12-1-1998

A Forgotten Enemy: Omaha Encounters the 1918 Influenza Pandemic

Gary Gernhart
University of Nebraska at Omaha

A FORGOTTEN ENEMY:

OMAHA ENCOUNTERS THE 1918 INFLUENZA PANDEMIC

A Thesis

Presented to the

Department of History

and the

Faculty of the Graduate College

University of Nebraska

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

University of Nebraska at Omaha

by

Gary Gernhart

December, 1998

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THESIS ACCEPTANCE

Acceptance for the faculty of the Graduate College,
University of Nebraska, in partial fulfillment of the
requirements for the MA degree,
University of Nebraska at Omaha.

Committee

John Carrigan

Virginia A. Ortiz

Bernard D. Kolasa

Chairperson Karl A. Dahlstrom

Date September 25, 1998

A FORGOTTEN ENEMY:
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Gary L. Gernhart, MA

University of Nebraska, 1998

Advisor: Dr. Harl Dalstrom

Influenza, or the flu as it is commonly called, is considered nothing more than a mild physical nuisance that requires little more than bed rest and aspirin. In 1918, however, this acute respiratory ailment elicited a greatly different response from the ordinary citizen. A deadly and highly contagious strain of the influenza virus emerged in 1918 that encompassed the globe in a matter of months. Although the 1918 influenza pandemic killed over twenty-two million people world-wide, of which over seven-hundred thousand were Americans, the deadly pandemic is rarely acknowledged as a catastrophic event. This study investigates Omaha, Nebraska's response to the pandemic and the effect that the virus had upon the economic, political, and social mechanisms of a large urban center in the central United States.

The 1918 pandemic was unique for several reasons. First, the pandemic probably owes its entire existence to World War I. Large concentrations of soldiers with little immunity to the virus provided an excellent host-pool for its spread. The movement of troops across the Atlantic allowed the virus to infect large groups of people in a short period of time. Secondly, the rate of human mortality was greatest among the healthiest part of the population. The twenty to forty-year

olds, who constituted the backbone of America's workforce, were the most severely affected of any age group. Finally, the pandemic itself challenged America's social institutions to the utmost. Health departments across America shut down theaters, churches, and places of public assembly for weeks. Omaha provides a framework in which to study the various institutions at work during the pandemic of 1918.

Chapter I will outline the parameters of the study and the second chapter will discuss the present and past knowledge of influenza and highlight some of the important aspects of the virus. Chapter III will focus upon the peak period of the disease from September 1918 to December 1918, and the manner in which Omaha responded to the virus. Chapter IV discusses the effect that the pandemic had on individuals, on local politics, the medical community and public health, community organizations, and on local, state and federal governments. The final chapter assesses the virus's overall impact upon Omaha and lasting changes in public health policy.

The documentation for this study has been drawn from a substantial body of primary sources—letters, diaries, government documents, board minutes, and journal articles. Secondary sources and newspapers were utilized to add background information and day-to-day details. To appreciate the full extent of the virus, it is sometimes helpful to consider the effect that the disease had upon a much smaller community. Omaha offers one such example of a city besieged by this lethal killer that was overshadowed by World War I. The story of how Omaha endured the great Spanish influenza pandemic of 1918 from October through December will encompass the remaining pages of this study.

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Chapter 1

INTRODUCTION

In late 1918 many Americans were anxiously anticipating the end of World War I. During the eighteen months of U.S. involvement, approximately 50,000 soldiers were killed and another 200,000 were injured. From small towns in Maine to large cities in California, America eagerly awaited the signing of the armistice and an end to all hostilities. Although the United States' death count was much smaller than a number of other nations, many longed for peace and hoped for the final act of the "War to end all Wars." Germany, confronted with a determined allied effort supplied by fresh "doughboys" from across the Atlantic, finally capitulated on November 11, 1918.

As the great war came to a close, thousands of Americans could take great satisfaction in their efforts to help defeat the Germans. The necessities of war had demanded every available resource be put to use to combat the Kaiser and his "Huns." Throughout the ordeal, Americans patriotically purchased "Liberty Bonds" to finance the war while enduring a host of sacrifices such as "Wheatless Mondays" and "Meatless Tuesdays." Men volunteered their services to their country while young women enthusiastically entered the depleted labor force. The mothers of America's brave sons made due with less while their fathers spent their extra money on Liberty Bonds. Towns changed their Germanic names to reflect their patriotism, schools dropped German as

a foreign language, and universities converted their peacetime facilities into military training grounds. The nation's resources were concentrated upon one common goal: to defeat the Germans and win the peace.

Yet for all of their heroic efforts to combat a human enemy, America's mobilization failed to recognize the one true adversary that was actually besieging the homefront. With the public's attention focused upon the ensuing peace in late 1918, a small and relatively innocuous biological foe managed to gain a foothold on the North American continent. Most onlookers in the scientific as well as in the political community overlooked this breach within American territory. This biological invasion, otherwise known as the 1918 Spanish Influenza Pandemic, would eventually become the single greatest natural catastrophe since the Black Death.[1]

As a medium-sized midwestern city, Omaha, Nebraska (population 180,264), also contributed its share to the war effort.[2] Various parades, rallies, and other events, demonstrated the city's patriotic spirit. Like other cities, however, Omaha also failed to recognize the entrance of the biological menace. The city's newspapers, through such headlines as "Huns at their knees," "Wilson Shows No Mercy," and "Liberty Loan Drives Reach All-Time High," funneled the public's attention away from the growing reports describing outbreaks

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[1] For a perspective of the Black Death, see Terrence Ranger and Paul Slack, ed., Epidemics and Ideas: Essays on the Historical Perception of Pestilence (Cambridge: Cambridge University Press, 1992), and Paul D. Stolley and Tamar Lasky, Investigating Disease Patterns: The Science of Epidemiology (New York: Scientific American Library, 1995).

[2] Population is an estimation. See William H. Davis, "The Influenza Epidemic as Shown in the Weekly Health Index," American Journal of Public Health 9 (January, 1919): 54.

of influenza. Sifting through these late September newspapers, one discovers a more foreboding type of headline that began to appear on the back pages of one of Omaha's leading newspapers, the Omaha Daily Bee (hereinafter Bee). Obscured by the war news, small captions began to appear describing severe outbreaks of influenza in military encampments along the eastern coast of the United States. Headlines such as "Spanish Flu is Gaining Hold on Training Camps," and "500 Stricken With Influenza in Army Camps" illustrate the imminent disaster approaching the city of Omaha.

The tale of how Omaha confronted this new enemy is the subject of this study. The purpose is not to discuss every aspect of the 1918 pandemic, but to provide a summary of the events as they unfolded and elaborate upon those efforts of public health officials to thwart the Spanish flu. Diseases are as old as human beings and therefore represent a constant and almost anticipated threat. When a disease like influenza strikes a number of persons, it is labeled "epidemic"—meaning "upon the people." Influenza epidemics are typically confined to one location, be it city, town, or country. Seeming to appear out of nowhere, diseases like influenza have been a source of fear and terror since humankind first inhabited the earth. Epidemics have been frequent and common, occurring when environmental, biological, and societal conditions are ideal.

Due to its high transmission rate, an influenza strain may become a "pandemic" as well as an "epidemic." Pandemics of influenza result when a new virus, to which the overall population possesses no immunity, is introduced and rapidly passes from continent to continent. A pandemic, in this sense, is considered a modern phenomenon due to

technological advances that allow diseases the ability to circumscribe the globe. Given the large number of deaths throughout various countries within a short period of time, the 1918 Spanish influenza outbreak is considered the first truly global pandemic.

As World War I raged in Europe, it is not surprising that the pandemic took a back seat to the war. Drawing together newspaper accounts, governmental documents, committee reports, and the pieces of personal memories, students of influenza can understand how a pandemic of such magnitude could go unnoticed by the public's eye. Omaha, the "Gate City" to the West, like other cities, had its share of successes and failures in the fight against this modern scourge. But like other cities, the trials and tribulations of such a horrific time were quickly forgotten. Richard Collier, in The Plague of the Spanish Lady, best describes this "collective amnesia" of America by saying:

> The epidemic is seldom mentioned, and most Americans have apparently forgotten it. This is not surprising. The human mind always tries to expunge the intolerable from memory, just as it tries to conceal it while current.[3]

On September 14, 1918, the Bee reported that an influenza epidemic was likely in America. The "Flu," which is not new to human misery, can periodically flare up to epidemic proportions. Not surprisingly, Omaha newspapers concentrated the majority of their stories on the countless lists of those wounded and killed in the war and paid little attention to this common illness. Concealed by the war, training camps, military bases, and eastern coastal cities fell quietly under siege. William Noyes's description of America's battle with

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[3]Richard Collier, The Plague of the Spanish Lady: The Influenza Pandemic of 1918-1919 (New York: Atheneum, 1974), 304.

influenza bears a striking resemblance to Omaha's battles as well: the 1918 pandemic's history is a "misplaced" or forgotten chapter in our national past. Historians, as Noyes identifies, have overwhelmingly tended to be silent on the Spanish influenza pandemic of 1918. Alfred Crosby points out only one major U.S. history textbook "so much as mentions the pandemic."[4] The social histories of World War I have also failed to mention the event; fragments appearing in a few sentences, or at best, a couple of pages.[5]

Spanish influenza's invasion of America, camouflaged by the exigencies of World War I, was not the first affliction to cause widespread death and illness. Unlike other infectious diseases, however, this particular strain would challenge humankind to the utmost and introduce a new era of modern science and medicine. Considering its global impact, it was only a matter of time before Omaha encountered the affliction. But what was the Spanish version of influenza? How did this once relatively innocuous disease reach epidemic portions in such a short period of time? And more importantly, why?

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[4]Alfred W. Crosby Jr., America's Forgotten Pandemic: The Influenza of 1918 (Cambridge: Cambridge University Press, 1989), 327.

[5]See Edward M. Coffman, The War to End All Wars (New York: Oxford University Press, 1968); Edward R. Ellis, Echoes of Distant Thunder: Life In The United States 1914-1918 (New York: Coward, McCann & Geoghegan, 1975); and Lawrence E. Gelfand, The Inquiry: American Preparations for Peace 1917-1919 (New Haven: Yale University Press, 1963).

Chapter 2

INFLUENZA VIRUS: A NATIONAL AND INTERNATIONAL SCOURGE

Throughout recorded history humans have been plagued by the threat of disease. Numerous infectious disorders have brought terror and fear to those who were afflicted with these mysterious maladies. The "Black Death," a frequent visitor to Europe, claimed upwards of fifty million people during the Middle Ages. Even during the ancient time of Hippocrates, the father of medicine, the Greeks described an epidemic in 412 B.C. that medical historians have identified as influenza. The interaction between humans and their surrounding environment has historically created a delicate balance with infectious organisms. Among the world's deadliest afflictions, influenza stands as one of humanity's most common illnesses.

Influenza, existing as an acute viral disease, has plagued humankind for centuries. The word comes from the Italian vernacular meaning "influence." Originating in a time when it was believed that diseases came from wind currents, the flu appeared to be "influenced" by atmospheric conditions. The name was derived from early observations based upon the frequent nature of coughs and fever during certain times of the year. This increased level of sickness during an epidemic led to the belief that disease was under the "influence" of planetary constellations. The Middle Ages were notoriously known for

devastating diseases and influenza presumably took its share of the dead. The year 1510 marks the date in which documented occurrences of the disease can be confirmed. In 1580 the first pandemic occurred that has been called the first "global dissemination of influenza," and spread from Asia to Africa, Europe, and America.[1] The early history of influenza, however, is very much a mystery to modern day historians and scientists.

What we do know of the early etiology of influenza begins in the early seventeenth century. Medicine, adhering to the principles of Hippocrates and Galen, however, was ill-equipped to handle or effectively combat the virus. Most medical practitioners adhered to the notion that certain atmospheric constitutions played a crucial role in the spreading of the disease. Such theories asserted that a poisonous substance or particle was responsible for the epidemics. This unknown poison or "miasma" was carried in the air and was subject to certain meteorological variants such as barometric pressure, wind, and fluctuations in the temperature. Some physicians were "miasmatists" and were more interested in climatic conditions than physiological conditions. By contrast, other physicians, called "contagionists," believed that most or many diseases such as small pox, were transmitted from person to person. Neither miasmatists nor contagionists had developed the concept of viruses and their fight against influenza would be a long battle.

Influenza's overall impact during the eighteenth century, at least in terms of morbidity and mortality, is also difficult to establish. The

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[1]W.I.B. Beveridge, "The Chronicle of Influenza Epidemics," History and Philosophy of the Life Sciences 13 (1991): 225.

disease presumably followed major paths of commerce, especially in the developing urban centers of Europe. America had its share of epidemics during the colonial period, but fared better due to a somewhat healthier living environment.[2] The various epidemics would usually last four to six weeks and cause minimal disruption of normal activities. Mortality figures that did exist indicated that "most deaths occurr[ed] among the elderly or the chronically ill."[3] Comparatively, the eighteenth century epidemics lacked the widespread mortality and morbidity of the 1918 pandemic. Without an advanced system of transportation to spread the virus, epidemics during this time would be localized and therefore unable to reach other populations.

During the nineteenth century, at least three pandemics and numerous epidemics of influenza reached different parts of the globe.[4] Due to an increased awareness of vital statistics, this period offered a better opportunity to chronicle the virus's spread. Health statistics, although crude, did provide a clearer picture of public health and the poor living conditions of developing cities. The Industrial Revolution allowed cities to grow at an enormous rate while many reformers attempted to document the harmful effects of urbanization and industrialization. The new ease by which influenza could spread and a growing interest in vital statistics made it much easier to track the diffusion patterns of nineteenth century influenza epidemics.

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[2]For a discussion of epidemics in colonial America, see John Duffy, Epidemics in Colonial America (Baton Rouge: Louisiana University Press, 1953).

[3]K. David Patterson, Pandemic Influenza, 1700-1900 (Totowa, N.J.: Rowman & Littlefield, 1986), 27-28.

[4]Ibid., 30.

Medical knowledge and therapeutics, despite technological advancements, did not significantly improve from the eighteenth century. Notwithstanding the clinical work of various Parisian physicians, miasmatic theories remained dominant throughout scientific circles. During the first half of the nineteenth century, the notion of specific disease entities was not widely accepted and the germ theory was still in its infancy. Therapeutic procedures, although unaltered, did become more "heroic" as physicians aggressively treated their patients with excessive bleeding, purging, and other depletive measures.

Warren Vaughan has chronicled the earliest outbreaks of the disease and lists 50 epidemics from 1173 to 1890 while K. David Patterson has listed the pandemics since 1729, cataloging their origins and viral type.[5]

Table 2.1

Probable Influenza Pandemics Since 1729[6]

Year	Years Since Last Pandemic	Origin or first Report	Viral Type
1729-30	?	Russia	?
1732-33	2	Russia	?
1781-82	48	Russia; China	?
1788-89	6	Russia	?
1830-31	41-48	Russia; China	?
1833	2	Russia	?
1836-37	3	Russia	?
1889-90	52-56	Russia	H2
1899-00	9	?	H3
1918	18	USA; China	H1N1
1957	39	China	H2N2
1968	11	China	H3N2
1977	9	China	H1N1

[5]Warren T. Vaughan, Influenza: An Epidemiologic Study (Lancaster, Pa.: New Era, 1921).

[6]Patterson, Pandemic Influenza: 1700-1900, 83.

Of great importance to the study of influenza was the 1889-1890 pandemic. By then, urbanization and industrialization had created a vast network of roads and railroads throughout Europe and North America. This extensive system of transportation allowed diseases to travel the globe with relative ease. In response to this change, there was a concerted effort by health officials to document and record the epidemic. Unlike previous influenza outbreaks, the 1899-1890 pandemic was well documented in numerous public health publications and reached the far corners of the world.[7]

Late nineteenth century medical knowledge was also more advanced and developed. The germ theory, endorsed by the clinical studies of Pasteur and Koch, was rapidly becoming a cornerstone of medical thinking. No longer was influenza thought to be a product of various elements, but a specific entity with a specific cause. By observing that it traveled along lines of communication, health officials and physicians concluded that it was contagious and was caused by microorganisms.[8] The introduction of clinical statistics, quantitative studies, accurate documentation, and new scientific knowledge made it possible to study influenza's diffusion as it spread from city to city and country to country. The assumption that a microbe caused influenza, although later shown to be incorrect, illustrated the advance of science toward a better understanding of diseases and their processes.

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[7]For an account of the 1889-90 pandemic, see Sir Frank Macfarlane Burnet, Influenza: A Survey of the Last 50 Years in Light of Modern Work on the Virus of Epidemic Influenza (Melbourne: Macmillan, 1942), 59-115.

[8]Richard Sisley, Epidemic Influenza: Notes on Its Origin and Method of Spread (London, 1891), 33-36.

By 1918 America's public health movement had recorded a large number of successes. Sanitary reform, encouraged by progressive reformers who increasingly relied upon the growing class of "professional experts," were exerting some control over communicable diseases. Diseases of the past, such as yellow fever, cholera, typhoid, and diphtheria, were now being managed by bacteriological diagnosis, vaccination, and the control of rats, mosquitoes, and other disease vectors. Of great importance were the efforts to better the quality of urban life through scientific methods, encouraged by a progressive political atmosphere. Science had turned an important corner on disease as concepts of public health had greatly improved since the days of Galen and Hippocrates.

To understand how influenza affects the human population, it is necessary to provide a general background on the versatile virus. It is, by all accounts, an ancient disease that has been around since humans inhabited the earth. The virus, despite advances in modern medicine, remains sixth in terms of causes of death in the United States. The true magnitude and importance of this virus has commonly been misunderstood by lay people and medical authorities alike.

The origin of the virus will likely never be known due to the lack of accurate medical records in ancient times. As an infection that does not have a latent phase in people, its survival is dependent upon a large population of humans. William McNeill has suggested that the four regions of the ancient world provided densely populated centers of agriculture and urban life that served as the "civilized disease pools of Eurasia."[9] It is reasonable to assume that influenza is one of the older

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[9]William H. McNeill, Plagues and Peoples (New York: Doubleday, 1989): 69-131.

viral diseases of mankind and did not reach epidemic proportions until the development of agriculture and the growth of towns. As one scholar has said, "Influenza is probably one of the oldest emerging viruses," and "It is still emerging."[10]

Medical authorities by 1918 could only postulate on what caused the flu. The advancement of medical knowledge by World War I had produced various remedies, treatments, and vaccinations against the spread of smallpox, typhoid, malaria, yellow fever, cholera, and diphtheria. The germ theory, which maintained that cultures could be contained from pathogens to make a vaccine, had become the accepted doctrine for most physicians. Virology, the belief that small pathogens were unfilterable, however, was in its infancy during this period. The medical community accepted the notion that influenza was bacterial in nature and sought various cures through vaccines.

Strong support for this theory was provided by a German microbiologist who had studied the 1889-1890 influenza epidemic. Richard Pfeiffer isolated a bacilli from the sputum of influenza victims—which became known as "Pfeiffer's bacillus." Using Pfeiffer's study, many scientists and medical investigators accepted the notion that influenza was bacterial in nature, although some critics found flaws in his research. One of the most common defects in his hypothesis was the absence of the bacillus in proven cases of influenza. Despite gaps in Pfeiffer's work, researchers in 1918 continued to seek a bacterial vaccine.

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[10]Robert G. Webster. "Influenza." In Emerging Viruses, ed. Stephen S. Morse. (New York: Oxford University Press, 1993), 37.

Because viruses were much smaller than bacteria, knowledge surrounding their etiology was minimal in 1918. In 1884, Charles Cumberland, a Pasteur pupil, devised a filter which had pores small enough to separate a common bacteria while permitting small particles such as viruses to pass through. Other viral pioneers like the Russian scientist, Dmitrii Ivanowski, and the German researchers, Loeffler and Paul Frosch, attributed other diseases to filter-passing agents. Walter Reed of the U.S. Army in 1901 discovered that a filter-passing agent was the cause behind yellow fever, an important milestone in developing vaccines against these causative agents of diseases.[11]

In the case of influenza, attempts to identify a virus proved to be ineffectual at first. The United States Public Health Service, in conjunction with the navy, attempted to transmit the disease by using secretions from patients. Human volunteers from the United States Naval Training Station at Deer Island, Boston, allowed themselves to be inoculated with cultures from the influenza bacillus. Despite being infected with pure cultures of the bacillus, receiving secretions from upper respiratory passages of influenza patients, and walking around influenza wards allowing victims to breathe five times and cough five times directly in their faces, only a single man out of sixty-eight volunteers developed symptoms.[12] Only when an astute veterinarian in Iowa noticed an abnormality in farm animals, would the causative agent be found.

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[11]Harry Filmore Dowling, Fighting Infection: Conquests of the Twentieth Century (Cambridge: Harvard University Press, 1977), 194.

[12]Justina Hill, Silent Enemies: The Story of the Diseases of War and Their Control (New York: G. P. Putnam's Sons, 1942), 128. See also J. P. Leake, "The Transmission of Influenza," Boston Medical and Surgical Journal 181 (December, 1919): 675-679.

In September 1918, as human influenza spread around the world, a peculiar disease began to infect hogs at the National Swine Breeders' show in Cedar Rapids, Iowa. During the show, many of the prized swine became ill—displaying influenza-like symptoms. These diseased animals rapidly infected others, creating a widespread epizootic—an epidemic among animals—that spread to other parts of the Midwest. Dr. J. S. Koen, working for the United States Bureau of Animal Industry, was inspecting farm animals for hog cholera when he noticed that swine were experiencing "flu" like symptoms. In 1918 he published a report that correlated an outbreak among Iowa swine with that of the 1918 pandemic. Dr. Koen recognized the similarity between the hogs' aliment and the developing influenza epidemic in Cedar Rapids and is credited with identifying "hog flu."[13]

On a follow-up of Dr. Koen's observations in the 1920s, Richard Shope isolated the swine influenza virus and was able to produce an influenza-like illness in other swine. Dr. Shope concluded that the mild hog virus combined with an equally mild human influenza virus to create a new virulent strain. This fusion or viral synergism, may have been responsible for the savage nature of the 1918 strain.[14] Stimulated by Shope's success, further studies were conducted in an attempt to isolate the human strain of influenza. In 1932 Wilson Smith, a scientist with the National Institute for Medical Research in England, successfully transmitted influenza to mice. Isolation of the virus was achieved in 1940 when Thomas Francis and Thomas P. Magill

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[13]Hill, Silent Enemies, 129-130.

[14]Beveridge, "The Chronicle of Influenza Epidemics," 78.

discovered different antigens for different viruses. Following these findings, a labeling system was developed that designated viruses based upon their antigenic structure.[15] These and later studies helped unmask the mysterious nature of influenza and offered new directions in combating the ancient disease.

But what is influenza? In America it was known as the Spanish flu. The Japanese called it "wrestler's fever," while the English named it "Flanders grippe." Even the Germans had a particular name for this affliction—"Blitz Katarrh." It seemed every country had a name for the disease, often blaming their misfortune upon someone else. The Spanish, who did not censor their news in 1918, reported outbreaks of influenza within their country. For this, they have the distinction of giving the virus its name. During the seventeenth century it was known as "the jolly rant," "the new delight," and "the gentle correction."[16] Irrespective of these and other epithets, influenza's diffusion adhered to neither political boundary nor national sentiment.

Today we identify influenza as an infectious disease of the respiratory tract caused by a virus. Numerous viral and non-viral respiratory and nonrespiratory illnesses are frequently mislabeled influenza or the "flu." Despite the misnomer or the lack of a more exact diagnosis, the disease is caused by a specific virus of the genus orthomyxovirus. The incubation period is typically two days and the first symptoms are normally a headache, a feeling of illness, and either chilliness or feverishness. The disease generally lasts three to seven

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[15]Dowling, Fighting Infection, 198.

[16]Sir McFarlane Burnet, Natural History of Infectious Diseases (New York: Cambridge University Press, 1962), 298.

days and is characterized by cough, fever, muscle aches, dry cough, and occasionally pneumonia. Sneezing, a sore throat, and nasal blockage and discharge, prevalent in the common cold, are seldom present in influenza. The onset of influenza begins quickly producing a fever of 103 degrees Fahrenheit (39.4 degrees Celsius); followed by a period of weakness and depression.[17]

The reason why influenza spreads so quickly and widely is that the virus is transmitted by air borne droplets. Droplet nuclei are shed twenty-four hours after a person has been infected, allowing the virus to be passed on without having developed symptoms with the original carrier. Sneezes and coughs produce thousands of droplets and the smaller ones dry to form droplet nuclei. These viral time-bombs can float in the air for hours permitting influenza to remain a highly infectious disease for up to two days; longer if it is dry weather and not exposed to sunlight.[18]

The anatomy of all influenza viruses is identical; however, as shown later, the virus is highly susceptible to mutation. The virus contains RNA (ribo-nucleic-acid) in eight segments, each parallel to a gene of the virus. The RNA makes up the core and represents the virus's genetic material. The virus is spherical and about 1/10,000 millimeter in diameter—equating to about a trillion viruses in the space of a pinhead. The surface of the virus is covered with "spikes." These spikes (shown in Figure 2.1) are protein involved in the interaction between the virus and host cells. There are three major types of the

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[17]See W.I.B. Beveridge, Influenza: The Last Great Plague (New York: Prodist, 1978).

[18]Beveridge, "The Chronicle of Influenza Epidemics," 232.

virus, labeled A, B, and C. Type A is the most mutable and consequently is the source of all the major epidemics. For the purpose of this study type A will be discussed exclusively.[19]

The proteins, neuraminidase (N) and haemagglutinin (H), are responsible for the antibodies that a person produces for immunity. The H and N antigens (substance that creates an immune response) of type A are of significance for understanding the epidemiology of influenza. There are numerous subtypes of influenza A that have different H and N antigens. The classification of the different types of influenza strains is based upon the proteins, H & N. For instance "H2N8" means a virus strain that possesses hemaglutinin of subtype 2 and neuraminidase of subtype 8. The purpose of this classification system is to be able to identify specific virus strains and track their diffusion patterns.[20]

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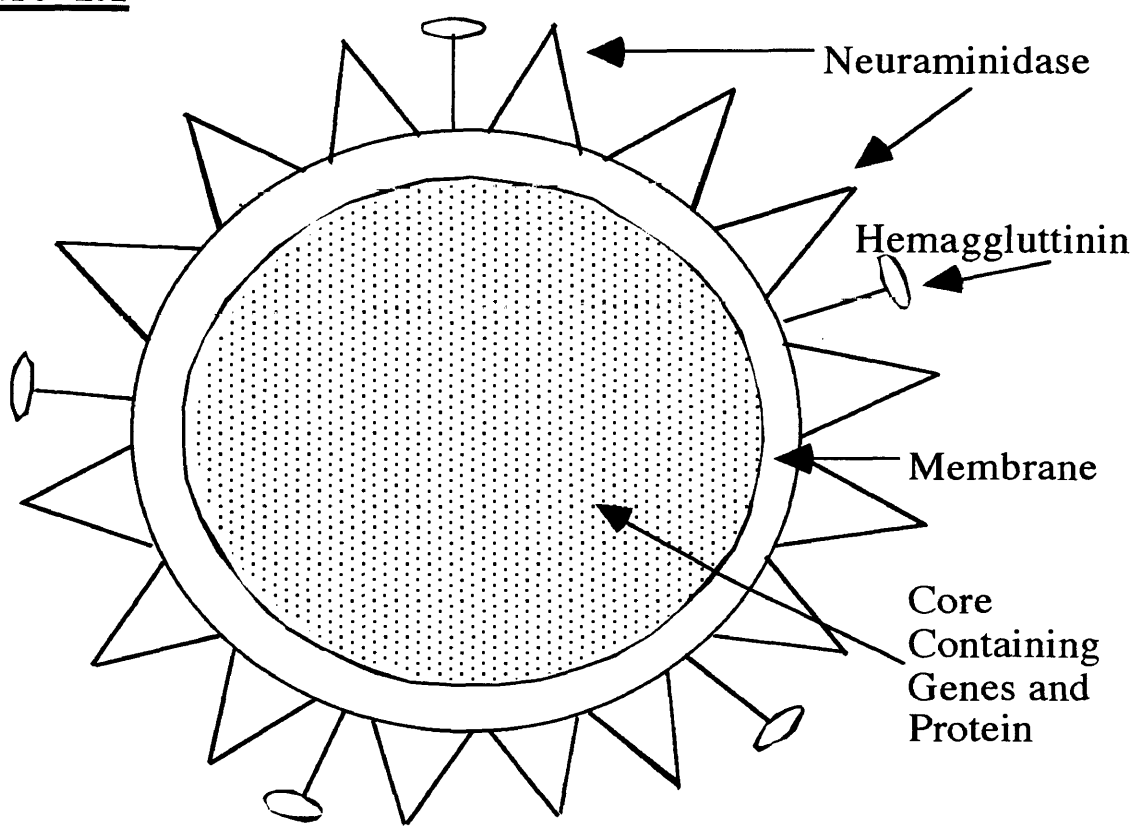
[19]For a comprehensive discussion of how the influenza virus functions, see Edwin D. Kilbourne, The Influenza Viruses and Influenza (New York: Academic Press, 1975).

[20]The illustration of the different viral strains are necessary to understand the mutability of the influenza virus, especially in understanding the 1918 strain.

Figure 2.1[21]



Influenza A is unique due to its ability to change its antigenic identity. This change can produce a new type of strain that does not have a specific immunity built up into the human population. The variance in the influenza A virus can be attributed to two factors. First, "antigenic drift" can occur within the structure of the virus. Drift results in minor changes that occur gradually over time. In contrast to antigenic drift, is antigenic shift. This change is much more sudden and produces dramatic antigenic variances (See Table 2.1.). New viruses appear in which the general population has no immunity and the likely outcome is a pandemic. Despite the complexity of antigenic shift and drift, it should emphasized that new variants are the result of drift in the

[21]Kilbourne, The Influenza Viruses and Influenza, n.p.

H or N antigens. This results in regular epidemics or localized outbreaks. New subtypes, however, are produced by shift in the H or N antigens. The result is a pandemic as there is no immunity to a new subtype. Much like a color, drift merely represents a slight discoloration or shading. Shift, however, is as if it has changed colors entirely.

But where did the 1918 strain originate? Despite all of our knowledge of infectious diseases and specific mechanisms for transmission, the exact origin and spread of the 1918 pandemic still baffles the medical profession. One possible explanation asserts that the pandemic was conceived in the United States in early 1918. Initial reports suggest that the epidemic originated from army installations, located at Fort Riley and Camp Funston near Manhattan, Kansas. A Colonel Schreiner, the chief physician at Camp Funston, argued that a massive dust storm stirred up a smoldering pile of burning manure to create the deadly contagion. Miasmatic beliefs were certainly hard to shake for many doctors, illustrating the persistence of old medical dogma. This initial wave resulted in approximately 522 cases, and although mortality figures were minimal, these two bases served as a way station for soldiers entering the European theater.[22]

A recent explanation, one that supports a long held belief, suggests that the virus entered Europe from the Far East. Mutating into a highly virulent form, the virus is believed to have originated within rural China. The exact origin will likely never be known, yet it is possible that it originated as an avian infection undergoing a "genetic"

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[22]A.A. Hoehling, The Great Epidemic (Boston: Little, Brown, and Co., 1961): 14-15.

reassortment in swine. Pigs, serving as a type of genetic "mixing vessel," allowed avian and human viruses to merge into a new strain of influenza.[23] Shifting with such randomness made the airborne infection extremely difficult to identify and even more formidable to treat. Regardless of where it originated, the virus had infiltrated the American Expeditionary Force by the summer and fall of 1918. And by the signing of the Armistice on November 11, influenza deaths in the armed forces numbered 9,000.[24] The American "doughboys" had helped win the war, but in the process, also helped to spread the world's most deadly disease since the Black Death.

As World War I came to a close, three separate influenza waves swept across the globe. The first wave, appearing in the spring and summer of 1918, received little attention at the time. This represents the outbreaks at Camp Funston and Camp Riley. From these midwestern outposts, the flu spread to military training installations in numerous states by the end of summer. The first wave apparently reached France in early April, crossing the Atlantic aboard American troop ships. Striking countries such as Germany, Scandinavia, Poland, and Rumania, the spring wave continued into summer.[25] Although the majority of the civilian population remained unaffected, military personal harbored and transported the virus overseas. Circulating in Europe, the disease is believed to have undergone a genetic mutation,

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[23]Christoph Scholtissek and Ernest Naylor, "Fish Farming and Influenza Pandemics," Nature 331 (January, 1988): 215.

[24]Alfred Crosby, America's Forgotten Pandemic: The Influenza of 1918 (Cambridge: Cambridge University Press, 1989): 150.

[25]K. David Patterson and Gerald F. Pyle, "The Geography and Mortality of the 1918 Influenza Pandemic," Bulletin of the History of Medicine 65 (Spring, 1991): 8.

re-entering the United States in early September.[26] This second wave, which is the focus of this study, lasted approximately from late August to early January, claiming a majority of the twenty-two million lives that were lost throughout the pandemic.

During the five months from September 1918 through early January 1919, there were more influenza deaths world-wide than those killed in World War I. Globally, the war claimed approximately 4.9 million in war fatalities of which 50,000 were Americans.[27] Influenza, by contrast, claimed over twenty-two million world wide of which 600,000 were Americans, a staggering total considering the subsequent lack of attention given to the pandemic.[28] What makes these numbers even more significant, is the speed in which the virus diffused across America and the relatively young age group that experienced an amazing death rate. The majority of people who died, civilian and military alike, were a tremendous loss to Omaha and the rest of the nation's future citizenry and leadership. Every American, in one way or another, was touched by the economic, political, and social aftermath of the virus.

The pandemic, as many authors have concluded, had a potentially serious effect upon the American war effort. In October a draft call of 142,000 men and a future call of 78,000 inductees was canceled by

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[26]Hoehling, The Great Epidemic, 17.

[27]For a discussion of World War I statistics, see R. Ernest Dupuy and Trevor N. Dupuy, The Encyclopedia of Military History, rev. ed. (N.P.: Harper & Row, 1970).

[28]Crosby, America's Forgotten Pandemic, 205. Edwin Jordan's global mortality estimate of 21 million has long been accepted as the accurate figure. Recent research has increased this figure, prompted by a re-evaluation of old records. Patterson's work suggested a more accurate range of 24.7 to 39.3 million. See David Patterson and Gerald F. Pyle, "The Geography and Mortality of the 1918 Influenza Pandemic," 14-15.

Provost Marshall General E. Crowder of the United States Army. Additionally, the U.S. army enacted a strict quarantine on most American bases—taking place at a time when General John J. Pershing was demanding more reinforcements for the American Expeditionary Force.[29] With fresh troops moving across the Atlantic and those who were wounded making the return trip, the viral highway allowed influenza to return where it may have been born six months earlier.

This new deadly and virulent strain began to appear on the east coast in late August, first infecting Camp Devens, near Boston, Massachusetts.[30] Soon after the infection of other army installations, rumors began to circulate as to the cause of the mysterious malady. One such theory maintained that the Germans were somehow behind this cynical plot in creating a deadly biological weapon. Other individuals equated the illness with trench warfare in which the influenza bacteria was mixed with the residue of high explosives from artillery and poison gas.[31] These and other reports became instant headlines across America.

The disease that the soldiers were bringing back was not like any other form that had been previously experienced. The unique nature of this particular strain was completely different from previous human experience. Normally, flu epidemics have the greatest effect upon the very young (under five years old) and the very old (over sixty-five years old). Individuals between twenty and forty years old ordinarily suffer the least, since they are the healthiest and have the strongest

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[29]Ibid., 49.

[30]Ibid., 4.

[31]Ibid., 47.

immune systems. The second wave of the 1918 pandemic did claim a large number of young and old victims. But most surprisingly, the twenty to forty age group suffered enormously based upon their sheer numbers.

This fact alone made the pandemic uncommonly lethal when one considers that the healthiest part of the population was made vulnerable to a known illness. Influenza, by itself, rarely kills. Victims of the 1918 pandemic developed flu symptoms that quickly became a deadly respiratory aliment. Fatalities were not a result of influenza directly, but instead, a result of a severe inflammation of the lungs. Becoming blue, swollen, and filled with a "thin, bloody, frothy fluid, the lungs actually filled up with fluid and the victim died."[32] Striking those in the prime of their life, patients often died within forty-eight hours after the onset of the first symptoms.

Apart from a specific age group, who were influenza victims? Most reports indicate that whether one was poor, rich, a lawyer, a doctor, or a farmer, one stood the same chance of contracting influenza. Socioeconomic position had little to do with whether a person was infected. Geographic locations, however, were significant in determining whether or not an individual came down with the flu. Factors such as proximity to military installations, cleanliness of a city, and the adequacy of medical attention played a large role in determining who got sick and who did not.[33] The world's great leaders were not immune to the disease. Kings Alfonso of Spain, George of Great

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[32]Ibid., 8.

[33]Sean Hannon Clark, "The Impact of the 1918-1918 Influenza Pandemic on Fresno, California," (M. A. thesis, California State University, Fresno, 1991), 15-18.

Britain, and Emperor William II of Germany all suffered from the virus. President Woodrow Wilson was reported to have acquired a mild attack of flu four days before his departure for the Paris Peace Conference. His chief aide, Colonel Edward House, along with General John J. Pershing came down with influenza at the Versailles Treaty in Paris. Even Franklin D. Roosevelt, then Under Secretary of the Navy, contacted the flu bug.[34]

The 1918 virus is unique in three ways that distinguishes the pandemic from our prior human experiences with influenza. Foremost, the pandemic probably owes its entire existence to World War I. Large concentrations of soldiers with minimal viral immunity provided an excellent host-pool for its spread. Troop movements across the Atlantic allowed the virus to infect large groups of people with a short time. While the disease's rapidity caused chaos and alarm in the general population, health officials and physicians tried desperately to stifle the flow of the sick.

Secondly, the rate of human mortality was greatest among the healthiest part of the population. The twenty to forty age group, who constituted the backbone of America's workforce, were the most severely affected age group. Finally, the pandemic itself remained in force for an extended period that challenged many of America's institutions. Health departments across America shut down theaters, churches, and places of public assembly for weeks while public officials sought to discover why this old enemy had returned with such a vengeance.

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[34]Crosby, America's Forgotten Pandemic, 194-195.

In addition, the virus had the help of other factors that enabled it to infect a large number of people. Many metropolitan areas suffered extensively due to the congested and often unsanitary conditions during this period. Most health officials realized the danger of crowds and warned against them. American cities, however, still conducted large rallies and parades for Liberty Bonds that aided in the virus's spread. Medical personnel, serving in the military during the war, created a constant shortage of trained individuals in America to combat the virus. In one such case, Doctor W. Fowler, of San Jose, California, reported that he treated 525 patients in one day.[35] Short-handed physicians, already overworked, could do little to prevent the virus from reaching large portions of a city's population.

Health officials throughout the United States attempted a wide variety of measures to prevent the spread of influenza. Many healthy individuals received injections of the blood serum of infected victims while others sought alternative methods of treatment. Concoctions ranged from graham crackers to egg punch to sanitizing drinking fountains with blow torches. Gauze masks were handed out, telephones were sanitized with alcohol, and people were required by law to carry a handkerchief.[36] Anti-spitting ordinances were quickly put in place and various restrictions, curfews, and bans were passed by panicked city health commissioners. Regardless of the method, the killer pandemic swept across the nation unabated.

Aside from treating the patients, many cities encountered problems with burying the victims. City morgues, especially on the east

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[35]Ibid., 97.

[36]Hoehling, The Great Epidemic, 35.

coast, could not handle the large influx of corpses. In Philadelphia it was reported that two hundred bodies awaited burial in a morgue that was built for thirty-six. Bodies remained in homes for days while mass grave sites where quickly excavated. Taking advantage of the situation, many private cemeteries raised their prices as much as sixty percent.[37] Hospital space was quickly utilized, drugs and supplies were in limited quantity, and undertakers ran out of coffins. In New York, the dead were left unburied in cemeteries as the mayor pleaded with the street commissioner to send city street cleaners to assist with burials.[38] Dr. Thurman B. Givan, a New York mortician, latter recalled, "There weren't enough coffins so they just put the dead into wood boxes and piled them at the railroad station, stacked as high as they could stack them, a line a mile long."[39]

Throughout the fall of 1918, as the war raged in Europe, newspapers increasingly brought stories of the pandemic's wrath to their front pages. News coverage could no longer ignore the sheer magnitude of the epidemic. The public was bombarded with articles describing cures, statistical information regarding mortality rates, and governmental attempts to address the crisis. Every citizen was affected by the virus economically, politically, and socially. The ubiquitous nature of influenza permeated the country on all levels. Even childrens' rhymes did not escape the horrible effect of the lethal flu bug:

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[37]Crosby, America's Forgotten Pandemic, 77.

[38]John H. Walters, "Influenza 1918: The Contemporary Perspective," Bulletin of the New York Academy of Medicine 54 (October, 1978): 858.

[39]"Medicine's Living History," Medical World News 15 (March, 1974): 46.

I had a little bird;
Its name was Enza.
I opened the window;
And in-flu-Enza.[40]

Influenza cases, following the second wave in December, gradually declined as health departments tried to bring the epidemic under control. Although a third wave would flare up in the spring of 1919, the severity of this final surge of influenza resembled a more seasonal outbreak. This early 1919 occurrence has been linked to a shift in the antigenic structure of the virus, or in other words, a slight variance in the deadly fall strain. Mortality and morbidity rates, therefore, are difficult to distinguish due to the overlap between the second and third waves.

Overall, the pandemic struck without warning and with such violence that many victims died within hours of first contact. Mutating with such randomness, it is not surprising that the virus has not emerged again in its virulent form. But what if this particular strain returns again? Will history repeat itself, only this time, with far more devastation due to our advanced global community? And if so, can we replicate the virus to create an antibody for immunity?

The answers to these questions are not as simple as one might expect. Most of the victims who died, did so from secondary bacterial infection. The virus itself merely replicates and gets out of the body within two or three days. Any ancient viral RNA is virtually nonexistent in those bodies that could be exhumed. If this strain returns again, we have developed various antibiotics to help fight pneumonic

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[40]Hoehling, The Great Epidemic, 33.

complications—the actual cause of death in the 1918 pandemic. Our global community has certainly made infectious diseases a real threat to all of humanity. Travel time from one continent to another has been dramatically reduced thereby increasing the chance of viral outbreaks.

To safeguard against flu outbreaks, the World Health Organization (WHO) has created a vast network of influenza surveillance stations positioned throughout the world. These stations continually monitor regional activity and report any new strains of influenza to various governmental agencies. Vaccinations are based upon these reports and relate to viral antigenic type. Our annual trip to the doctor to get our shot is essentially the result of an educated "guess" on what particular strain of the virus will be dominant for the upcoming year. If the 1918 strain, or another variant of it appears, it is hoped that we will be able to identify the virus and formulate an effective vaccination for immunity.

But in 1918, no vaccination could be given to a disease that killed twice as many people worldwide as the number of those who died during World War I of battle-inflicted wounds. The virus, operating through the mechanisms of the war, failed to garner the type of attention that it should have. Perhaps if the pandemic had occurred at another time, it would have received much greater attention. Historians have generally failed to recognize the importance of the event due to any number of reasons. The flu, obscured by the war, was still regarded as a common illness. Its impact was temporary, and unlike returning soldiers who had lost a leg or an arm, survivors of influenza had no life-long scars.

The entire state of humanity had certainly grown numb to death by late 1918. Influenza was merely a sideshow, although it took more lives than the war. The city of Omaha provides a unique example of a community confronted with a public health crisis at a time when many were more concerned with World War I. Many would argue that this forgotten enemy may not be as much of a threat today as it was in 1918. Yet despite all of our precautions and safeguards, the almost eighty-year old event serves a warning to humankind's tendency to overlook the smallest of enemies that pose the greatest of threats.

Chapter 3

OMAHA'S FORGOTTEN FOE

"The Men are dying like flies out there, anyway. This funny new disease. Simply knocks you into a cocked hat. It seems to be a plague, something out of the middle ages. Did you ever se so many funerals, ever?" [1]

Known as the "Gate City" to the great American West, the city of Omaha occupies an important link across the Great Plains and is situated near the middle of the country. Located along the Missouri River, the original site was occupied by the Omaha Indians until a treaty opened Nebraska Territory to settlement in 1854. Serving as the territorial capital from 1854 to 1867, the city rapidly gained a reputation as an excellent starting point for westward-bound travelers, with passenger steamboats arriving regularly. In 1865 the Union Pacific, soon to become the first transcontinental railroad in the United States, expanded westward from Omaha opening the West to settlement and migration. In the process, the railroad spurred the development of a stockyards that by the 1880s, established the city as a national center for meat-packing. At the turn of the century, the city had become one of the country's largest rail centers—allowing Omaha to compete with other regional cities such as Kansas City, Minneapolis, and Chicago.

As a growing Midwestern city, its economic vitality depended upon agriculture, meat packing and other industries, and the railroad

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[1] Katherine Anne Porter, Pale Horse, Pale Rider (New York: Harcourt Brace and World, 1936), n.p.

for a good share of its livelihood. By the time the United States entered the "War to end all Wars," the city's population had grown to almost 180,000 and was supported by a strong agriculturally-based local economy. During the war Omaha, much like the rest of the nation, displayed its patriotic spirit by endorsing America's involvement and contributing its fair share of support for the country's participation. As young men marched off to war, young women volunteered their services as nurses at military bases and on the battlefronts of Europe. Numerous city-wide rallies supporting the sale of Liberty Bonds occurred, displaying the deep-rooted patriotism of Omaha citizens.

With attention focused upon war events in Europe, the unseen virus that had earlier infiltrated the East Coast quietly entered the city. The exact date of its arrival in Omaha is difficult to determine. Highly contagious, anything from a cough to a sneeze or an innocent kiss could have brought the lethal flu virus into the city. Other cities, which had already fallen victim to the epidemic, could do little in preventing the disease from spreading. Complete isolation, to contain such a highly infectious disease, no matter how desirable, was virtually impossible in 1918. As a busy place, people were entering and exiting Omaha on a daily basis. The virus could have found any number of routes to make its appearance into the city and it was only a matter of time before Omahans fell prey to this unforeseen enemy.

One of the more likely paths that the virus followed was through the city's largest military installation, Fort Omaha. The base, serving as a training ground for recruits, maintained a balloon school that prepared soldiers for aerial observation for the European theater. Fresh recruits arriving from all parts of the country furnished a

constant supply of viral candidates. The growing number of influenza outbreaks on the East Coast foretold of the oncoming virus that was approaching Omaha. Despite ample warnings, little if nothing was done in preparation for the impending disaster. All that was needed was just one infected soldier or civilian arriving in Omaha to start the deadly chain reaction of viral infection.

Somewhat auspiciously, the Daily Bee on September 14 warned that an influenza epidemic was likely in America. Most Omaha newspapers, however, failed to take notice of the warning and devoted the majority of their stories to the countless lists of those wounded and killed in the war. The office of the Surgeon General of the United States finally took notice of the increasing public health threat by late September and began tallying the alarming figures of deaths that were being reported from military installations. On September 25, there were reports of 23,000 influenza cases at military installations in Boston, New York, Chicago, and even Boulder, Colorado.[2] Despite early preventive measures initiated by the Red Cross, individual states, the Public Health Service, and the War and Navy departments, the disease had gained footholds on both the East and West coasts.

From the onset, measures such as general quarantines and isolation of troops were issued at military bases and restrictions were placed upon the transfer of troops within the United States. At the Great Lakes Naval Training Station in Chicago, Omaha soldiers were not permitted to return home on account of the Spanish flu "sneaking

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[2]Daily Bee, 25 September, 1918.

around." The soldiers who were due back in Omaha for the annual Ak-Sar-Ben parade wrote:

> Ten blue jackets on the commandant's chest,
> Yo, ho, ho, and a bottle of rum.
> Flu and the commandant have done the rest,
> Yo, ho, ho, and a bottle of rum.[3]

Although these procedures were enacted to contain the virus within military populations, influenza had already been passed from one military base to another, likely infecting the general population along the way. Military installations became key hubs along the viral highway that allowed the virus to travel great distances in relatively short periods of time.

As mentioned, various measures were adopted by governmental agencies to combat the flu. For example, a special hospital train, equipped with forty beds, was put into use in Boston to transport influenza patients. The Public Health Service printed 6,000,000 copies of a pamphlet that described the methods to prevent the disease and published an article in 10,000 newspapers warning people of influenza's spread across America.[4] A poster (Figure 3.1) depicting how the public could guard against influenza and other respiratory diseases was created as a means of health education.[5]

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[3]Ibid., 27 September, 1918.

[4]Bess Furman, A Profile of the United States Public Health Service 1798-1948 (Washington: Government Printing Office, 1973), 326.

[5]"Droplet Infection Explained in Pictures," Public Health Report 33 (November, 1918): n.p.

Figure 3.1[6]

Additionally, Congress passed a joint resolution that appropriated $1,000,000 to be used by the Public Health Service to fight Spanish influenza through a vaccine.[7] The bill, H.J. Res. 333, stipulated that the Secretary of War, Secretary of the Navy, and the Secretary of the Treasury, were to consolidate the various military medical branches

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[6]Ibid.

[7]Daily Bee, 29 September, 1918.

into a single effort. Furthermore, a resolution was passed that created a "reserve" Corps of the Public Health Service to help replenish those physicians and health officers who had been sent off to war. In the ensuing months, a total of sixty-four officers—one third of the Corps—were commissioned for flu work. Throughout the crisis, the Public Health Service recruited an estimated 2,000 doctors, nurses, and medical personnel to fight influenza.[8] As America's health situation deteriorated, the Army, Navy, and Public Health Service proved to be vital links in a chain of command that demanded the greatest of human efforts. Their successes invariably translated into many lives saved. But unfortunately, these and other heroic endeavors were too little and too late in stopping influenza's diffusion across America.

As influenza began its deadly march across America, Nebraskans appeared ready to manage an outbreak of influenza. At the state level there was no separate board of health. Instead, the Bureau of Health was merely a division within the Department of Public Welfare, sharing responsibilities with the Bureau of Examining Boards and the Bureau of Child Welfare. Within the Bureau of Health, there were four sub-divisions: division of venereal diseases and epidemiology; division of vital statistics; state laboratory; and division of child hygiene. The hierarchical nature gave the state's public health director executive and administrative power over individual locales—allowing him to enforce quarantine measures (See Appendix 1).[9] Initiating a state-wide ban on public gatherings, coordinating relief efforts, providing information to

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[8]Congressional Record, 65th Cong., 2nd sess., 1918, pp. 1008, 1017.

[9]Public Health Service, Health Departments of States and Provinces of the United States and Canada (Washington: Government Printing Office, 1932), 413-418.

the municipal health agencies, and tabulating statistics on the epidemic, however, proved to be a greater task than the state Board of Health could handle. As shown latter, the logistical difficulties of coordinating such a massive relief effort were bound to complicate and hinder some of Nebraska's other locales, especially Omaha.

In Omaha's situation, the city was safeguarded by a Metropolitan Health Department. The Omaha Board of Health, functioning since 1858, served to protect public health through the appointment of a City Health Commissioner. The commissioner was responsible for everything from venereal disease to garbage and sanitation.[10] The city's history of poor public health, much like other developing urban centers across the United States, was filled with stories of wild dogs running at large, garbage left in city streets for weeks, grasshoppers besieging the city, and outdoor privies emptying into the water supply.[11] Although advancements in sanitation and hygiene had improved America's public health situation by 1918, many of the nation's municipal health departments were ill prepared to confront the widespread crisis that was soon to descend upon its citizens. Omaha would be no exception to the national pattern.

Despite the early warnings, Omaha city officials did little to prepare themselves for the virus's arrival. Only when the epidemic

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[10]Albert F. Tyler, ed., History of Medicine in Nebraska (Omaha: Magic City Printing, 1928), 144. Also see Appendix 1. The commissioner was appointed by the mayor and was granted an annual budget and paid an annual salary. For a complete listing of duties, see Daily Bee, 14 September, 1891.

[11]For a detailed account of Omaha's early public health problems, see Michael J. Harkins, "Public Health Nuisances in Omaha, 1870-1900," Nebraska History 56 (Winter, 1975): 471-492.

reached Lincoln on October 3, did Omaha's appointed Health Commissioner, Ernest T. Manning, issue the following precautions:

1. Avoid crowded street cars, rooms, etc.

2. Gargle the throat and spray or douche the nasal tract with a normal salt solution (1 teaspoonful to a quart) or some of the common weak antiseptic solutions, information regarding which may be obtained from any physician.

3. Keep the bowels free.

4. Keep a state of high individual resistance by hygienic living.

5. Some physicians recommend inoculations with the influenza (grippe) vaccine.[12]

Dr. Manning, a graduate of Rush Medical College in 1904, was an instructor of therapeutics, medicine, and pathology at the University of Nebraska's College of Medicine (UNCM). During the war he was in charge of the general pathology and clinical pathology at the medical college in Omaha. Serving as director of medical inspection at the city's public school system, he was appointed to the office of Health Commissioner in May of 1918. His service with Omaha's schools and his reputation at UNCM made Dr. Manning an ideal choice for the position.[13] Unbeknown to his appointers or to himself, events in the forecoming months would put all of his skills and fortitude to the ultimate test.

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[12]Omaha World-Herald, 3 October, 1918. Hereafter cited as World-Herald.

[13]Dr. Earnest T. Manning Undated Newspaper File, Omaha-Douglas County Medical Society, Archival Collections, Omaha, Nebraska.

Manning's preliminary precautions, which were typical for the common flu, proved to be too little and too late for Omaha citizens. His initial suggestions were just that, only suggestions. Influenza was considered an endemic disease and therefore generally accepted as a recurring fact of life for many people. Without any form of enforcement nor the perceived need for enforcement of prevention measures, Manning's relaxed attitude reflected the general notion that influenza was not to be greatly feared and was merely a seasonal nuisance. The 1918 strain, however, proved to be no red herring.

The recent opening of the annual Ak-Sar-Ben festival, in honor of the city's businessmen, provided an ideal environment for the virus to flourish. With large numbers of people congregating for the week long activities, the event more than likely opened the floodgates for the flu's spread into Omaha. The first identified casualty of the pandemic was reportedly the Reverend Siefke S. deFreese, pastor of St. Mark's Evangelical Lutheran church.[14] His death on October 3 was probably not the first influenza death but is the first one identified. His symptoms were typical indications of Spanish influenza: a short illness (forty-eight hours), evidence of pneumonia, and in the prime of his life (approximately 35 years of age). How he acquired the disease was a mystery, but it was inevitable that many of his fellow parishioners would now come down with the same symptoms at approximately the same time.

The next day, following a meeting of city officials, an emergency order was issued that closed schools, churches, theaters, dances, lodge

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[14]World-Herald, 3 October, 1918.

and labor meetings, and Red Cross workshops.[15] Influenza's arrival, perhaps due in large part to Ak-Sar-Ben's city-wide parade the previous night, had rapidly reached Fort Omaha where a quarantine was issued. Fort Omaha's chief surgeon, Major J. Lindquist, reported that as of four o'clock that evening they had no cases of influenza; by five o'clock they had ten, and by the next morning they had nearly two hundred.[16] A strict quarantine was immediately issued and an emergency hospital was set up to accommodate the influx of patients. In addition, the number of cots in each tent was reduced, soldiers were forbidden to congregate, and their throats and noses were regularly sprayed with a special solution.[17] In the hospital, Major Lindquist ordered individual beds to be enclosed with "six foot curtains to prevent the spread of infection by the coughing or sneezing of patients." Medical personnel, nurses, and attendants were also required to wear white caps, gowns, and gauze face masks.[18]

With the developing outbreak at the base, the city council held a special meeting in which they granted Dr. Manning powers "to exercise his full authority in the premises without formal action by the council."[19] With such unlimited powers, Manning organized and coordinated the closing of all churches, schools, theaters, movies, dances, lodges, and places of public assemblage. Fort Omaha was

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[15]Ibid., 4 October, 1918.

[16]Omaha Douglas County Medical Society, "Regular Meeting," Nebraska State Medical Journal 4 (1919): 36.

[17]The Fort Omaha Gas Bag, 25 October, 1918. Hereafter cited as The Gas Bag.

[18]Ibid.

[19]World-Herald, 5 October, 1918.

quarantined and all city street cars were required to operate with their windows open. Across the Missouri River, in Council Bluffs, Iowa, similar restrictions were placed upon Omaha's sister city. Council Bluffs' board of health closed all schools, business colleges, Sunday schools, and theaters to those under eighteen years of age on October 10.[20] Ironically, Omaha's Ak-Sar-Ben carnival eluded the closing order as city officials deemed the event an out-door show and therefore safe for public gatherings.

Nebraska Health Commissioner W. F. Wild, in an attempt to stop the flu's spread, issued a bulletin on October 10 that required all cities, towns, and hamlets to discourage unnecessary public meetings. The measure, which was recommended by U. S. Surgeon General Rupert Blue, dramatically affected every town in Nebraska politically and publicly. As a further measure, Dr. Wild declared Spanish influenza a reportable disease and made physicians and even families themselves liable for reporting all new cases of the disease. Fines from $15 to $100 could be levied for non-compliance.[21] Although these measures were intended to prevent the disease from spreading any further, in all likelihood, influenza had already infiltrated many of Nebraska's homes.

To help diffuse the situation in Omaha, Dr. Manning and the director of Ak-Sar-Ben, Conner T. Kennedy, assured citizens that it was perfectly safe to attend the outdoor events. Despite their assurance, low attendance figures during the week-long celebration exhibited the public's growing fear:

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[20]Ibid., 10 October, 1918.

[21]Omaha Daily News, 10 October, 1918. Hereafter cited as Daily News.

Figure 3.2 Attendance Record[22]

Sept. 26-Oct. 5	1917	1918
Wednesday	4,102	5,884
Thursday	7,790	7,567
Friday	8,696	8,016
Saturday	24,214	20,501
Monday	10,336	3,654
Tuesday	15,064	8,787
Wednesday	25,354	15,840
Thursday	24,872	18,465
Friday	9,941	7,745
Saturday	15,701	12,542
Totals:	136,072	108,731

Although promoters insisted that "everyone appeared to be 'inoculated' with the spirit of good time," statistics proved otherwise. By Monday, September 30, attendance had fallen from the 1917 count of 10,336 to 3,654—a decrease of 65 percent.[23] Although the war may have accounted for a portion of this decrease, it is clear that most Omahans had decided to stay away from the celebrations regardless of these efforts to stage shows outdoors.

One important goal of the closing order was to discourage human contact. To achieve this, an earlier anti-spitting ordinance was quickly enforced in which Manning prohibited "spitting on the sidewalks or in

[22]Daily Bee, 5 October, 1918

[23]Ibid. Inclement weather was not a contributing factor to this decrease.

any other public places."[24] Dr. Manning insisted that people "refrain from kissing," even mothers with their infants.[25] Another such measure, endorsed by the U.S. Surgeon General, instructed physicians, nurses, and other health care workers to wear gauze masks when dealing with the public. These simple "Flu" masks had approximately five to six layers of gauze and were offered to anyone who felt the need to wear the prophylactic devices. As Manning latter said, "Flu masks were advised to be worn by all persons coming in contact with the disease and also when necessity required attendance in crowds."[26]

Throughout Omaha and the United States, a somewhat new fashion trend developed with people wearing these flu masks whenever they went out into public. Many stories described dentists wearing masks working on people with masks and barbers donning masks attempting to shave people with masks. In Chicago an "Influenza Commission" was created to coordinate the city's efforts in combating the disease and assisting in the distribution of flu masks.[27] San Diego health officials also passed restrictions regarding the use of gauze masks and even offered specific instructions for making the devices at home.[28] Seattle's board of health, which eventually required all persons to wear masks in public, passed some of the harshest restrictions during the

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[24]Ibid.

[25]Daily News, 6 October, 1918.

[26]Ernest T. Manning, "Influenza in Omaha," Nebraska State Medical Journal 3 (December, 1918): 382.

[27]Illinois Influenza Commission, "The Work of the Illinois Influenza Commission," The American Journal of Public Health 9 (January, 1919): 21-25.

[28]Fred R. Van Hartesveldt, ed, The 1918-1919 Pandemic of Influenza (Lewiston, N. Y.: Edwin Mellen Press, 1992), 118-145, 151.

epidemic.[29] As other cities experimented with differing requirements for wearing flu masks, Omaha's Health Commissioner appeared somewhat cautious and restrained in the issuance of such preventive measures. Manning, perhaps realizing the futility of imposing such harsh restrictions, never ordered citizens to wear the masks but only suggested that they do so for their own safety.[30]

Following the October closing order, newspaper headlines abounded with articles describing the pandemic's effect upon the world. War and influenza became inseparable topics. America was just beginning to mobilize against an enemy that had already breached its perimeter. In Omaha, like the rest of the nation, church services were canceled, Liberty Loan drives were rescheduled, picture houses and theaters were closed, and city meetings were restricted to contain the flu. Likewise, the University of Omaha and the University of Nebraska in Lincoln suspended classes. Thirty college students in Lincoln had already contracted the flu and military officials warned state and local health authorities of the impending disaster.[31]

Influenza's spread into various army camps brought emergency calls for Omaha nurses. The Red Cross initiated a drive to produce 1,000 gauze masks for physicians, nurses, and other health care workers. Dr. Manning praised the use of masks by declaring, "Think of the value of the use of masks! Even if they are not necessary, which

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[29]Nancy Rockafellar, "In Gauze We Trust," Pacific Northwest Quarterly 77 (July, 1986): 104-113.

[30]The actual size of the influenza virus made these attempts to protect people through such 'flu' masks impossible.

[31]Daily News, 3 October, 1918.

they are, think of what it means to impress upon thousands of people the desirability of protecting against infection."[32] One newspaper photo caption image even suggested that Red Cross workers producing masks looked like a Turkish harem.[33]

Figure 3.3

Not a Turkish Harem, But Red Cross Workshop Unit Making "Flu" Masks

The developing emergency also strained the city's existing social institutions that were designed to protect the public health. The Visiting

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[32]World-Herald, 5 October, 1918.

[33]Daily Bee, 6 October, 1918. A large sign above the heads of the women read: "Silence." Manning directed all physicians, nurses, or other persons, coming in contact with those ill of influenza to wear masks. The newspaper article stated that the women who were making the masks complained that the masks were uncomfortable and seemed hot at first, but that they soon became used to them.

Nurses Association (VNA) made an urgent call for all women, regardless of experience, to assist with the growing number of flu patients.[34] The VNA's importance, which had traditionally served to assist those who were too ill to leave their homes or could not afford hospital care, became a bulwark against the developing crisis. Florence McCabe, superintendent of Omaha's branch, played a crucial role throughout the pandemic in obtaining volunteers to work with nurses. In addition, Omaha's Red Cross chapter organized an "Influenza Committee" that was responsible for assisting the health department and the VNA. A student nurse drive, initiated by the Nursing Bureau of Douglas County, also offered support by replacing nurses who had been summoned by the military. Despite these heroic calls for additional help, the number of sick and dead increased at an alarming rate.

Sam Burns, chairman of the Liberty Loans salesmen, took heed to the closing order and made adjustments in his Liberty Bond campaign. Daily meetings of salesmen, previously held at the Chamber of Commerce, were now to be conducted on the roof of the W.O.W. building everyday at five o'clock. Stating that the "epidemic will not have the slightest effect upon our campaign," Burns assured potential customers of Omaha's commitment to meet its financial goals for the war effort.[35]

By October 7, despite these measures in Omaha to curb influenza's spread, the number of cases had increased to over 2,000.[36]

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[34]Mary T. Lyons, "A History of the Visiting Nurses Association of Omaha: 1896-1941" (M.A. thesis, University of Nebraska at Omaha, 1981), 72.

[35]Daily Bee, 5 October, 1918.

[36]World-Herald, 8 October, 1918.

These restrictions were slowing business activity, and in many cases, bringing it to a halt. Despite the severity of the measure, the closing order was to remain in effect for a period of twenty-eight days, bringing many of Omaha's daily activities to a standstill.

Numerous organizations offered other forms of assistance in the battle against influenza. The Red Cross stepped up their efforts with the VNA by making a joint appeal for home nursing graduates to assist physicians and doctors in their fight against the disease. At the Social-Settlement house, families were given shelter while a soup kitchen was opened at the All Saints' Church to furnish food for flu victims.[37] Graduate nurses were also sent to regional army camps such as Camp Dodge, Iowa where influenza was exceptionally widespread. Likewise, automobiles were in high demand to assist the VNA with their distribution of nurses and food. VNA superintendent McCabe made numerous appeals from which thirty extra nurses, volunteers, and drivers made 11,965 calls to sick Omahans.[38] The Red Cross and the VNA's efforts undoubtedly saved many lives, but more importantly, these established institutions provided strong morale support to a city full of distressed people who could do virtually nothing to avoid contracting the virus.

As the number of persons afflicted with influenza increased, it became apparent that Omaha's Health Department was fighting an uphill battle. Dr. Manning's overworked office made a desperate appeal for physicians who could accept more cases than they were already

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[37]Ibid., 15 October, 1918.

[38]Lyons, "A History of the Visiting Nurses Association of Omaha," 70-75.

handling. The exasperated Health Commissioner declared that "Physicians will do a public good if they can help keep this epidemic from snatching lives away from the community!" Calls also went out for women who could assist in the cause, regardless of experience, practical or otherwise.[39]

By October 12 the number of cases had steadily increased. The health department responded by expanding its quarantine orders to include "public funerals . . . within the prohibition against public gatherings."[40] Still, the growing list of funeral notices continued throughout October. Frequent pleas went out to the public to "stay out of crowds" and minimize contact with other individuals. Omaha's packing houses were also under the flu's strain, evidenced by the absence of eight to thirty percent of their workforce. The Cudahy Company, which employed 2,400 people, had 192 sick; Swift, with 2,500 employees had 345 sick; Armour, with 2,600 employees, had 202 sick; and Morris, with 1,500 employees, had 450 sick.[41] The U.S. Public Health Service had also taken notice of the dire situation by declaring that "the disease had reached epidemic proportions in Nebraska."[42] Unfortunately, their assessment offered little consolation for a disease that doctors could not prevent nor cure.

Throughout October, the city Health Department met and considered lifting the ban at various times. Their prognosis, however,

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[39]Daily News, 11 October, 1918.

[40]Daily Bee, 12 October, 1918.

[41]Ibid., 18 October, 1918.

[42]Ibid.

remained uncertain regarding the cause or etiology of influenza. Dr. Manning even suggested that the recent rainy weather would "tend to clear the air. . . in that way will tend to reduce the epidemic."[43] On the other hand, the commissioner also said that the inclement weather would probably increase the number of pneumonia cases. Without a clear understanding of how the influenza was spread, efforts to fight the disease were seriously undermined. Miasmatic theories, or at least the remnants of old dogma, still held on in various degrees and may have accounted for this equivocal response.

To bolster public morale, Dr. Manning on October 8 declared that the Spanish influenza epidemic was well under control, and although the situation was serious, it was not to be considered alarming. Such promises, in hindsight, were unfortunately premature. The Health Department, by basing its statistics upon reports from individual physicians, invariably contributed to a fluctuating and inaccurate picture of Omaha's health situation. Such optimism and inaccurate information ultimately led officials to suggest publicly on October 14 that the closing ban could be lifted within the week.

Irrespective of this confidence, the State Board of Health on October 17 announced that there were 9,500 cases in Nebraska, 5,000 alone in Omaha, and officially decreed the existence of an influenza epidemic in Nebraska. Dr. Wild pleaded with U.S. Surgeon General Blue to send volunteer medical personnel, especially nurses, who were in great demand everywhere. In Omaha the situation had deteriorated to the point that the city council passed an emergency ordinance

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[43]World-Herald, 10 October, 1918.

providing additional funds of $25,000 for the city Health Department.[44] Dr. Manning on Monday, October 21, in an effort to maintain the public's morale, suggested that the ban might be lifted by the end of the week. Despite these optimistic predictions, however, the next day Governor Keith Neville halted the state's draft call on account of influenza.[45]

The seriousness of the epidemic had reached a critical point throughout the state. Finally, after several weeks of debate, the state board of health on October 21 issued an order that closed all theaters, schools, churches, movies, and public gatherings for the entire state, both indoor and outdoor, until November 2. The closing order even went as far to affect Nebraska's prestigious football team when their game with Notre Dame was canceled.[46]

The Omaha Health Department immediately issued new directives that tightened the closing order. Public gatherings, interpreted as "any assembly of twelve persons," were strictly forbidden.[47] This new closing order reiterated the ban on all public gatherings, both indoors and outdoors until November 2. In addition to making meetings of twelve persons or more illegal, Manning urged people to travel during non-rush hours. Windows in street cars and stores were required to be kept open at all times. City conductors, either by choice, neglect, or necessity, failed to adhere to the order and complaints poured into the

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[44]Omaha City Council Minutes, Ordinance 4779, October 15, 1918, Office of the City Clerk, Omaha-Douglas Civic Center, Omaha.

[45]Daily Bee, 22 October, 1918.

[46]Daily News, 21, 22 October, 1918.

[47]World-Herald, 22 October, 1918.

Health Department. Attendance at funerals was limited to relatives and businesses were required to close by 4:30 p.m. These restrictions completely shut down the county and federal courthouses. All sessions of the federal court were delayed until November 6 or until restrictions on public gatherings were removed. "If twelve makes a crowd," said Marshal Tom Flynn, "there wouldn't be anybody in court but the jury."[48]

The new order also had some unanticipated consequences for Omaha families. George Parks, father of a family of sixteen, cried "How in blazes am I to observe Dr. Manning's flu order . . . it looks like it is up to me to have a first and second table in the dining room and rent another house."[49] Certainly balancing the economic interests of a community with its public health interests proved to be more difficult than Dr. Manning had imagined. Although the restrictions were severe, it appears most Omahans adhered to the city's mandates. Even the Journal of the American Medical Association (JAMA) noted a change in the public's opinion of public health by stating that the pandemic has "caused the public to accept freely orders and suggestions as to their mode of living."[50] Some Omahans, however, did not accept Manning's orders as the gospel.

As influenza began its siege upon Omaha, public response to the crisis increasingly reflected a wide range of fears and suggestions to public health officials. For instance, many citizens asserted that

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[48]Daily News, 26 October, 1918.

[49]World-Herald, 26 October, 1918.

[50]"Current Comment," Journal of American Medical Association 71 (October 12, 1918): 1223. Hereinafter JAMA.

prohibition was responsible for the Spanish flu. Manning's overworked office received numerous calls regarding the medical value of whiskey. Some relief, whether medicinal or not, came on October 23 when two district judges issued an order "to give to [the] hospitals such quantities of the whiskey impounded at the court house as they may require for the treatment of Spanish influenza patients."[51]

Because the order was passed in view of the epidemic, it stressed that all requests would have to come through the Health Department and no alcohol would be given to individuals. The city council approved the measure, stating that they had intentionally violated the law, but did so on account of the dire situation. Dr. Manning reassured the council members by saying that the "whiskey is for the use of hospitals only."[52] Immediately following the order, four hospitals received a total of forty gallons of whiskey from the Health Commissioner. The delivery man, fearful of arrest for transporting the contraband, carefully loaded his overcoat with such a quantity of bottles, that many onlookers thought he "bulged like Santa Claus."[53] Despite Nebraska's prohibitory laws that made the consumption of alcohol illegal, approximately 500 gallons of whiskey was turned over to the hospitals, much to the delight of sober Omaha citizens.

Finding common ground on the proper methods to fight the pandemic posed a difficult problem for the leaders of Omaha. Commissioner Harry Zimman voiced concern over the extension of

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[51]Daily Bee, 23 October, 1918.

[52]Ibid., 26 October, 1918.

[53]Daily News, 25 October, 1918.

Manning's power by publicly warning that "the health commissioner should be careful before he proceeds." Mayor Edward Smith, although questioning the utility of closing the schools, gave his support to Manning early in October by stating, "it behooves us all to observe the best precautionary measures to prevent the spread of this disease."[54] Despite his concerns, the mayor agreed that any delay in issuing the closing order would seriously undermine the Health Department's efforts. Likewise, the Douglas County Medical Society's president and the dean of the University of Nebraska's College of Medicine supported Manning's preventive measures.[55]

The Douglas County Medical society, meeting with Commissioner T. C. Manley from the Chamber of Commerce, also advised that all indoor meetings be stopped. Manley, representing Omaha's business interests, stated that the businessmen would comply with the quarantine order. If the situation changed, however, Manley suggested that the closing order be modified "as a quarantine on the city would prove disastrous to the business interests."[56] On the whole, the Chamber of Commerce agreed with the banning of public meetings and severely restricted its October activities.[57] Omaha businesses, by complying with the order, invariably suffered economically—evidenced by the growing number of complaints that reached Manning's office. Most were

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[54]Ibid.

[55]Ibid.

[56]Daily Bee, 5 October, 1918.

[57]The Omaha Chamber of Commerce had a number of committees for which their meeting minutes illustrate their cooperation with the closing order. See "Minutes of Committees," Omaha Chamber of Commerce (October, 1918). University Archives, University of Nebraska at Omaha Library.

individual, but one group of business owners banded together to make sure their voices were heard, privately and publicly.

From the first issuance of a closing order, Omaha's theater owners, in voicing their resentment, met with the Health Commissioner on October 5 in the hope of reopening their establishments. In a heated debate, Manning defended his actions by arguing that he was merely following the advice of the United States Surgeon General. Upset over the loss of income, the owners called him "the only city health commissioner . . . to take his advice."[58] Publicly issuing the following statement, the theater owners attacked Manning and other physicians by asking, "Is this 'Spanish Flu,' Grippe or whatever the medical fraternity chooses to call it, in the city of Omaha or has this hysterical scare merely resolved itself into unjust discrimination against the theaters by . . . over zealous physicians[?]"[59] The owners stated that over 1,000 people were out of work and that the motion picture houses were loosing $5,000 a day. Despite their anger, the theater owners eventually acquiesced and the closing order remained in force until November 1.

Dr. Manning also strongly urged employees in banks or in other public places to wear the protective masks. Anyone coming into contact with the public through normal business activity was instructed to take extra precautions. Ezra Millard, president of Omaha National bank, stated that he would comply with the order, but "it would be an inconvenience to our employees and . . . have a depressing effect upon the public." Most bank employees apparently did not heed Manning's

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[58]World-Herald, 5 October, 1918.

[59]Ibid.

advice and as of October 17, only one was reported to be wearing an influenza mask.[60]

Economically, the city felt the pinch of the closing order. But in many ways, Omahans could not prepare for the social consequences of the flu's wrath. Mrs. Roy Dennis, in charge of the Red Cross soup kitchen at St. Martin's parish house in South Omaha, was overwhelmed with the large number of influenza sufferers and was unprepared to help those who needed it the most. At this soup kitchen alone, eighty families were stricken with the disease—some with sixteen members—and sought help from various south side charities. Convalescent victims were described as "desperately hungry" and the help of all Omahans was needed in delivering nourishing food to the Social Settlement district in South Omaha. Grace Thomas, operating the soup kitchen at the All Saints' parish, described the efforts of Omaha women as "Life Saving."[61] Quarts of soup, milk, and eggnogg were collected and transported in large quantities to help these charitable organizations fight influenza. In many cases whole families became ill and were unable to care for themselves, keeping the emergency kitchens in operation for a month.

By the end of October, the closing order had touched all aspects of daily life. Numerous church services and Bible schools, unless held outside, were not permitted. Open air services were conducted for those persons, especially Catholics, who braved the cold and the threat of infection. Open air Masses were never prohibited and only once

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[60]Ibid., 18 October, 1918.

[61]Ibid., 26 October, 1918.

during October did the faithful fail to attend Mass.[62] All sporting events were postponed or canceled and the Omaha Grain Exchange decreed that daily trading sessions would be shortened. Although the city Health Department issued frequent promises to lift the ban, the order remained in effect throughout October.

Despite the lack of specific information concerning the causes of the flu, Dr. Manning took the initiative in organizing a joint research commission composed of authorities from the University of Nebraska College of Medicine and Creighton University. The committee sought to learn how influenza was passed from person to person by conducting interviews with those individuals who had recovered from the disease.[63] The University of Nebraska College of Medicine, in addition to the commission, published a three-page pamphlet that outlined the origins, causes, characteristics of the disease, modes of transmission, and methods of control. The material suggested preventive measures that stressed individual responsibility, even inferring that sneezing without a handkerchief was criminally negligent.[64]

As part of the committee formed by the two medical colleges, Dr. Manning appointed Dr. A. D. Dunn, a pathologist at UNCM, as chief of the commission to investigate the laboratory and clinical side of influenza. A standardized history sheet was constructed to help physicians tabulate and monitor influenza cases, especially in Omaha's overcrowded hospitals (See figure 3.4). The purpose of the form was

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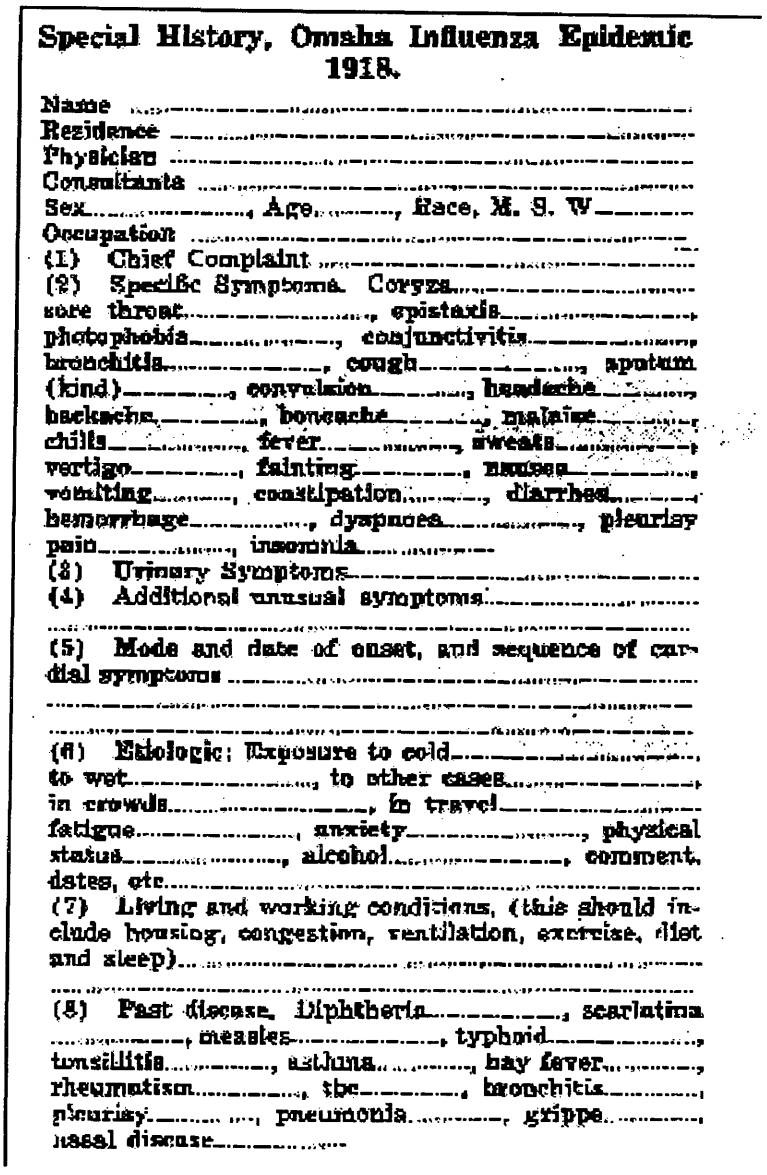
[62]True Voice, 1 November, 1918.

[63]Daily Bee, 20 October, 1918.

[64]"Spanish Influenza," Conservation of Public Series 6 (October, 1918). Author's collection.

to help track influenza cases while providing a degree of conformity for all of Omaha's doctors and physicians:

Figure 3.4[65]



Special History, Omaha Influenza Epidemic 1918.

Name .....
Residence .....
Physician .....
Consultants .....
Sex....., Age....., Race, M. S. W.....
Occupation .....
(1) Chief Complaint .....
(2) Specific Symptoms. Coryza.....
sore throat....., epistaxis.....,
photophobia....., conjunctivitis.....,
bronchitis....., cough....., sputum
(kind)....., convulsion....., headache.....,
backache....., boneache....., malaise.....,
chills....., fever....., sweats.....,
vertigo....., fainting....., nausea.....,
vomiting....., constipation....., diarrhea.....
hemorrhage....., dyspnoea....., pleurisy
pain....., insomnia.....
(3) Urinary Symptoms.....
(4) Additional unusual symptoms.....
.....
(5) Mode and date of onset, and sequence of cardial symptoms .....
.....
.....
(6) Etiologic: Exposure to cold.....,
to wet....., to other cases.....,
in crowds....., in travel.....
fatigue....., anxiety....., physical
status....., alcohol....., comment,
dates, etc.....
(7) Living and working conditions, (this should include housing, congestion, ventilation, exercise, diet and sleep).....
.....
(8) Past disease. Diphtheria....., scarlatina
....., measles....., typhoid.....,
tonsilitis....., asthma....., hay fever.....,
rheumatism....., tbc....., bronchitis.....,
pleurisy....., pneumonia....., grippe.....,
nasal disease.....

[65]Omaha Douglas County Medical Society, "Regular Meeting," n.p.

This standardized form was to be used by all physicians in the hope of identifying how influenza was passed from person to person. Above all else, Dr. Dunn felt that the commission's greatest importance was "nothing save to get a group of men to work together in the City of Omaha. . . ."[66]

In a similar vein, Omaha's Health Department requested numerous flu vaccines that had been developed to immunize individuals. Since influenza's arrival on the East Coast, the proliferation of various "medically" approved vaccines had reached a frenzy. Even Dr. Simon Flexner, the famous pathologist at the Rockefeller Institute, embarked upon a rigorous campaign to discover and isolate the agent that was causing the unknown severity in influenza patients.[67] Likewise, the Mayo brothers in Rochester, Minnesota, also proponents of a vaccine, attempted to mass produce a remedy for this deadly disease. Perhaps being realistic, Dr. Manning responded to the numerous vaccines by saying, "It is an experiment, pure and simple, and is not at all guaranteed to have the effect desired."[68]

The U.S. Public Health Service also provided information to aid physicians and nurses in their fight against the virus. Known as the "Public Health Reports," these informative bulletins discussed the best ways in identifying, treating, and caring for influenza patients. One such leaflet entitled "Spanish Influenza; Three Day Fever; The Flu," described the disease, its symptoms, and how to guard against it.

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[66]Ibid., 37.

[67]Joseph E. Persico, "The Great Swine Flu Epidemic of 1918," American Heritage 27 (June, 1976): 81.

[68]World-Herald, 19 October, 1918.

Specifically aimed at nurses, the pamphlet outlined instructions for making face masks, sustaining a sanitary environment, and gave guidelines for maintaining proper health.[69] Furthermore, fifteen physicians from the Public Health Service were sent to Nebraska to assist in combating influenza. Armed with the most recent knowledge, they instructed Nebraska's doctors on the latest techniques of identifying, treating, and preventing the spread of influenza.[70] These measures, although their effectiveness is hard to assess, marked the growing reliance upon the federal government during the early twentieth century to assist states in times of emergency. This dialogue between state and federal authorities, especially in relation to health issues, would establish an important precedent. But at the time, the growing number of dead was more important than the expanding powers of the federal government.

To bolster support for the closing order, Manning released several charts on October 31 showing the progress of influenza. This preliminary report listed a total of 319 deaths—a figure which was later shown to be under the actual total of 442 deaths. Hoping to gain support for his quarantine measures, Manning stated that it "prove[s] conclusively the value in limiting [the] contagion by the early closing order."[71] Manning also gave credit to the general public, the Visiting Nurses, the Red Cross, and the Associated Charities for their support of the closing order.

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[69]"How To Care for Influenza and Pneumonia Patients, Public Health Nurse (November, 1918): 238-245.

[70]World-Herald, 6 November, 1918.

[71]Daily Bee, 31 October, 1918.

By the end of October the epidemic had subsided enough to lift the closing order. On Friday, November 1, at midnight, the ban on public gatherings was lifted in Omaha and around the state. Protestant churches united in a "Go-to-Church" campaign for the upcoming Sunday. Believing that many people "are out of the habit of going to church," the ministers of Omaha initiated a public relations campaign to get members back into their assemblages.[72] Several churches divided their communities into districts, appointed committees in charge of each one, and visited homes with invitations to attend church. The Executive Secretary of the Omaha Church Federation, Frank Mayer, initiated a series of sermons relating the recent epidemic to God. "Lessons From the Epidemic" and "The Curse Removed" were two such sermons given in Omaha's Protestant churches.[73]

The epidemic, although officially over, did leave some lasting changes upon public life. At the All Saints' Episcopal Church the practice of drinking out of a common Communion glass was altered as to avoid contamination. Many theater owners were fearful that people would not return to their venues due to lingering apprehensions over the flu germ. To restore public confidence, theaters were fumigated, and in most cases minor repairs and a renovation of their vacant stages was initiated to spruce up their halls. Vaudeville acts were even forbidden to make fun of the flu as theater owners did not want to "revive disagreeable memories."[74] To commemorate Omaha's triumph

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[72]Ibid., 30 October, 1918.

[73]Ibid., 2 November, 1918.

[74]Ibid., 28 October, 1918.

over influenza, the Gayety began selling tickets for a 12:01 a.m. showing of "Majestics" on Friday, one minute after the closing order expired.

Manning cautioned that there remained a danger of a renewal of the epidemic unless people continued with their precautionary measures. Outbreaks in various neighborhoods were reported, but did not result in a renewal of the general closing order. Occasional "flare-ups," as the commissioner called them, would continue, but the general population should not be alarmed. Such localized outbreaks caused the Students' Army Training Corps and the Medical College at Creighton University to temporarily close. Still, with the lifting of the ban, Omaha resumed a somewhat normal schedule of activities despite the dangerous situation.

Fort Omaha also ended its month long quarantine by opening its gates on November 2. The base, reporting forty-seven deaths, had survived the Spanish flu being isolated from the general population.[75] To pass the time, bored soldiers played numerous games including chess, checkers, pool, dominoes, and even "impromptu quartets filled the evenings with doubtful harmony, while phonographs and pianos worked overtime." During the last week of the quarantine, "fence" passes were issued that allowed enlisted men to meet relatives and friends at the fence during the evening. Although a soldier's and the public's chance for infection was probably increased, morale took precedence over safety and received the benefit of the doubt.[76]

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[75]The forty-seven deaths at Fort Omaha were included in the city's total death count.

[76]The Gas Bag, 1 November, 1918.

Throughout November influenza cases remained fairly steady. It was the influenza season and some cases were to be anticipated. By December, however, the number of influenza cases was rising as was the pressure for a limited closing order. Dr. Manning described the outbreak as a mere "flare-up" in which several public schools might be closed to check the spread of the flu.[77] Fearful that school children were harboring the disease, the commissioner realized that closing the schools and allowing other crowds to congregate would offer at best minimal protection. The reason for influenza's return, according to Manning, was that people with mild cases of the flu were still circulating among the general public. "Walking through," as he described it, meant that sick people were still walking the streets with the disease, allowing the virus to linger. A ban on public gatherings was not on his mind, but instead, the emphasis focused upon educational work, offering precautions, and concentrating upon the treatment of existing influenza patients. Students at the University of Nebraska in Lincoln reflected the growing concern over the recent outbreak by demanding that the school be closed.[78] The flare-up, despite Manning's assurance, was turning into a widespread epidemic and Health Department action was once again required.

The City Council passed new restrictions that prohibited the street railway company from overcrowding street cars beyond seating capacity. To enforce these new measures, all strap hangers inside the cars would be removed and it was prohibited for anyone to ride on the

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[77]World-Herald, 2 December, 1918.

[78]Ibid., 11 December, 1918.

rear platform. One window in each car had to be permanently open to allow for proper ventilation. Normal street car service would continue, but the cars would not be able to service a large portion of rush hour traffic. President Gurdon Wattles of the Traction Company expressed concern that these measures would dramatically hurt his company's business and force many citizens to walk, or worse, ride jitneys and buses.[79]

Churches were also encouraged to abandon all social gatherings, conduct short services, seat their congregations in alternate rows, and prohibit hand-shaking. Mask-wearing, encouraged during the month of October, was not required due to its "limited value." Dr. Manning also warned Omahans of physicians who were overcharging their patients, especially for vaccines that the Health Department provided for free.[80]

This return of influenza was likely the start of the second wave of the pandemic. As high morbidity and mortality cases continued throughout November, the number of influenza cases in December returned to the October levels. Dr. Manning, although probably realizing the continued severity of the situation, also recognized the futility of imposing an ineffective and unpopular ban. Public opinion on the effectiveness of the various "closing orders" had grown increasingly impatient. The World-Herald on December 12 supported Manning's decision against another closing ban. Citing the failure of prohibitory closings, the editorial argued that rational individuals using sound judgment and proper care could do more for themselves than

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[79]Ibid., 12 December, 1918.

[80]Ibid.

public health officials. Obtaining "fresh air and sleep," and avoiding the "coughers and sneezers and spitters" would go a lot farther than being restricted to one's home.[81] People had grown weary of restrictions that had produced little evidence on whether or not a person contracted influenza. Dr. Manning himself, in subsequent correspondence, also called the quarantine useless because, "It is the carriers who spread it in most cases—the ambulatory cases that keep it going. We cannot quarantine against carriers. . . . I think quarantine is a farce."[82]

In light of the quarantine's ineffectiveness as a mandatory closing order, a new emphasis toward self-regulation was initiated. Stores of the Associated Retailers Association embarked upon a series of four steps to help prevent the spread of the disease that included:

1. A big advertising campaign to urge women to shop in the morning.

2. Special Christmas goods to be spread over more counters than are usually devoted to it.

3. Stores to be open from 9 a.m. to 9 p.m., beginning Monday and continuing until after Christmas.

4. Crowding of elevators to be restricted.[83]

These suggestions were only recommendations and it was up to the individual stores to enforce them. Street cars and their accompanying restrictions were also in the hands of individual conductors and often,

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[81] Ibid.

[82] Omaha Douglas County Medical Society, "Regular Meeting," 47-48.

[83] World-Herald, 13 December, 1918.

the public itself was responsible for compliance. In a similar manner, theater owners offered a voluntary action that allowed patrons to occupy only alternate rows. Manning, in a somewhat victorious gloat, said of the owner's compliance, "That means a heavy financial loss, but they offered it without a whimper."[84]

Whether or not this new direction in self-regulation was effective will never be known, for at the end of the second week in December, the Health Department reported its second highest level of influenza fatalities. One hundred and forty-two deaths were attributed to influenza for the week ending December 14, only second to the 168 that perished during the week ending October 17. This figure prompted Manning to attend a State Board of Health conference in Lincoln to determine what action, if any, the state should initiate in light of this recent outbreak. At this conference Omaha's Health Commissioner asserted that he did not favor a new general closing order and believed only in "a restriction of public meetings [that] serves the purpose as well."[85]

Despite Manning's view, the state conference adopted tougher standards for fighting influenza that included quarantine measures banning all public gatherings. Such measures were supported by earlier resolutions that permitted any health officer to quarantine individuals who were infected with a communicable disease. Violation of this order could result in a misdemeanor fine of not less than $15 and not more

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[84]Ibid.

[85]Ibid., 16 December, 1918.

than $100.[86] Dr. Wild outlined several state-wide problems, mainly a lack of uniformity in reporting the disease. Dancing, promiscuous nursing, visiting, crowding, sneezing, coughing, the use of roller towels, and the common drinking cup, were cited as the primary causes of influenza's spread. The state's recommendations were primarily intended for towns and cities other than Lincoln and Omaha. Most of Nebraska's smaller towns lacked an organized health board or any means to effectively report their health situation to the State Board of Health. In the case of Omaha, the city Health Department had developed a fairly accurate administrative system of tallying figures supplied by physicians.[87]

The problem that continually annoyed Manning was the nonchalant attitude toward the overcrowding of public places. Street car conductors were still ignoring the Health Department's instructions and were operating at full capacity. In an effort to restrict the number of passengers on the cars, Manning asked the Police Department to enforce his orders. The state also increased its activities by imposing three "don'ts" as a measure of its growing anti-influenza campaign. "Don't dance, Don't kiss, Don't talk," were suggested as guidelines for appropriate situations with neighbors and strangers.[88]

With theater owners and businesses complying with the new restrictions, Manning turned his attention to another problem. A ban upon public and private dancing, which fell under the scrutiny of the

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[86]State Board of Health, Meeting of Board of Health Record Minutes, 28 February, 1918, Nebraska State Historical Society.

[87]World-Herald, 18 December, 1918.

[88]Ibid., 19 December, 1918.

closing order, was an important anti-flu measure which the Health Department strongly supported. School dances as well as private dances fell under police scrutiny in an attempt to discourage the mingling of people. Manning's tough stance on dancing went beyond mere anti-influenza concerns when he closed the dance halls "on the theory that they are a menace to public health in general, 'flu' or no 'flu.'"[89] Dance hall proprietors failed to convince Mayor Edward Smith and Manning to lift the ban against their businesses, and dancing, at least in theory, was prohibited for another two weeks.

On December 20, the State Board of Health took a drastic action by declaring influenza a quarantinable disease. Every household containing one or more flu patients was placed under a strict quarantine and no member of the family was allowed to leave or enter the house.[90] In Omaha, blue quarantine cards were printed and tacked on those homes that contained flu patients. Approximately 1,000 homes were "closed" in which no one, aside from neighbors, could enter or vacate the premises. The penalty for violating the quarantine ranged from $15 to $100 and physicians were required by law to report any new cases of influenza. This measure would last four days after the patient's fever subsided, at which point the attending physician would declare the patient well. Manning voiced his continued skepticism by stating "I am not in favor of this quarantine . . . But we are compelled to enforce it as best we can."[91]

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[89] Ibid., 20 December, 1918.

[90] Ibid.

[91] Ibid., 23 December, 1918.

Omaha's Chamber of Commerce could no longer tolerate these draconian measures and made a formal protest to Nebraska's State Board of Health. Their complaint argued that if the order were allowed to continue, businesses would become "seriously demoralized," many firms would become bankrupt, and all communities would suffer heavily.[92] There was an ongoing split between Omaha and the rest of Nebraska that presumably influenced the Board's decision to enact such a restrictive order. Manning obviously believed that the State Board of Health had other interests pursuant to Omaha's health situation by stating that the action:

> . . . has always most certainly been taken at the instigation of a group of laymen outside the larger cities in the state. I am informed that the state board of health is taking the action, not because it believes in its efficacy, but because the sentiment in the state is in favor of it. However, this department will enforce the state board to the letter.[93]

Despite this open rift between Omaha, and to an extent Lincoln and the rest of the state, the epidemic was winding down just in time for the new year. The number of new cases was decreasing and with Christmas activities restricted on account of the flu, many citizens were anxiously awaiting New Year's Eve events. Orchestra leaders were informed that if the restrictions were not lifted, music would have to be played "suited to eating, but not to getting feet away from the table." On Monday, December 30, the general closing order was lifted just in time for the New Year. Dancing, however, was still prohibited until

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[92]Ibid.

[93]Ibid., 24 December, 1918.

January 2 because in the words of Manning: "Danc[ing] is the most potent cause for spreading the disease."[94] Manning's office issued an order that relaxed restrictions on the alternate rows of seats in theaters, the ban against public gatherings, and the order against overcrowding of street cars.

By the onset of 1919, Omaha's influenza cases had substantially diminished. The State Board of Health maintained its preventive measures by allowing the resumption of school only after January 1.[95] During the month of January, Dr. Manning issued a series of health bulletins that warned the public of influenza and suggested some general guidelines for proper conduct. "Better wear rubbers, 'goloshes,' or arctics now than to wear a 'wooden kimona' later," was advice given in the first series of bulletins. Such pointers also stressed keeping one's feet dry and head cool to minimize the constant threat from influenza. Although influenza cases were common throughout January, the virulent nature that had characterized the earlier outbreak did not reappear.

A third and final wave of influenza, although difficult to distinguish from the second wave, came in the spring of 1919. It, however, was not as severe as the second, but did claim a number of victims. The third wave, much like the first, was apparently not as virulent as the second wave. Due to the poor statistics and record keeping of the time, it is very difficult to distinguish the starting and ending point of this final wave in Omaha. Despite this deficiency, the

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[94]Ibid., 25 December, 1918.

[95]The total number of "school" days missed could not be found nor are there any official documents indicating the amount of time lost by school children. It does appear in Omaha, at least, that children missed anywhere from two weeks to a month of school on account of influenza.

fight against this unknown enemy was over for the time being and Omahans could once again return to their daily activities. Dr. Manning would retire as Health Commissioner by the end of 1919 and return to his position with the University of Nebraska College of Medicine. Much like the way he handled the public health crisis, this headstrong public servant would remain an active and vocal participant through different community organizations. Although influenza outbreaks would appear at regular intervals, the 1918 strain would go down in history as the single most devastating event to ever strike Omaha.

Chapter 4

SPANISH INFLUENZA'S IMPACT UPON OMAHA

Historians and scientists have relied upon a host of statistical methods and techniques in comparing different locations to better understand the ways that diseases can effect humans. In general, the 1918 influenza strain was especially contagious for young adults and led to a large number of fatalities in the twenty to forty age group. In terms of geographical impact, there was a wide range of mortalities within the U.S., as some cities were devastated while others were hardly touched by influenza's wrath. The East Coast, the country's first section to be afflicted during the deadly second wave, suffered the greatest per-capita when compared with other regions and subsequently bore the greatest number of fatalities.

For example, during the first ten weeks of the pandemic Philadelphia recorded 740 deaths per 100,000 of the city's population. The "City of Brotherly Love" estimated that 4,500 perished during a single week in October.[1] Other cities such as Pittsburgh, Nashville, Scranton, Kansas City, Louisville, and New York, reported large numbers of deaths related to influenza and pneumonia. With an endless amount of statistical information to digest, historical and medical

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[1]Crosby, America's Forgotten Pandemic, 74. The per 100,000 model will be used throughout this paper as a comparative model.

investigators need to determine the national and regional differences that occurred in relation to death counts. One vital tool at their disposal involves the use of excess death rates.

As its name implies, this measuring tool examines the excess deaths over the normal expectancy from influenza and pneumonia in order to chart the magnitude of a particular epidemic. In other words, the total of those deaths that *exceed* the expected or average number of deaths can be expressed in terms of excess deaths. The statistical information used to determine these rates is based upon the Registration Area—those states which submitted raw data to the Census Bureau. Unfortunately in 1918, the national aggregate figures can account for only eighty percent of the nation's population. As was true with sixteen other states, the Census Bureau deemed Nebraska's system of reporting vital statistics to be inaccurate and therefore excluded them from its tabulations.[2]

Despite these incomplete figures, the Census reports do offer enough information to determine a national excess death rate. The mortality statistics indicate that during the last four months of 1918, 4.8 per thousand perished. This figure, when compared with the 1917 and 1916 rates, illustrates the dramatic increase in influenza and pneumonic mortality rates. During these non-pandemic years the same death rate claimed approximately 1.7 per thousand in both 1917 and 1916.[3] Added emphasis must be given when one considers that these figures

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[2]Ibid., 206. States omitted were Idaho, Nevada, Arizona, Wyoming, New Mexico, North Dakota, South Dakota, Nebraska, Oklahoma, Texas, Iowa, Arkansas, Mississippi, Alabama, Georgia, Florida, and Delaware.

[3]Bureau of Census, "Mortality Statistics, 1919," (Washington, D.C.: Government Printing Office, 1921), 25-30.

tend to represent the conservative assessment of those who perished, especially in light of the fact that these are only the reported cases and not those which were mis-diagnosed or not reported. Using this information, the national excess death rate for the last four months of 1918 was estimated at 439.8 per 100,000. If one extends this rate to the other twenty percent of Americans who were not in the Registration Area, number of deaths who perished from September 1918 to March 1919 swells to 675,000 (See Appendix 2).[4]

Employing excess death rates that gauge the severity of a particular epidemic, however, is not without its limitations. Urban centers, which typically have dense concentrations of people, are more likely to experience prolonged outbreaks. Congested living conditions coupled with the close proximity of individuals tends to create an ideal environment for diseases to spread. Any extension of the urban excess death rates to those sixteen states that were mostly rural, may inflate the overall figures. Therefore, national figures extrapolated from seventy million urban dwellers may inflate the overall figures. Additionally, using excess death rates during the influenza season may include those who would have died without contracting influenza.[5] Aside from these deficiencies, the use of excess death rates provides the most accurate and reliable mode of calculating and comparing an epidemic's severity at the national level.

When the final figures are tabulated, Omaha's mortality rates are very similar to other U.S. cities. According to Health Department data,

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[4]Ibid.

[5]Richard E. Neustadt and Harvey V. Fineberg, The Epidemic that Never Was: Policy Making and the Swine Flu Scare (New York: Random House, 1983), 140.

during the last three months of 1918, Omaha had approximately 1,042 deaths attributable to influenza, of which 913 were excess deaths.[6] Omaha's excess death rate for the last three months of 1918 was 490.5 per 100,000.[7] In comparison, the national average among all cities with a population over 100,000, was 453.3.[8] Morbidity statistics, however, are much more difficult to assess due to the lack of accurate figures. Incompleteness of medical reports, misdiagnosis, failure to assign the cause of death, and a dramatic increase in the supply of patients undoubtedly led to inaccurate statistics regarding those who had the disease and those who did not.

In Omaha's case, Dr. Manning presented a report that indicated approximately 14,000 persons had been afflicted with influenza.[9] This figure, however, is likely an underestimation of the actual number of cases. National morbidity rates ranged from 15 percent to 53 percent, with the national average around 38 percent.[10] If these figures are applied to Omaha's population in 1918, morbidity rates would range from approximately 30,000-100,000—significantly higher than Manning's report of 14,000. Throughout the crisis, Omaha's Health

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[6]For a detailed study of excess deaths, see Selwyn D. Collins and Josephine Lehmann, "Excess Deaths from Influenza and Pneumonia and from Important Chronic Diseases During Epidemic Periods, 1918-51," Public Health Reports 68 (February, 1953), 1-21; and Crosby, 202-294.

[7]This figure applies only to the city of Omaha and not to Douglas County.

[8]Bureau of Census, "Mortality Statistics, 1919" (Washington, D. C.: Government Printing Office, 1921), 30-31.

[9]Dr. E.T. Manning, "Influenza in Omaha," Nebraska State Medical Journal 3 (December, 1918): 382.

[10]For a discussion of morbidity rates, see Edgar Sydenstricker, "Difficulties in Computing Civil Death Rates for 1918, with Especial Reference to Epidemic Influenza," Public Health Reports 35 (February, 1920): 330-332, W. H. Frost, "The Epidemiology of Influenza," Public Health Reports 34 (August, 1919): 1823-1837, and "Notes Upon the Pandemic," Nebraska State Medical Journal 4 (January, 1919): 27.

Commissioner acknowledged the failure of the city's physicians in accurately reporting influenza cases and was constantly at odds with those who failed to comply with his wishes. At a meeting of Omaha's medical community, Dr. Manning's stated, "I waited for advice [from physicians]. I didn't get it. I got very little spontaneous advice. I had to go to the doctors separately and individually ask for it. I hope that will not continue."[11] Other cities generally faced the same problem as morbidity rates fluctuated vastly from one locale to the next. And like other health departments, Omaha's difficulty in tabulating accurate figures reflected a nation-wide problem of tracking and recording influenza's deadly path across America.

The military, in which 90 percent were young adults between 20 and 35 years of age, not surprisingly had the highest morality and morbidity rates. Over a million men were hospitalized for influenza and pneumonia resulting in over 44,000 deaths. Overcrowded base conditions tempered by the arrival of fresh military recruits allowed the virus to spread at will. For Omaha natives, early reports indicated that 79 of its young men had died in the war. This preliminary tally showed that eighteen had died in battle, eight from accident, eleven reported missing in action, and forty-two from disease—twenty-three from influenza alone.[12] The final death count of 188 undoubtedly reflected a larger number of influenza victims.[13] In general, the overall death rate

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[11]Omaha Douglas County Medical Society, "Regular Meeting," Nebraska State Medical Journal 4 (February, 1919): 36.

[12]World-Herald, 12 November, 1918.

[13]Linda Miller, ed., Omaha: A Guide to the City and Environs, (Omaha: The Federal Writer's Project, Works Progress Administration, 1981), 30.

was about one-fourth higher in the Army than in the U.S. civilian population, further illustrating the severity of the pandemic's effect within military installations.[14]

Like other urban centers, the overall effectiveness of Omaha's actions in slowing the virus during the epidemic was minimal. As U.S. cities combated the virus, influenza cases continued despite heroic efforts by physicians, nurses, volunteers and citizens. Omaha's Department of Health report for 1918 listed respiratory deaths under a wide range of categories, many of which were directly or indirectly related to influenza. During the months of October through December, the number of deaths attributed to respiratory aliments in Omaha were as follows:

Table 4.1.

RESPIRATORY DEATHS[15]

	October	November	December	Total
Influenza	86	42	67	195
Pneumonia (Unclassified)	74	24	39	137
Pneumonia-Broncho	119	73	172	373
Pneumonia-Lobar	148	62	90	300
Other Pneumonic deaths	15	11	11	37
			Attributable Deaths to Influenza	1042

This report distinguishes influenza fatalities from those deaths attributed to pneumonic symptoms. In 1918 it was generally accepted among scientists that the etiology of the flu was composed of two organisms leading to numerous classifications of pneumonic deaths. Therefore

[14]Vaughan, Influenza: An Epidemiologic Study, n.p.

[15]Omaha Health Department, Annual Report of the Health Department (Omaha, 1918), 14.

morbidity and mortality statistics are very confusing due to the fact that the cause of death was capriciously labeled influenza or some other form of pneumonia.

To help account for these discrepancies, the Douglas County Health Department has compiled a useful table that arranges mortality figures into age-specific death rates. Although the county's figures could not be separated from Omaha's numbers and may inflate the overall total, these rates confirm that the very old (See Graph 4.5)[16] and young suffered immensely during the epidemic. And following the national trend, the twenty to forty-four age group suffered the most due to their sheer numbers and overall percentage of the general population. This age group, which constituted approximately 45.6 percent of Douglas County's population, accounted for 67.6 percent of the fatalities attributed to the pandemic. This group had the second highest death rate per 100,000, exceeded only by infants under age one, a much smaller cohort.[17]

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[16]The figures for Graph 4.2 fail to show the high mortality rate for the sixty and older age group because of its broad upper age range, "45 & Over." Graph 4.5, which is based upon individual death certificates, does show a greater death rate for the "60 & Above" category.

[17]Douglas County Health Department, "Influenza Deaths for Omaha, 1918 & 1919," Compiled from ledgers at the Omaha Vital Statistics Office. Author's personal collection.

Graph 4.2.

1920 Census of Population for Douglas County[18]

Age Group	Number	Percent
Under 1 Yr.	3,272	1.60%
1-4 Yrs.	14,317	7.00%
5-9 Yrs.	17,590	8.60%
10-14 Yrs.	16,157	7.90%
15-19 Yrs.	16,362	8.00%
20-44 Yrs.	93,263	45.60%
45 & Over	42,541	20.80%
Unknown	1,022	0.50%
Total	204,524	100%[a]

Age-Specific Death Rates for Influenza[19] 1918 (Douglas County)

Age Group	Number	Rate
Under 1	49	1497.5
1-4 Yrs.	92	642.6
5-9 Yrs.	35	250.1
10-14 Yrs.	22	136.2
15-19 Yrs	44	268.9
20-44 Yrs.	703	753.8
45 & Over	88	206.9
Total	1042	509.5

Applying excess deaths as a comparative tool reveals that Omaha's experience with the Spanish flu was very similar to that of other cities. Philadelphia, which had an enormous excess death rate, worked under a number of factors that contributed to the higher rate. In many instances, certain cities imposed mandatory orders requiring the use of masks, while others did not. Other cities fought the virus with well financed and properly managed health departments, while others did not. Omaha did not make flu masks mandatory, but had a relatively well organized health department. Dr. Manning and his fellow physicians, scientists, and administrators dealt with the pandemic in a relatively good fashion. Omaha's outcome was average, as the mortality statistics point out. But yet those who suffered and perished represented

[18]These are the only age groups found from the 1920 Census.

[19]Per 100,000 population.

a May not equal 100 percent due to rounding.

a tremendous loss to the city. But who were these forgotten victims and what did they represent to the citizenry of Omaha?

As part of this study, the Douglas County Health Department has provided vital statistics concerning the pandemic. Those figures are represented above. But for the more curious observer, an expanded investigation will attempt to go beyond the pandemic's mere aggregate picture. To do so, it was necessary to analyze each death certificate within the county. Although names could not be used, statistics based upon residence, sex, race, age, profession, date of death, and cause could be collected in order to develop a more complete picture of the event.[20]

Sorting through the typewritten and handwritten death certificates, reveals that the quality of the data varied immensely. In October when the epidemic was just starting, extensive information was included on each document. As the epidemic continued, the quality and amount of information substantially decreased. Certainly no one can blame overworked physicians for failing to do their paperwork when they were trying to treat their patients. Indeed these factors invariably limited the type and extent of research that could be completed. Nonetheless, these documents do yield a wealth of information that is missing from the compiled raw data and provide valuable insights into Omaha's plight with the Spanish flu.

Unfortunately, one of the problems associated with documenting over one thousand death certificates is the chance for error. One such uncertainty concerns the exact number of those who perished during the pandemic. The Douglas County Health Department's official records

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[20]Due to privacy issues, the names of the victims could not be used in this study.

indicated that 1,042 lost their lives during the outbreak. This figure was directly based upon figures collected by the Omaha Health Department and represents Douglas County and Omaha.[21] Alien and non-resident individuals as well as military personnel were frequently included in the statistics—inflating the overall figure. Sifting through the records at the Douglas County Health Department, a somewhat reduced total of 957 deaths were found to be directly or indirectly (i.e. lobar pneumonia, bronchial pneumonia) related to influenza between September 1 and January 1. Although this is 85 people short of the official records, this figure is large enough to offer an adequate sample of the general public.

One important aspect that the certificates reveal are the professions of the deceased. At the national level, certain occupations such as nurses, doctors, hospital personnel, and even miners, experienced a higher morbidity and mortality rate than other professions. One such study concluded that dishwashing by hand increased the incidence of influenza-pneumonia by three times![22] Although a nation-wide study of occupations has yet to be done, most reports indicate that professional occupation was not a factor in contracting influenza. In Omaha, such occupations ranged from farmer and packing plant worker to lawyer and housewife. No economic class was spared from the virus. Though it is not possible to list every job in

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[21]For the purposes of this study, the figure of 1,042 will represent the official death count.

[22]For those studies which have investigated the effect of occupation, see E. B. Star, "Excessive Mortality From Influenza-Pneumonia Among Bituminous Coal Miners of Ohio in 1918," American Journal of Public Health 10 (April 1920): 348-351, James Cumming, "Influenza-Pneumonia as Influenced by Dishwashing in 370 Public Institutions," 10 (Aug. 1920): 576-582, and Charles Lynch, "The Distribution of Influenza by Direct Contact—Hands and Eating Utensils," American Journal of Public Health 9 (January, 1919): 25-38.

Omaha, twenty-two of the most frequently cited occupations are listed below to illustrate the wide distribution.

Graph 4.3.

Professions as Indicated by Death Certificate for Douglas County[23]

Occupation	Number	Occupation	Number
Attorney	2	Managerial Position	10
Barber	2	None or Not Available	15
Baker	3	Nurse	10
Carpenter	12	Railroad	11
Child (Under 5)	163	Retired (as listed)	16
Clerical/bookkeeper	27	Salesperson	14
Engineer	6	Soldier	47
Fireman	5	Stenographer	6
Grocer	4	Student (Over 5)	67
Housewife	90	Teacher	7
Laborer/Pckng Plt.	257	Telephone Operator	6

Race is also noted on the death certificates. At the national level, William Noyes argues that race and ethnicity were factors in contracting influenza and that certain ethnic groups were more susceptible to the disease.[24] His study revealed that cultural and social tendencies may have accounted for this high rate of incidence within various ethnic groups. Arriving from Europe, many immigrants had come from rural areas, and had been isolated from many of the Old World's diseases.

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[23]Derived from author's computation of death certificates, Douglas County Vital Statistics Office, Omaha, Nebraska.

[24]See William Raymond Noyes, "Influenza Epidemic 1918-1919: A Misplaced Chapter in United States Social and Institutional History." (Ph.D. diss., University of California at Los Angeles, 1968).

At the turn of the century, Omaha was predominately white but had a large percentage of its population classified as "foreign born."[25] Whites, comprising the largest percentage of Omaha's population, had an overwhelming majority of those deaths associated with influenza. The death certificates, unfortunately, do not give enough information as to specific places of origin and subsequently fail to reveal a strong correlation between ethnicity and mortality. Since most immigrants who arrived in Omaha had been through a "seasoning" process, they were more likely to exhibit immunity to many infectious diseases. In the case of race, however, the evidence suggests that this factor was not a key element of influenza- related mortality in Omaha and Douglas County. There was a higher mortality rate for the category of Asian/Hispanic; however, this population base was too small to make any concrete conclusions (See Table 4.4).

Table 4.4.

Race as Indicated by Death Certificates[26]

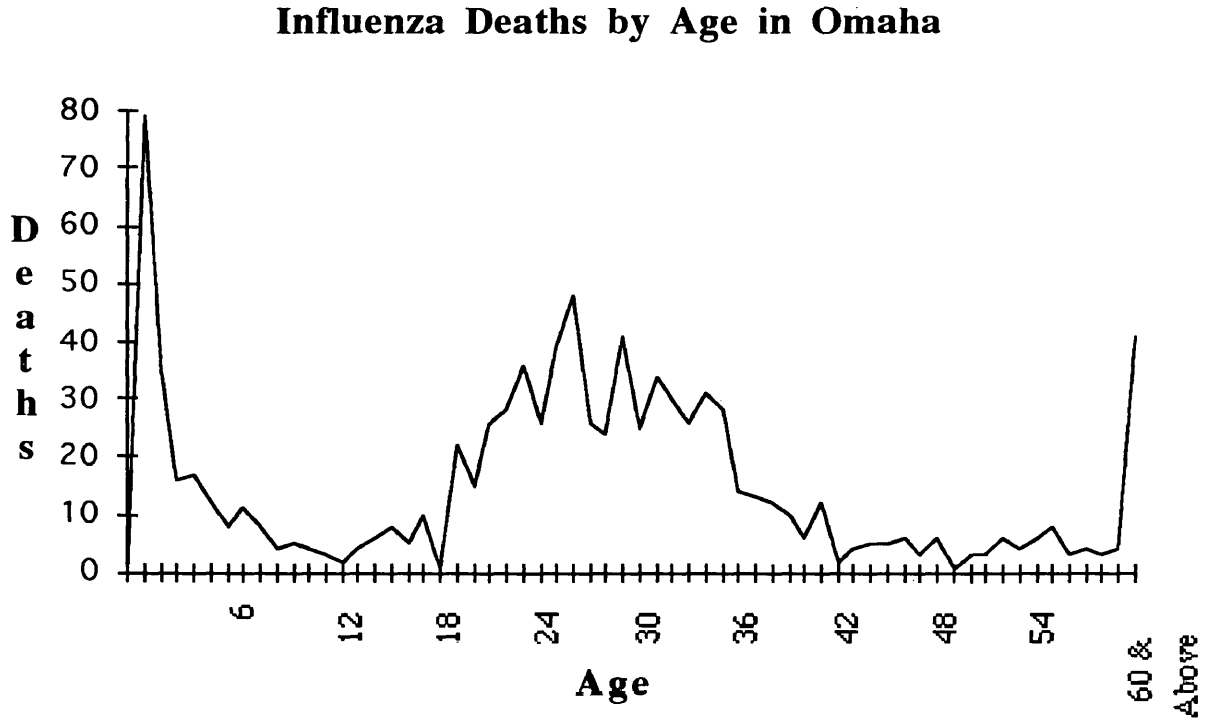
Race	Number	1920 Pop. of City	Percentage of Total Population	Percentage of Racial Group That Perished
Asian/Hispanic	5	240	0.12%	0.02083%
Black	37	10,315	5.30%	0.00358%
White	915	181,046	94.50%	0.00505%
Total	957	191,601		

[25]For a discussion of Omaha's ethnic composition, see Lawrence H. Larsen and Barbara J. Cottrell, The Gate City: A History of Omaha. (Boulder: Pruett, 1982).

[26]Population is based upon 1920 Census. Department of Commerce, Bureau of the Census, Population 1920: Composition and Characteristics of the Population by States Vol. III (Washington: Government Printing Office, 1923), 609.

A person's sex was not a factor in contracting the disease. In Omaha, of the 957 deaths, 470 were female and 487 were male. Whether you were a man or a woman, you stood approximately the same chance of infection. In the case of a person's age, the national statistics have previously been shown to indicate a high number of deaths in the twenty to forty age group. In Omaha, the mean age (average) of an influenza death was 26.6 and the median age (middle) was 27. Subsequently, Omaha's age pattern resembled the broader national pattern. Omaha's tabulations confirm that like other U.S. cities, a "W" shaped curve appeared in mortality figures.

Graph 4.5.[27]



[27]Graph's data is based upon the 957 death certificates and reflects the higher mortality rate for the "60 & Above" category.

This chart illustrates the high mortality rate that characterized the pandemic. The young and old, at least statistically, suffered the greatest from influenza. But unlike other epidemics, the strongest and healthiest portion of the population endured an abnormal number of deaths and therefore were the hardest hit of any age group. In 1918, influenza-related deaths accounted for 63.8 percent of the twenty to thirty-nine age group and in 1919, the figure was 49.5 percent (See Appendix 4 and 5).

Despite these successful measuring tools to assess the impact that a disease can have upon a community, one aspect of the pandemic has especially eluded medical historians. For many reasons, measuring the cost or economic damage of the 1918 pandemic in any precise way is probably an exercise in futility. With more than twenty-five million Americans infected, estimates have placed the direct economic loss at over three billion dollars. Likewise, an insurance industry expert described the pandemic as an "actuarial nightmare," costing the U.S. ten million years in productive lives cut off in their prime.[28] Although such calculations offer little concrete evidence in assessing influenza's impact upon American society, they do suggest the magnitude and scope of such a catastrophic event.

Unquestionably, the pandemic was a tremendous burden upon Omaha's businesses, its public services, and the city's normal economic activity. Stores were ordered to close early, people were discouraged from traveling on street cars during certain hours and from venturing out at night, labor shortages were apparent at various industries, and

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[28]J. P. Fincher, "America's Deadly Rendezvous With the 'Spanish Lady'," Smithsonian 19 (January, 1989): 144.

city services such as police and fire protection suffered from personnel shortages. Business proprietors who owned theaters, bars, saloons, and dance halls lost a considerable amount of money because of the flu.

One direct effect, however, could be measured through the canvassing and raising of war bonds. Omaha's Liberty Loan drives were severely impaired by the various closing orders as many were canceled, postponed, or completed with limited effectiveness. Such closing measures compelled many Nebraska locales to completely abandon public loan meetings, reducing the number of dollars raised for the war by as much as fifty percent.[29] As canvassers and speakers became ill with the disease, they too added to the total of influenza victims.

In Omaha, Manning's orders to close down businesses received a considerable amount of criticism. In the case of theater owners, their opposition to any kind of general closing order was apparent throughout October. Disgruntled owners complained that they were losing large amounts of money and had to fire many of their employees. Despite their protest, the closing order remained in effect until November 1 with all theaters effectively shut down. T. L. Johnson, owner of the Gayety theater, actually commended the health commissioner's actions by saying, "The wisdom of your foresight in taking the stringent steps. . . was fully justified. . . saving many lives."[30] Johnson's response came only after the State Board of Health enacted its state-wide restrictions, justifying Manning's earlier response to the epidemic in Omaha.

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[29]World-Herald, 5 October, 1918.

[30]Ibid., 23 October, 1918.

Although the owners of such theaters as the Orpheum, Boyd, Empress, Rialto, Brandeis, and the Gayety lost a considerable amount of money during October, their employees were completely without work and without pay. The Omaha Elks, helping the stranded actors and actresses, offered the financially strapped performers food and a place to stay. One such company, from the theatrical performance of "Somewhere in France," accepted the Elks offer. Some performers, needing money and a break from boredom, worked at the Armour packing plant while others sought employment at the Brandeis stores.[31]

Influenza's economic aftermath affected Omahans in numerous other ways. Public meetings were postponed, Christmas activities were seriously curtailed, and local merchants sustained heavy losses. Consumer prices, in an already inflated condition due to the war, put added pressure on Omaha citizens. Such innocent items as lemons, thought to be a preventive against influenza, were in such high demand that the price of a box of lemons rose from $3.65 to $7.65.[32] A rising cost of living created other problems for people on fixed incomes. And as one study concluded, economic restraints caused by the war in addition to the oppressive epidemic adversely affected many prices of agricultural goods.[33]

In spite of influenza's tight grip upon Omaha, daily activity continued, albeit in a restrained fashion. The endless stories of flu victims filled the newspapers on a daily basis as entire families, stricken

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[31]Ibid., 28 October, 1918.

[32]Daily News, 4 October, 1918.

[33]For a discussion of Nebraska's economic problems during and after the pandemic, see R. E. Dale, "Back to Normal," Nebraska History 38 (September, 1957): 179-206.

with the disease, relied upon the charity of others. Funeral notices were abundant during October, and many involved multiple burials from the same family. Individuals who attended a family member's funeral often contracted influenza and perished themselves.

The disruption caused by the pandemic affected all aspects of daily life. Schools, for example, were often closed for extended periods of time, some for a month. Although a majority of Omaha's children relished such a prolonged vacation, for some youngsters school continued in an unorthodox fashion. Miss Julia Newcomb's eighth grade class at Park School met at peoples' homes and even in a park to continue the children's studies. When the closing order barred any form of public assembly, the class persevered in their algebra and English studies through the telephone. "It is not fun, it is serious study, and they are working hard," remarked the steadfast Miss Newcomb who called daily upon every student to question them on algebraic problems.[34] Although the flu had closed all of Omaha's schools, at least some students were keeping up with their studies.

The majority of students, however, enjoyed a month-long break from school. Likewise, teachers were sent home with full pay. However, in November, Nebraska Attorney General Willis E. Reed ruled that teachers' salaries should not be paid during this period because the schools were closed. At issue was whether local school boards had the authority to continue to pay their educators during the closing order. A compromise was agreed upon whereby the teachers

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[34]Daily News, 25 October, 1918.

would make up "lost time" by teaching on Saturdays and shortening Christmas break from two weeks to one week.[35]

Omaha's hospitals, needless to say, were also overwhelmed by the number of patients contracting the virus. As early as October 19, the city's pneumonia wards were completely filled and additional space was required to house the incoming cases. At Methodist hospital, over 500 influenza patients were admitted during the months of October through December. The hospital claimed to have lost $10,000 for this period and reported an all time high of 4,314 patients.[36]

During such a time of despair, many individuals looked elsewhere for medical relief. Quacks offered numerous drugs, elixirs, nostrums, and home remedies to ward off the Spanish flu. "Borden's Malted Milk," for example, supplied the proper regimen to fight off infection. This nourishment, according to the manufacturer, was a necessary part of nature that was easy to digest without adding strain upon the impaired digestive organs. Vick's Vaporub should be used to "loosen the phlegm" to keep vital air passages open. The California Fruit Growers Exchange suggested that at the first indication of influenza, the sufferer should drink one or two glasses of hot lemonade. Dr. Hartman's World Famous Peruna should be used to restore and maintain the healthy condition of the mucous membranes. Despite the overall economic downturn, undoubtedly many unscrupulous as well as honest people did make money at the expense of others.

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[35]Ibid., 3, 11, 21, November, 1918.

[36]Hollis J. Limprecht, Nebraska Methodist Hospital: 1891-1991 (N.P.: Vanity Press, 1990), n.p.

Many times, the voids left by the medical community were filled with old home cures and treatments. Doctors' efforts to find a cure were yielding few results and people were increasingly turning to home remedies. Such nostrums included swallowing tiny doses of strychnine and kerosene to even devouring whole red-pepper sandwiches. Everything from beet salad to whiskey was promoted as preventive measures. Sprinkling the streets with formaldehyde was common in smaller towns and many people ate raw onions while wearing medicated bags around their waist. Others sprinkled sulfur in their shoes, placed vinegar packs on their stomachs, wrapped slices of cucumber to their ankles, and carried potatoes in their coat pockets. There is even one case of a mother burying her child from head to toe in raw onion.[37] Given the nature of influenza, most nostrums were probably not harmful and presumably gave some degree of comfort to a confused and stunned group of patients.

Omaha druggists reportedly did record levels of business as distressed citizens flooded local drug stores buying everything from antiseptics to quinine. The term "Manningitis" was commonly applied to this new type of disease that urged people to buy medicine for fear of catching influenza.[38] Paranoia certainly augmented the fear surrounding influenza and probably helped line the pockets of many individuals who offered their products.

Vaccines, considered the best preventive measure, were developed and promulgated by health officials and governmental agencies.

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[37]Fincher, "America's Deadly Rendezvous With the 'Spanish Lady'," 130-145.

[38]World-Herald, 5 October, 1918.

Professors at the University of Nebraska and Creighton medical schools developed a vaccine that was distributed free of charge. This treatment, which was similar to others on the east coast, "is not a cure. It is a preventive . . . [and] believed to be effective in a large number of cases," according to Omaha physicians.[39] The Union Pacific also offered free inoculation to its employees and in November, the U. S. Army offered a prophylactic vaccine. Although the validity of such therapies was questioned in medical circles, the public demanded such measures and used whatever remedy was available.

Throughout the epidemic numerous advertisements bombarded the public with different types of vaccines, elixirs, and serums. Different vaccines were tried but in the end, not a single one could prevent someone from contracting influenza. The Public Health Service, also a propagator of such vaccines, finally acknowledged in late November, ". . . there is as yet no specific cure for influenza, and that many of the alleged cures and remedies now being recommended by neighbors, nostrum vendors, and others do more harm than good.[40]

Most individuals, aside from the theater owners, complied with the closing order without protest. Even the National Association of Motion Picture Industries, meeting in New York on October 9, decided to discontinue all motion picture releases.[41] In the case of Omaha's Catholic churches conducting Masses in the open air, braving the cold weather appeared to be the only obstacle for the faithful. Whether Omaha's City Health Department had the legal right to ban church

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[39]Ibid., 25 October, 1918.

[40]Ibid., 30 November, 1918.

[41]Ibid., 10 October, 1918.

services, however, was never tested in court. In Maine and in Los Angeles, church officials were arrested when they defied the closing order imposed by the local boards of health. Catholic resentment toward such orders was growing as the epidemic waned into early November. The Reverend Hugh P. Smyth of Evanston, Illinois, encouraged Catholics to dissent and escape the wrath of secularism. Inviting people to fight "state absolutism," Smyth cautioned that unless something was done, "reckless church-closing will develop into a habit, to the complete demoralization of public worship in the suburbs of great cities. . . . Catholics must stir themselves."[42]

Such condemnations never had a chance to be tested in the Supreme Court as the various closing orders were lifted with the subsiding pandemic. In Omaha such religious restrictions were apparently obeyed with compliance and without question. Open air Masses were never banned and as long as the weather cooperated, Omaha Catholics were able to attend Mass.

In November, America observed two important political events: the Congressional elections and the signing of the Armistice. With the elections on November 5 and the end of fighting on November 11, the unrelenting pandemic was still in full swing in both America and Europe. As Alfred Crosby pointed out, "The war was over but Spanish influenza was not."[43] But what influence, if any, did the flu have upon such monumental events?

As Americans continued their battle against influenza in November, the great conflict overseas came to a long-overdue but

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[42]True Voice, 8 November, 1918.

[43]Crosby, America's Forgotten Pandemic, 172.

definitely welcomed end. A truce was signed that ended combat and immediately caused a world-wide holiday with thousands of people marching into the streets to celebrate the occasion. On November 11, Omahans, like the rest of the nation, marched through their streets in mass rejoicing with the end of "The War to End all Wars."

Although Omaha newspapers did not estimate the number of people who congregated for the celebration, it appears that anywhere from ten to thirty thousand people participated in the festivities. City officials, including Manning, made no mention of the large crowds and the potential for another outbreak of the killer virus. Five days latter, as might be expected, Omaha's health department reported 190 new cases of influenza in the city. As Manning pointed out, these new cases were a "direct result of the crowds which celebrate[d] the signing of the armistice Monday."[44]

Despite the expected increase in cases, President Wilson's trip to Europe took center stage as a defining moment in settling the ensuing peace. Although influenza's impact upon the drafting of the Versailles Treaty is difficult to ascertain, some historians, like Crosby, have suggested that the pandemic did play a role in influencing Wilson's decision-making process.[45] The failure of Congress to ratify the treaty and subsequently America's unwillingness to participate in the League of Nations can be ascribed to a number of events. To what extent influenza played a role in these affairs, is a question that has yet to be fully answered.

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[44]World-Herald, 16 November, 1918.

[45]Crosby, America's Forgotten Pandemic, 189-196.

With the fall elections, President Woodrow Wilson had hoped for Democratic majorities in the two houses, both to shore up his power in the White House and for a strong endorsement of his post-war programs, namely the League of Nations. The Treaty of Versailles officially ended World War I and set forth a new direction in European politics. Unfortunately for Wilson, the Republican Senate failed to ratify the treaty and subsequently undermined his efforts for a "New Order." Although many critics have blamed Wilson for the failure of the treaty, one thing is certain. If the Democrats had controlled the Senate, the fate of the Versailles Treaty probably would have been very different.

Although history is full of "what ifs" and "could haves," the hypothetical question still deserves attention. Was it possible that the pandemic played a crucial role in the outcome of the election? Because the presidency was not at stake, voter turnout would probably be low. Numerous studies have investigated this theory, each attempting to find an aberration in the 1918 voting patterns of constituents. The fact remains, however, that a Republican victory, by the swing of a few thousand votes in key states, could have easily been a Republican defeat.[46]

In Nebraska, 1918 was a good year for the GOP as well. Voter turnout was markedly down, as probably influenced by a number of factors. Spanish influenza unquestionably had some impact upon pre-election campaigning. Political meetings were rescheduled or canceled, rallies and parades were curtailed, and the various closing orders hampered the public's participation in the campaign process. S. R.

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[46]Ibid.

McKelvie, Republican candidate for Nebraska's governor, had to call off his campaigning in the second and third district on account of influenza. The epidemic had become so serious that several towns around Norfolk threatened to close completely.[47] As the elections proceeded in Nebraska and the rest of the United States, influenza's impact became apparent in the voter turnout.

Although there were a host of factors that could be attributed to the defeat of Wilson's idealism, influenza probably was not the decisive element. Fortunately for our political system, the virus apparently did not discriminate between Republicans and Democrats. Partisans in both camps stood the same chance of infection. Nebraska, like the rest of the nation, did witness a large drop-off in the number of votes cast, but some districts that were traditionally Democratic voted Republican. Addison Sheldon, in his discussion of the 1918 election, credited the Republican victory to a host of Democratic failures. Specifically, Sheldon attributes this voter turn-around to the Democrat's shift in supporting prohibition and a general belief that the party was corrupt at the national and state level.[48] In all likelihood these results were not related to the pandemic but, instead, were the product of other electoral concerns.[49]

Nonetheless, national voter turnout in 1918 was markedly lower from previous years. The result was a Republican majority in the House of Representatives, picking up thirty seats, and seven in the

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[47]Daily News, 19 October, 1918.

[48]Addison E. Sheldon, Nebraska: The Land and the People, Vol. I (Chicago: Lewis Publishing, 1931), 949-955.

[49]See Seward W. Livermore, Politics is Adjourned: Woodrow Wilson and the War Congress, 1916-1918 (Middletown, Ct.: Wesleyan University Press, 1966), 185-186.

Senate. The following table lists the final vote count in Nebraska from 1912 through 1924 for House elections, illustrating the dramatic decrease in votes cast and the Republican victories in two traditional Democratic districts.

Table 4.6.

House Elections For Nebraska
1912-1924[50]
(Total Vote Count and Party Affiliation)

Year	District 1	District 2	District 3	District 4	District 5	District 6
1912	33,116 (D)	33,883 (D)	47,906 (D)	40,572 (R)	36,340 (R)	52,050 (R)
1914	30,600 (R)	27,368 (D)	44,495 (D)	41,125 (R)	32,604 (D)	48,572 (R)
1916	37,915 (R)	46,117 (D)	53,596 (D)	42,852 (R)	40,979 (D)	55,876 (R)
1918	*29,042 (R)*	*26,141 (R)*	*43,557 (R)*	*35,804 (R)*	*35,087 (R)*	*46,383 (R)*
1920	52,173 (R)	51,542 (R)	55,541 (R)	55,046 (R)	54,328 (R)	76,134 (R)
1922	48,154 (D)	54,607 (R)	72,025 (D)	58,281 (R)	58,629 (D)	77,342 (R)
1924	63,339 (D)	69,197 (R)	81,172 (D)	65,760 (R)	64,637 (D)	92,528 (R)

Although this evidence supports the national trend of low voter turnout, further studies are required to reveal the causes of such a decline. Influenza's impact upon the mid-term congressional elections of 1918 may have been minimal, but to President Wilson, the outcome may have ended his dreams of giving America a proper voice in international affairs.

Politics aside, no epidemiologist, scientist, or historian will ever be able to assess the loss of 1,042 Omahans who perished because of a lethal virus. Apart from the mortality and morbidity figures, one cannot measure the impact of the epidemic. In one instance, three men from the city's south side were arrested for abusing their wives. The

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[50]John L. Moore, ed. Congressional Quarterly's Guide to U.S. Elections 2nd ed. (Washington: Congressional Quarterly Inc., 1985), 875, 882, 888, 894, 899, 904, 909.

police report claimed that the flu's stress was the cause of their behavior. One man claimed that his drinking, to keep from getting influenza, had driven him to hit his wife.[51] Influenza's effect upon families was undoubtedly harsh. In one case the parents of a husband and wife who had secretly eloped, were horrified when they were notified of their marriage and deaths. Influenza had struck the wife first and the husband quickly followed suit. Both perished within twenty-four hours of contracting the virus, much to the horror of their parents.[52]

The Spanish influenza pandemic of 1918 affected the daily lives of Omahans in numerous ways. This tragedy was greatly amplified by the fact that a large percentage of the mortalities came from the most vibrant section of society. What can be measured are the lives of those who survived the pandemic and their lasting contributions to society.

Unfortunately, the aggregate figures tend to diminish and even shroud the virus's impact upon the human experience. In addition to claiming a number of victims, the disease also had a profound affect on those who fought the virus daily. Irene Armond provides a vivid example of the devastation caused by influenza. A graduate nurse, Armond was bed-ridden with an inflamed appendicitis. Despite her doctor's order to stay in bed, she answered the call for volunteers to assist physicians with flu patients. After watching day and night over other patients, she herself contracted influenza and died within forty-eight hours.[53] Numerous other nurses fell ill while they courageously

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[51] Daily News, 28 October, 1918.

[52] Ibid.

[53] Ibid., 12 October, 1918.

stayed by their patients' bedside. Florence McCabe, Superintendent of the Visiting Nurses' Association, provided Omaha with nurses that the city desperately needed. She coordinated relief efforts with the Red Cross to provide flu victims with volunteers "to cook meals and generally comfort the sick."[54]

Individuals like Mrs. J. A. Tancook, who aided influenza sufferers, and the countless other women who volunteered, are the real heroines who spent endless hours in the homes of families who were too sick to take care of themselves. Most women did not have formal training, but were society women or girls who worked during the day and offered their services at night. Mrs. Roy Dennis, in charge of a south side soup kitchen, prepared soup, rice, and egg-nog for victims who could not venture outside of their homes. Using donated vehicles, women at these and other soup kitchens brought food and clothing to hundreds of Omaha homes. Their efforts and the labor of other women sustained the morale of many families and provided comfort to the sick while putting their own health at risk.

Others, such as Miss Carrie Millard, chairman of Omaha's French section, epitomized the courageous effort by many of Omaha's women. Organizing a soup kitchen at All Saints Church, Millard and her fellow samaritans made soup, gruels, custards, and other food items for those who could not leave their homes. Still others contributed their time by delivering food and shuttling the Visiting Nurses throughout Omaha's afflicted neighborhoods. Mrs. L. C. O'Brien, who braved the weather and disease to deliver food and clothing to needy victims, is just one

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[54]Lyons, "A History of the Visiting Nurses Association of Omaha," 72.

example of the many brave volunteers who risked their lives to aid their fellow citizens. Wearing rubber boots and a raincoat, she drove her car on a daily basis to make sure canned fruits and jellies, cooked rice, custards, and soups were provided to influenza patients. Frequently wading in ankle-deep mud, her perseverance exemplified the efforts of Omaha volunteers who sacrificed for others.

Mrs. Frank W. Carmichael also provided invaluable leadership during the epidemic. Appointed as the chairperson of a Red Cross influenza committee, she oversaw an organized drive to recruit nurses to assist doctors in the homes of sick patients. Mrs. Carmichael's committee, along with other philanthropic organizations, served an important function in establishing food kitchens that aided families during the crisis.[55]

The Red Cross's efforts to save lives unquestionably had a large impact upon influenza victims. Following the lifting of the closing order, more than one hundred volunteers from various auxiliaries met at the YWCA in Omaha to report upon their efforts in fighting the Spanish flu. Mrs. Roy Dennis, representing South Omaha's soup kitchens, stated that during the month of October, 990 quarts of soup, 80 quarts of cooked rice, and other foodstuffs were dispensed to flu patients. The hospital garment department produced bedsheets, sleeping garments, towels, and other supplies to the VNA. A cutting department reported that 14,000 gauze masks, 1,188 bath robes, 1,007 regugee garments, and 110 civilian garments were made for Red Cross workers and nurses. Even a special department was created to produce "comfort

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[55]Ted Metcalfe, A Story of Good Work Well Done: Being A History of the Omaha Chapter American Red Cross (Omaha: Omaha Chapter American Red Cross, n.d.), 42-43.

kits" for influenza sufferers. Throughout the epidemic, over 200 Omaha Red Cross auxiliary organizations participated in the fight against this disease.[56]

Physicians accustomed to seeing ten or fifteen people a day were making forty or fifty house calls within a twenty-four hour period. The cooperation among doctors, nurses, and civic leaders had an enormous effect upon the community's morale. The Reverend Denton Cleveland publicly offered his services to anyone needing help and in one instance, had to crawl through a window to help a sick doctor and his wife to the hospital.[57]

With the closing of theaters, club rooms, churches, picture houses, lodges, and ballrooms, disheartened citizens looked elsewhere for entertainment. Many Omahans, up to the legal limit of twelve, became avid bridge players inviting friends and neighbors into their homes. Picnicking, probably not a normal October activity in Nebraska, quickly became very popular. Frequent excursions to Elmwood Park involved a sizable portion of the city's inhabitants. Lured by the park's community stove, many residents took refuge on the weekend and took great liberty in being outdoors.[58] Although not effective in preventing the spread of influenza, these activities kept Omaha's weary citizens busy during October.

Lastly, influenza's wrath harbored no prejudices against any particular economic class. In its diffusion across America, the disease

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[56]Ibid., 44.

[57]Ibid., 21 October, 1918.

[58]Ibid., 27 October, 1918.

showed little discrimination in who it struck. Whether one was a lawyer, teacher, packing-plant worker, or common laborer, one stood the same chance of infection. Although a few professions exhibited a higher incidence of infection, as mentioned earlier, economic status generally did not reveal a strong correlation to morbidity and mortality rates. But was this lack of a pattern also evident in Omaha?

To help answer this question, it is useful to employ Richard K. Wilson's thesis regarding the city of Omaha's progressive spirit at the turn of the twentieth-century. His work, "Business Progressivism in Omaha: 1900-1917," examines those components that helped define the city's progressive movement, outlining the economic differences among divergent political reformers. Certain socio-economic factors, such as literacy levels, education, and the number of families per dwelling, were used to determine the economic level of the city's various wards. Using these determinants, the wards, according to Wilson's model, fell into three distinct economic areas—high, middle, and low sectors of economic status. The most important aspect of Wilson's argument for this study is that he found a geographic pattern to the socio-economic and political divisions within the city, suggesting that there was a outward movement of wealth emanating from the city's center wards to the city's outer wards (See Map Appendix 3).[59]

What this means for the 1918 outbreak is that addresses of influenza victims given on death certificates may show a correlation between a person's economic status and their chance of contracting the Spanish flu. Wilson used census material from 1910 to show this degree

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[59]Richard K. Wilson, "Business Progressivism in Omaha: 1900-1917," (M.A. thesis, Creighton University, 1977, 1-27).

of association between wards and the three socio-economic indicators of literacy, education, and families per dwelling. Three economic divisions emerged through this analysis and occupied certain geographic areas of the city. Wilson described those sections as "hilltop," "flat river area," and "central core." Using death certificates in conjunction with Wilson's economic divisions among the city wards, it is possible to determine where the 957 identifiable influenza victims lived and assess their socio-economic status based upon their ward residency. Unfortunately, Wilson's study presents a number of limitations that restrict a detailed analysis, especially since his study was based primarily upon the 1910 census.

In Omaha the years between 1910 and 1920 can easily be defined as a period of great population growth and expansion. By 1915, two of the largest suburbs—South Omaha and Dundee—were added to the city by popular vote and greatly enlarged Omaha's population and area. Six additional annexations were made in 1917 that added Florence and Benson to the city as well as a plan to redistrict many of the inner wards. The overall purpose was to include these new annexations within the established twelve-ward framework.[60] These additions severely altered Wilson's original configuration of the city's wards and by 1918, the city had a much larger area encompassing a much larger population.

Moreover, Wilson's analysis fails to take into account those individuals who lived in South Omaha and therefore were outside of his study's parameters. Many individuals, who listed occupations that

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[60]The intent was to keep the twelve wards so that the existing boundaries of the voting precincts could be preserved. See Omaha World-Herald, 27 July, 1915.

would suggest a middle to high economic status, could not used with Wilson's map because of their address. As such, the figures may distort the actual distribution of deaths as they occurred throughout the city's various districts and may preclude any final analysis of influenza's diffusion within Omaha. Despite these changes, Wilson's thesis still offers a valuable framework in determining the victims' economic status.[61]

Comparing data collected from the influenza death certificates with Wilson's structure of Omaha's wards confirms that there was no clear relationship between economic position and incidence of infection. Unfortunately, the 957 confirmed deaths could not entirely be located within the city limits. Some had no reportable residential location; others were outside of Wilson's 1910 parameters (not included in the study, i.e. South Omaha, Florence, etc.), and many more merely listed a hotel or a hospital as place of residence. After discarding those who could not be placed within Wilson's 1910 configuration of twelve wards, there only remained 583 individuals. Although this greatly diminishes the overall mortality figures, those that could be placed on Wilson's socio-economic map suggest that Omaha's experience with the deadly pandemic mirrored that of other U.S. cities.

Using Wilson's parameters, of the 583 deaths, 205 occurred in wards that were characterized by a high degree of economic status (Wards 7, 9, 11, and 12); 251 were located within the middle income wards (Wards 1, 2, 5, and 6); and 127 were found within the lower

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[61]According to the City Council, the following changes were made: the Fourth ward's territory was given to the Eighth ward and a new Fourth ward was created from the three south wards of South Omaha; the Tenth ward was divided among the First and Second wards and a new Tenth ward comprised the four north wards of South Omaha. The two precincts in Dundee were added to the Eleventh ward.

income wards (Wards 3, 4, 8, and 10). Adjusting for the redistricting, since Wilson's map was based upon 1910 figures, does alter some ward boundary lines. Accounting for this discrepancy, however, still leaves the majority of the figures intact and demonstrates the even diffusion of influenza across the city.

Table 4.6

Rate of Infection in Omaha's Wards

Economic Level	Wards	Deaths	Ward Population[62]	Percent. of Total Pop.
High	7, 9, 11, 12	205	60,421	31.54%
Middle	1,2, 5, 6	251	71,664	37.40%
Low	3, 4, 8, 10	127	59,516	31.06%
	Total	583	191,601	

In Wilson's study, the wards that tended to represent the poorer parts of Omaha were generally located near the eastern-center of the city. The city, in contrast to today, was spread out along a north-south axis (See Appendix 3). Although the relatively small number of deaths associated with these wards (3, 4, 8, and 10) and their large population (59,516) suggest that the inner-city fared better than other parts, it is also likely that a majority of those individuals who could not be identified with a specific address lived within these areas. Based upon the 1920 Census, the higher economic wards (7, 9, 11, 12,) accounted for 31.54 percent of the population with 205 deaths; the middle economic wards (1, 2, 5, 6,) accounted for 37.4 percent of the population with 251 deaths; and the lower economic wards (3, 4, 8, 10,) accounted for 31.06% of the

[62]Ward population is based upon 1920 census. Department of Commerce, Bureau of the Census, Population 1920: Composition and Characteristics of the Population by States Vol. III (Washington: Government Printing Office, 1923), 609.

population with 127 deaths. Adjustment for the redistricting in 1917, although somewhat crude due to the inaccurate divisions, still shows that mortality figures did not adhere to economic nor political boundaries.

Although this crude approximation may generate more questions than it answers, the numbers do show that every ward felt the effect of the pandemic and that regardless of an individual's neighborhood (rich, poor, or otherwise), they were not immune against infection. A breakdown of each ward, accounting for ethnic, gender, race, and socio-economic composition, would undoubtedly offer a more accurate picture of what happened in Omaha during those fateful months in late 1918. Unfortunately, such an analysis is beyond the scope and resources of this study and must be only offered as a suggestion for further scholarship.

Despite these unanswered questions, there are a number of conclusions that can be drawn from the evidence amassed so far. In comparative terms, Omaha's mortality rates resembled those of the national average. Based upon population, the excess death rate confirmed the severity of the epidemic while also showing that Omahans were near the middle within U.S. totals. Morbidity rates, as elsewhere, were difficult to determine and continued to be so as long as the actual cause of influenza remained a mystery to scientists and physicians. Richard Wilson's thesis, although not offering all of the answers, does provide some clues to as who fell prey to the Spanish flu. Combined with other evidence, the widespread nature of influenza's expansion in Omaha supports the general assumption that economic position did not guarantee immunity or susceptibility.

Influenza also did not appear to discriminate based upon sex, ethnicity, political affiliation, or occupation. In Omaha, race did not appear to play a significant role in contracting the disease and what effect, if any, the epidemic had upon the Congressional elections of 1918 seemed minimal. It is clear, however, that a person's age did matter. Striking the very young and old, the disease also unexpectedly struck the twenty to forty age group. Omaha's death count reflected the national and global trend—an uncanny disposition to striking the healthiest and most active part of the human population.

With the disruption of everyday life, many of Omaha's normal activities had to be curtailed or completely stopped. As schools, businesses, and churches were closed, a growing tide of resentment gradually swelled into an active chord of opposition against the general closing orders, a force with which even Dr. Manning eventually agreed. Aside from the sheer economic loss, there were countless inestimable long-term human losses. The crisis, however, also brought out some of society's best traits as many women and men risked their lives to save others. The many people who survived the 1918 Spanish influenza pandemic bear human testament to the constant struggle against diseases and their disruptive forces. And for influenza, the struggle continues to uncover the lethal virus in its evolutionary game of hide and seek as new strains constantly emerge along the viral frontier.

Chapter 5

CONCLUSION

A doctor in a small town was asked by the banker, " What is flu?" The doctor said: "Flu is grippe and grippe is flu." But the doctor was taken sick and had the flu, and he nearly died, and as he hobbled around, the banker met him and said: "Now what do you think of the flu?" The doctor replied: "Influenza is influenza; la grippe is la grippe, and the flu is a hell of a thing." [1]

It has been almost eighty years since the deadly pandemic visited Omaha. As the virus spread across America, many communities suffered greatly from the fury of the killer disease. The city of Omaha, a medium-sized midwestern urban center, is just one of many municipalities that got in the way of Spanish influenza's path of destruction. Compared statistically with other communities, Omaha fared about average. Still, the loss of 1,042 citizens from influenza and pneumonia during the last three months of 1918 represents the single greatest catastrophe ever to afflict the city.[2]

As scientists and researchers scrambled to find a cure for this old illness, Omahans did what they could to fight the flu. Having some warning of the approaching pandemic, officials established such measures as quarantines, closing orders, and the issuance of masks. Although these measures did little in preventing its spread, at the time

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[1] Omaha Douglas County Medical Society, "Regular Meeting," 38.

[2] Numerous studies discuss the 1918 pandemic's effect upon urban centers. See Fred Van Hartesveldt, ed., The 1918-1919 Pandemic of Influenza: The Urban Impact in the Western World, (Lewiston, N. Y.: Edwin Mellen Press, 1992), 118-160.

medical science considered them the best means in fighting influenza. Despite being unaware of the true nature of influenza, Omaha Health Commissioner Dr. Ernest T. Manning and his fellow health officials courageously initiated heroic efforts in an attempt to control the developing epidemic. Although not unique, their sacrifices and the losses sustained by Omaha's citizens occupy an important element of the city's history that should be remembered. These lost individuals need to be commended for their resolve to do what was necessary in a dangerous situation that has frequently been forgotten or misplaced within the annals of history.

To help bring this past into the present, modern research has clarified a number of mysteries that perplexed physicians and health officials during the 1918 pandemic. As a virus, influenza is highly contagious and therefore easy to spread among the general population. The 1918 strain was especially deadly in that it opened the door for secondary invaders, or "bacterial hitch-hikers." Spreading over the respiratory tract, our body's defense mechanisms of antibodies and white blood cells could not keep up with the virus's vigor. Many experts, including Alfred Crosby, point out that the killer pandemic was really a pandemic of pneumonia, and not influenza.[3] The virulent nature of the virus in conjunction with different bacteria like streptococci, pneumonococci, and staphylococci, presumably combined into a lethal killer that literally drowned their victims' lungs with their own fluids. But why should this fatal concoction kill young adults so readily?

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[3]Crosby, America's Forgotten Pandemic, 219-220.

The question of why the virus affected this robust and vibrant age group has never fully been answered. One possible explanation suggests that the high mortality rate among the twenty to forty age group is a product of sociological, political, and geographical considerations. Robert S. Katz, in his study of mortality figures, postulated that the massive immigration of the late nineteenth century was composed mainly of Russians, Italians, and Poles. These ethnic groups were shown to have generally originated from rural areas, lacking any immunity to influenza. As they moved to America's congested urban cities they became easy targets for the disease. Katz's study compares these new arrivals with other well established ethnic groups, such as the Irish, Germans, and English. His findings reveal that those ethnic groups that had been in the United States did not suffer as much as the new immigrants. As he concludes, immigration patterns of certain ethnic groups and their higher degree of susceptibility were the primary reason for the unusual influenza mortality rates.[4]

His theory, however, does not fully explain why some individuals, who had lived in America since birth, exhibited similar conditions to those of the more susceptible immigrant class. Additionally, many Omahans who were registered as immigrants had already spent considerable time in America. According to the 1920 Census, of the 35,645 individuals classified as foreign born living in Omaha, 28,888 or 81.1 percent had lived in the United States since 1913. Even more significant, 19,092 or 53.6 percent had lived in America since 1905 (See

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[4]Robert S. Katz, "Influenza 1918-1919: a study in mortality," Bulletin of the History of Medicine 48 (Fall, 1974): 416-422, and "Influenza 1918-1919: A Further Study in Mortality," Bulletin of the History of Medicine 51 (Winter, 1977): 617-619.

Appendix 6).[5] And despite this fact, the city's mortality rates followed the national trend. One can suggest that Katz's theory regarding immigration may be true in cities where many immigrants had recently arrived from the Old World, such as those metropolitan areas on the East Coast. In Omaha, however, mortality rates suggest that immigration was not a key factor in contracting influenza.

Another theory, set forth by an Australian immunologist, Sir MacFarlane Burnet, has been widely accepted as the best explanation of why the twenty to forty age group, overall the strongest and healthiest part of the population, sustained the highest percentage of influenza deaths. His theory maintains that these individuals' immune systems had an entirely different reaction to the massive inflammation. In essence, the local inflammation that characterized the initial infection was rapidly replaced by general inflammation, thereby producing an excess of fluids overwhelming the lungs. Unable to rid themselves of this enormous increase in fluids, influenza victims simply suffocated in their own secretions. These young adults' immune systems were at their peak and in a sense, over-reacted to the virus. This theory will remain a theory until scientists are able to better understand the genetic make-up of the virus. Burnet's explanation, although not accepted by all epidemiologists, is currently the best theory of why the 1918 strain was so virulent.[6]

Such theories and advances in understanding diseases and their processes eventually led to new directions in safeguarding the public's

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[5]Bureau of Census, "Abstract of the Fourteenth Census of the United States" (Washington, D.C.: Government Printing Office, 1923), 324-325.

[6]F.M. Burnet and Ellen Clark, Influenza. (Melbourne: MacMillian, 1942).

health. The American Public Health Association (APHA), meeting in New Orleans in October 1919, adopted administrative measures to create a unified coalition to combat the next influenza epidemic. It was apparent that the experiences of the 1918 influenza pandemic showed these officials that they knew very little about combating the disease. Such preventive measures reinforced the practices of isolating patients, prohibiting public gatherings, vaccination, and creating educational propaganda designed to inform the general public of the dangers associated with influenza. Meeting again on December 11, 1919, the APHA passed a series of resolutions that combined the efforts of the Rockefeller Foundation with public and private sources to mobilize the nation against influenza. An effort to bring about "unity of action" by all health authorities against epidemics was established through the framework of various committees. The intent was to create a "standing army" of doctors and nurses, ready whenever the next epidemic appeared.[7]

Because of influenza's somewhat cyclical reappearance during the twentieth-century, the World Health Organization (WHO) in 1971 adopted a system that categorized and charted the different influenza viruses. This method of designation includes the antigenic type (A, B, or C); the species from which the strain was first isolated (if non-human); the country or city where it was found; its laboratory strain number; the specific H or N antigens, and the year of isolation. In 1976 a particular swine flu virus was identified and formally named A / New Jersey / 8 / 76 / (HswINI). Distinguishing and labeling different strains

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[7]Allen W. Freeman, "Administrative Measures Against Influenza," American Journal of Public Health 9 (December, 1919): 919.

of influenza help scientists and doctors better track the seasonal variations and, more importantly, locate the virus's specific place of origin.

In regard to "flu" masks, experts today agree that they provided little protection from infection. Most individuals would wear masks with only four or five layers of gauze, insufficient protection for a virus. People would wear the masks in public, but then remove them when amongst family and friends. The psychological protection afforded by the masks more than likely increased the chance for infection since people believed they were completely shielded. Even today, the only sure way of preventing influenza's spread is through a strict quarantine—an option attempted in 1918 but with limited success. Vaccinations, likewise, were of an entirely different nature since it was generally believed influenza was a type of bacterial infection. Vaccines against viruses before World War II were limited and in 1918, no doctor or scientist sufficiently understood influenza to produce an effective remedy.[8]

Compared with other cities, Omaha's death rate was considered a little above average. Still, economic activity continued as most businesses adapted and worked around the commissioner's bothersome measures. In Manning's words, "we were working absolutely in the dark," having no knowledge of the cause, incubation, or of any possible cure for the mysterious malady.[9] The measures enacted by Manning's department, suggested by the Surgeon General, probably did little in

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[8]John Duffy, From Humors to Medical Science, 2nd ed. (Urbana, Ill.: University of Illinois Press, 1993), 250-252.

[9]Omaha Douglas County Medical Society, "Regular Meeting," 38.

curbing the spread of the virus. Since contact with individuals was not strictly regulated, influenza had plenty of potential victims.

Nevertheless, Dr. Manning's actions during this period of despair and hopelessness deserves our fullest praise. Before Omaha had really felt influenza's full force, Manning imposed a strenuous embargo on public meetings and closed churches, theaters, and other places of assemblage. Campaign activity was greatly reduced, inviting criticism from both sides of the political fence. Medicating confiscated whiskey at a time of great temperance was equally met with criticism from opponents. As business owners demurred, churches opposed, and citizens sidestepped many of his orders, Dr. Manning remained steadfast in his attempts to eradicate the Spanish flu. One editorial applauded his efforts by saying:

> He made his first stroke before the epidemic had secured a real foothold here, continued to strike until it was beaten, and risked his professional reputation to save Omaha lives. . . . He trod the path of most big men required to meet a big crisis.[10]

As with most crises in public health, a city's actions to protect the public's welfare will be weighed against its possible over-reaction to a threat. A difficult balancing act must be maintained to both protect the general population from disease and to safeguard business activity from ill-advised action. Dr. Manning, in his quest to save lives and save enterprise, encountered many difficulties along his treacherous path. Following the pandemic, numerous editorials appeared in the Bee and World-Herald that commended the health commissioner for a job well

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[10] World-Herald, 1 November, 1918.

done, despite the severity of the situation. Even the executive committee of the Omaha Chamber of Commerce expressed appreciation for his actions, stating:

> We believe that to his skill and tact and his success in securing the support of the physicians of the city and of the public generally is due [to] the relative immunity as compared with other cities which we, our community enjoyed during this affliction.[11]

Although it is impossible to determine what effects, if any, the measures taken against influenza had on its advancement or severity, the Health Department's actions produced some positive results. Lives were saved and economic interests were preserved. The threat of a widespread panic and a widespread epidemic were averted. Some cities fared better and others did much worse. Like the countless nurses, volunteers, and victims, Omaha's staunch health commissioner should not be forgotten or appear as a mere footnote to Omaha's past. Our memory of the 1918 Spanish influenza pandemic should not be overshadowed by World War I, but instead should be acknowledged as the nation's single greatest natural catastrophe.

Even today the 1918 strain remains a medical mystery. Although some have theorized about its causes, its origin, and why it was disproportionately fatal to adults between the ages of twenty and forty, scientists have only recently been able to capture the actual virus through numerous post-mortems. Researchers at the Armed Forces Institute of Pathology, in conjunction with Dr. Kirsty Duncan, recently discovered genetic material from frozen corpses in Alaska who had died

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[11] Ibid., 7 November, 1918.

during the pandemic.[12] Using modern techniques and equipment, it is hoped that biopsy specimens containing segments of the 1918 strain can be analyzed to help reconstruct the genetic structure of the virus. Although it is not likely that a living sample exists, every precaution in the exhuming of bodies was taken.[13]

Diseases are not new to human-kind and their presence has been felt throughout recorded history. The Plague of Justinian in 542 AD. reportedly killed 100 million people and lasted fifty years. The Black Death during the Middle Ages wiped out a third of Europe in the span of three years. In comparison, Spanish influenza only took four months to kill thirty million—further evidence of the emerging global biosphere. As the world becomes more accessible to humans and their travels, diseases will be able to reach new areas more easily and quickly. Possessing a highly mutable form and existing somewhere within the animal kingdom, it is anyone's guess when it will emerge again. While these modern attempts are underway to identify the complete gene structure of the virus, it will be some time in the future before scientists and researchers completely understand the true nature of the influenza in 1918. Meanwhile, the global highway is open both for humankind and their unwanted hitch-hikers.

Although medicine and our knowledge of infectious diseases have greatly increased since 1918, there still is no completely effective and safe way to guard a population against influenza. New drugs such as

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[12]These findings came from a group of samples derived from biopsies from the Brevig Mission, Alaska. Brevig Mission reported an eighty-five percent mortality rate during one week in November 1918. See "TV: America's Forgotten Plague," The Wall Street Journal, 9 February, 1998, A16.

[13]World-Herald, 7 February, 1998, 11 February, 1998.

amantadine and rimantadine offer some success in treating type A influenza. Unfortunately, their use is currently limited because of certain side effects such as dizziness, insomnia, and confusion. The Centers for Disease Control (CDC) have researched a number of alternatives, but influenza remains as a seasonal disease that most people survive. Notwithstanding our increased knowledge of viruses, the best protection against infection remains vaccination.

Today's challenges in public health have not changed as much as one might think. Harbingers such as AIDs, ebola, the hanta virus, hemorrhodic fevers, and a developing class of resistant diseases to antibiotics relentlessly stretch our capacity for anticipating, detecting, and preventing the emergence of new viral disorders. Diseases that have been eradicated in the United States remain endemic within third world countries, increasing the chance for new viral strains to emerge. Viruses have considerable genetic plasticity allowing them to evolve, but also have the ability to sustain lasting evolutionary changes within their hosts as well. Dr. J. Lederberg describes our viral enemies as "humankind's only real competitors for dominion of the planet."[14] As most epidemiologists conclude, we have only begun to see the emergence of new viruses and new viral strains. Humankind's next natural disaster may be just around the corner.[15]

Omaha's experience with influenza is often, at times, difficult to grasp. The Great War certainly demanded more of the people's

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[14]J. Lederberg, "Medical Science, infectious disease, and the unity of humankind," Journal of American Medicine 260 (1988): 685.

[15]For a discussion of emerging viruses, see Stephen S. Morse and Ann Schluederberg, "Emerging Viruses: The Evolution of Viruses and Viral Diseases," Journal of Infectious Disease 162 (July, 1990): 1-4; and Stephen S. Morse, Emerging Viruses (New York: Oxford University Press, 1993).

attention than an annoying "bug" which was perceived as nothing more than a troublesome visitor. The city's newspapers, although they reported and commented on influenza's devastation, often failed to take notice of how the disease affected individuals on a daily basis. In general, the newspapers focused more attention on battlefield deaths than to those associated with the flu. The war, its battles, and the ensuing peace, had a profound influence on worldly matters and understandably deserved a great deal of the public's attention. An old enemy of humankind, "La Grippe" regularly occupied much smaller headlines. The lack of press coverage, however, did not deter the virus from becoming the most devastating event of modern times.

For Omaha, the people and their institutions would survive the onslaught of the virus. First appearing as a nuisance, influenza quickly evolved into a natural disaster that commanded every available resource of a city and a nation. Striking the strong as well as the weak, the virus did not discriminate in its diffusion across America. Omaha's actions mirrored those of other cities which were combating the deadly disease. Clearly, the Spanish influenza epidemic had a profound impact upon the people of Omaha, but at the same time, was not perceived as a catastrophic event. War always seems to be more horrific than those diseases that are endemic and are a constant threat to a community. The nagging persistence of influenza appeared less important than the ephemeral consternation caused by the war. Regardless of historical oversight, the memories of those influenza victims who fought the disease and died should not linger as a footnote or a shadow to this enemy. Forgotten as it was, the 1918 Spanish influenza pandemic serves notice as an enemy that still deserves our fullest attention.

Appendix 1

From the Revised Statutes of Nebraska, 1913:

METROPOLITAN CITIES*

4162—Sec. 60. **Health Commissioner—Duties.** The health commissioner shall have the qualifications of a physician under the laws of this state. he shall be the city physician and execute and enforce all laws of the state and ordinances of the city relating to matters of health and sanitation and all rules and regulations of the city relating to the public health. He shall make reports to the city council as by them directed of his official acts, doings and proceedings and receive and execute their orders, directions and instructions. He shall have charge, control and supervision of all sanitary and health affairs of such city, including the removal of dead animals and garbage, sanitary condition of streets, alleys and vacant grounds of stock yards, wells, cisterns, privies, water closets, cesspools and stables of houses, tenements, manufactories and all public and private grounds and buildings of every sort, and of any and all buildings and places not specified, where filth, and offensive matters is kept or is liable to, or does accumulate. The health commissioner shall have power to enter and inspect any and all premises for the detection, correction or extermination of nuisances, contagious or infectious diseases, or the improvement of the sanitary condition of said premises. Inspectors of meats, milk, food and of any and all other matter and things relating to the sanitary condition of such city except as herein otherwise provided shall be under the control and direction of the health commissioner. His duties as city physician shall be to attend prisoners in the city jail, and to attend cases of accidents and other emergency cases coming under the attention of the police, but such care and attendance shall cease when they shall be able to be removed to the county hospital.

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*Nebraska State Department of Health, Rules and Regulations, (Lincoln: N.P., 1918), 9-10.

Appendix 2*

Influenza and Pneumonia Mortality by Age: Death-Registration States, 1917-19

(For 1917, area includes 27 States and the District of Columbia; for 1918, 30 States and the District of Columbia; and for 1919, 33 States and the District of Columbia)

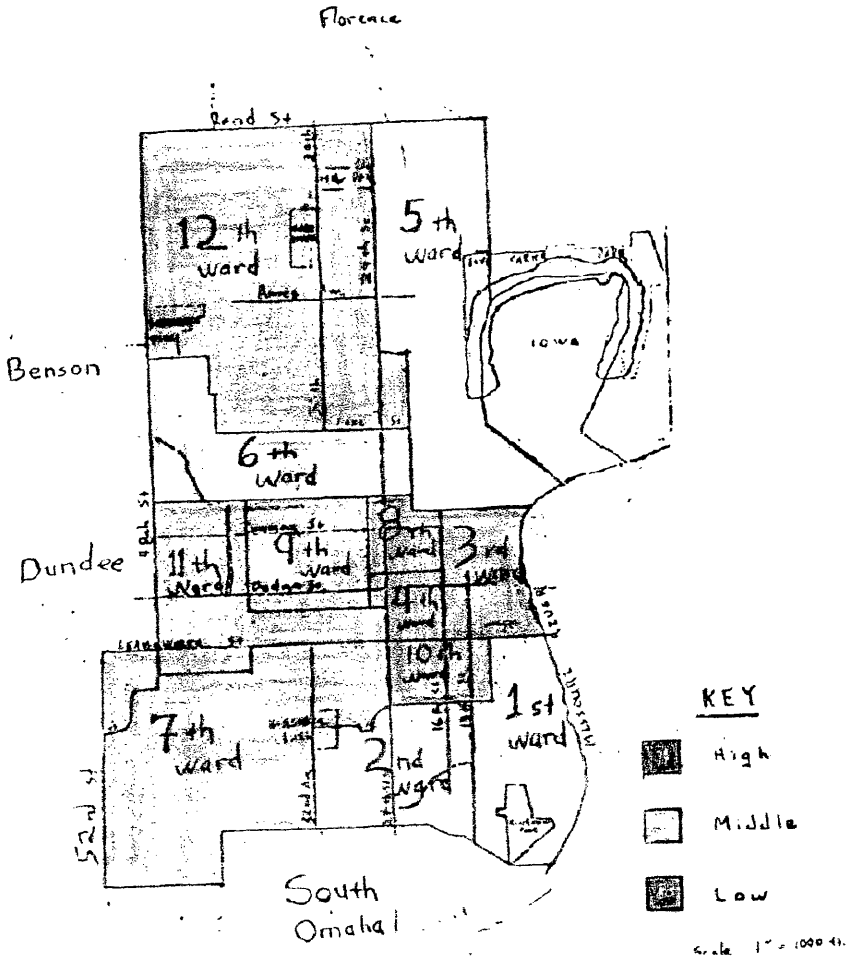
Age	1917	1918	1919
	Number of deaths		
All ages	115,526	464,959	185,440
Under 1 year	22,207	38,428	27,736
1-4 years	12,859	49,699	21,133
5-14 years	3,319	28,054	10,598
15-24 years	4,861	78,158	20,381
25-34 years	6,915	126,792	32,159
35-44 years	9,387	60,902	20,690
45-54 years	10,652	28,596	14,043
55-64 years	12,571	19,632	12,530
65-74 years	14,771	17,643	13,065
75-84 years	13,224	11,829	9,548
85 years and over	4,600	3,680	3,173
Not stated	160	1,546	384
	Rate per 100,000 population		
All ages[1]	164.5	588.5	223.0
Under 1 year	1,474.5	2,273.3	1,594.2
1-4 years	211.5	718.0	293.9
5-14 years	24.0	176.2	63.3
15-24 years	38.9	580.5	141.4
25-34 years	59.3	992.6	235.9
35-44 years	98.1	554.8	181.0
45-54 years	148.8	347.8	163.9
55-64 years	281.4	381.9	233.2
65-74 years	614.6	646.3	459.6
75-84 years	1,503.0	1,179.0	913.9
85 years and over	3,187.4	2,230.6	1,842.2

[1]Includes deaths at ages not stated.

*U.S. Department of Health, Education, and Welfare, Public Health Office, National Office of Vital Statistics, "The Pandemic of Influenza in 1918-19," (Government Printing Office, Washington D.C., 1957), 1-13.

Appendix 3[1]

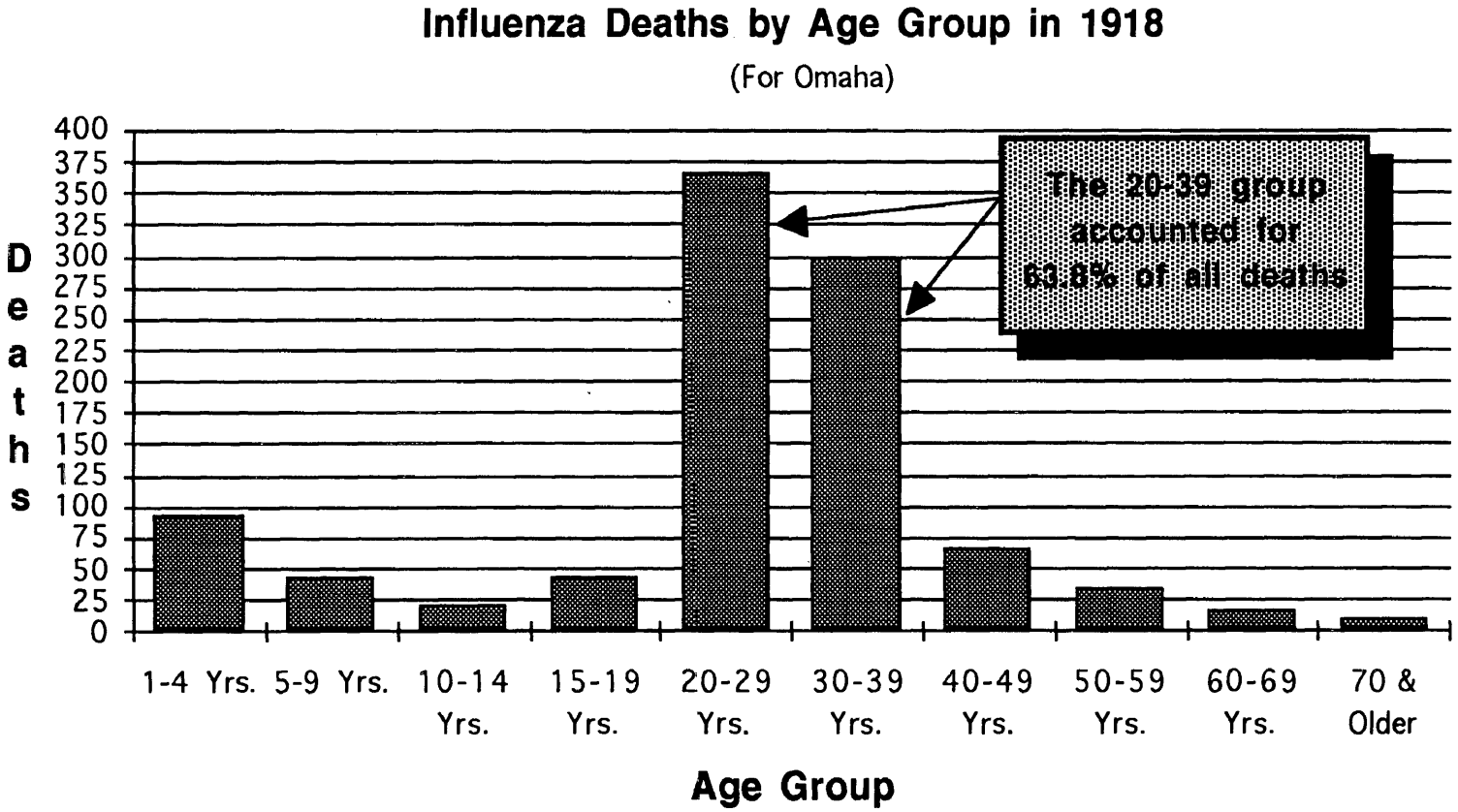
1910 Omaha with Relative Degree of Association Between Wards and Three Selected Socio-Economic Indicators.



	High	Middle	Low
Wards:	7, 9, 11, 12	1, 2, 5, 6	3, 4, 8, 10

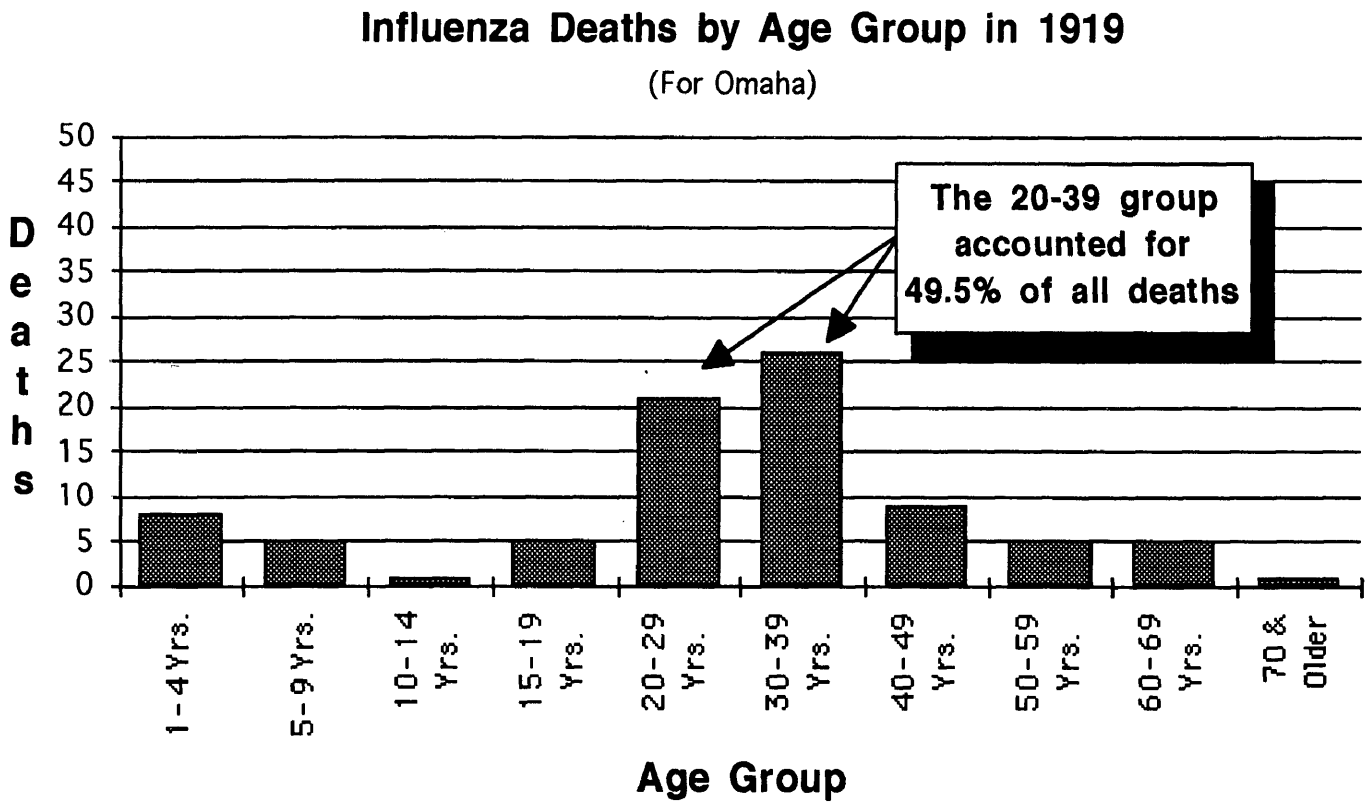
[1]Richard Wilson, "Business Progressivism in Omaha: 1900-1917," (M.A. thesis , Creighton University, 1977, 21).

Appendix 4*



*Graph's data is based upon Douglas County Health Department's Influenza mortality figures and the total of 1,042 influenza-related deaths. Author's private collection.

Appendix 5*



*Graph's data is based upon Douglas County Health Department's Influenza mortality figures and the total of 1,042 influenza-related deaths. Author's private collection.

Appendix 6*

Foreign-Born Population by Year of Immigration

Year of Immigration

	1919	1918	1917	1916	1915	1914	1911-13	1906-10	1901-05	1900 & earlier
Number	211	123	183	342	449	1,100	4,031	5,765	3,912	15,180
Percent	0.6	0.3	0.5	1	1.3	3.1	11.3	16.2	11	42.6

Total Foreign Born Population in 1920: 35,645

*U.S. Bureau of the Census, Abstract of the Fourteenth Census of the United States, (Washington, D.C.: Government Printing Office, 1923), 324-325.

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