds will live on quietly but perpetually at work, and over our ashes will be shed the hot tears of noble people (Marx 1975:8-9).

During the rapid spread of influenza throughout the city of Hamilton in 1889-90, city officials did little to stop it. Based on municipal actions during the 1918-19 Spanish Influenza pandemic, one would expect to see closures of schools and businesses during the earlier 1889-90 Russian Influenza. These did occur in Hamilton. How did city officials react to the arrival of Russian Influenza?

From a political-economic perspective, I question the broader social, political, and economic conditions that shaped the official municipal responses to influenza. Ramon Cao-Garcia (1983:1) sees political action as the direct consequence of the economic demand of an area. Thus, a politician's behaviour is guided by the economic constraints upon his or her ability to hold office (Cao-Garcia 1983:26-9). During the late nineteenth century Hamilton was emerging as an industrial centre in south-western Ontario and city officials worked hard to ensure its prosperity. I argue that the need to ensure the economic prosperity of Hamilton as a major industrial centre motivated the municipality to respond to influenza as if it were a mild, non-threatening disease. However, 240 influenza deaths occurred during this time (Martel, Chapter 7), a curiously large number for a supposedly mild disease.

Hamilton's Political Structure

During the Russian Influenza of 1889-90 Hamilton was a city teeming with land developers, business promoters, merchants, and manufacturers. Its industrial base expanded during this period. In the previous 20 years leading up to the arrival of influenza, Hamilton had developed in several ways. One way included the installation of additional rail lines that connected Hamilton to the Northwestern provinces. This gave Hamilton a pivotal place in Canada's overall economy and, as a result, city officials were greatly influenced by economic wealth (Weaver 1982:12, 80). When the Russian Influenza emerged in Hamilton in January, 1890, the city was organized into seven wards. Each ward elected three members to city council and an elected mayor oversaw the council. Health services were municipally based and sub-committees, such as the Board of Health, oversaw several key issues, including milk bylaws and sewer installation (Lister 1955:223).

Industrial Change and Health

Industrialization is the process by which manufacturing companies increase productivity. This is accomplished by, among other processes, replacing manual labour with machines or line production systems. Industrialization exerts positive and negative affects on a society, depending on the position and role local officials take in controlling social infrastructure. Hamilton city officials could either concern themselves strictly with economic concerns or they could focus on the health of the working-class. They would want to focus on the health of the working-class to assure high productivity levels (Szreter 2004:75-6).

Hamilton seems to show a focus on economics, illustrating the detrimental effects an industrializing city has on those residing within it. Due to sub-standard working and living conditions many citizens were more susceptible to illness and disease. The factories built during industrialization also created a concern for pollution and its effects on the surrounding population (Fidler 2001:843-4). Simon Szreter proposes that in the absence of social and political intervention, economic prosperity creates a higher rate of "disruption, deprivation, disease and death" (1999:146).

During the Russian Influenza in Hamilton, the city was in the process of becoming a highly industrialized city. The main industries involved the railway

and the developing steel industry (Weaver 1982:12). Most of the workers in these factories lived close together with a high population density (Gagan 1989:169-70). This may have had detrimental effects on their health. Information about actions taken in response to industrialization in 1889-90 can be found in the City Council and Board of Health minutes. However, a little more can be discerned from Rosemary Gagan's work on public health in Hamilton. Until 1905, for instance, the position of Medical Health Officer had to be filled by a full-time doctor and was not a full-time position. This means that time spent on public health concerns came after all the daily routines associated with being a doctor were completed. Before a full-time position was in place the Medical Health Officer reported on medical events that had already happened (Gagan 1989:171). In other words, when the Russian Influenza came to Hamilton, there was no one specifically designated to ensure the health of the city's residents.

The City's Reaction to Influenza

Hamilton officials responded slowly to the first reports that Russian Influenza had arrived in the city. Some doctors even denied its presence, while others insisted that it was mild and could be treated easily (The Hamilton Herald 1890i). Numerous articles state that a mild form has hit Hamilton and thus there should be no concern (The Hamilton Herald 1890b). On 13 January, 1890, the Hamilton Spectator states, "with proper care and prompt treatment there need be no danger from the disease" (The Hamilton Daily Spectator 1890j1). There are also several incidents such as an article published on 7 January, 1890, that indicate that although many businesses were affected by influenza they still remained in operation, even if that operation was greatly reduced (The Hamilton Daily Spectator 1890i1).

This quickly changed, however, when people in Hamilton started to die due to complications directly related to influenza. There were more deaths from pneumonia and consumption in January 1890 than in January of the previous year. Dr. Ryall observed an increase of over 26 deaths between the two years and expected that influenza was the cause of the increase (The Hamilton Herald 1890e). By this time, however, it was too late to put actions in place in order to prevent its spread. This oversight may have resulted from attempts to keep Hamilton as a productive industrial city and the overwhelming belief at the beginning of the epidemic that influenza in Hamilton was mild.

What were City Officials Doing?

Reports from newspapers state that many businesses and schools were being hit hard by influenza: “The universal disease has invaded the schools of the city, and temporarily arrested the progress of learning in a good many youthful minds. There are altogether some twenty-five or thirty teachers who are now absent from duty ... Nearly one-fourth of the pupils are away” (The Hamilton Daily Spectator 1890l). Clearly, influenza was present at all schools and businesses with about one third of the population afflicted. However Hamilton’s officials did not institute shut downs or quarantines.

The Board of Health minutes for the years surrounding the Russian Influenza in Hamilton show that hygiene practices were a major concern. At this time the Board was implementing new sewer systems and connecting the entire city to a universal system (Rubignoni, Chapter 17). However, the municipality also implemented numerous bylaws in response to peaking influenza rates, including the licensing of milk production and bylaws on ice cutting and distribution (Hamilton Board of Health 1889b).

Milk bylaws were intended to ensure there was a system in place to regulate milk production. This involved the issuance of milk licenses and regular checks on milk-producing farms. For example, in the case of Sarah Corbett, who applied on 31 July, 1889 for a milk license, it was necessary to have a visit from the Board of Health to determine whether her property met the necessary standards. Ice cutting procedures stipulated which parts of the ice in the harbour could be cut, and for what purposes. The intention was to ensure the safety of the ice for human use (Hamilton Board of Health 1889b). City council was also engaged in providing electricity to the city (City of Hamilton 1889a).

Around the World

Commentary on the Russian Influenza from around the globe reveals similar approaches to those taken in Hamilton. A report from Madrid, Spain, states that as long as the afflicted acquire proper treatment influenza is not fatal. No direct actions were taken against the spread of influenza in Madrid, which may have stemmed from the belief that influenza was not contagious, but rather a result of climate conditions (United States Marine Hospital Service 1890h:82-3). This

opinion is seen in many other reports from across the world, indicating that Hamilton officials were not alone in their lack of action to prevent the Russian Influenza.

However, New York City officials came together with doctors on 1 January, 1890 to discuss ideas about prevention (The New York Times 1890a). Elsewhere, school closures were instituted, including Albany, New York when schools were closed for one week during January (The Hamilton Herald 1890j) and Brussels, Belgium where schools were closed because thirty percent of school children had been afflicted (The Hamilton Herald 1889e). As noted earlier a similar percentage of school children in Hamilton were afflicted with influenza, but no closures were enacted.

John C. Thresh conducted a survey of public elementary schools in Chelmsford and Maldon, England. In this study he looked at the impact of the Russian Influenza on school children in a rural setting. He notes that while many children came down with influenza there were only a few school closures. The school closures that did occur were again due to the number of pupils stricken with influenza (Thresh 1890:1233).

Economic Priorities

Hamilton was able to stay prosperous with few interruptions in productivity during the Russian Influenza pandemic. Many statements in newspapers alluded to disruptions, such as, “there are few establishments in the city which are not short handed ... work in many business houses is seriously interfered with” (The Hamilton Daily Spectator 1890i1). Yet, in spite of these reports, factories stayed open for business and although shorthanded, still produced goods. This may explain why no direct actions were taken when influenza came to Hamilton: city officials seem only to have been interested in one thing: economic prosperity.

As mentioned earlier, there was no designated city official to deal with health concerns at the time, only a part-time Medical Officer who provided information after a health problem had occurred. During the Russian Influenza the Medical Health Officer had little power to influence public health policy. Gagan (1989:172) indicates that before the early twentieth century, in fact, many health initiatives were overturned by politicians, which at the time would have included the city officials. This implies that city officials were most concerned with having a productive city that stayed at the forefront of production at all times.

Miasma to Microscopes

Since the building of a railway that connected Hamilton to the northwest, Hamilton city officials hoped the city would become an economic centre. At this time the steel industry was taking shape and the additional railway access would connect the city to new markets and assure its independence (Weaver 1982:80). Any interruption to production during the Russian Influenza pandemic would have been seen as diminishing economic prosperity. This is in keeping with Cao-Garcia's (1983) contention that the actions of politicians directly correspond with the economic concerns of the area and that they will also act in a way that will keep them in office longer.

While city officials took little action in response to Russian Influenza, as mortality began to increase, concerns about hygiene increased and they acted to change the regulations on food products. This minimal response suggests they were more concerned with maintaining economic prosperity at the time than with public health. The act of keeping businesses open, and the role of the newspaper in shaping the reaction of citizens, ensured that people would continue to work and produce the goods and services necessary to keep Hamilton a prosperous city. Although it is not explicitly stated in the correspondence between city officials, the attempt to keep Hamilton prosperous can be seen as an action in itself. This would have prevented mass chaos and put the city in a position to become the industrialized center envisioned by its officials.

Understanding Influenza through Home Remedies

Marta Montero

“My belief is, that if parents were better informed on such subjects, many children’s lives might be saved, much suffering averted, and sorrow spared. The fact is, the knowledge of the symptoms of disease is, to a mother, almost a sealed book” (Chavasse 1880:77).

The turn of the twentieth century was a time of great change in Canada. Prior to 1890, hospital development was minimal at best (Gagan & Gagan 2002:4). At the time of the Russian Influenza pandemic, most Canadians could not afford medical attention from a family physician or a private nurse. Instead, many relied on home remedies and patent medicines to treat their ailments.

Kleinman (1980) argues that explanatory models for illness differ between cultures and can be explored by probing how these beliefs and practices are applied by those responsible for treating illness. During the Russian Influenza pandemic, those responsible for treatment were family members, especially the mothers and wives who administered home remedies to the sick. Using this perspective, I examine home remedies to explore the ways influenza was understood and responded to by the public. I argue that treatments for influenza represent a view of the disease consistent with two medical frameworks of the time (humoral and miasmatic theories) rather than germ theory, which was associated with the emerging system of biomedicine. To this end, I discuss information gleaned from medical recipes (called “receipts”), cookbooks, books on home management, and instructions on how to prepare a sickroom.

Causing Disease: Humors, Miasma, or Germs?

All human societies have medical systems that consist of beliefs and practices to promote health and alleviate disease. (Baer *et al.* 2003:8-9). As societies and diseases change, so do the medical systems that intellectualize understandings of health. In the late nineteenth century, two leading medical systems existed, and a third was emerging. Each of these differed in explanations for and treatments of disease.

“Humoral” or “Hippocratic” medicine, is a medical system that has been practiced since around the fifth century. As suggested by its name, humoral medicine is based on a belief in the existence of four humors within the human body (blood, phlegm, yellow bile, and black bile), their associated four elements (fire, air, water, and earth), and four corresponding states (hot, cold, moist, and dry). An imbalanced life results in an imbalance of the humors, causing ill health. The role of medical practitioners of this medical system is to help the body restore balance through oppositional treatments (Erickson 2008).

Another equally prominent medical system at this time was miasmatic theory. Although the genesis of this paradigm is unclear, the Italians popularized the name “malaria” in the early nineteenth century to describe a disease plaguing their country for centuries. In Italian, *mal aria* means “bad air”. It was believed that the source of the disease is the bad air or *miasma* rising up from the Roman Pontine Marshes (Crawford 2007:35-6).

During the late nineteenth century, a new explanatory model of disease causation called germ theory emerged out of western medical practice. Germ theory is the founding tenet of biomedicine today. This theory is based on the notion that small, disease-causing agents are responsible for disease. Although this idea was first posited much earlier to explain the bubonic plague, it did not become influential until the late nineteenth century (Sherman 2006). In 1882, Robert Koch discovered the bacterium responsible for tuberculosis and in 1883 he discovered the bacterium responsible for cholera. From 1870 to 1890, a number of other diseases were linked to single pathogenic causes (Tomes 1998:93). These discoveries, in addition to the increasing professionalization of medicine, helped germ theory and biomedicine progressively become the dominant medical system of the twentieth and twenty-first centuries.

It is important to note that the emergence of a new medical system does not necessarily imply that new beliefs and practices will dominate and replace

pre-existing ones. In fact, the prevalence of multiple theories of disease causation is referred to as “medical pluralism” (Baer *et al.* 2003:9-11). Medical pluralism is alive and well in today’s medical world. Though biomedicine is the dominant medical paradigm, alternative systems exist, such as naturopathy (Baer 2001). Where medical pluralism exists, patients actively choose between medical systems to make sense of and treat their afflictions. Medical pluralism prevailed in the late nineteenth century, as evidenced by the coexistence of the humoral, miasmatic, and germ theories. Because home care by women was the most common practice during the Russian Influenza pandemic, home remedy treatments, as suggested in cookbooks and home management books provide excellent material from which to study turn-of-the-century systems of thought regarding disease. The advice contained in them reflects cultural beliefs about disease and health, disease causation, and medical systems.

“Advice to a Mother”: Treatments in Ladies’ Home Literature

Cookbooks and home management books have a long publishing history in North America. These serve as guidelines for the gendered roles of women in the home. Ladies’ home literature such as *The Ladies Book of Useful Information Compiled from Many Sources* (Author Unknown 1896) was passed down through the generations:

“This is a book which every lady should have, and which every mother should place in the hands of their daughters as they come to years of understanding. Every girl of twelve and upward should read this valuable work” (Author Unknown 1896:3).

As behavioral guides for women in the home, cookbooks and home management books are excellent windows through which to glimpse the domestic customs of the past. This is especially useful in relation to the Russian Influenza pandemic, because most of the ill were treated at home, by wives and mothers. Advice regarding treatment of the sick was offered in two ways: indirectly through instructions on the preparation and maintenance of the sickroom, and through direct treatment of the ailment through a medical recipe.

The Sickroom

In many families, the ill were cared for in a specially designated sickroom. The back room of the house is recommended for this purpose, in order to keep the patient away from noise and activity (Harland 1873:503; Wilcox 1877:409; Chavasse 1880:108). With the help of a thermometer, it is suggested that the room temperature be monitored and maintained at 68°F, except in cases of fever where the room should be kept cooler than 65°F (Author Unknown 1897:4). A warm sickroom is believed to be vital to allow proper circulation of the blood, an important element for good health. Feeble circulation of blood should be avoided, for it was believed to slow the union of carbon and oxygen in the capillaries (Beecher & Stowe 1869:340-1). The need for proper circulation suggests an integration of humoral theory (blood) and miasmatic theory (oxygen/air) into a pluralized explanatory model.

Ventilation of the sickroom also was considered a top priority: “The first and most indispensable requisite for health is pure air, both by day and night” (Beecher & Stowe 1869:43). Oxygen is “necessary to the nourishment of the body as the food for the stomach” (Beecher & Stowe 1869:44). Fresh air is necessary because the stale air of the sick room is considered to be tainted by emanations from the body of the sick person with the result that “the soiled air is inhaled over and over again, poisoning both sufferer and nurse” (Author Unknown 1897:4). In cold weather, the caregiver is advised to wrap the patient with an extra blanket while the window is open during the day. The aim is to maintain core body temperature and proper blood circulation. To ensure the room stays perfectly fresh, care givers are advised to remove carpets, curtains and draperies from sickrooms, leaving only the furniture (Author Unknown 1897:4-5). In accordance with miasmatic theory, ventilation practices are rooted in the notion that pure air is essential for good health. As the sickroom is used for all illnesses, including influenza, emphasis on the practice of ventilation reflects a public understanding of miasma as a cause of disease during the 1889-90 Russian Influenza pandemic.

Home Cook Books and Medical Recipes

In addition to guidance on the preparation and maintenance of sickrooms, cookbooks and home management books offer advice on treating the sick in the

form of medicinal recipes. Most late nineteenth-century medicinal recipes in cookbooks and home management books deal with health and illness more generally. However, I identified two recipes that directly address “catarrh”, a popular descriptor for influenza at this time. Contemporary medical dictionaries described influenza as “a severe form of catarrh occurring epidemically, and generally affecting a number of persons in a community” (Dunglison 1868, cited in *Antiquus Morbus* 2010). The first recipe is found in a popular recipe series published by a medically trained doctor, *Dr. Chase’s Receipts, Or Information for Everybody* (Chase 1864):

“CATARRH SNUFF.—Scotch snuff 1 oz.; chloride of lime, dried and pulverized 1 rounding tea-spoon; mix, and bottle, corking tightly. The snuff has a tendency to aid the secretion from the parts; and the chloride corrects unpleasant fetor” (Chase 1864:96).

The second is found in another popular home management book written by Dr. Pye Henry Chavasse, a fellow of the Royal College of Surgeons of England and of the Obstetrical Society of London (Chavasse 1880:2). To treat catarrh in a child, the physician suggests that a few spoonfuls of Ipecacuanha Wine every five minutes given at the earliest sign of the disease (Chavasse 1880:80). He suggests that Ipecacuanha wine acts on the skin to abate fever, loosens cough, and “rapidly effects a cure” (Chavasse 1880:86). Several medicinal recipes advise how to treat the symptoms of influenza such as fever, soreness and inflammation of the respiratory tract, cough, and swollen glands.

For the treatment of fever, *The Ladies Book of Useful Information* suggests a drink mixture of tamarind, stoned raisins, and cranberries boiled in water, with a small piece of fresh lemon peel (Author Unknown 1896:157). *The White House Cook Book* suggests a flax-seed tea made fresh every day (Gillette 1887:424).

For inflammation of the lungs, *The Woman Suffrage Cookbook* suggests egg lemonade made from the white of one egg, pulverized sugar, the juice of one lemon, and a goblet of water (Burr 1890:116). For all pulmonary troubles, *Common Sense in the Household* instead recommends moss lemonade made from a handful of Irish or Iceland moss, 2 lemons, water and sugar (Harland 1873:518). *The Ladies Book of Useful Information* suggests slippery elm jelly is effective in treating all diseases of the throat, chest and lungs for it is very nutritious and

Miasma to Microscopes

soothing (Author Unknown 1896:162). *Domestic Cookery* states that their black currant jelly recipe to relieve sore throats (Lea 1869:265).

For cough, *The Home Cookbook* advises that a mixture be made from gum arabic, paregoric elixir, sugar candy, the juice of one lemon and hot water, to be taken in the morning, noon, and night (Driver [1877] 2002:358). But for a hacking cough, *Common Sense in the Household* suggests Eau Sucré every few minutes, made by dissolving loaf sugar in a glass of ice water (Harland 1873:522). By repeatedly applying to the skin a concoction of mullein leaves saturated in very hot vinegar, and covering with a flannel, *The Home Cookbook* assures swollen glands will be relieved (Driver 2002:370).

Only two cookbooks or home management books offer specific treatment for influenza, written by physicians. I found that housewives and mothers, however, wrote recipes to deal with illness in more general terms. These recipes provide no direct treatment of influenza, but rather, a myriad of treatments for the individual symptoms of the disease.

This observation is curious and important – why were physicians writing specific treatments for particular diseases while domestic authors tended to write treatments for the general overall care of the ill? This difference in practice suggests the existence of a dichotomy in health beliefs between the public and the professional medical realm during the late nineteenth century. Humoral theory and miasmatic theory were the two established explanatory models of disease held by the public. As a majority of the cookbooks and home management books were written around this time, germ theory would not yet have permeated public notions of disease causality. Disease was instead explained by miasmatic and humoral theories, as illustrated in the following explanation of the cause of catarrh:

“Wet and cold at the surface of the body is a cause of catarrh, but the most fruitful source is wet and cold feet, and yet there is nothing more easy to avoid. Warm socks, horse-hair soles and galoshes will always keep the feet dry and warm” (Wilcox 1877:437).

Although this explanation for catarrh does not directly relate to one of the four humors, it refers to one of the four elements (water), as well as to an associated state (cold). Oppositional medicine, a tenet of humoral practice, thus suggests that catarrh can be prevented by keeping feet warm and dry.

Finally, the dichotomy between public and medical conceptions of influenza can be explained by the fact that as physicians, Drs. Chase and Chavasse were privy to contemporary medical knowledge. Their understanding of the disease process does not reflect public knowledge. The absence of specific remedies for specific diseases in cookbooks and home management books authored by housewives and mothers suggests that the public instead understood influenza to be a disease expressed by a multitude of symptoms, and therefore amenable to a multitude of treatments.

Explaining Influenza

Because the disease treatment process reflects cultural notions about illness, explanatory model analysis of domestic treatments is a valuable framework for interpreting conceptions about disease and influenza during the 1889-90 Russian Influenza pandemic. Cookbooks and home management books are excellent sources of information because they offer a plethora of advice on the treatment of the sick that reflect cultural beliefs about disease that prevailed when they were written.

Analysis of published advice regarding the preparation of the sickroom indicates that diseases, including influenza, were believed to be caused and spread through *miasma*, or, bad air. This is evident in the overwhelming emphasis on the need for ventilation of the sickroom apparent in cookbooks and home management books. Analysis of medicinal recipes suggest a disparity between medical notions and public notions of disease. While material published by trained physicians viewed influenza as a single disease with a single treatment, cookbooks and home management books published by housewives and mothers instead considered influenza to be a disease of multiple causes with multiple treatments. The public view of influenza is consequently in line with the established miasmatic and humoral theories of disease causation, rather than the emergent germ-theory paradigm.

Doctor in the House: Hamilton’s Practitioners in the Late Nineteenth Century

Frances Murray

The young man knows his patient, but the old man also knows his patient’s family, dead and alive, up and down for generations. He can tell beforehand what diseases their unborn children will be subject to, what they will die of if they live long enough, and whether they had better live at all, or remain unrealized possibilities (Oliver Wendell Holmes, 1871, cited in Rosenberg 1992:133).

During the second half of the nineteenth century, biomedical practitioners were producing extensive new knowledge about disease causation. Science and science-based teaching were the watchwords of the day. Traditional homeopathic medicine was still practiced and relied on by a proportion of the population, but with immense strides in advancing technology and industrialization, the public’s faith eventually shifted toward the biomedical paradigm. In this chapter, I explore the training and educational backgrounds of local Hamilton doctors who practiced during the 1889-90 Russian Influenza pandemic. In 1889, doctors were trained in the new scientific methods, but beliefs in divine retribution, the humoral system, miasma, and folk medicine lingered.

By examining medical training and medical knowledge during the 1889-90 Russian Influenza pandemic, we can depict the social and cultural settings that gave birth to contemporary Western biomedicine; by looking at individual doctors practicing in Hamilton during the late nineteenth century, the human face of medical practice becomes clearer. As Rosenberg noted, “A life can be construed as a sampling device – as a controlled and internally coherent batch of data, a chronologically ordered set of realities and relationships as perceived and understood by a particular actor” (1992:215).

Miasma to Microscopes

Doctors in the late nineteenth century were often wealthy, privileged men seeking a career and social status, but they also were men determined to make a difference in their community, who built their careers and families while striving to learn new techniques and keep up with the latest medical discoveries. The Russian Influenza pandemic occurred during a time when smallpox, measles, diphtheria, and other diseases remained major threats to their patients' lives; nevertheless, life was changing quickly. Hamilton was a growing and prosperous city, new inventions were appearing regularly, and industrialization was fuelling urbanization. There were subtle shifts in societal roles and rules and the new twentieth century was right around the corner. This is an interesting period for the study of medical practitioners and their patients.

Medical Training in the Nineteenth Century

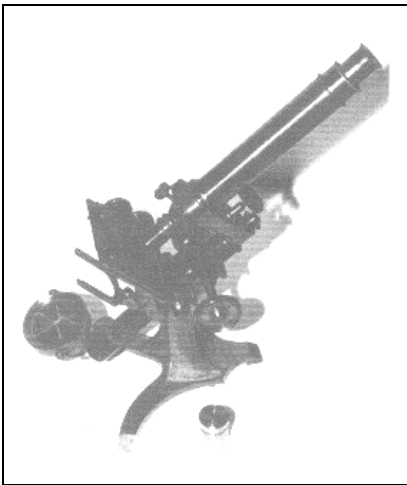


Figure 13.1: Microscope Believed to Have Been Used by Dr. William Osler (Ambrose McGhie Medical Museum Archives).

The profession of physician was not new in the late nineteenth century; however, medical practise was changing in response to the growing body of scientific knowledge. Microscopes lent new access to the science of medicine and the ground-breaking germ theory of disease. In 1850, microscopes were manufactured by Charles Potter, a Toronto optician, allowing upper middle class families with an interest in science to own a microscope (Smith 2009:48).

Doctors were educated in universities before serving as physician assistants in hospitals or apprenticing under experienced doctors. Prior to the introduction of formal medical training in Canada, doctors were usually qualified only by apprenticing to an experienced physician. This method may have had its shortcomings, but it was a very “hands-on” approach to patient care (MacDermot 1967:110).

During the first half of the nineteenth century, medical education was transformed to combine the previously separate disciplines of medicine, surgery

and midwifery. New emphasis was placed on the study of human anatomy (Duffin 1993:16). Edinburgh, Scotland had one of the foremost and well respected medical schools in the world. By the 1830s, doctors trained at the University of Edinburgh formed the “medical elite” (Sweeny & Smith 2005:11). However, education at European universities was expensive, and only the wealthy could afford to send their sons overseas for medical training. As a colony of Britain, Canada followed the British example and the first medical school in Canada opened at McGill University in Montreal in 1824 (MacDougall 1990:96).

In 1869, three Hamilton doctors (Dr. H. Strange, Dr. J. A. Mullin, and Dr. A. E. Malloch) along with J. M. Buchan, Principal of Hamilton’s Grammar School, offered medical apprenticeships in Hamilton and circulated a handbill offering students instruction in Practical Anatomy and apprenticeship under their guidance (Hill 1989:5). There is no record of the outcome of these efforts to offer medical training in Hamilton – Dr. Malloch left Hamilton in 1870 for a brief instructional career at Victoria College (Roland 2008:178). It was almost a century later that McMaster University’s medical school opened in Hamilton, in 1967 (Roland 2008:178).

The closest local alternative for medical training at that time was Dr. John Rolph’s medical school in Toronto. The school was first established in 1832. Dr. Rolph was temporarily exiled to the United States owing to his activities during the 1837 rebellion, but returned to Toronto in the 1840s and re-established the school. Medical education in the mid-nineteenth century included classes in anatomy, *materia medica*¹, midwifery, and a period of 18 months in a hospital, six of which were spent in medical and surgical lectures. Students were tested by written and oral examinations and had to demonstrate their surgical skill on a corpse (Smith 2009:41). In 1880, the University of Toronto added laboratory work and identity of pathological material through microscopy to its medical school curriculum (Stott 1995:31). Dr. Rolph’s school was known as a “proprietary school”, meaning that it could not grant medical degrees but could prepare medical students for licensing and shorten the time necessary to obtain a degree from medical schools such as McGill or from a university in Europe (Duffin 1993:16).

¹ *Materia medica* is a Latin term and was used as the title for text books covering studies of medicines and the proper dosages for dispensation to patients. Early textbooks were titled “Materia medica and Pharmacology” – this has now been changed to “Pharmacology” only. (Henderson & Lusk 1908:35-36).

The Public Health Movement

The rapid movement towards formalizing medical training occurred in conjunction with a growing awareness of the importance of public health. The concept of health as a public concern grew out of the sanitary movement which began in Britain. This movement was based on the belief that noxious vapours from human and animal waste (miasma) were a major cause of disease. As a result, the first public health initiatives focused on cleaning up urban areas, purifying water supplies and providing toilets (Rubignoni, Chapter 17). The “sanitary idea” coincided with the push to keep vital statistics on the mortality and health of the population (MacDougall 1990:11). The federal government passed the Canada Medical Act in 1868. Although this act did not require licensing of doctors, the act did make it illegal to claim accreditation in the Medical Register for training one did not have. The elected representatives on the Canadian Medical Council included a seat for homeopaths (Stott 1995:15).

Medical Treatment

University-educated, officially-licensed doctors did not enjoy the uncritical faith of the public. One reason for this probably lay in the methods employed by orthodox medical practitioners. Whereas a homeopath would never resort to amputation, orthodox doctors would do so, as well as purge, blister or bleed their patients (Stott 1995:13). Among the list of doctors recorded as physicians in the Hamilton-Wentworth death records for September 1889 to March 1891 (Government of Ontario 1889-91) are at least two practicing homeopaths – Drs. G. E. Husband and J. Lafferty. Both

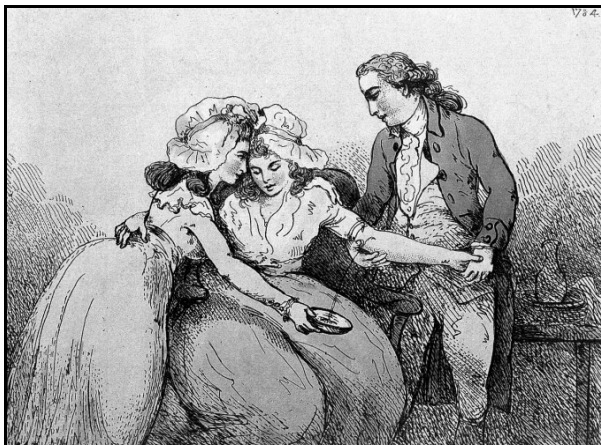


Figure 13.2: A Surgeon Bleeds a Young Woman (Wellcome Institute 1784).

doctors had successful practices in Hamilton-Wentworth.

A visit to a doctor was not always a pleasant experience. If surgery was necessary, the procedure required the assistance of at least one strong man, or possibly more, to hold the patient down. There was no anaesthetic before 1846 when ether was first used in Boston (Sweeney & Smith 2005:28). Duffin (1993) describes the practice of bloodletting in her book *Langstaff: A Nineteenth-Century Medical Life*. Dr. Langstaff practiced medicine in Richmond Hill, Ontario from 1825 to 1889. He kept meticulous records on his patients and therapies that he used (Duffin 1993:3). Venesection or phlebotomy was the practice of extracting large quantities of blood from a vein in the arm, leg or neck (Figure 13.1). Cupping involved heating a jar and placing it over dry skin to create a bruise or placing the jar over lanced skin to draw blood out. Leeches were also used, especially in small areas such as inflamed eyes, when cupping was not practical. However, leeches were difficult to obtain in Canada. Bloodletting was often used by Dr. Langstaff to lower fever and pulse rate (Duffin 1993:78).

Purging was another painful therapy frequently used in the nineteenth century, although to a decreasing degree towards the latter part of the century. Tartar emetic was used to induce vomiting and diarrhea in cases of fever and Dr. Langstaff was satisfied with its results if the patient became cool and the pulse slowed down (Duffin 1993:77). The following table shows the gradual decrease in Dr. Langstaff's use of venesection bloodletting from the 1850s through the 1880s, but cupping remained a favoured method over the years (Duffin 1993:79):

Bloodletting procedures	1850s	1860s	1870s	1880s
Venesections/year	64.4	36.0	13.0	4.5
Cuppings/year	11.0	79.0	111.0	97.0
Bleedings/all visits	5.4%	3.4%	3.6%	3.7%

Table 13.1: Dr. Langstaff's Annual Rate of Bloodletting by Venesection and Cupping (Duffin 1993:79).

Nineteenth-century hospitals were not sanitary havens for sick people and were considered one of the last options for poor people and for those who did not have anyone to care for them at home (Toth, Chapter 14). As Dr. William Osler is quoted as saying in Hill: "In those days the inmates of the hospital were primarily rats, streptococcus and patients!" (1989:4).

Miasma to Microscopes

Despite its history of painful and dangerous therapies and unsanitary conditions in hospitals, biomedicine gained ground in public opinion and, as the twentieth century approached, germ theory took the upper hand against humoral theory and pure homeopathic medicine.

Local Doctors in 1890

An indication of who was practicing medicine in the Hamilton area during the Russian Influenza pandemic can be gained by examining the death registers for September, 1889 through March, 1891. The death records for this period contain the names of 129 doctors (Government of Ontario 1889-91). With a population of 44,635 (Hamilton Board of Health 1890), there was approximately one doctor for every 346 people in Hamilton. In comparison, the population of Hamilton in 2010 is 504,559 (Statistics Canada 2010) with approximately 700 physicians (Hamilton Academy of Medicine), giving us a ratio of about 726 patients per doctor. Creating a livelihood based solely on medicine would have been difficult for many of the practicing physicians of the late nineteenth century. It is likely that a good number would have continued the earlier tradition of practicing medicine along with another profession in order to sustain themselves and their families (Sweeny & Smith 2005:11).

Portraits of Local Doctors

Personal information on most of the 129 doctors practising in Hamilton during the Russian Influenza pandemic is unavailable for study. However, an idea of their lives can be gained from exploring the records of several influential physicians.

Dr. A (Archie). E. Malloch was a prominent Hamilton doctor and surgeon from 1869 until his retirement in 1911 (Roland 2008:269). A product of the Scottish medical school system, he completed his studies for an M.B. degree at Glasgow University. Dr. Malloch completed his residency under Dr. Lister and

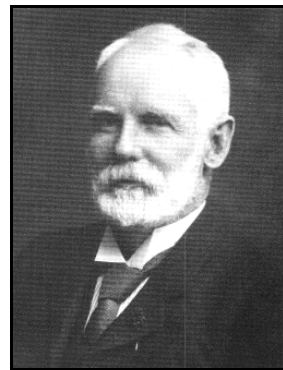


Figure 13.3: Dr. A. E. Malloch, 1844-1919 (Ambrose McGhie Medical Museum Archives).

became a proponent of the Listerian surgical method² which he brought to Hamilton in 1869 (Roland 2008:85). Dr. Malloch was said to have had especially keen eyesight and a sensitive touch, possibly due in part to his deafness, an unexplained condition that also affected four of his six children (Roland 2008:68).

One of Dr. Malloch's colleagues and students was Dr. Ingersoll Olmsted of Ancaster. Dr. Olmsted received his M.B. degree from the University of Toronto in 1887 and interned at the Germantown Hospital in Philadelphia. Among Dr. Olmsted's accomplishments was the founding of a training school for nurses at Hamilton City Hospital in 1890. His primary medical interest was in bacteriology and he is said to have experimented on himself when an infection in his right leg necessitated amputation below the knee (Balfour 1938:314). This operation was performed by Dr. Malloch (Roland 2008:141).

Dr. Thomas A. Bertram was a successful Dundas physician. He graduated in 1885 from Queen's University with an MDCM degree and conducted post-graduate work in London, Edin (sic), and Dublin. Dr. Bertram had a long career as a family physician and also devoted himself to public service. He served for 40 years as the Medical Officer of Health for the town of Dundas (Stott 1995:196). In 1890, the compensation for serving as MOH was \$16 per year, increasing incrementally until reaching top compensation during the last few years of his service when the salary rose to \$250 per year. Dr. Bertram was instrumental in having a sanitary sewer system installed in the town (Dundas Star



Figure 13.4: Dr. Ingersoll Olmsted, 1864-1936 (Ambrose McGhie Medical Museum Archives).



Figure 13.5: Dr. Thomas Bertram (Dundas Museum and Archives).

² In 1867, Joseph Lister an English surgeon experimented with substances to combat germs. In 1867, he presented his findings that the use of phenol, or carbolic acid, prevented gangrene in wounds and helped prevent the start of infection if sprayed on surgical instruments. He recommended that surgeons wear clean gloves and practice regular handwashing in a solution of carbolic acid. (Smith 2009:43).

Miasma to Microscopes

1928:4). It is evident from Dr. Bertram's Physicians Day Book from 1888, which he re-used as a scrapbook, that one of his primary interests was his membership in the Bisley Rifle Team.

A Day in the Life of a Local Doctor

Hamilton-Wentworth in the nineteenth century included the outlying areas of Ancaster, Barton, Beverly, Binbrook, Dundas, Flamboro, Saltfleet and Waterdown. The practice of medicine in rural areas was difficult. Traveling to visit patients on horseback was time-consuming and required a great deal of personal physical strength.

Dr. Abraham Groves of Fergus Ontario notes in his memoirs, published in 1934, that his early days as a doctor involved travelling by horse and buggy or on horseback if the roads were too narrow. He relates a story about being called out in April, 1872 to see a sick child 25 miles away. The snow was deep in places and the mud was especially thick. He spent two hours attending to the patient and then rode home arriving at daylight. Putting a positive light on the situation, he remembers that the travel time allowed for thought and reflection on the medical case and offered advantages to the doctor in those

THE HAMILTON Medical and Surgical Society.	
FEE DAY VISIT—(Exclusive of Medicines)	
	1/2 Cu. 1/2 Cu.
Labourers	0 50
Mechanics	0 25
Tradesmen	1 00
Merchants	1 00 to 2 00
<i>Night Visit, (7 P. M. to 7 A. M.) double the day visit.</i>	
Consultations	2 00 to 5 00
Advice at Office	0 50 to 1 00
Vaccination at Office	0 50
Do. at Patient's House	1 00
Detention, per hour	1 00
MIDWIFERY.	
Natural Cases	5 00 to 20 00
Consultation	5 00
Instrumental cases, (including chloroform)	10 00
Chloroform in ordinary cases	2 00
Extension of the Ploacenta, same as natural labour ...	5 00 to 50 00
FRACTURES AND DISLOCATIONS.	
Large	5 00 to 10 00
Small	2 00 to 5 00
<i>Subsequent visits, additional.</i>	
AMPUTATIONS, AND EXCISION OF JOINTS.	
Large	20 00 to 40 00
Assistant	10 00
Fractures and Toss	4 00 to 10 00
Hærris, operation for	
	20 00 to 40 00
<i>Subsequent visits additional.</i>	
Tracheotomy	5 00 to 20 00
Asphyxiation	1 00 to 2 00
Certificate of Lunacy	2 00 to 5 00
Country Patients attended at the above rates, with the addition of \$1.00 per mile.	
Hamilton, March 20th, 1863.	

Figure 13.6: Hamilton Medical and Surgical Society Fee Schedule, 1863 (Ambrose McGhie Medical Museum Archives).

terms (Groves 1934:5).

In the nineteenth century, the profession of physician was considered the pursuit of a “gentleman”, however, in the early to mid 1900s, the maintenance of the status of a gentleman was difficult because receiving payment for fees was a constant challenge. Often doctors were paid through repayment “in kind”, through labour, farm produce, grain, or animals. As the province became more economically established, a cash economy emerged making currency a standard form of payment for doctors (Sweeny & Smith 2005:11).

In 1863, the Hamilton Medical and Surgical Society published a fee schedule to be posted in doctors’ offices (Figure 13.5). This was an attempt to ensure patients understood the fee for each service. Fees were graduated, and could be applied based on the patient’s ability to pay (Stott 1995:26).

The death rate from the Russian Influenza pandemic peaked in Hamilton during January 1890, at a time when winter weather would have been at its most severe. Weather conditions hindered patients’ travel to a doctor’s office and, alternatively, made it difficult for the doctor to travel to see his patients. In this time before telephones were common, attempts to treat influenza would have occurred in the home, the doctor rarely being consulted until the condition of the patient worsened into pneumonia.

As an added consideration, the doctor’s arsenal for treating influenza in 1890 did not contain anything that would have had an effect on the illness, although that may not have prevented attempts to purge it. “Professional” physicians were not above using homeopathic solutions. In the front of Dr. Bertram’s Physicians’ Day book and Cash Records, the publishers of the book give examples of the proper methods for recording patient visits. Whereas no examples of treatment are provided for the sample patients who were listed as suffering from measles or scarlet fever (only sample cash charges are given), the fifth patient with a “sick headache” was treated with Sepia 30 and cinchona (Peruvian bark) (Dundas Historical Museum Archives). This illustrates the continuing usefulness of some homeopathic remedies and their continued use in combination with the new biomedical approach in which doctors of the day received their training.

Lessons from the Nineteenth Century

Professional medicine and medical training were relatively new phenomena during the 1889-90 Russian Influenza pandemic. Doctors possessed a great deal of knowledge about human anatomy and the scientific basis for the germ theory of disease but were still at a disadvantage against the influenza virus. In terms of mortality, Russian Influenza was mild compared to the 1918-19 Spanish Influenza, but experience with it contributed significantly to early biomedical knowledge of influenza and the best methods for preventing its spread. As authors of other chapters in this book reiterate, the severity of the influenza virus was a debateable topic in medical and public opinion – some believed that influenza was only a slightly more severe form of the common cold. The 1918-19 Spanish Influenza pandemic would put these arguments in their place, turning influenza into one of the most feared diseases of the twentieth century.

The body of medical knowledge is built on disease events, pandemics and chronic illnesses. The 1889-90 Russian Influenza pandemic added to the volumes of medical knowledge in existence at that time. Through the continuing professionalization of medical practice and science-based knowledge of human-pathogen interaction, the twentieth century would witness the creation of vaccines for some of the world's nastiest diseases including smallpox, polio, measles, mumps and diphtheria.

Medical practitioners of the nineteenth century learned their craft at school and then spent a lifetime learning more, one patient at a time, while keeping up with the latest medical research. Influenza was not the only health event at this time in history, and although it is historically interesting and added to the portfolio of medical knowledge, doctors of the time did not leave written records of influenza patients or treatments. Perhaps this absence of records arose because the peak of the pandemic was short-lived. It is also important to recognize, however, that doctors were busy with many other issues, including new regulations, professionalization, new surgical techniques, public health, medical education, hospitals and their own families and hobbies. Hamilton's doctors were busy with their practices and, as far as can be determined, they did not leave a written record of their experience, or their patients' experiences, with Russian Influenza.

The Hospital: Treatment Center or Social Clique?

Gabrielle S. Toth

“About the rotten eggs that were served – I almost said rotten patient – to the young lady who was there, there is not a member of this board who has not at times had rotten eggs served to him,’ said the chairman. ‘It is the poorest class of patients we have the most trouble with’” (The Hamilton Daily Spectator 1889h).

Following the war of 1812, Europe’s poor and dispossessed continued to pour into Ontario ports along the St. Lawrence and Great Lakes shorelines. Although a few brought material possessions with them, many may have brought illness. The threat of cholera encouraged the worried community at the head of Lake Ontario to house the sick and dying. This care was provided out of a sense of both compassion and self-preservation (Hill 1989:1-2).

Hamilton became a city in 1846, and in 1847 the City Council developed a Board of Health. In 1848, the Board of Health was authorized to locate and rent a suitable property to receive and house people infected with smallpox, a disease thought to only attack the poorest class of people. The first location on Catherine Street was inadequate, and the second building was erected in a dangerous quarry zone and had to be relocated. In 1852, the hospital moved into the former hotel at the corner of Guise Street and John Street North. In 1853, the name “City Hospital” appears in written records for the first time. By 1873, however, the hospital had become increasingly desperate for additional improvements to support all those requiring care. Thus, by 1880 tenders (government grant money) were provided to erect a new and larger hospital near Barton Street and Victoria Avenue. In 1882, the new hospital was ready for occupancy (Hill 1989).

The Hamilton City Hospital did not play a fundamental role in treating influenza cases in Hamilton during the 1889-90 Russian Influenza pandemic. Instead, hospital officials were engaged in creating a social and political hierarchy

Miasma to Microscopes

within the institution, and in defining the social relationship between the staff, patients and the broader community. During the 1889 influenza outbreak, while the hospital was undergoing reform, it did not yet have common, equal treatment practices for its patients and thus maintained “functional health care” designed to determine the care of patients based on social status. An example of “functional health care” in Hamilton can be seen in the distinction made between “free patients” and “pay patients.” A “free patient” was an individual of low economic means whose medical treatment was paid for by the city. An individual deemed eligible for this support was sent for admission to the hospital by “His Warship the Mayor [or] the Chairman and members of the Committee” (City of Hamilton 1880). A “pay patient” was an individual who paid for his or her personally selected physician’s treatment and care. It wasn’t until the early 1900s that “experiential health care”, which stresses common treatment practices for all patients regardless of their economic status began to replace “functional health care” (Baer *et al.* 2003:4).

Establishing Structure

The Hamilton City Hospital, which was in the process of establishing its essential principles during the 1889-90 influenza pandemic, was subject to changing social systems and reform within the institution itself and in the surrounding community. Therefore, “medicine, like the scientific disciplines to which it has been so closely linked in the past century, is itself a social system” (Rosenberg, 1992:306). Hamilton newspaper articles in 1889 discuss internal conflicts and hospital governance issues, rather than problems we are accustomed to hearing about today such as over crowded waiting rooms and ways of dealing with contagious influenza viruses such as H1N1. Many 1889 articles discuss physician promotions and elections, as well as the formulation and implementation of basic rules and regulations for operation. For example, a September, 1889 article describes how “a rule forbidding any but the house surgeon and the visiting physicians to introduce patients to the wards or to attend them there seems reasonable; and even necessary” (The Hamilton Daily Spectator 1889a). Establishing institutional governing policies, including who should or should not be in a position of authority, seems to have been more important than ensuring adequate medical practices within the hospital. One physician

complained about the effects of hospital staffing and administration on patient care:

Would it not be possible to overcome this difficulty – at least to a great extent – by employing a permanent house surgeon? The expense would be something, but experience in other cities shows that in the long run it is wiser to have a man of experience and sound judgment than to trust the internal economy of the hospital to a young man just out of college, who looks upon the position merely as a temporary arrangement, and who frequently takes but little interest in his work? (The Hamilton Daily Spectator 1889a).

It took five years for a City Hospital by-law revision to address this outstanding, administrative concern by adding a medical superintendent to the governing hierarchy. The medical superintendent essentially served as the institution's general manager in the sense that he was in charge of overseeing all wards, patients, medical instruments, and practices, and also was responsible for hiring and firing personnel. The new by-law also required applicants for the medical superintendent position to have previous experience in order to be considered for the role (City of Hamilton 1894).

Physicians and Patients

During the 1889-90 influenza pandemic, the relationship between the physician and his patient, and the type of care the patient received, was largely determined by the patient's socio-economic status. Rosemary Gagen (1981) notes that urban mortality rates, especially for contagious diseases, and infant mortality were influenced by social and economic disparities in Hamilton. The physicians' lack of concern for the physical and social wellbeing of patients of lower socio-economic status can be found in an early November, 1889 article in the Hamilton Spectator. Here, Ald. Brick reported that:

...he had visited the hospital two weeks ago, and some of the patients had made complaints to him. On account of this one of the patients was turned out half naked, and the cabman was told to take her to her sister's house, and if she would not be taken in there to take her to the poorhouse.

Miasma to Microscopes

The patients had complained to him about the quality of the food and one patient said that she was served with rotten eggs...[and] the woman was turned out on a day you would not turn a dog out, because she had made a complaint...(The Hamilton Daily Spectator 1889j).

Socio-economic favoritism within the hospital came to be written in law. When I compared city by-laws established prior to and after the 1889-90 influenza epidemic, the quality of care provided after the epidemic becomes strongly determined by the socio-economic status. In the early 1880s, there was little distinction between the two and both types of patients were obliged to provide labour to the hospital in return for care (City of Hamilton 1880). “Such patients as shall be considered able shall assist the nurses and other servants of the Hospital in nursing the patients, making the beds, cleaning the wards” (City of Hamilton 1880:7). After the 1889-90 Russian Influenza pandemic, the Hamilton by-law was updated to include a very specific distinction between the roles of the patients. In 1894, as By-Law No. 740 specifies, “Such *free patients* as shall be considered able shall assist the nurses and other servants of the Hospital in nursing the patients, making the beds, cleaning the wards” (City of Hamilton 1894:8, emphasis added).

The relationship between patients and physicians is complex and this relationship was further entangled in changes to hospital policy during a time of dramatic social change in Hamilton. It is worthwhile to consider the Hamilton’s hospital and larger health issues “within the context of encompassing political and economic forces that pattern human relationships, shape social behaviors, condition collective experiences, reorder local ecologies, and situate cultural meanings, including forces of institutional, national, and global scale” (Baer *et al.* 2003:4).

The Hospital and the Community

The Hamilton Daily Spectator and the Hamilton Herald provide many examples of the relationship between the hospital and the larger community. A noticeable lack of attention is paid to treatment practices. Instead, there is considerable discussion of management reform within the hospital in order to “secure the practical aid and sympathy of people of means” (The Hamilton Herald 1889a:1).

The fact seems to be that feeling is steadily increasing among citizens that the management of the hospital should be placed on different footing. Ald. Brick charges openly that favoritism is shown in discriminating between patients. Others assert that numbers of the Hospital Committee use their positions for the sake of whatever petty prestige is to be obtained from it than from any more worthy motive (The Hamilton Herald 1889a:1).

Thus as illustrated in newspaper accounts, in City Hospital by-laws, and supported by Rosemary Gagen's (1981) research, socio-economic relationships, reform, and management were the primary concerns of hospital officials. This research suggests that social, political, and economic relationships between staff, patients, and the community influence the quality of hospital treatment received by patients during the 1889-90 Russian Influenza pandemic in Hamilton. The hospital was not a place where many individuals sought treatment during the pandemic. Instead, it was mainly used as a repository for the sick, dying, and destitute.

Invisible Pathogens, Invisible Caregivers

Sarah K. Byford

“What is the cardinal virtue of the hospital nurse? It must embrace cleanliness; but primarily it is to possess, like Annie Laurie of the song, a voice that is low and sweet, soft and tender in its tone” (A. Somerville, cited in Campbell 1890).

In exploring the impact of the 1889-90 Russian Influenza pandemic in Hamilton, what was the role of women in caring for the ill? The participation of women in healthcare was seen as both a traditional occupation of the good Christian woman, and as a practical qualification for her involvement in the public sphere, which was beginning to be rapidly professionalized.

I became interested in examining women caregivers through three different important social roles of the time period: as nuns; as nurses; and as mothers and wives. The nun’s role is primarily defined by her Christian morality and devotion to God’s work. The role of nurse is an equally old occupation, though until the time of Florence Nightingale, it largely was performed by untrained women performing ancillary duties. Finally, the mother and housewife is responsible for the care of home and family. In all of these roles, women cared for the sick. In examining these kinds of nursing care, I aim to provide a better understanding of the evolving role of women’s work during a period of rapid demographic, social, and scientific change. The paucity of information on women’s work in care giving in nineteenth century literature is acknowledged by feminist and nursing historians (Bates, *et al.* 2005; Mansell 2004). It is therefore only possible to present a more general understanding of nursing care and its practitioners within the context of the period. Through this lens, however, we can catch a glimpse of the kind of care experienced by those suffering with the Russian Influenza in Hamilton.

Miasma to Microscopes

The qualities and characteristics that defined nurses change significantly during the late nineteenth century, with basic definitions identifying a nurse as any person who cares for the ill, postpartum women, and children (Young 2010:33). This identity evolves into that of a trained individual who performs care giving for wage pay, either in the home or the public setting. The degree to which individual nursing practices are related to a sense of altruism and amiable qualities varies (Hill 1989:8; Mansell 2004; Young 2010), as in the case of Nurse Rose's dismissal from the city hospital, following complaints of inhumane treatment by a patient: "As I could not believe a nurse for the sick could commit so dastardly an act on any being..." (Somerville, cited in Campbell 1890: n. pag.).

Corporeal Works of Mercy

Considered to be the most skilled of the nursing staff practicing in the early development of the discipline, sisters from religious orders left the cloisters in order to care for the sick in their communities, often in the New World at the request of missionaries and clergymen (Agnes 1951). Several orders such as the Sisters of St. Joseph, the Sisters of Charity, and the Order of St. Sulpice devoted themselves to caring for the ill in Canada, "enforced by their gentle disposition, their self denial, patience, and skill" (Dolan 1978:135). The organization and delivery of health care in Quebec and across Canada "cannot be separated from the history of female religious orders" (Violette 2005:57). This establishment of healthcare for populations in the New World and in Canada in later decades, was founded upon ideals of Christian charity and the salvation of the soul through Christ's ministry to the sick and needy (Dolan 1978; Violette 2005). These ideals of charity which constituted the role of the religious nurse were aptly described by St. Vincent de Paul in his ordination of the Sisters of Charity:

"They shall have no monasteries but the house of the sick, no cells but a hired room, no cloisters but the streets of the town and the wards of the hospital, no inclosure [sic] but obedience, and for convent bars only the fear of God; for a veil they shall have a holy and perfect modesty; and while they keep themselves from the infection of vice they shall sow the seeds of virtue wherever they turn their steps "(Robb 1908:22-23).

At the time of the Russian Influenza epidemic in Hamilton, the Sisters of St. Joseph established a hospital in Hamilton 11 June, 1890 at John Street South under the direction of Mother Philip (Figure 15.1). The building was the former residence of the Honorable John Young, which had been donated by the late Bishop T.J. Dowling. This hospital was deemed “open to all regardless of race or creed” (Sisters of St. Joseph 1950:5). Apparently well-received, the Sisters of St. Joseph “went daily through the city on their errands of healing and charity...the dedicated nursing sister in her distinctive habit became a reassuring figure in hundreds of Hamilton homes” (St. Joseph’s Hospital 1962:2).

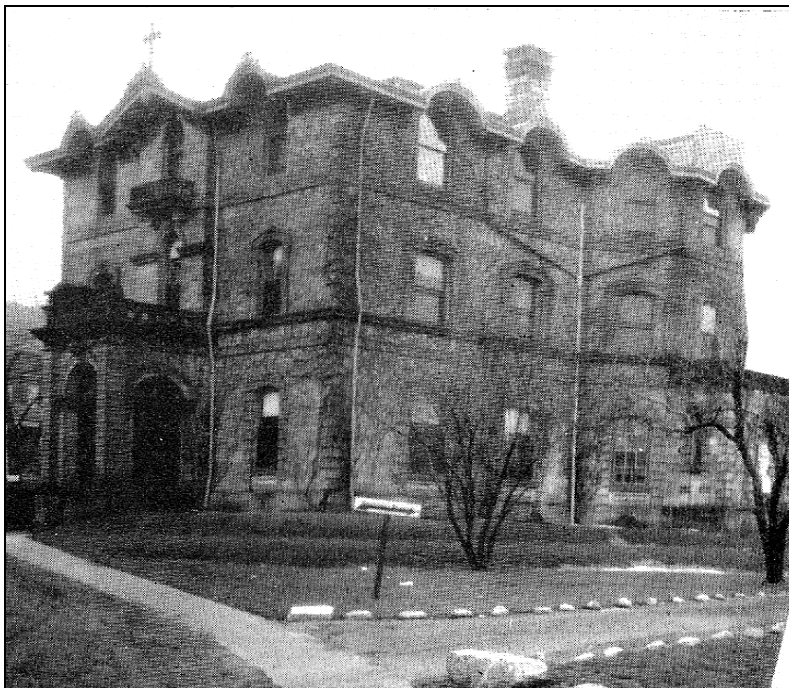


Figure 15.1: St. Joseph’s Hospital, John Street South, 1890 (Sisters of St. Joseph 1950).

On 12 June, 1890, the Hamilton Evening Times described the new hospital quite favorably:

"The second and third stories are divided into wards and private rooms, well lighted, ventilated and also well heated...all the surroundings of the most cheerful character...the magnificent grounds in keeping with the

Miasma to Microscopes

buildings. Altogether it is a very beautiful spot...from which the patient can oversee the whole city" (Sisters of St. Joseph 1950:5-6).

Behave with Tenderness and Propriety

In the nineteenth century, hospitals were often overcrowded and filled with the sick, dying, homeless, and destitute. The first hospital in Hamilton, established by the city board of health, was created in response to smallpox in 1847 (Hill 1989:2). The establishment of collective healthcare through city hospitals continued through the decades preceding the 1889-90 Russian Influenza, and in the last years of the nineteenth century nursing expands rapidly as a professionalized occupation suitable to middle class women and young ladies (Mansell 2004; Young 2010). Until the reputation of hospitals improved and came to be seen as a place for “scientific care” and a suitable environment for middle-class patients, the home continued to be the preferred locale for care for “all but the most disadvantaged...nurses came under the occupational category of domestic and personal service. As long as nurses remained untrained, their position in a middle class household remained unambiguously that of a servant” (Young 2010:52).

The qualities of the nurse at this time are stated in spiritual and gendered terms, as is seen in advertisements and city by-laws (City of Hamilton 1894; Mansell



Figure 15.2: Miss Cadenhead and Miss Ross, 1890 (Hamilton Civic Hospitals 1989).

2004:10). These descriptions emphasized the value of nursing work as not only Christ-like, but as a natural behavior for women. Isabel Hampton Robb, a leader in nursing and nursing education during this period, speaks of “the spirit in which she does her work, with the dignity of her profession and the cloak of love for the suffering of humanity” (1908:36). Robb describes the nurse as a woman who “can ennoble anything her hand is called upon to do...the nurse’s work is a ministry” (Hampton Robb 1908:37).

Young’s (2010) research on nineteenth-century Toronto indicates that the common denominator among nurses was widowhood and middleclass status. Their experience in raising their families became the basis for their qualifications for nursing.

The development of nursing during the time of advancing professionalized biomedicine shifted the motivation for nursing from a spiritual vocation to a secular profession. The “‘good nurse’ of the nineteenth century was expected to possess characteristics that identified her as a member of a spiritual vocation (Mansell 2004:10). The qualities of the nurse clearly reflect the ideals of spiritual and feminine qualities, moving these qualities beyond character traits into skilled qualifications for work. The contributions of Florence Nightingale were widely quoted in contemporary nursing volumes as well as in guides for the management of the household and the care of family in accident and illness.

The first nursing graduates of the training school established by Dr. Ingersoll Olmsted in Hamilton were Misses Cadenhead and Ross (Fig. 15.2). They had worked as nurses at the city hospital and left the institution after controversy arose following a patient’s complaints, and the suicide of a female patient (Hill 1989). Dr. Olmsted was asked to take charge of the hospital and proceeded, to “induce them to return to the Hospital...we started a training school for nurses” (Hill1989:8-9). Miss Ross later described the working conditions and schedule of the hospital nurses who worked twelve hours a day, with only “one half day off a week; three weeks [sic] vacation a year” (Hill 1989:10), living as a close group in uncomfortable quarters, with very few trainees.

During this period, training schools were established and medicine was becoming professionalized, both in Canada and the United States (Stewart & Austen 1962). In many cases, new works on ethics and the nature of nursing practice are being authored by women for their nursing sisters. This shift in the voice of nursing education as a professional organization- which began with the

Miasma to Microscopes

publications and correspondence of Nightingale- heralds changing gender roles within the establishment of biomedicine.

Of the Feminine Character: None are so Dependant

Until hospital care improved to the extent that it became a desirable located for the sick, the home remained the primary locus for treatment and recovery. During the Victorian era, women received an abundance of advice on the management of home and household in the form of published newspaper serials, books, encyclopedias, and pamphlets (Montero, Chapter 12). These publications also provided the new wife and mother with extensive directions in caring for their families in injury and illness, which “comes so largely within the natural sphere of woman” (McNair Wright 1879:120) Many of these works warn against dangers of poor ventilation and exposure to damp cold (Child 1837; McNair Wright 1879; Unknown1897; Beeton 1968), but also emphasize the importance of submitting to male authority by following physician’s orders, without contravening them with one’s own ideas of treatment (Child 1837; Beeton 1968). These household and encyclopedic guides for healthcare therefore reflect the hierarchy of knowledge in medical care which stresses the superiority of the professional male, despite women’s experience and skill in caring for the ill.

One of the best known of these works is Mrs. Isabella Beeton’s *Book of Household Management*, published in 1861. It was commonly gifted to a young woman on the occasion of her marriage. The book provides extensive advice in the care and nourishment of the invalid, duties of the sick nurse, and numerous recipes. Sanitation of the sickroom and the preparations administered to the suffering patient are stressed, especially concerning meals which must be of good quality and small, appetizing quantity (Beeton 1968:893-4).

Given the popularity of these works for women regarding home management and advice for the ill, the activities of the mother in caring for family during the pandemic may be interpreted. The detailed advice concerning care for the invalid in all respects is stressed in a manner similar to the expression of the nurse’s benevolent duties. The relative scarcity of discussion regarding treatment in the home is apparent in the Ontario Health Reports for the years 1889-90 and in the emphasis of advertisements directed at women in newspapers. It is likely that omission in this aspect of the pandemic is due to the private nature of the home, in which women occupy a major sphere, insufficiently acknowledged in

public discourse at the time. Also, consideration of the importance of quality nursing care for survival in the case of influenza is critical given the nature of the disease. Quality nursing continues to be important today for influenza, and was greatly emphasized during the 1918-19 Spanish Influenza pandemic in Hamilton, where volunteerism played a major role in combating the death rate (Pope 2006).

Interestingly, Kelly Martel (Chapter 7) examines the Russian Influenza death rate in Wentworth County, and notes higher death rates in outlying communities. Is it possible that the a lack of accessible quality nursing care played a role in the higher mortality rates of outlying communities such as Beverly and Binbrook? Given that women were responsible for the health of their household, what happened in Hamilton and area homes when mothers succumbed to the pandemic? The greater isolation in these outlying communities surrounding Hamilton suggests that households would have had an even greater responsibility for caring for the ill, given the smaller networks of caregivers including female family members, neighbors, and private nurses available than in the city (Young 2010). Though the activities of women and mothers during the 1889-90 Russian Influenza pandemic are not discussed in any detail in public spheres, their importance in caring for the ill may be revealed by examining what occurred in places where nurses were absent.

On Her, They are Perpetually Dependant

This chapter has examined and interpreted the critical role of the caregiver in treating victims of the 1889-90 Russian Influenza pandemic in Hamilton. The particular role of women, whether defined by religious affiliation and its ideas of charity and nature, by the traditional norms ascribed to the housewife and mother, or by an emerging professionalization of nursing as a skilled wage occupation, is not often the focus of infectious disease research. However, it is an important role to explore in order to more fully understand the ways in which healthcare is socially structured, both historically and today. In examining the epidemic through this lens, a particular period in the history of medicine and social change may be viewed as it was shaped by dynamic forces, in which a traditionally submissive role is transformed into one of vital responsibility, which helped critically shaped the structure of our modern medical institution.

Flu Talk: the Language of Russian Influenza

Meghan Steenhoek

This strange disease enjoys as many titles as a European nobleman ... We might go on multiplying epithets ad infinitum, that have been applied to this polymorphous disease; but let this suffice as an introduction to a brief and unvarnished account of the strange antics of this Harlequin of diseases (Ulrich 1890:495).

The end of the nineteenth century was a time of transition from the humoral system of thought to the germ theory that still dominates in today's healthcare system. This changing medical framework represents a significant shift in the belief system of the time. Language, thought, and society are all tied together in a way that makes it impossible to separate one from the other (Hodge & Kress 1993). It is through language use that a society's belief system is demonstrated and shaped; language can also be a reflection of the audience or reader. I examine the terminology used to describe the Russian Influenza and the contexts in which this language is used in medical journals and newspapers of the time.

It has been suggested that while "science flies, its terminology walks," (Jammal 1988). In a time of shifting medical ideologies, the terminology used does not always follow in tandem with the latest medical advancements. Media aimed at the wider public tends not to make use of the technical language found in medical journals. This differential use of terminology might signal a divergence in health belief systems between medical professionals and the public. Medical journals are written by doctors and researchers and are written for medical professionals. Newspapers, on the other hand, are written for wide and general public consumption. Thus, the language used reflects the education and background of the writers *and* the audiences.

Miasma to Microscopes

Sociolinguistics posits that language must be studied within the social context in which it is used and the subfield of communication media sociolinguistics examines how language is used to communicate with a wider audience. Newspapers and medical journals are two genres of media which supplied information to the public during the 1889-90 Russian Influenza pandemic in Hamilton. While both discuss much of the same types of information, each creates distinct representations of the disease through the different language used to describe it. Some argue that media reflects reality. Others suggest it creates reality. Still others argue that it encourages one existing reality to be accepted over all others (Leitner 1997:187). At the time of the Russian Influenza in Hamilton, there were two competing medical realities – the traditional humoral system and the emerging biomedical perspective, founded in germ theory.

What is in a Name?

During the emergence of biomedicine, medical terminology was in flux. Different terms were often used to describe various aspects of the disease referred to as influenza. The word “influenza” originates from the mid-eighteenth century Italian word for “influence”, and first referred to a visitation or “influence of the stars,” specifically referring to an outbreak of an epidemic. Although the term “influenza” did refer to an epidemic, it was originally not limited to a specific disease. One can find references to *influenza di catarro* or “catarrhal influenza” and *influenza di febbre scarlattina* or “influenza of scarlet fever” (Hoad 1996).

Since then, the definition of influenza has been narrowed to refer to a specific contagious viral disease. Another common nineteenth century term for influenza is “la grippe”. Other variations which can be found include “grippe” and “grip”. While the term may have originally come from the proto-germanic language, we may attribute the term to the eighteenth century French word *gripper*, for “to grasp, hook”, referring to the way the disease constricted the throats of its victims (Harper 2001). Others have suggested that it referred to the speed with which the disease takes hold of its victims (Partridge 1977:1335).

While worldwide influenza “enjoys as many titles as a European nobleman” (Ulrich 1890:495), newspapers and medical journals from the time are alike in that they both use almost exclusively the two terms described above. Other less common terms such as *rheuma epidemicum*, describing cold-like

symptoms, simply indicate the symptoms of the disease. There are also words such as *follette*, which refers to the insanity commonly believed to be associated with influenza, and demonstrates the often dramatic portrayal of the disease (Alonso, Chapter 19).

It is interesting that the death records for Wentworth County from 1 September, 1889 to 31 December, 1891 contain only six cases listing “influenza” or “la grippe” as a cause of death (Government of Ontario 1889-91). Of course, that is not to say that influenza did not kill anyone during this time. People rarely die solely from influenza. Pneumonia and bronchitis are common complications of the disease, in addition to pre-existing conditions such as asthma, heart failure, and tuberculosis which can be made worse by an attack of influenza (Mayo Clinic 2010). These other terms appear frequently as causes of death in the death records at the time of the Russian Influenza pandemic.

The conceptions of the conditions such as pneumonia and bronchitis were well established and are similar, if not identical, to those observed today (Dunglison 1874). Pneumonia and bronchitis are both complications of influenza which affect the respiratory system and are common causes of death recorded in Hamilton during this time (Emes, Chapter 9). Similarly, congestion or inflammation of the lungs is another complication of influenza included among the 240 causes of death attributed to influenza in Hamilton during the Russian Influenza pandemic (Martel, Chapter 7). Even though these conditions were likely a result of an initial influenza attack, the specific terminology for each cause of death suggest that medical professionals did view these conditions as being separate from influenza. This is an important shift from earlier times when each of these terms often refers to a number of conditions.

I examined the frequency of terms used to describe influenza-related mortality in the death registers for Wentworth County (Government of Ontario 1889-91) between 1 September, 1889 and 31 December, 1891 (Figure 16.1). There was an increase in the use of these terms during the Russian Influenza pandemic. In the following year, there is a decrease in the frequency of many of the terms describing the secondary conditions of influenza. It is interesting to note that there is little change in the frequency of the term “influenza”. This suggests that the increase in mortality during the Russian Influenza pandemic is accounted for in the death records by the other terms discussed above. This is why it is important to understand the medical terminology of the time when examining archival records.

Miasma to Microscopes

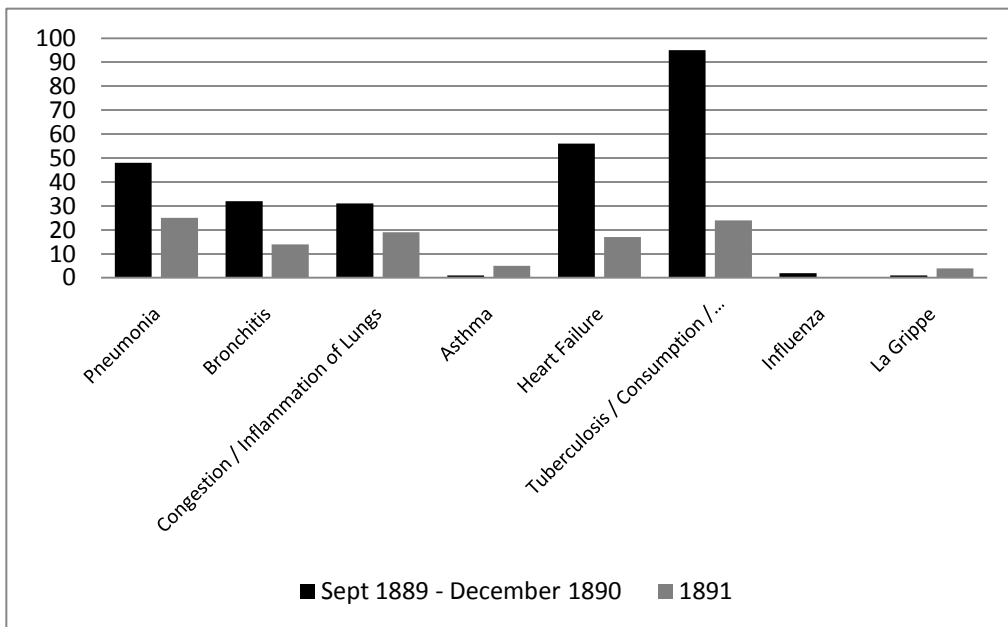


Figure 16.1: Frequency of Terminology in Wentworth County Death Records, 1889-91 (Government of Ontario 1889-91).

In the Public Eye

I analyzed articles from the Hamilton Daily Spectator and the Hamilton Herald published between 1 December, 1889 and 31 December, 1890 to explore public language use surrounding influenza. First, I examined terminology used to describe influenza itself. As mentioned above, “influenza” and variations of “la grippe” are the two most commonly used terms for this disease. Initially I suspected that certain terms would be associated with different schools of thought, such as the humoral system and others with the emerging biomedical perspective. Upon examination of the newspaper data collected, however, it became evident that this was not the case. Both “influenza” and “grippe” appeared before the biomedical influence was well established in Hamilton, which means the two terms were associated with both belief systems.

According to Dunglison’s Medical Dictionary (1874) “la grippe” was a vulgar term for influenza. In this case, vulgar means the word was in common use by the general public, as opposed to being rude or improper. As it appears in

newspapers, “la grippe” is often used interchangeably with “influenza”, often within the same article. On 13 January, for instance, the Hamilton Daily Spectator reported “it is Russian influenza (la grippe)” (1890j1).

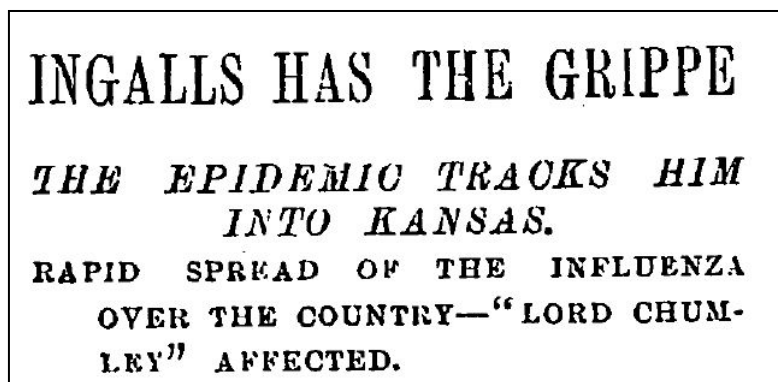


Figure 16.2: “Ingalls Has the Grippe” (The New York Times 1889a).

The term “la grippe” creates a sense of drama because of its allusion to the way in which the disease grasps its victims. This likely engendered a sense of intrigue and urgency in someone who heard or read the word, and may explain why “la grippe” occurs frequently in newspaper articles. Of almost 200 articles published in Hamilton from 1889-90 “la grippe” was used in 50 titles, in comparison with “influenza” which only occurred in 10. There are also titles such as “Death’s Russian Grip” (The Hamilton Herald 1890c) and “Relaxing Its Grip” (The Hamilton Herald 1890k). Whether the intention was to sell more newspapers or simply keep the public informed, the choice of “la grippe” was a popular newspaper strategy. In contrast, “la grippe” is not as commonly used in medical journals.

The humoral theory is based on the idea that four bodily humours are in balance with each other. A person becomes sick when they are out of balance, either because of more or excess of a certain humour or because of outer conditions which can create imbalance, such as climate change. Temperature is a major concern of this ideology. I first looked at the context in which the words “influenza” and “la grippe” were used to try to find an association with the humoral theory; no association was found. I did, however, find remnants of the humoral system in the terminology describing cures and treatments:

Miasma to Microscopes

"The best cure I hardly fail to find effectual – toasting myself of the great Yorkshire range open fire, and using hot lemonade, hot tea, or an equivalent, and not relaxing the use of fervent heat until relief was complete. It is of the utmost importance to make the most of the natural heat of the body by close wrapping during exposure, exertion to keep warm both by exercise and by vigorous use of the lungs, the action of which has be increase immensely, and by covering warmly in bed, but not without care to have the air of the room fresh and cool" (The Hamilton Daily Spectator 1890w1).

In this passage, a significant emphasis is placed on heat and the reader is also reminded to ensure that temperatures are balanced. This terminology strongly reflects the medical ideology of the humoral system. Interestingly, the passage comes from an article that discusses numerous cures for influenza including pills, germicides, and antiseptics. These treatments are part of the taxonomy and symptom classification that was emerging as part of the biomedical model (Engel 1989). I noticed this pattern in other articles which discussed treatments for influenza. Despite many of the new biomedical treatments, newspaper articles like this indicate the public in the 1890s maintained a strong belief in the humoral system even as they accepted new kinds of treatment options based on emerging germ theory.

From One Professional to Another

Unlike newspapers, medical journals in Canada were not well established in the late nineteenth century. Thus, much of the data I have collected on professional terminology for influenza comes from journals published in the United States and Britain from 1889 to 1992. In many ways, the articles in medical journals address many of the same issues found in newspapers. What are the symptoms of influenza? Who is getting sick? How does one treat the disease? Medical journals address these questions differently than newspapers.

“La grippe” is a term more commonly used among medical professionals in North America. In a sample of five contemporary articles drawn from the British Medical Journal, however, the term “influenza” appears 30 times. In five articles from the Journal of the American Medical Association, it appears 25

times, in addition to “la grippe” which occurs 36 times (Figure 16.3). Most of the terminology one would associate with the humoral system, such as “balance”, “humours”, “bloodletting”, or “excess of hot or cold”, are absent in the writings of medical professionals. Instead anatomical terms and the names of chemical compounds appear:

"True influenza sets in with severe frontal headache, distressing pains in the back and limbs, sense of prostration, and quickly rising fever. These symptoms are probably due to the inhalation by the nostrils of a highly irritating infectious virus, which sets up inflammation in the lining of the post-nasal and frontal cells, which may extend lower down the respiratory tract if not quashed at once" (Hogg & Dobell 1889:1419).

Additionally, studies published at this time include “The Bacteriology of Influenza” (British Medical Journal 1890:279) and “The Etiology of Influenza” (Bruce 1890:328). These articles look for a biological cause of the disease through a biomedical lens, rather than for imbalances in bodily humors.

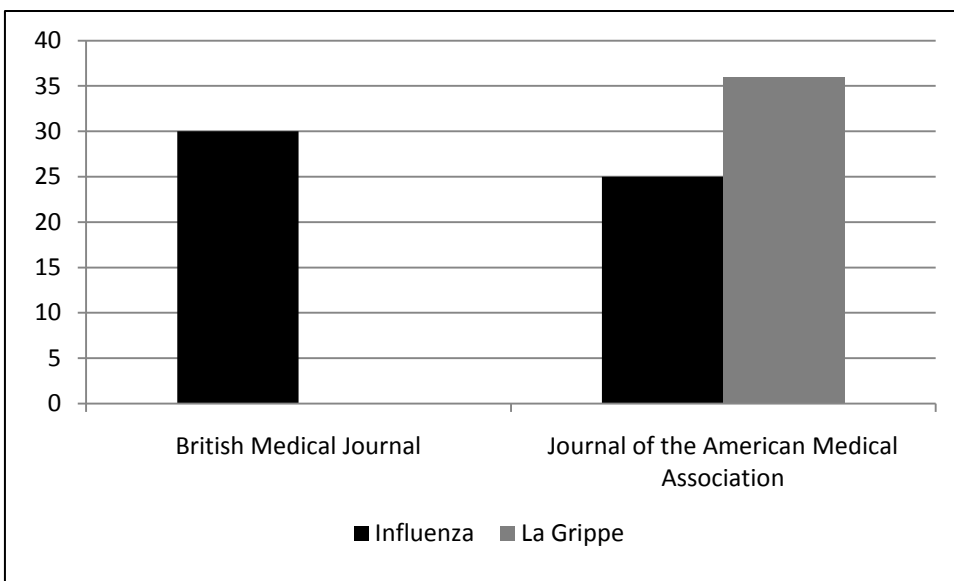


Table 16.3: Frequency of Influenza Terms in Medical Journals, 1889-92.

A Few Final Words

Newspapers and medical journals address the same issues which followed the Russian Influenza of 1889 to Hamilton. This chapter examines how language use in each genre of writing reveals different medical systems of thought present in Hamilton during the pandemic.

As expected, the medical writers seem to have moved further away from the humoral system toward the biomedical framework. The terminology used to refer to the disease is much more specific and avoids “vulgar” terms, such as “la grippe”, often found in newspapers. The treatments described in the journals may not have changed significantly, but the context in which they are described suggests a greater knowledge about the biology of the disease. No longer do medical professionals prescribe treatments to restore balance to the entire body. The increasing specification of knowledge is a large part of the nascent biomedical approach to medicine which sought to categorize symptoms and create a set of universal rules and explanation (Engle 1989).

Treatments discussed in newspapers are less likely to be aimed at a specific symptom, but rather as a treatment of the whole body. Even though the specific humors are not discussed, treatments to restore a hot/cold imbalance are evident in the discussions of influenza in newspapers. These remnants suggest that the public still subscribes to many of the traditional medical treatments associated with the humoral system and that newspaper articles are targeting this. It is impossible to determine the beliefs of the authors of the articles, but it appears that the transition to a biomedical approach was not as widely established during the 1889-90 Russian Influenza pandemic in Hamilton.

Flushing Away the Flu: Systems of Hygienic Thought in Hamilton, 1889-90

Ema Rubignoni

“... if the seeds of death and disease are allowed to germinate and flourish in each separate dwelling, and around each fireside, what favorable results can be expected?” (Author Unknown 1875b).

For many Canadians today, the day begins with a warm shower with soap in a clean and tiled bathroom. This room contains a porcelain toilet. Drinking city water does not result in horrible stomach upset. Taking a walk through the city does not normally necessitate stepping in human waste. This is all thanks to our well-maintained septic system, which is hidden below the ground. It is difficult for us to imagine living any other way.

It took many years for Hamilton’s sanitation infrastructure to become what it is today. Disease outbreaks are often the catalysts needed to spark socioeconomic progress and development. Tomes (2010) explains how pandemics expose holes in the social system and serve as “teachers”, revealing society’s flaws, and prompting new knowledge to be sought and utilized. In this chapter I give a brief history of sanitation and hygiene practices in Hamilton and discuss popular domestic hygiene practices used during the 1889-90 Russian Influenza pandemic. I then discuss how sanitation infrastructure changed in Hamilton and surrounding Ontario as a direct response to the Russian Influenza.

Beginnings of Sanitation

Sanitation and personal hygiene practices have long and winding histories. Sanitation beliefs follow the popular theories of disease causation in a given time period. In late nineteenth-century Hamilton, sanitation discourses were actively

Miasma to Microscopes

shaped by the shift from miasma to germ theory (Hancock, Chapter 4). Modern ideas about medical sanitary practice can be traced to the Crimean war, when Florence Nightingale nursed sick and injured soldiers in 1854 to 1856. In an effort to prevent the rampant spread of disease, she established basic hygiene practices which are still used today (Tulchinsky & Varavikova 2009). In 1863, she published *Notes on Hospitals* (Nightingale 1863), setting up a protocol for how hospitals should be run, emphasizing the importance of proper ventilation and bathing. Louis Pasteur's research from 1856 to 1860 showed that heating food to high temperatures makes it safe to eat, a process known today as pasteurization. Only later in 1865 did he discover the microorganisms that this heating process destroys. Also in 1865, Joseph Lister published *On the Antiseptic Principle in the Practice of Surgery* in which he described his influential "antiseptis" theory demonstrating to surgeons the importance of disinfecting tools with carbolic acid. William Budd published *Typhoid Fever: Its Nature, Mode of Transmission and Prevention* in 1873. In 1883, Robert Koch discovered that water filtration can prevent waterborne disease, namely cholera (Tulchinsky & Varavikova 2009). These snippets from the history of the sanitation movement demonstrate how sanitary discourses were being influenced by evolving notions in the germ theory revolution.

By 1889, the provincial Board of Health of Ontario had accepted the significance for public health of a good filtered water supply and a sewer system. The concept of soil drainage was still in its infancy, but the recognition was growing in urban centres that adequate soil drainage is important for ridding soil of disease-causing microorganisms. However, many small towns at this time had comparatively inadequate sanitation infrastructures (Provincial Board of Health of Ontario 1889).

Hamilton before the Russian Flu

The 1854, a cholera epidemic in Hamilton prompted the first notable sanitation development efforts in the city. This waterborne disease wreaked havoc on Hamilton's population. In response, the city installed a pump station to provide citizens with clean water. Thomas Coltin Keefer, chief of the Montreal Water Board, approved the final design and chose Lake Ontario as the source of water. Completed and installed in 1859, the pump is located at what is today 900 Woodward Avenue, Hamilton (Figure 17.1). Water was pumped from Lake

Ontario, up the escarpment to a reservoir, and flowed downwards through pipes into the building (James & James 1987). Hamilton Waterworks was the first pump house in the city – and the only one in existence during the 1889-90 Russian Influenza. Together with the sewer system, which was installed in response to the earlier 1854 cholera epidemic (Houghton 2009), this new water pump system flushed the filth from the streets. The rapidly growing population increased the demand on the water supply, prompting the city officials to expand the network of waterlines and septic systems (James & James 1987). Hamilton’s sanitary system expanded again in 1888, in response to a typhoid fever epidemic. The 1889 Provincial Board of Health report stressed that the city’s houses, air, and water must be clean; the houses kept dry; and the sewers regularly flushed.



Figure 17.1: Location of Hamilton’s First Pump House (<http://www.maps.google.com>).

Miasma to Microscopes



Figure 17.2: Hamilton Waterworks (Photo by Ema Rubignoni, 2010).

Hygiene in the Home

It is difficult to know exactly what kind of hygiene practices were used in the homes in Hamilton in the late nineteenth century, but we can infer that household behaviours were similar to practices recorded in contemporary housekeeping manuals and cookbooks (Montero, Chapter 12). Ladies' home literature recommended that children be bathed daily in lukewarm water, with soap, in order to prevent disease and keep their hair looking its best (Chavasse 1868). However, many people living in Hamilton at the time would have been without running water and would have had to rely on collecting rain water. This means that in the dry months of summer and winter, daily bathing probably was not a common practice.

HIGHEST AWARD PARIS EXHIBITION.
GOLD MEDAL & DIPLOMA of HONOUR
THE ONLY GOLD MEDAL FOR TOILET SOAP.

Pears' Soap

FOR TOILET AND NURSERY.
Specially Prepared for the delicate skin of Ladies and Children
and others sensitive to the weather, winter or summer.
Redness, Roughness, and Chapping prevented.

Fair white hands.
Bright clear complexion
Soft healthful skin.

Figure 17.3: Pears' Soap Advertisement (The Hamilton Daily Spectator 1890s1).

Pears' soap is the most widely marketed soap in the Hamilton Spectator during the 1889-90 Russian Influenza pandemic (Figure 17.3). Marketed towards women and children, the ad claims that the soap produces soft and healthy-looking skin. Pearline soap was advertised as a multi-surface cleaner, able to clean anything from paint to marble (The Hamilton Daily Spectator 1890t1). Later, the advertising strategy changed again as "Pearline" began to be marketed as "the modern soap" (The Hamilton Daily Spectator 1890u1). Stressing that times were changing, ads warned that if women did not use Pearline Soap they – and their households – would be left behind.

Hamiltonians at this time believed that having access to fresh air was important because they believed diseases were caused by the putrid air from cesspools and the covered pits that stored sewage (Author Unknown 1875b). Deodorizers such as bromo-chloralum were used in homes in conjunction with proper ventilation (Driver 1877). Great attention was paid to cleaning sickrooms (Byford, Chapter 15) and disinfecting the clothes of sick and the healthy (Author Unknown 1875b). Carbolic acid was a popular disinfectant at the time despite its potential health risks. The 1889 Provincial Board of Health report warned that ingesting carbolic acid could be fatal and recommended consumption of lime-

Miasma to Microscopes

water with milk to counteract the carbolic acid (Provincial Board of Health of Ontario 1889). Lime-water was used for multiple purposes, from taming stomach problems to preventing milk from souring (Driver 1877).

During the gradual shift in public discourse from miasmatic theory to germ theory, we see household hygiene practices that are informed by pluralistic beliefs of disease causation. Advertisements made use of the idea of “changing times” to market their hygiene products to the public.

Russian Influenza as a Teacher

Although Hamilton’s sanitation infrastructure drastically improved after the 1854 cholera epidemic, by 1889 there were still many problems with the system. These problems became realized when the Russian Influenza pandemic arrived in the city. In the Hamilton City Council Minutes there are many complaints of sewers continuously backing up, soaking the ground in liquid waste and causing foul odors (City of Hamilton 1890).

The City established stricter by-laws governing cesspools to decrease these “foul emanations”. This led to the construction of 122 new cesspools in Hamilton, while 59 others were deemed not up to code and destroyed. Loop-holes in a by-law to decrease the amount of contaminated milk were identified and rectified. Ceramic toilets (Figure 17.4) were becoming more popular due to the Provincial Board of Health’s suggestion that the porous wood of current privies is unsanitary. Lastly, the waste removal system on the streets was deemed inadequate

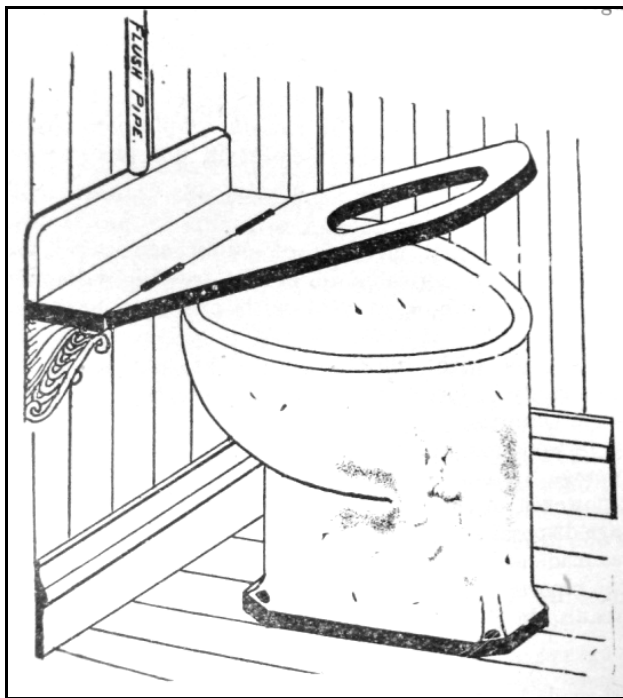


Figure 17.4: Late Nineteenth-Century Ceramic Toilet (Provincial Board of Health of Ontario 1890).

(Provincial Board of Health of Ontario 1890).

Flaws in sanitary systems were seen across Ontario during the Russian Influenza pandemic. Cities and towns came to realize that schools had been built without proper ventilation, drainage, water supplies, or waste disposal systems. Horrible odors emanating from factories, cesspools, and livestock resulted from improper design or poor maintenance of these facilities. Solutions proposed for improving municipal sanitation included ameliorating town drainage, town septic systems, road paving, public waterworks, inspection of offensive odors, and compulsory notification of cases of tuberculosis (Provincial Board of Health of Ontario 1890).

Lessons Learned

Many problems with Hamilton's sanitation infrastructure went either unnoticed or ignored until the Russian Influenza exposed the system's many flaws. In this way Russian Influenza "taught" city officials where improvements could be made, by revealing the points of greatest weakness within the sanitation infrastructure. The lessons they learned from the epidemic also prompted changes in domestic hygiene and sanitation practices.

Even before the specific microscopic agents that cause influenza and other diseases were discovered, city health officials in the nineteenth century viewed proper sanitation as vitally important (The Hamilton Daily Spectator 1889p). The belief systems underpinning hygiene practices vary, but the health results are the same. For example, today we know that decomposition is facilitated by microorganisms which release horribly smelly gasses. Under the miasmatic theory of disease causation, illness is understood to be caused by decomposing matter floating in the noxious air. The response is to stay away from decomposing matter, ventilate the home, or covering up odors with deodorants. Under the germ theory, disease is understood to be the result of contact with microorganisms, so again it is best to keep away from infectious matter and sanitize the home. By building sewers and increasing the frequency of bathing, both noxious odors and microorganisms are eliminated. Under both miasmatic and germ theories then, hygiene is seen as the best way to prevent disease (Barnard 1873), and the Russian Influenza taught Hamilton that the city needed to update its sanitation infrastructure to protect the health of the population.

Chapter 18

“Be Warned”: Advertising during the Russian Influenza Pandemic

Courtney A. Hartwick

“...If you are troubled with any of these or kindred symptoms, you have catarrh, then should lose no time in ordering a bottle of nasal balm. Be warned, in time, neglected cold in the head turns into catarrh, followed by consumption and death” (The Hamilton Daily Spectator 1891a).

Advertising is a critical and invasive force in our everyday lives and had a similar impact on people in the past. Advertising primarily works through affecting consumer behavior by attracting new users, maintaining current users, and emphasizing the positive attributes about a product (Jones 2002). This chapter explores the influence of advertisements on the conceptions of the Russian Influenza pandemic through the analysis of advertisements from 29 December, 1890 to 29 December, 1891 in The Hamilton Daily Spectator. First, I compared death rates attributed to influenza to weekly percentages of advertisements. Then, applying the theoretical perspective of germ panic, I examined the content of advertisements. Germ panic refers to generalized anxiety relating to an infection or disease that is exacerbated by political actions, media attention and economic decisions (Tomes 2000).

Quantitative Analysis of Advertisements

I compared the number of influenza-related ads to the total number of advertisements in the weekly edition of The Hamilton Spectator from 29 December, 1889 to 29 December, 1891 (Figure 18.1). The death rate began to increase between 27 January-4 February, 1890 and peaked at 16 deaths per week. The total number of influenza-related advertisements continued to climb to

Miasma to Microscopes

approximately 15% of all advertisements, even after a decline in death rates occurred throughout February and March, 1890. Influenza-related ads continued to make up 70% of all health-related ads throughout February while the death rate declined (Figure 18.2).

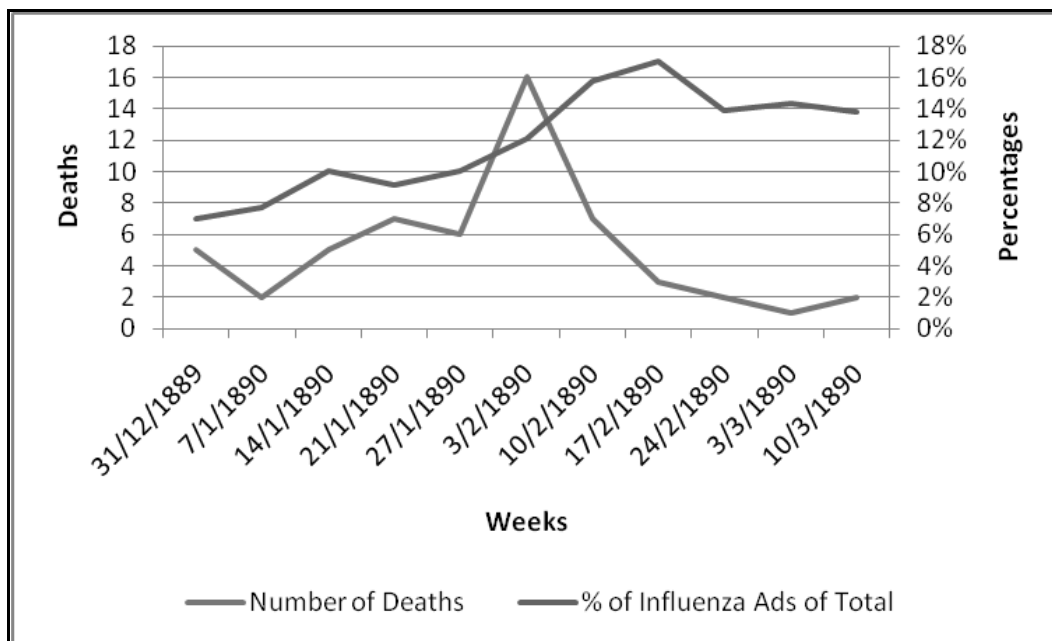


Figure 18.1: Percentage of Influenza Ads in Relation to Death Rate (Government of Ontario 1889-91; The Hamilton Daily Spectator 1889-91).

Tomes (2000) notes a similar pattern during other pandemics, when even though death rates decline, companies continue to cash in on public anxiety. This increase in advertising despite declining mortality signals that anxiety surrounding the illness has increased, prompting the public to take extra precautions which, in turn, leads to more advertising for preventative products and services (Tomes 1998).

Health Canada (2009a) describes the symptoms of influenza as including cough and fever, commonly including fatigue, muscle aches, sore throat, headache, decreased appetite, runny nose and occasionally nausea, vomiting and diarrhea. This understanding is to similar to that in *An Account of the Origins, Symptoms and Cure of the Influenza or endemic Catarrh with some Hints*

Respecting Common Colds and incipient Pulmonary Consumption which states that “influenza exhibits no symptoms nor set of symptoms, distinct from common catarrh, or a cold, as it is called in popular language, unless perhaps we admit a greater tendency to gastric distress and occasionally disturbances of the biliary organs” (Porter 1832:n.pag.).

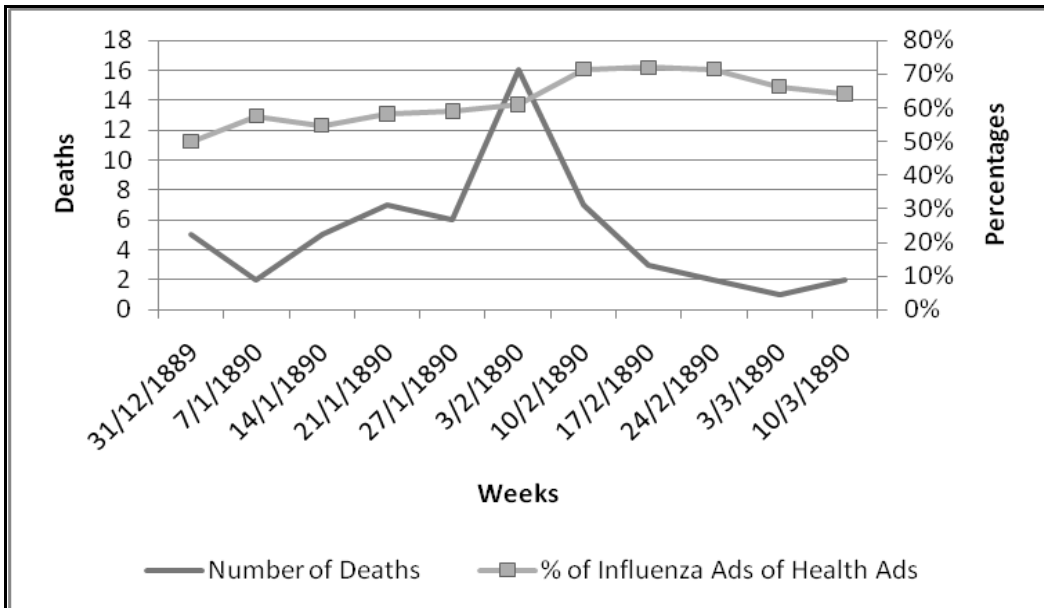


Figure 18.2: Percentage of Influenza-Related Ads in Relation to Death Rate (Government of Ontario 1889-91; The Hamilton Daily Spectator 1889-91).

Germ Panic and the Russian Flu

Germ panic surrounding influenza is evident in the Hamilton Daily Spectator advertisements during the Russian Influenza epidemic. As Tomes (2000) suggests, the printing revolution of the nineteenth century had a major impact on developing mass media and advertising, as newspapers became cheaper to produce and available to a wider audience. “A culture’s attentiveness to a perceived health risk is determined not only by statistics but by a broad range of factors. Whether a disease is deemed newsworthy, so that media covers it and reinforces its importance; whether it has commercial power to sell products or services so that advertising amplifies concern about its avoidance...” (Tomes

Miasma to Microscopes

2000:193). Economics and profits are a critical part of advertising, and during a pandemic these influences explain why advertising continues to increase even while mortality declines. The increase in fear and anxiety means an increase in profit for the manufacturers as the public face the dreadful descriptions and warning of dangers associated with influenza at every turn of the page. Another example frequently found in *The Hamilton Daily Spectator* is references to the “lightning flu”, purportedly so nicknamed by physicians because of its rapid and destructive spread, leaving many individuals “peculiarly liable to attack” (*The Hamilton Daily Spectator* 1891a).

Additionally, germ panic is evident in non-medicinal ads, including ads for services such as catering: “avoid la grippe and get your supplies for balls, banquets, weddings, at home and surprise parties at George Davis’, pastry chef, cook and caterer” (*The Hamilton Daily Spectator* 1890g1). This particular advertisement appeared in the *Hamilton Spectator* over ten times during a two week period.

Hamiltonians were bombarded daily with influenza advertisements, which created anxiety and directed attention towards the illness. The ads were undoubtedly designed to make readers feel insecure about their health and vitality (Tomes 2000). Several advertisements are seen repeatedly throughout every issue of the paper, even more than once in a single issue. For example, an all purpose medicine for children designed to “cure colic, constipation, diarrhea, sour stomach, eructation, kill worms, give sleep and promote digestion” (*The Hamilton Daily Spectator* 1889b) was printed three times on a single page. The phrase “children cry for Castoria” (*The Hamilton Daily Spectator* 1889d) is found frequently between articles and at the bottom of the pages, often following a smaller subheading of “advice to mothers”. This advertisement must have had a profound effect on mothers with young children reading the newspaper, as it served as a frequent reminder that their child could be the next to get effected. Repetition in this case is a critical advertising technique that would cause the reader to believe in the efficacy of the product and potentially contribute to the germ panic.

Strong messages about prevention and danger are evident in several of the influenza related advertisements. For example, one ad urges the public to take the White Cross Cough Cure “before it is too late” (*The Hamilton Daily Spectator* 1890a2). Similarly, after describing symptoms of influenza another advertisement advises the consumer to not “to run under the mistaken impression

that the disease will eventually wear away, it will not” (The Hamilton Daily Spectator 1891b).

Be Warned

Overall, influenza-related advertising increases just following the peak influenza mortality, but then continues to be prominent even while mortality declines to pre-epidemic levels. Climbing death rates would have encouraged advertisers to exaggerate and dramatize the danger in order to get response and profits. Germ panic was instilled in the readers of the newspaper by constant repetition of messages urging the public to take protective measures and quickly treat minor symptoms. Content in ads was intended to convince readers that even the mildest symptoms could prove deadly when ignored.

The Dramatic and Fashionable Flu

Jennifer Alonso

“Did you ever have every bone in your body aching like mad, did you ever have chills doing a song and dance up and down your anatomy, did you ever have your eyes look like oysters, your nose like a boiled lobster? No? Then you have not had la grippe” (The Hamilton Herald 1890n).

Despite its undeniable worldwide impact, the 1889-90 Russian Influenza was an especially sensationalized and dramatized event in Hamilton, Ontario. The influenza, also known as “la grippe”, became fashionable due in large part to extensive media coverage that exaggerated global death tolls. Media accounts of influenza used literary devices such as metaphors and foreshadowing to create a sense of fear and drama regarding the severity and prevalence of the disease. The Russian Influenza was the first well-documented influenza pandemic to kill over one million people and the media coverage in Hamilton about local and global influenza cases was extensive (Dobson 2007). This chapter examines mostly local media, namely The Hamilton Daily Spectator and The Hamilton Herald, to understand how the Russian Influenza was dramatized and made fashionable in Hamilton.

Newspaper Editorials

It is widely understood that “disease is both a pathological reality and a social construction” (Hays 1998:1). It is evident that disease experiences and understandings were socially constructed in the description and reporting of the Russian Influenza found in Hamilton media sources. Newspaper editorials constructed metaphoric images of “la grippe” as a disease that invites “Death stalks about with a fiery sword in his hand [into] many homes” (The Hamilton

Miasma to Microscopes

Herald 1890c). Military metaphors are employed when discussing the “dreaded Russian invader” who entered Hamilton and was allegedly “enlisting new recruits almost every hour” (The Hamilton Herald 1890j). In another editorial, “the grippe appears to have got here with both feet and its war paint on” (The Hamilton Daily Spectator 1890d1). Another drastically different image for Russian Influenza is as a woman, who:

“comes tripping toward you with her arms outheld and her red lips parting-parting...she speaks. Listen. What is that she whispers? A-tchoo-oo-oo-oo-oo-h!...The fair vision vanishes. You wake up...[and] discover you have la grippe” (The Hamilton Herald 1890n).

This particular image reveals nineteenth-century ideas about gender and the power of women as “seductresses” which is a common metaphor used in the discussion of venereal diseases such as syphilis (Brandt 1985). These graphic accounts do not discuss the reality of influenza experiences. Rather, these are intended to create dramatic stories that will increase newspaper readership by drawing attention to this important, but exaggerated, disease in Hamilton.

Several articles use puns about the physical “grip of the grippe”. Similarly, wordplays such as the influenza “has a good grip on the town” and the “unwelcome visitor [has] laid its moist grip on” the people of Hamilton are common phrases (The Hamilton Daily Spectator 1890f1, 1890j1). These provide vivid images in the mind of the reader and would have certainly affected the way Hamiltonians understood the flu experience. By creating terrifying imagery associated with the flu it mythologized the illness thereby increasing the drama and popularity of the “famous” illness.

Another way that media sources incited drama surrounding the Russian Influenza was to predict future catastrophes and great increases in death tolls that would inevitably affect the population of Hamilton. The idea that the Russian Influenza was a “forerunner of greater evils” is popular in media accounts (The Globe & Mail 1889d). For example, in one editorial piece from London, the author comments quite sarcastically that in addition to the Russian Influenza, “there will be nothing needed but famine to accompany the promised war and pestilence to render the misery of the common people complete” (The Hamilton Daily Spectator 1889i). Newspapers asserted that the lucky few who had not contracted the Russian Influenza “[were] living in dreadful expectancy” (The

Hamilton Herald 1890h). The newspaper accounts made it clear that no one was safe from the grippe.

Based on the reports of the Russian Influenza in Europe and elsewhere in the United States and Canada, a popular belief advanced by the newspapers is that “la grippe has not yet nearly reached its height [in Hamilton]” but it certainly was coming since such a peak was inevitable (The Hamilton Herald 1890h). In his article about Dr. Stark’s medical opinion of the flu, he states while the flu was widespread, it did not seem dangerous, “but there is no telling what the developments of the next few days may be” (The Hamilton Daily Spectator 1890i1). This kind of foreshadowing, especially from reliable medical sources, presumably would have kept people in a high state of anxiety over the severity and rapidity of the spread of the Russian Influenza. Although there might not have been a medical reason to suggest the flu symptoms would worsen, just reminding the public of the possibility would have increased the sense of morbid drama that encompassed the Russian Influenza experience in Hamilton.

Many articles published in Hamilton newspapers strongly assert that the influenza “prevails to an alarming extent all over the city [with]...hundreds of citizens...confined to their bed” which would suggest that it was a very serious illness (The Hamilton Herald 1890e). Yet that very same article also states that “so far there have been no deaths resulting directly” from influenza (The Hamilton Herald 1890e). It is clear that the severity of influenza pandemic was exaggerated. For example, an article from 3 January, 1890 states that in Hamilton “there’s none of the genuine old thirty-third grippe that Europe suffers from” (The Hamilton Daily Spectator 1890e1). Then, just four days later, the same newspaper reports “the grip is becoming alarming prevalent, and in some cases the symptoms are quite violent” (The Hamilton Daily Spectator 1890i1). The inconsistencies in reporting cast a shadow on the legitimacy of influenza reporting.

Survivors’ Stories

Influenza is further dramatized in several survivors’ accounts. One survivor stated he “bore [his] fate” with the disease because he “likes to be in the fashion” and faced the illness when it struck him (The Hamilton Herald 1890g). Even the fact that some of the newspaper articles refer to these individuals as “survivors” is interesting since the influenza mortality rate in Hamilton was relatively low and the vast majority of people who contracted the illness made full recoveries.

Miasma to Microscopes

Some survivors used their personal experiences to help others afflicted with influenza, such as Charlie Gibbons who submitted a remedy for the disease to *The Hamilton Herald* which included a spiced bath, whiskey, and lots of rest (The Hamilton Herald 1890b). Other survivors used their experiences as a warning to others. Archie Bremner of Toronto stated, “there are not so many jokers about the grippe now-a-days...when a paragrapher sits at his desk with every bone in his body aching, his throat sore and the perspiration running from every pore...he does not altogether see that there is much fun to be extracted from the situation” (The Hamilton Herald 1890m).

Perhaps the most melodramatic and sensational account of surviving the Russian Influenza comes from *The Hamilton Herald*. In an article entitled “What La Grippe is Like: A Young Man’s Experience of It” (The Hamilton Herald 1890n), the author describes his experience:

“your bones, and your head, and your eyes, and your ears, and your nose, and your toes, and your teeth, and your fingers and every portion of your anatomy gets sore...you wonder why you were ever born, and when you will die, and if life is worth living anyhow” (The Hamilton Herald 1890n).

The author goes on to lament “a good dose of la grippe will produce a finer article of despair in the average mortal beast than anything else in the known universe” (The Hamilton Herald 1890n). The description is overwrought with dramatic metaphors and imagery. These survivor accounts are entertaining and romanticized and would have had obvious appeal to the readership since they too would have been dealing with the influenza either directly or indirectly.

According to an article in *The Hamilton Herald* during the height of the pandemic, “whenever a prominent person happens to lay up with the grippe...the great and illusive public once jump at the conclusion that the aforesaid p.p. has contracted pneumonia, inflammation of the lungs, or some other equally dangerous disease” (The Hamilton Herald 1890d). When Mayor Doran of Hamilton contracted the disease, many articles were written about his illness. However, it was also made clear that despite his suffering with influenza, he was still out and about in town (The Hamilton Daily Spectator 1890i1). Globally, many social elites were reported to have contracted influenza, including the Princess of Wales, Lady Stanley, the King of Portugal, the Russian Czar, and the royal family in Athens (The Hamilton Herald 1889c, 1890a).

Newspaper accounts from Hamilton emphasized that The Russian Influenza “has been no respecter of persons...fair femininity is just as susceptible to the industrious little parasite that causes all the trouble as any horrid man” (The Hamilton Herald 1890e). Since influenza was liable to “attack” any individual regardless of their social class, perceptions of influenza held it as dangerous and perhaps intriguing, which is perhaps why there were so many reports of the illness among social elites. The allegedly unpredictable and unbiased influenza could have added to the drama of influenza experience.

Poetry and Art

Experiences and interpretations of the Russian Influenza in poetry and art also offer exaggerated accounts and dramatized imagery as would be expected in such forms of creative expression. “The Complaint of the Grippe” poetically describes the symptoms of the flu:

From the top of my foot to the sole of my head
A used-up chap am I
My nose is lush and dazzling red
But I feel as blue as the sky
And I sometimes think I’ll take to my bed
And sour on the world and die
(The Hamilton Daily Spectator 1890v1).

“La Grippe” also describes the Russian influenza, but the focus of this poem is on the spread of the epidemic:

From many an eastern river
To many a western plain
The people groan and shiver
With influenza’s pain
(The Hamilton Daily Spectator 1890n1).

The fact that survivors were transforming their influenza experiences into art highlights the idea that it was a fashionable disease to have. Clearly these

Miasma to Microscopes

works were published for an audience that would have been well aware of the media attention given to the epidemic.

Russian Influenza survivors were expressing their experiences artistically in other ways in different areas of the world (Figure 19.1), in illustrations and music. For example, in Vienna, Moroni composed a symphony about his experiences with the Russian Influenza as a way of “expressing his gratitude to Hygeia”, the Greek goddess of health, after his recovery (The Hamilton Daily Spectator 1890o1). The fact that influenza would be a suitable subject for a symphony indicates that this topic interested the middle and upper classes.



Figure 19.1: A Family Threatened by Influenza is Prepped for a Large Scale Bleeding (Wellcome Library n. date).

Doctors' Reports

The Flu is Serious

Popular opinion expressed in newspapers declares quite clearly that the Russian Influenza in Hamilton was considered to be a serious illness. This opinion however was shared only with the minority of the medical establishment, as many

doctors were convinced influenza is only a mild disease and should not be taken too seriously (Mrmak, Chapter 3). It seems that the times doctors choose warn of the severity of the disease is when there is financial and personal gain to be had. In medical articles discussing influenza as a serious illness, there was mention of the innumerable phone calls, appointments, and the business the doctor had acquired.

The Flu is not Serious

The majority of doctors' reports and opinions published in newspapers argue influenza is a mild disease. For example, an American doctor argued that if not for the "large numbers of persons attacked, it would [have been] scarcely noticed" (The Hamilton Daily Spectator 1890b1). Some physicians, like Dr. McDonald of Hamilton, felt that "the prevailing epidemic was not la gripe" which indicates that there was extensive variation in medical opinion about the disease. Similarly, Dr. Lavell of Kingston urged a group of men in the penitentiary who were afflicted with the disease to "not to be alarmed as the disease is not dangerous" (The Hamilton Daily Spectator 1890q1). It does seem however that most doctors acknowledged something was afflicting the population, but the nature and severity of the disease was highly contested. This is illustrated in Dr. Stark's comments: "the grippe, or influenza, of whatever it is...I find that there are many varieties and degrees of the affection; it strikes different people in different ways" (The Hamilton Daily Spectator 1890i1). Echoing this idea of ambiguity, another account about the state of influenza in Toronto stated that "doctors are generally sceptical and refuse to recognize [the flu]...they are not convinced that it is infectious" (The Hamilton Daily Spectator 1890x1). All of these reports indicate that by and large the medical professionals did not feel the Russian Influenza in Hamilton was particularly dangerous or fatal.

Why was Russian Influenza Dramatized in Hamilton?

I believe the Russian Influenza was dramatized in Hamilton because it constituted a collective social experience and everyone had a narrative to add to the growing myth. The word contagion means "to touch together" (Wald 2008:12) and it appears through media and art that the people of Hamilton bonded over this specific disease. The Russian Influenza became a topic of interest since, like

Miasma to Microscopes

many other plagues, it was perceived as a great equalizer of the rich and poor, the worldly and the devout, and therefore a topic to which all people could relate (Wald 2008). The “chameleon-like” Russian Influenza took on many forms, affected individuals differently, and accurate prognoses were difficult to assert (Ulrich 1890:495). It is possible that the unpredictability and uncertainty that came with the Russian Influenza led to its dramatization and popularity in the media. Since the Russian Influenza pandemic was the first well recorded influenza pandemic in the world, media coverage of its nature and spread was extensive all over Europe and in North America. As a result, the people of Hamilton received innumerable updates from London, Berlin, St. Petersburg, and Paris. Influenza was highly dramatized through the constant stream of public attention.

Falling Out of Fashion

The Russian Influenza began in Hamilton as an exotic “mysterious visitor” but eventually became a well known, domesticated illness and no longer intrigued people. Like many other popular trends, the spread of the epidemic was well documented for a period of time: many people anticipated its arrival in Hamilton; it grew as a newsworthy topic and received extensive media coverage; and eventually, fell out of vogue. The Russian Influenza received copious local media attention in newspapers especially in January and February of 1890 during the peak of the epidemic in Hamilton. Eventually, the influenza became a subject that was “so common that it is no longer interesting” (The Hamilton Daily Spectator 1890a1). As the prevalence of the disease rose, people appeared to grow tired of hearing about it: “so universal had the flu become that it has grown unfashionable to have it. It is too common. Ordinary colds are resuming their old position as the correct form” (The Hamilton Herald 1890e). These statements demonstrate that the Russian influenza had its place in time, was made fashionable, and then became “old news”.

The Blame Game: Exploring Illness and Scape-Goating in the Late Nineteenth Century

Stephanie Da Silva

“A number of carriers in the Post Office have become affected with the malady... some idiots suggest that the Post Office employees contracted the influenza from handling foreign mail” (The New York Times 1889c).

Since the beginning of civilization, we have co-existed with microbes that colonize our bodies and cause epidemics. Throughout most of this co-existence, our ancestors had no idea what caused these crises and were left powerless to stop them. Paradigms used to explain and understand illness have changed over time. The humoral theory remained influential in Europe until the end of the seventeenth century when a widespread belief in “miasma” dismantled the former and persisted in the West until the end of the nineteenth century. The age of bacteriology and germ theory began in 1877, but it was only at the end of the nineteenth century that biomedical models began to be generally accepted (Crawford 2007). Still today these two major models persist and are continually being synthesized into an understanding of illness that is medically and socially satisfactory. A large part of the explanation process is to ask, *where did this disease or illness come from?* This is often the moment that blaming appears. Blaming is a general feature of epidemics, just as much as symptoms or contagion.

Scape-goating and shifting blame onto the “other” is a common response to unfamiliar ailments. It is easier to see oneself as a victim of the illness and a victim of a stigmatized group, so responsibility for the illness does not have to be taken by the predominant social and economic group (Rosenberg 1992:305). When an illness is perceived and named outside of one’s socio-cultural responsibility it not only stigmatizes another group but it can also be understood

Miasma to Microscopes

as a form of xenophobic attitude. The 1889-90 Russian Influenza pandemic provides a telling example of how societies attempt to locate blame elsewhere. In the course of only four months, the epidemic spread from Russia throughout Europe and overseas to North America (Johnston 2010). The general public was extremely alarmed by the rapid transmission of influenza and as such was determined to explain its emergence and extent.

This chapter combines a historical account of blame in past and present epidemics with analysis of the attitudes in 1889-90 expressed in local newspaper and public health records, to contextualize Hamilton's response to the Russian Influenza.

Blame: Just One Part of the Cycle

Disease is not a simple notion. It is simultaneously a biological event, a verbal construct reflecting cognitive and ideological beliefs, a sanction for cultural values, and an occasion for exposing underlying socio-political tensions (Rosenberg 1992). One of the first steps in dealing with a mysterious ailment is to name it. This process of naming occurs even when its somatic basis is unknown. Consequently, the newly-labelled disease extends to implying, constraining and condemning its victims – Naming is thus the first step of blaming. Defining and naming a disease leads to stigmatization. Yet the essential aspect of a healer's role is to put a name to the patient's discomfort and pain (Rosenberg 1992:310). There are many examples of this naming and blaming process throughout history, and for many diseases besides just influenza. Even though sleeping sickness has been endemic in Africa for many centuries, the first reports of sleeping sickness or *trypanosomiasis* in the English record were brutally referred to as “an epidemic of Negro lethargy” (Crawford 2007:47). Later, research proved that the disease is transmitted by tsetse flies. Unfortunately, an entire racial group was stigmatized and blamed for the emergence and characteristics of this disease. The naming and explanation of this disease reflects ethnocentric attitudes that were reflected the perspective Westerners had of African Americans (Crawford 2007). Another example of stigmatization can be seen with reference to the Potato Blight or the Great Famine of 1845-58. Lower class Irish people were blamed for the disease that destroyed potato crops resulting in a national famine. As a result, 1.3 million Irish people were banished overseas.

Wald (2008) emphasizes the need to “understand the appeal and persistence of the outbreak narrative”. What she is referring to is the repetition of particular images, story lines and characters that formulate the accounts of disease outbreaks elicited by and repeated to the public. The stories people perpetuate about disease emergence have *consequences*. Not only have they been proven to affect survival rates and routes of contagion, but they have also mitigated or promoted the stigmatization of individuals, groups, places, behaviours, and lifestyles (Wald 2007). Farmer (1992) proposes that as long as we have known about new syndromes, blame and accusation have been prominent social responses.

Shame and Blame on a Global Level

The current understanding of influenza in western industrial societies relies heavily on the identification of viruses. It is postulated that ever since the Chinese domesticated water fowl and pigs approximately 9,500 years ago new strains of the flu have jumped from animals to humans causing strains of epidemics and occasionally pandemics. Despite understanding influenza in this context the disease continues to strike at regular intervals and modern science has had little impact on its exploits (Crawford 2007:204). Even up until the eighteenth century most doctors prescribed herbal remedies that contained no active ingredients. It was more common for doctors to advise patients to pray, flee (or both) during an epidemic (Crawford 2007:161).

Once the influenza was reported, people seem to have wanted to immediately classify and explain it. In the United Kingdom, for example, doctors, medical practitioners, and lay people resorted to analogies with bacterial phenomenon or recalled older beliefs in supernatural forces (Smith 1995:55). Newspapers accounts circulated various forms of blame. The pandemic came to be referred to most often as the “Russian Flu”.

Initially the Russian Influenza was attributed to an unusually severe form of the ordinary winter cold (Smith 1995:56). However, the naming of Russian Influenza conjures up images of the country from where it is perceived to have originated. There are four circumstances that led to the pandemic’s origin being pinned to Russia. First, in 1889 low-quality Russian oats had been imported into London and the east coast ports. The infected grain was said to have caused sickness among horses, domestic animals, fowl, and humans. In 1891, shiploads

Miasma to Microscopes

of Russian immigrants, primarily Jews, landed in Hull, England during travel from Liverpool to New York. These “dishevelled, snuffling Russian emigrants” were said to have re-introduced the influenza pandemic in England (Smith 1995:65-6). The emphasis placed on Russian emigrants results from xenophobic attitudes expressed in English media. Similar attitudes are visible in *The Hamilton Daily Spectator*: “They call it the Russian Influenza because a man talks so like a Russian when he has it” (*The Hamilton Daily Spectator* 1889m). A contemporary medical journal stated “the greatest difficulty arises from the filthy habits of the Russian-Polish Jews, who are much a nuisance in the steerage cabins as in the sweating dens” (*The Lancet* 1889:1351).

Influenza was also referred to as the “Asiatic Flu”. This name resulted from the belief that the epidemic originated from the flooding Yellow River in China in 1889 (Honigsbaum 2010:305). However, a majority of sources attribute the 1889-90 pandemic to Russian origins. Smith’s postulates that Russians contracted influenza from central Asia in 1889 and travelled along the newly completed Trans Caspian Railway. From Russia, Smith continues, it travelled with soldiers into Poland, Hungary, and Germany, and from these locations influenza supposedly “leap-frogged” to London and Paris, owing to a meeting of ambassadors at Russian embassies.

The tracking of influenza was a difficult task, globally and locally, because most sufferers did not notify authorities or call for doctors. However, local practitioners discerned a pattern in the epidemic, generally agreeing that “well-to-do people” got it first, then their servants, then shopkeepers and artisans, and lastly “labouring folk” (Smith 1995:58). Honigsbaum noticed that the general attitude was that everyone was afflicted: “from emperors to potboys, we have all ached in common” (Honigsbaum 2010). The perception that the wealthy contract influenza first may have been stemmed from the understanding that influenza came from a foreign country and only the wealthy had the necessary wealth for the luxury of travel. The transportation revolution of the nineteenth and twentieth century allowed infectious diseases to spread further much faster than ever before.

Who Took the Blame in Hamilton?

One instance of localized blame in the Hamilton was attention received by the local post office. Many of the post office workers were falling ill, and this became associated with postal employees’ handling of foreign mail. Both the New York

Times and the Hamilton Daily Spectator mentioned instances of public alarm and panic due to the worry that postal carriers were contracting influenza from mail (New York Times 1889c). Another locus of blame centered on the Grand Trunk railroad, because a lot of railway employees were being infected (The Hamilton Daily Spectator 1890j1). In both cases, it seems discourses on the origin of the epidemic were heavily influenced by xenophobic attitudes.

Unfortunately there is little information in the North American press about the pandemic in Hamilton. Most often cities such as Boston and New York, or the United Kingdom, were discussed even though was articles on these locations were printed in the Hamilton Daily Spectator. This may be partly attributed to the fact that some doctors in Toronto were not convinced that influenza was infectious (The Hamilton Daily Spectator 1890x1). This may have suppressed local accounts of influenza because doctors refused to recognize it as a serious issue (Alonso, Chapter 19). It also seems that even though there was a high rate of infection in Hamilton, this did not result in a high rate of mortality (Martel, Chapter 7).

Who was Blamed?

In epidemics there is often a distinctly stigmatized social group. Whether embodied in the appearance of a seductive woman (syphilis), black Africans (sleeping sickness) or foreign invaders (Russian Influenza), a highly-visible character type is constructed and blamed, often helping to mask or ignore local social conditions that facilitate the outbreak (Rosenberg 1992). In Hamilton, the 1889-90 influenza epidemic was seen as originating elsewhere and brought to the city by outsiders. This message was perpetuated in newspaper articles, public health records and secondary sources.

Dead and Buried: The Afterlife in a Time of Influenza

Jessica Monnaie

“‘Ye can call it influenza if ye like,’ said Mrs. Machin. ‘There was no influenza in my young days. We called a cold a cold’” (Bennett 1911:146).



Figure 21.1: Christ Church Cemetery. (Photograph by Jessica Monnaie, 2010).

Human burials and tombs are the most frequent feature in the archaeological record (Binford 1971). I explored the material culture of gravestones at four Hamilton cemeteries (Hamilton cemetery, St Augustine’s cemetery, Christ Church cemetery, and St John’s cemetery) during the 1889-90 Russian Influenza to understand how people dealt with mortality during the

Miasma to Microscopes

epidemic. By analyzing material culture, which changes over time and space, we can better understand the history of traditions and practices used today (Childe 1945:13). I chose to look at the gravestones because I believe that it can give us a point of view on the pandemic that has been previously unexplored.

Looking at the gravestone iconography, I examined how influenza is reflected in the stones, and how gravestones changed during the outbreak. The people left behind make the decisions on how to remember and honour the dead (Pearson 1993:203), and so this analysis really explores how Hamilton's survivors responded to the deadly impact of the epidemic. I also explored the ways in which Russian Influenza is represented in the obituaries published in Hamilton. Mortuary practices and memorialisation through obituaries provide clues as to how people react to times of trouble and deal with death.

Cemetery Fashions: Gravestone Styles

I conducted field work in four cemeteries – the Hamilton cemetery, St Augustine's cemetery, Christ Church cemetery, and St John's cemetery – during the weekends of September and October, 2010. Walking up and down the rows of gravestones, I collected the names, dates, and captions on each of the gravestones dating from 1889-90. I also recorded the architectural style and material information, such as stone colour and thickness, and photographed each of the gravestones. For this study, I developed my own typology consisting of the following categories: stone type; stone shape; death by influenza or not; name and age; and religious affiliation. I entered all of the data into an Excel spreadsheet. I was interested to determine whether there were differences in the gravestones for people who died from influenza compared to those of people who died from other causes.

Memorialisation in the Media: The Obituaries

To further assess how survivors perceived the Russian Influenza epidemic and chose to memorialize its victims, I also examined obituaries from the Hamilton Daily Spectator from 1 January, 1889 until 31 December, 1890. Obituaries are an important part of the process of memorialisation in the Western world (Kroeber 1927:312). These usually include the name of the deceased and the date of death, the age of the deceased, address, and the time of the funeral. Because space in the

newspapers must be paid for, not everyone could afford to submit an obituary, and the wealthy would often pay for longer pieces.

I crosschecked the names and dates on the gravestones with the names listed in the obituaries. I had some problems reading the gravestones so double checking the date of death, name and age of the deceased seemed to be the best way to be sure of the accuracy of the gravestone information. I found that 46% of the names and dates of death from gravestones that are listed in the obituaries are accurate but in 6% of the cases the age of the deceased was not recorded in the obituaries. I then crosschecked the gravestone names with the registered deaths (Government of Ontario 1889-91). Most of the people listed in the registered deaths did not have obituaries; indicating that many in Hamilton either did not want or could afford to participate in this memorialisation practice which is supposed to be a custom everyone follows.

Initially, I expected that the cemeteries furthest from the city center would have the fewest obituaries. That is not the case. The individuals represented in the obituaries are evenly scattered amongst the four cemeteries. I found that the four longest obituaries (longer than eight lines) are represented in the graveyard by family pillars. These are elaborate and impressive gravestones that suggest that the family was affluent and could afford an expensive memorial and a long obituary.

Remembering the Dead: Gravestone Analysis

Location, Location, Location

I analyzed gravestones at four different cemeteries to see whether people in different parts of the Hamilton region reacted differently to the Russian Influenza. I included two Anglican cemeteries (Christ Church Cemetery in Greensville, Dundas at the corner of King Street West and Brock Road, and St. John Cemetery in Ancaster, at the corner of Wilson Street East and Halson Street); a Catholic cemetery (St. Augustine's Cemetery in Dundas at the end of East Street South); and a municipal cemetery (Hamilton Cemetery at 777 York Boulevard).

Miasma to Microscopes

Limitations

This study presented many challenges: some of the gravestones are heavily worn and difficult to read; some have been burned; some are completely or partly eroded; some are broken into small pieces; and others are covered with mould (Figure 21.2). Further complicating matters, some of the stones are simply missing. Through time, people have treated gravestones differently due to the social, political, and economic factors (Wise 2003:14), and thus in addition to the effects of weather and season, gravestones can last or perish under these influences.

I was only able to locate an average of five gravestones per cemetery for the study period; however, I found the most gravestones at the Hamilton Cemetery. I suppose that I was influenced by my own European background bias and by the fact that one should expect things that are as young as one hundred years to still be standing. There are standing monuments and houses that are much older than these, but many gravestones, for various reasons, have not stood the test of time.

Age	Number	Percentage
0-20	9	17
21-30	6	12
31-40	4	8
41-50	7	14
51-60	6	12
61-70	4	8
71-80	12	23
81-90	3	6

Table 21.1: Age Profile of Hamilton Gravestones, 1889-90.



Figure 21.2: Broken, Unreadable and Mould-Covered Gravestones at Christ Church Cemetery (Photographs by Jessica Monnaie, 2010).

Children

Children's gravestones make up 17% of the gravestones I examined (Table 21.1). A lot of families have to bury their children and the elderly during influenza epidemics. One can recognise children's graves by looking at the size of the grave marker or by the symbolism on the stones. The children usually have pure and innocent looking gravestones with representations of doves, flowers, lambs, churches, and other heavenly things (McKillop 1995). Some authors argue that the use of gravestones represents a belief in the afterlife (Cannon 2002:192), while others argue the opposite (Pearson 1993:224). From what I have seen, I tend to agree with Cannon (2002) in that belief in the afterlife can be construed as the continuing memory of the deceased being carried into the future. The distinguishing characteristic of the children's gravestones in Hamilton is not size or material, but the loving texts chosen to memorialize the child.

The children's gravestones display many more messages than adult gravestones. Most of the messages include some variation of "in loving memory", supporting McKillop's (1995) claim that children are mourned more profoundly than adults. This must be due to the fact that it is so difficult to lose a child.

Material Remains

In my study 100% of the gravestones are made of stone material, not ceramic or other material. A small percentage of these stones are marble but the majority are granite. Granite lasts; it does not fade or discolour, and the engravings do not erode easily. Granite also has multiple colours such as blue, grey, pink, red, and varying tones of black (Figure 21.3). The majority of gravestones from late nineteenth-century Hamilton are red and grey granite. Perhaps this was the fashion in 1889-90, or perhaps it was the cheaper option, as the price of stone varies between manufacturers and season. I was unable to find past records of gravestones prices; however, I learned that the stone material comes from local and American quarries, which would imply that they would not cost too much or at least cost less than imported marble.

Miasma to Microscopes

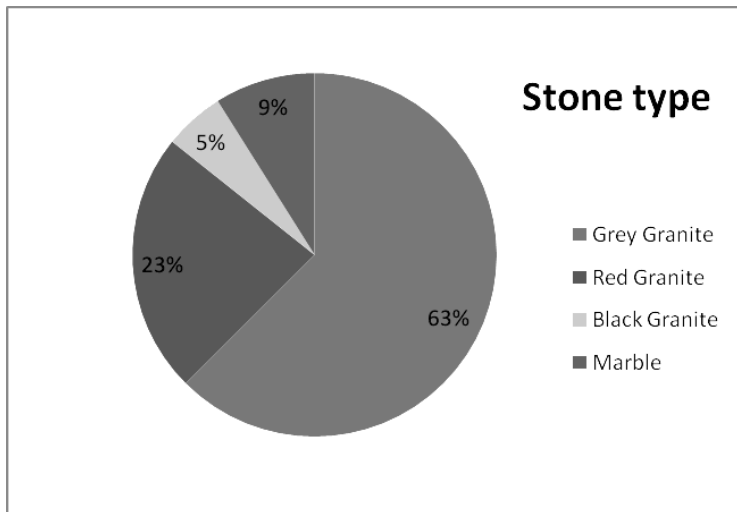


Figure 21.3: Gravestone Material.

Gravestone Fashions

Many gravestones have simple shapes and consist of a rectangular block on a pedestal. It appears that the main source of embellishment in the nineteenth century was in the coffin itself, rather than the gravestone. This was especially the case for children's gravestones (McKillop 1995:96). The messages on the gravestones were usually quite simple, and consisted of the years of birth and death, and the name of the person as the centrepiece. Cemeteries often have rules about what can and cannot be done with gravestones. There are usually guidelines and restrictions on height, design, and the thickness of the gravestone, set by either the cemetery or the stone manufacturer.

In the late nineteenth century, gravestones with designs on them became mass-produced from templates, one of the outcomes of the industrial revolution. Funeral directors used these templates and then families chose more personal decorations to be engraved on them, such as crosses, flowers, and animals dedicated to the deceased.

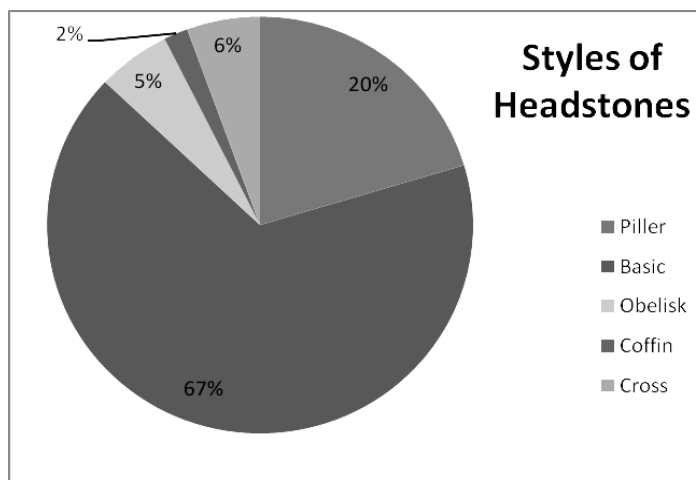


Figure 21.4: Gravestone Styles.

Where is Influenza?

Having determined the basic patterns of memorialisation in the four cemeteries I studied, I wanted to explore whether influenza victims were memorialised in a different fashion than the rest of the population. To investigate this, I used the registered deaths (Government of Ontario 1889-91) to find the age of the remainder of the people who died during the 1889-90 period and to confirm the ones previously found in the obituaries or the gravestones.

Of the 57 people represented by the gravestones, 15 died from other diseases and four died from influenza. I was unable to find a cause of death for 66% of the individuals I crosschecked between gravestones, obituaries, and registered deaths. The four people listed as dying from influenza are all buried together in a family configuration of gravestones, which is not the most common configuration in the cemeteries. The family gravestones could mean that the people were loved and cared for. Although the sample is exceedingly small and limited, this finding suggests that the people of Hamilton, at least from affluent families, may have commemorated influenza deaths in a special way.

Death Comes on Swift Wings

In this study of four Hamilton cemeteries, I found that relatively few gravestones from the 1889-90 Russian pandemic are still standing. This may be explained by a number of reasons: the socioeconomic position of many families whose loved ones succumbed to influenza, with lower-income families not able to afford a gravestone (Honigsbaum 2010:306); some gravestones are severely worn down and are unidentifiable today; some influenza victims may not be buried in Hamilton; and a large proportion of individuals represented by gravestones are not traceable through crosschecking with obituaries and death records, making identification of cause of death impossible.

Hamiltonians commemorated the dead through the choice of gravestones and, in some cases, through the use of obituaries. Influenza does not seem to have affected the style, shape, or captions on the gravestones of the deceased overall. However, in a small sample of family gravestones, I did find commemoration of influenza victims. It would appear that they thought of themselves and their relatives as warranting a distinctive burial (Cannon 2002:191). The study of the gravestones during the influenza pandemic of 1889-90 reveals truths not only about the dead, but about the living.

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Index

A

Advertisements, 5,117,119,135, 138-141
Advertising, 134,138-142
Africa, 8-10,37,48,153,156
Afterlife, 158,160
Anatomy, 4,100,107,144,147
Antisepsis, 131
Art, 5,148
Asia, 8-9,36-38,48,155
Asthma, 52,124
Asylum, 77-78, 80
Atmosphere, 23,25-27

B

Berlin, 10,32-34,37,40,151
Biomedicine, 22,90-92, 98, 103,118,119,123
Biomedical model, 127,152
Blame, 5,28,152-156
Bronchitis, 17,52,68,71-74,124
Buchan, J.M., 100
Burial, 158-159
Business, 4,12,84-89,150
By-law, 85,87,110-112,117,135

C

Cadenhead, Ms., 117,118
Carbolic acid, 104,131,134-135

Cemetery, 158-160
Cesspools, 134-136
Children, 62,88,90,98,104,115,133-134,141,160-161
Cholera, 12-15,33-34,91,108,131 132,135
Christ Church cemetery, 158-160
Church, 158-160
Chronic disease, 82
City Hospital, 5,104,108-110,112, 115,117-118
City officials, 4,14,84-85,87-89, 132,136
Climate, 3,25,31,38,87,126
Common cold, 10,17,107
Communicable disease, 68,70-74
Congestion of the lungs, 52
Connection, 18,34,43-44,46,79
Consumption, 72,86,122,134,138-140
Contagion, 27,150,152,154
Cookbooks, 4,90,92-96,133
Coughing, 8,14,18

D

Dead, 98,158,162
Death,3,4,6,8,10,14,18,26-27,30,33, 37,50-57,60,63,68-74,77-79,81,84-86,101,103,106,120,124-126,130,138-139,142-146,159,161-162
Death registry, 3,50,51,69
Demographic analysis, 50
Depression, 4,76-82
Diagnosis, 16,19-20
Diagnostic methods, 79

Miasma to Microscopes

Diphtheria, 99,107
Discrepancies, 16,19
Doctor, 2,4,16-19,28,52,65,77,79,
82,86,88,94,98-107,122,149-150,
154-156
Dramatization, 20,151

E

Economic, 4,15,48,60,61-62,65-66,
69,78,84-89,109-112,138,152
Editorials, 5,144
Etiology, 23,128
Europe, 8-12,15-16,30,32-33,35-
36,38,41,44,68,100,146,151-153
Explanatory model, 3,22-23,25,
28,90-91,93,95-96

F

Fashionable, 5,144,148,151,161
Fluid of the lungs, 52
Foreshadowing, 144,146

G

Germ, 5,6,19,24-27,90-
92,95,96,99,103,107,122-
123,127,131,135,136,138,140-
142,152
Germ panic, 5-6,138,140-142
Germ Theory, 5,19,24-25,27,90-
91,95-96,99,103,107,122-
123,127,131,135-136,152
Global impact, 30-31
Globalization, 40-41

Government, 34,50-51,63,101,108
Granite, 162
Gravestone, 158-166
Groves, A., 105

H

Hamilton Cemetery, 159
The Hamilton Daily Spectator,
13,22,72,81,125-126,138,140-
141,144,155,156
The Hamilton Herald,
22,24,27,41,70,111,144,147
Hamilton Waterworks, 132
Henle, F.G.J., 24
Hippocratic medicine, 91
Home, 3,4,47,64-65,82,90,92-93,
96,102,105-106,114-115,117,119,
133,136,141
Home management books,
92-96
Homeopathic medicine, 98,103
Homeopathic practitioners, 106
Humoral system, 98,122-123,125,
129
Humoral theory, 19,23,93,95,103,
126,152
Humours, 91,95,128,129
Husband, G.E., 101
Hygiene, 69,87,89,130,131,133,
135-136

I

Immigrant, 12-14,47,55
Immigration, 12-13,41,44

Industrialization, 85,86,98,99,161
 Infection, 4,8,26,27-28,57,66,72-74,104,115,138,156
 Inflammation of the lungs, 52,94,124,147
 Infrastructure, 85,130-131,135-136
 Insanity, 77,79,80,82,124
 Irish potato famine, 12
 Ivanovsky, D., 28

K

Keefer, T.C., 131
 Koch, R., 24,91,131

L

Lafferty, J., 101
La grippe, 2-3,18,24-25,27-28,35-36,50,52,81,123,129,141, 144-148
 Language, 5,18,122-123,125,129 140
 Lister, J., 131
 London, 10,23,33-34,37,40,77 94,104,145,151,154-155

M

Malloch, A.E., 100,103-104
Material medica, 100
 Measles, 99,106-107
 Media, 2,6,16-17,28,33,38, 40,73,122-123,138,140,144-145,149-151,155
 Medical pluralism, 28,92

Medical training, 98-101,107
 Medicinal receipts (recipes), 90,93
 Mental health, 76,78,82
 Metaphors, 144-145,147
 Miasma, 2,3,5,23-24,91,96,98
 Miasmatic theory, 19,23,27,90-93, 95-96
 Microbe, 24,26,152
 Midwifery, 100
 Military, 40,47-48,145
 Mortality, 3-4,8-11,23,32-33,37-38,52-57,61-62,65,68-71,73-74,89,101,107,110,120,124,139,141-142,146, 156
 Mothers, 90,92,95-96,114,120,141
 Mullin, J.A., 100
 Municipality, 84,87

N

Newspapers, 2,4-6,17,22,33-34,46,49,87-88,119,122-123,126-127,129,140, 145-146,149-151,154
 Nightingale, F., 114,118-119,131
 North America, 9-15,35-36,38,40, 43-44,46,48-49,68-69,92,127, 151, 153,156,159
 Noxious vapours, 101
 Number of deaths, 8,30,32,34-36, 52,70,73-74
 Nun, 114
 Nurse, 4-5,104,111,114-115,117-118,120

Miasma to Microscopes

O

Obituaries, 3,159-160

Olmsted, I., 104,118

Osler, W., 88,99,102

P

Pain, 14,18,33,76-77,81,128,148,
153

Pandemic, 2-4,6,8-12,14-
15,20,22,24-25, 30-33,35,37-
40,47,50-58,68-69,76-77,79-
81,84,88-90,92-93,96,98-99,
103,106-112,114,119-120,123-124,
129-130,134-136,138-139,141, 144,
146-147,151,153-156

Paris, 10,33-34,37,40-41,78,151,155

Pasteur, L., 22,131

Patient, 4,16-19,22,79,82,92-93,98-
103,105-112,115,117-119,153-154

Phlebotomy, 102

Phthisis, 72

Physician, 11,16-20,22,25,27-28,52,
77,79,81,90,94-96,99,101,103-106,
109-111,119,141,150

Pneumonia, 10,17,24,34,36-37,62,
65,68-69,71-74,86,106,124,147

Poetry, 5,148

Politics, 84-85,88-89,108,111-112,
138,153

Population, 15,30,32-33,35-36,41,
50-51,54,56-57,61,63-64,69,70, 73,
77-78,82,85-87,98,101,103,115,
131-132,136,145,150

Post office, 35,152,155

Pregnancy, 78

Premature birth, 78

Public health, 2-3,6,23,34-
35,37,61,86, 88,89,101,107,
131,153,156

Pump house, 132

Puns, 145

R

Railways, 15,37,40,43,46,49

Rebellion of 1837, 100

Rolph, J., 100

Ross, Ms., 117-118

S

Sanitary movement, 101

Sanitation, 119,130-131,135-136

Schools, 35,62,84,87-88,100,118,
125

Seaport, 44,49

Secondary complications, 17

Sewage, 23,134

Sewer, 23,64,85,87,104,131-132,
135-136

Shame, 154

Sick room, 93

Sisters of St. Joseph, 115-117

Small pox, 14,99,107-108,117

Social elites, 147-148

Socio-economic status, 61,110-111

Soldier, 47-48,69,131,155

South America, 37

Spanish Influenza, 51,61,65,69,74,
77,79,84,107,120

Spread, 2,8-15,17,25-26,28,30,32,34,
40-42,44,46-51,56-57,62,66,68-69,
71,73,82,84,86-87,96,107,131,141,
146,148,151-153,155
St. Augustine's cemetery, 159
St. John cemetery, 159
St. Joseph's Hospital, 116
Stigma, 152-154,156
Stigmatization, 5,153-154
Strange, H., 100
Soap, 64,130,133-134
Suicide, 76-82,118
Survivor accounts, 5,147
Symptoms, 3,5,11,14,16-
20,72,76,81, 90,94-96,124,127-
129,138-142,146, 148,152
Syndemic, 68-70,73-74

T

Temperature, 19,25-26,93,126-127,
131
Terminology, 122-129
Toilet, 101,130,135
Transmission, 47,49,131,153
Transportation, 37-38,40-41,43,46,
49,66,155
Travel, 8,11-12,27,40-41,43-44, 46-
49,105-106,155
Trains, 44,46,69,154
Treatment, 14,16,18-19,22-23,61,
65,76,79-80,86-87,90-92,94-96, 101,
106-109,111-112,115,119,126-127,
129
Tuberculosis, 24,68-69,71-74,91,
124,136

Typhoid, 131-132
Typhus, 10,14-15,33

U

Uniformity, 19
U-shaped mortality curve, 55

V

Ventilation, 23,93,96,119,131,134,
136
Virus, 8,20,22,24,28,30,51,57,69,
71-72,74,107,109,128,154

W

Water, 27,43,79,91,94-95,101,105,
130-136,154
Waves (first wave, second wave,
third wave), 9,33,37-38,53
WHO, 30-31,71
Women, 78-79,92,114-115,117-120,
134,145
World, 8-10,15-17,30,37-41,44,48-
49,53,68-69,87-88,92,100,107, 115,
148-149,151
W-shaped mortality curve, 55

X

Xenophobia, 153,155-156

Z

Miasma to Microscopes

Zymotic, 24