

THE EFFECTS OF THE 1918 FLU EPIDEMIC ON THE
INSTITUTIONALIZATION OF DEATH IN AMERICA

by
KORENE R. PEARSON

A THESIS

Presented to the Department of History and the Honors College of
the University of Oregon in partial fulfillment of the requirements
for the degree of Bachelor of Arts

August 2000

APPROVED:



Robert Haskett

An Abstract of the Thesis of

Korene R. Pearson for the degree of Bachelor of Arts
in the Department of History to be taken August 2000

Title: THE EFFECTS OF THE 1918 INFLUENZA EPIDEMIC ON
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Approved: _____

Robert Haskett

Historically obscured by the Great War, the focus of most historical treatments of the 1918-1919 influenza epidemic has been on the chronology of events and the severity of the epidemic. Its political, cultural, and social significance has yet to be fully explored. One aspect of the unexplored social history of the outbreak is that of its influence on the institutionalization of death in America, the movement of death from primarily taking place in homes, to occurring in various institutions such as hospitals and nursing homes.

I have limited my scope of inquiry to those factors present before 1918: the rise of professionalization in medicine, the emphasis on the science of medicine, the expansion of Public Health, and the growth of public acceptance of federal responsibility for the national health arising from our involvement in the Great War. The influenza epidemic accelerated the transition to a more clinical and isolated experience of death.

Acknowledgements

To Hazel Louetta Carter Pearson 1908 to 2000,
my Gramma, for telling me her story.

To Heather Tanner my history teacher, friend, and McNair Mentor who, when I
was stunned by the lights, reached in and pulled me out of the fire.

I thank you both.

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INTRODUCTION

The first time I remember hearing of the 1918 flu epidemic¹ was in 1988 while helping my grandmother to write her life story. My grandmother was in the fourth grade in 1918 and showed me a copy of her report card for that year. She attended only seventeen days of school that whole year because the school had closed due to *Influenza*.² With the perspective of a child she recalled only that which affected her directly. For example, my grandmother was disappointed that she had to be a fourth grader again the next year.³ When her kitten “came up missing” my great-grandmother told her it must have gotten the flu.⁴ She told me that she had grieved over the loss of her kitten, but the rest of the family was spared. She also remembered that one day nine funeral processions had passed by their house.⁵ She heard it was the soldiers who had brought the disease back with them from the war, and she still

¹ The distinction should be made between an epidemic, which is nation wide, and a pandemic, which is world wide. In 1918-19 there was an influenza pandemic. I refer to the epidemic as it affected the United States.

² Hazel Carter Pearson, “Life’s Day” (Springfield, OR: private printing, 1988) 5.

³ Pearson, 5.

⁴ *Ibid.*

⁵ *Ibid.*

remembered, and sang for me, the little ditty she had learned in 1918;

"I had a little bird/ his name was enza/ I opened up the window/ and in flew enza."⁶

I was filled with questions that she could not answer.

It was amazing to me that an epidemic important enough to close schools for a whole year was not even mentioned in any of the US History courses I had taken. I was also confused, since I had never heard of anyone dying of the flu. I wondered, "How many people died? What happened? What was it like?" Born in December 1908, my grandmother was a child when it happened. What was the adult perspective? Did this epidemic affect "history"? My Grandmother is now beyond answering questions. Unfortunately, with few exceptions, the 1918 influenza epidemic is beyond living memory. This was a puzzle, an historical gap, and for me a series of unanswered questions.

The flu has been around for a very long time. Arguably, the first recorded outbreak of influenza was suffered by the Athenian Army in 415 C.E..⁷

Although it was not called influenza, the symptoms sound similar. The term *influenza* was first used in 1357, and comes from the Italian word for

⁶ Although I heard this song first from my grandmother, it is also quoted in the PBS video, the PBS book, Crosby p. 53, and can be found in other sources -- apparently even President Wilson had heard the rhyme.

⁷ Walter Dowdle and Jack LaPatra, Informed Consent: Influenza Facts and Myths (Chicago: Nelson-Hall, 1983) 2.

"influence."⁸ Popular belief associated the influence of the stars with the onset of the sickness.⁹ The influenza pandemic of 1510 has been accepted as the first recorded instance of the same virus that we would recognize as influenza.¹⁰ Several pandemics of influenza have been documented since then, including the pandemic in 1789, the first to be documented in the United States.¹¹ In 1889, after the discovery of the germ theory, the "Asiatic influenza pandemic" went around, allowing German Doctor Richard Pfeiffer to discover a bacterium in the throats of those who survived the flu.¹² Twenty-nine years later, Pfeiffer's bacillus was suspected of being the germ that caused the 1918-1919 flu.¹³ That epidemic continues to be the most deadly influenza ever recorded.¹⁴

The focus of most historical treatments of the 1918 epidemic has been the chronology of events and the severity of the epidemic. Historically obscured

⁸ Dowdle & LaPaltra, 3.

⁹ *Ibid.*

¹⁰ *Ibid.*

¹¹ *Ibid.*, 6-7.

¹² *Ibid.*, 9.

¹³ "How to care for Influenza and Pneumonia Patients," The Public Health Nurse 7 (November 1918): 239.

by the Great War which was its compatriot, many authors dedicate perhaps a paragraph to acknowledge the existence and enormity of the influenza epidemic. A few memoirs of those who lived through the epidemic have been published. Some, like Kathryn Ann Porter's "Pale horse, Pale Rider," are in a fictionalized form.¹⁵ There are also vignettes of survivors' memories found in local historical society articles, nursing journals, as well as in the PBS Documentary, *Influenza 1918*. Alfred Crosby has done the most complete historical research of the 1918 influenza epidemic in the United States, and is the acknowledged expert on the subject. His primary concern when he wrote America's Forgotten Pandemic: The Influenza of 1918 in 1976 was to prove the significance of the epidemic and to speculate about why such a devastating sickness could have been left out of our collective memory.¹⁶ He suggests that lethal epidemics were more common in the early twentieth century. The epidemic was overshadowed by, and perhaps seen as a subdivision of, the war. Influenza left no visible scars, did not stay very long, and killed young adults, before they had the chance to really make a mark on history, so their loss was less visible.

¹⁴ Michael B.A. Oldstone, Viruses, Plagues, and History (New York: Oxford University Press, 1998) 173-5.

¹⁵ Gina Kolata, Flu: the story of the great influenza pandemic of 1918 and the search for the virus That caused it, (New York: Farrar, 1999) 310-11.

¹⁶ Alfred W. Crosby, America's Forgotten Pandemic: the Influenza of 1918 (New York: Cambridge, 1989) xi-xii, 311, 320.

Otherwise, there are scientific and medical histories such as Gina Kolata's Flu, where she traces the heroic researchers on their seventy-year search for the virus that caused the epidemic. She argues that an understanding of the 1918 virus "could save humanity," if it or another virus like it should return.¹⁷ Michael B.A. Oldstone also explores the adventures of biomedical researchers in Viruses, Plagues and History. He argues that throughout history these microbe hunters have done more than the heroes of war to advance the human condition. However, there is some controversy that eradicating specific diseases might not be a good idea, or even possible. The controversy covers the ethics of the annihilation of any living thing, to the destruction of stockpiled diseases for the purposes of study, or protection against germ warfare. In Inventing the NIH, Victoria Harden, the official historian for the National Institutes of Health, briefly mentions the 1918 epidemic in connection with the Public health and Marine Hospital Services, but incorrectly assigns its origin as Spain.¹⁸ Her primary concern was to discover how these massive, federally funded, biomedical research facilities, rose from their shaky origin. While it is generally agreed that the 1918-19 influenza epidemic is worth studying, the political, cultural, and social significance has yet to be fully explored. One aspect of

¹⁷ Kolata, xi.

¹⁸ Victoria A. Harden, Inventing the NIH: Federal Biomedical Research Policy, 1887-1937 (Baltimore: John Hopkins, 1986) 40.

unexplored social history is that of its influence on the institutionalization of death in America.

The institutionalization of death in the United States was the movement of death from primarily taking place in homes to occurring in various institutions such as hospitals and nursing homes. There were many factors that contributed to the institutionalization of death in America, a process which was accelerated after WWII.¹⁹ Industrialization, urbanization, and the 1935 Social Security Act which set up the funding for nursing homes and allowed older citizens to have a certain financial independence are all factors that contributed to the break-up of the multigenerational family living in one home and also contributed to the institutionalization of death. I have limited my focus to looking at only four factors: the rise of professionalization, the emphasis on the science of medicine, the corresponding organization of Public Health, and the public acceptance of the federal responsibility of health on a national level arising from our involvement in the Great War. Drawing upon diaries, letters, state and federal Public Health Reports, and local Oregon newspapers from 1918, as well as secondary studies on hospitals, medicine, nursing, disease, death, and dying, I discovered that the increasing role of government involvement (or responsibility) for the health of the nation was given additional momentum by

¹⁹ J.Q. Benoliel and L.F. Degner, Dying: Facing the Facts, eds. Hannelore Wass and Robert Neimeyer, 3rd ed. (Washington D.C.: Taylor & Francis, 1995) 120, 123.

the 1918 epidemic. The epidemic showed how inadequate the current health facilities and public health organizations were. All of these trends, which were a part of the institutionalization of death in America, were already in a state of transition in 1918. That transition was accelerated by the appearance and scope of the Influenza Epidemic. In part, the factors contributed to the institutionalization of death by changing the demographics of death from primarily among the young to the old, technically the epidemiologic transition of disease.²⁰ Diseases and illnesses which once killed infants and children were being controlled or cured allowing more people to survive childhood. Gradually this led to more people who died from diseases associated with old age. Now fewer infants die and many people live to old age, where once many infants died and few lived to old age. While the influenza epidemic of 1918 did not initiate the institutionalization of death, it was a contributing factor to the growth of the institutions that would take responsibility for care of the dying in twentieth-century America.

At the end of the nineteenth century about eighty percent of the deaths in America took place at home, by the latter half of the twentieth century eighty percent of deaths occurred in institutions.²¹ This progressive transition of death

²⁰ Lynne Ann DeSpelder and Albert Strickland, The Last Dance: Encountering Death and Dying, 5th ed. (Mountain View: Mayfield, 1999) 7-10.

²¹ DeSpelder & Strickland, 11.

from the comfort of home to impersonal institutions peaked in the 1960's.

Research in the late 1960's revealed what came to be known as the American way of death, a term popularized by the title of Jessica Mitford's 1963 book about the high cost of dying in America. In his 1967 ethnography, "Passing On: the Social Organization of Dying", David Sudnow exposed the impersonal and controversial, although sometimes practical, procedures practiced by members of a county hospital. These practices served as time and labor-saving devices as well as distancing techniques which may have helped some staff deal with the multiple losses experienced day after day. The procedures often fell under what Sudnow called "social death." Sudnow defines social death, within the hospital setting, as, "that point at which a patient is treated essentially as a corpse, though perhaps still 'clinically' or 'biologically' alive."²² For example:

A very common example of "social death" before "actual" death involves the assignment of patients to beds. A patient who is admitted to the hospital in what is considered to be a near-death state...is frequently left on the stretcher on which he is admitted and put into a laboratory room, or a large supply room. In such cases, a nurse explained, they don't want to mess a bed up and, since the patient would soon die, there was no need to assign a bed (upon death, the complete bedding must be stripped, the room thoroughly cleansed, disinfected, etc.). In several cases, patients were left throughout the night to die in the supply room, and, if in the morning they were still alive, nurses quickly assigned them beds, before the

²² David Sudnow, Passing On: The Social Organization of Dying (New Jersey, 1967) 74.

arrival of physicians and/or relatives.²³

Sudnow also describes instances where the “body wrapping” procedure, done to prepare a body for the morgue (which included the placement of a diaper on the body, tying legs and arms together with cotton strings, placing identification tags on feet and body, placing cotton pads over the closed eyes, and finally, wrapping the corpse from toe to head in a special sheet) were sometimes begun before the patient had actually died.²⁴ In her famous 1969 psychological study “On Death and Dying”, Elizabeth Kübler-Ross discussed other treatments of a kind of “social death” from the patients’ perspective. The book was based on her seminars which included interviews with dying patients who related their experiences, feelings, and fears to medical and nursing staff and students in what she called an attempt, “to refocus on the patient as a human being.”²⁵

²³ Sudnow, 83.

²⁴ *Ibid.*, 82.

²⁵ Elizabeth Kübler-Ross, On Death and Dying: What the Dying Have to Teach Doctors, Nurses, Clergy, and Their Own Families rpt. (New York: Touchstone, 1997) 11.

Revelations to the public of these and other practices have led to the rise of hospice programs and specialized death centers which seek to improve palliative care.²⁶ The institutionalization of death appears to be in decline, or at the very least, the institutions which handle death have instituted care in more personal terms. In 1918 the impersonal institutionalization of death was just beginning.

²⁶ DeSpelder & Strickland, 130-1, 134, 170, 360. Palliative care is the care of the dying, once lifesaving or heroic medicine has been determined to be no longer desirable or necessary.

CONTRIBUTING FACTORS TO THE INSTITUTIONALIZATION OF DEATH IN AMERICA

Professionalization

The separation of death from the home and into institutions was facilitated by the rise of professionalization. Many of the changes in death and funerary practices were due in part by changes in Public Health practices which will be discussed later. Procedures commonly carried out by the family in the nineteenth century and earlier, such as care of the sick and dying, washing of the body, and preparation of the corpse for burial were more frequently turned over to professionals like undertakers.²⁷ The coffin, once built by the local carpenter or furniture maker, was replaced by the professionally manufactured and decorative casket purchased from the undertaker.²⁸ With the new, scientific procedure of embalming, the undertaker became the mortician.²⁹ Finally, when the Victorian parlor made way for the modern living room in private homes, the

²⁷ James Joseph Farrell, "The Dying of Death: The Meaning and Management of Death in America, 1830-1920," *Diss. U of Illinois at Urbana-Champaign, 1980, (UMI 8017931) 157, 208, 209-216; DeSpelder & Strickland, 279.

²⁸ J.J. Ferrell, 9, 209, 211.

²⁹ J.J. Ferrell, 213.

mortician built a parlor for funerals, thereby becoming the funeral director.³⁰

The often overcrowded and unkempt local urban or church graveyard was replaced beginning in about 1830 by rural, garden cemeteries.³¹ After 1850 the vast lawn or park cemetery became more popular.³² These new park cemeteries advertised perpetual care with plenty of space for leisurely strolls on well tended lawns. At the same time they had removed most of the obvious references to death.³³ They did this by removing or limiting large headstones, leveling burial mounds and reducing inscriptions on gravestones.³⁴ All of these changes combined to distance death, and thoughts of death, from daily American life. In a sense they changed the focus of death and funerals from the dead to the living.³⁵ This new culture of professionalization which, "required amateurs to defer to the judgment of the trained expert," was not limited to the services of what is now called "aftercare." The new science of medicine was also involved in its own process of professionalization which included the

³⁰ J.J. Ferrell, 10, 211-218; DeSpelder & Strickland, 279.

³¹ J.J. Ferrell, 140.

³² J.J. Ferrell, 140-1.

³³ J.J. Ferrell, 168.

³⁴ J.J. Ferrell, 140-158, 162-5.

³⁵ J.J. Ferrell, 168.

increasingly recognized role of nursing and the incorporation of a new class of medicine, laboratory science.³⁶

The professionalization of the medical world began by gradually incorporating the new lessons of science and hygiene, discussed below, in the growing relationship between doctors and hospitals after the Civil War. Doctors began to specialize in things such as surgery or laboratory research. Nurses, cleaned up, organized, and regimented on the moral, feminine Florence Nightingale model, began to professionalize as well.³⁷ They specialized in private nursing, hospital nursing, or public health nursing (also called visiting nurses). Nurses' training became standardized in schools and universities.³⁸

The New Science of Medicine

The institutionalization of death in America had its roots in the early days of the science of medicine and the lure of the cure.³⁹ Our western system of

³⁶ J.J. Ferrell, 216, 208; DeSpelder & Strickland, 279.

³⁷ Rosenberg, 212-36.

³⁸ *Ibid.*

³⁹ Jeanne Quint Benoliel and Lesley F. Degner, "Institutional Dying: A Convergence of Cultural Values, Technology, and social Organization," Dying: Facing the Facts eds. Hannelore Wass and Robert Neimeyer 3rd ed. rpt. (Washington, D.C.: Taylor & Francis, 1995) 120-4.

medicine was built on the glory of discovery.⁴⁰ The status of a hospital and a doctor, in the late nineteenth and early twentieth centuries, was likely built on a doctors' laboratory work, not on his patient care.⁴¹ Death itself was largely excluded from medical education, and was seen as the failure, or the enemy, of medicine.⁴² Funding for research in Western medicine was given to those who would discover causes, and in the process, the cure for deadly diseases. They were trying to *prevent* death. In this view, the body of a sick person was an object, the host for the disease -- the disease which the doctor needed to study. While it is true that some of these diseases caused much suffering and disfigurement to those who survived, the objectification of the patient was the same. This medical disassociation of death from the person dying was described by the poet Rainer Rilke in 1910:

You die as best you can; you die the death that belongs to the sickness you have (for since all sicknesses are well known, it is also known that the various fatal endings belong to the sicknesses and not to the people; and the sick person has, so to speak, nothing more to do).⁴³

⁴⁰ Charles E. Rosenberg, The Care of Strangers: the Rise of America's Hospital System (Baltimore: Johns Hopkins, 1987) 141, 152, 315.

⁴¹ Rosenberg, Care of Strangers, 9, 141, 152, 315.

⁴² J.J. Farrell, 70-72, 79.

⁴³ Rainer Maria Rilke, The Notebooks of Malte Laurids Brigge, trans. Stephen Mitchell (New York: Vintage, 1990) 9.

Others, too, complained of the impersonal nature of changing hospital procedures.⁴⁴ The early American hospitals, found only in cities, served as a living laboratory for medical students to witness symptoms of disease and for doctors to literally practice their theories, and track their results, on live subjects.⁴⁵ In most causes of death at the turn of the century was relatively quick and caused by acute infectious diseases.⁴⁶ The mysteries of many of these infectious diseases were being unraveled by scientific methods, in medical laboratories, which would lead to the increased use of new hygienic practices and less dangerous vaccinations.

Since in 1917, hospitals were still largely urban institutions, most of the US population still stayed at home when sick or dying; their doctors still made house calls.⁴⁷ But in the new research laboratories, tucked away in universities and hospital attics and basements, modern medicine was in its heyday.⁴⁸ In exchange for the medical expertise and service of doctors, hospitals provided

⁴⁴ Rosenberg, 342.

⁴⁵ William H. McNeill, Plagues and Peoples (New York: Anchor Press/Doubleday, 1976) 237; Rosenberg, 155-7, 163, 208.

⁴⁶ DeSpelder & Strickland, 10.

⁴⁷ Rosenberg, 316.

⁴⁸ Rosenberg, Care of Strangers, 156.

patients and laboratory equipment.⁴⁹ Doctors began to learn new ways of patient diagnosis. Instead of a simple visual diagnosis by looking at a patient's tongue, throat, eyes, and skin, they began to use scientific instruments such as the thermometer, the stethoscope, the microscope, and the X-ray machine.⁵⁰

Remember Mary Shelly's Frankenstein, written in 1818? Could man really beat death with science? In the one-hundred years since 1818, medical men and women had made fantastic leaps toward the imagined future, giving people concrete evidence of the power of science to save lives.⁵¹ For example, Louis Pasteur's controversial 1857 assertion that fermentation and putrification were caused by living cells, led to Joseph Lister's ideas and practice of antiseptic surgery.⁵² In 1854, John Snow proved that cholera was spread through water.⁵³ Then, in 1883, Robert Koch discovered the organism that caused cholera during an epidemic in Egypt. Scientists had realized that typhus was spread by lice, and the plague was spread by fleas. All of these discoveries gave credence to the as yet unproven "germ theory" of medicine and the means

⁴⁹ Rosenberg, Care of Strangers, 340-1, 156.

⁵⁰ Rosenberg, 152-3, 157, 182-3.

⁵¹ In 1916, Ida A. Bengtson became "the first woman to hold a professional position in the Hygienic Laboratory," Hardin, Inventing the NIH, 49. The Hygienic Laboratory was to become the National Institutes of Health.

⁵² Rosenberg 137-8; Richardson, 224.

of transmission of these germs, and ushered in the modern age of sanitation.⁵⁴

The creation of the vaccine allowed scientists to prevent or cure many diseases.

But the first wide use of vaccination in the United States was to prevent disease on WWI soldiers.

It had only been in the last fifty years or so (c1870 to 1918) that medical training in America had taken a scientific turn that meant that the average doctor now had different medical knowledge than the average well educated man or rural woman.⁵⁵ However fantastic, from the mid-nineteenth century the new science of medical theory merely trickled down from London, Paris, and Vienna, by way of the educated elite.⁵⁶ From these privileged few who could afford to study abroad, the new medical ideas, theories, practices, and priorities found their way into American hospitals during the nineteenth century.⁵⁷ Not every doctor was trained in Paris, or even in a hospital. Most were trained the old fashioned way, by working with an experienced doctor in their rural area or neighborhood.⁵⁸ The transformation from laboratory

⁵³ Kolata, 46.

⁵⁴ Kolata, 46-7; Rosenberg, 137-8, 312-3.

⁵⁵ Rosenberg, 5, 339-340

⁵⁶ Rosenberg, 206.

⁵⁷ Rosenberg, 82-88.

⁵⁸ Rosenberg, 158, 164, 174-7.

discovery to use in practical medicine often travel a long road, for a variety of reasons.

For example, smallpox inoculation, introduced from the Middle-East to England in c.1721, was more widely used in the English countryside where smallpox was often epidemic and could kill young adults, and hardly used in crowded cities, such as London, where it was seen as only a childhood or infant disease.⁵⁹ For similar reasons it was not widely used in the United States.⁶⁰ The prevention of smallpox required one to willingly submit to direct exposure (a swab or injection from an infected person, taken from a pox – similar to what we do now only in a non-synthetic, and certainly less than sterile manner). This most often resulted in a mild case of the disease and lifelong immunity, but sometimes caused death. Not surprisingly this caused some skepticism on the part of prospective inoculants.⁶¹ Later, in 1798 the less serious cowpox was found to be an effective inoculation for smallpox.⁶² This too was received with a bit of public discomfort, as illustrated in the cartoon [fig.1] showing cows and cow parts growing out of recently inoculated persons.

Despite the public's fear and ignorance of medical science, medical

⁵⁹ McNeill, 249.

⁶⁰ *Ibid.*

⁶¹ McNeill, 249.

scientists themselves felt differently. Earl Mazo, in a 1912 article titled, "Our New Attitude to Disease" proclaimed that,

The old feeling of helplessness and hopelessness in the fear of epidemics is gone...We are aware that it is man's ignorance or man's carelessness that is responsible, and we are inspired to work on toward the glorious ideal set before us by Pasteur when he said, 'It is within the power of man to cause all infectious diseases to disappear from the earth.'⁶³

There was a pervasive confidence in the medical world. In fact, that same year, 1912, almost a hundred years after Frankenstein was published, Alexis Carrel won the Nobel Prize for his work on organ transplants. Carrel had been, "able to preserve life functions of organic tissues in artificial solutions, and to graft tissues onto other organisms where they continued to function."⁶⁴ He had kept tissue alive, separated from its body. Was Mary Shelly's frightening fiction becoming reality?

Men like Elie Metchnikoff hypothesized that all known forms of "natural" death were caused by disease -- that even old age was a disease.⁶⁵ If disease could be cured, perhaps death wasn't natural? It did seem that the diseases which had battered mankind for centuries were being defeated one after

⁶² McNeill, 250.

⁶³ J.J. Farrell, 71.

⁶⁴ J.J. Farrell, 77-8.

⁶⁵ J.J. Farrell, 78-81.

another: cholera, typhus, smallpox, and tuberculosis.⁶⁶ One should not assume, however, that the rise in life expectancy from an average of 47 in 1900 to 55 in 1920 and the drop in death rates from 17 per 1000 to 13 per 1000 for the same years was the result of new cures alone.⁶⁷

Public Health

Arguably new hygienic and sanitation practices made the initial and rapid changes in mortality possible.⁶⁸ As described by the Dutch physician Bert Keizer, we perhaps owe more to the preventive measures of Public Health than to the cures of medicine:

We owe this cleaner life to the nineteenth-century hygienists who fought for quarantine measures during outbreaks of cholera and who insisted on hygienic sewage disposal systems in cities which resulted in far more old age than any thinkable medical intervention could ever produce.

But prevention is much duller than curing. That's why prevention plays such a modest role in medicine. Healing makes much more noise; 'prevention' is, inevitably silent.

In Africa you get a glimpse of the nonsense we are willing to believe about the supposed connection between disease, medicine and lifestyle. Africans live precisely how you should, according to the insights of

⁶⁶ Kolata, 47-8.

⁶⁷ DeSpelder & Strickland, 8-9;

⁶⁸ Rosenberg, Explaining Epidemics, 308.

television medicine: they don't eat too much, they take lots of exercise and they hardly smoke. And yet, the average age at death is between 40 and 50.

That smoking European, sitting in his car all day, stuffing himself with food, lives much much longer. Yes, this is putting it rather simply, but not half as simply as: we stay alive because we're full of pills. That is very rarely the case.⁶⁹

It is perhaps difficult to realize that those services that we now expect -- proper sewage treatment, clean water, and the other conveniences of the sanitary living conditions -- were in some way almost forced upon us by the hygienists active in the mid-nineteenth century.

State and Local Level

In A Half Century of Public Health, published in 1921, Mazzyck P. Ravenel, President and one of the founding members of the American Public Health Association, recounts the early days of Public Health in New York and the United States. He begins with his coming to New York in 1850 to finish medical school.⁷⁰ While he was doing his residence at Bellevue Hospital, Ravenel investigated a local typhus epidemic.⁷¹ He discovered that many victims lived in

⁶⁹ Bert Keizer, Dancing With Mister D: Notes on Life and Death trans. Bert Keizer (London: Black Swan, 1997) 272.

⁷⁰ Half Century of Public Health, A: Jubilee Historical Volume of the American Public Health Association, ed. Mazzyck P. Ravenel (New York: Nichols, 1921) 4.

⁷¹ Ravenel, 4.

a decrepit tenement building whose rooms were overcrowded with immigrants and whose cellar was filled with sewage.⁷² He soon learned that there was no authority with the power to force the owner to clean up or destroy the building.⁷³ In 1864, New York had no “effective” health administration.⁷⁴ Ravenel set out to create one.⁷⁵ Once completed, he tried to enlighten the rest of the country.⁷⁶ He and other “prominent sanitarians” met early in 1871 and, in a move common to the process of professionalization, created the American Public Health Association.⁷⁷

Public health in Oregon, similar to that of other states, shows a slow growth based on immediate health concerns. For example, pure (clean) milk and dairy products, clean water, proper sewage treatment, and almost yearly epidemics of cholera and smallpox were the primary focus of early health boards. In his dissertation, A History of Public Health in Oregon, Jack Smolensky describes a few incidences by which city officials as well as the public

⁷² *Ibid.*, 4-5.

⁷³ *Ibid.*, 5-7.

⁷⁴ *Ibid.*, 7.

⁷⁵ *Ibid.*, 7-10.

⁷⁶ *Ibid.*, 10.

⁷⁷ *Ibid.*, 10-11.

fought or refused the suggestions or even the regulations of health officials.⁷⁸

The public did not necessarily share the scientists' confidence in modern medicine and laboratory discoveries which were seen as experimental and controversial. An attempt to require Portland school children to have a smallpox vaccination in order to be admitted into school failed in 1900.⁷⁹ Due to religious objections, possible negative effects of the vaccine, and fear of increased costs, the school board did not have the power to compel vaccination.⁸⁰ Public health officials often fought an uphill battle with the very public they were trying to protect. As described by Victoria Harden, "illness was considered a private affair," and this is not surprising when one considers the moral implications historically associated with illness in public.⁸¹ Traditionally people took care of their own when sick or ill. Those who could afford a private physician, saw him in their home. Only those destitute, without home or family sought public medical care in the almshouse, those often sick with alcoholism, unmarried pregnancy, venereal disease or other ills which were seen as symptoms of moral

⁷⁸ Smolinsky, 11-12, 30, 38-46, 61, 73-4, 100-1, 108.

⁷⁹ Smolinsky, 100-1.

⁸⁰ Smolinsky, 100-1.

⁸¹ Harden, Inventing the NIH, 10; Dying, 118; Rosenberg, 40, 45.

weakness.⁸² These people, along with those contagious or incurable were not generally admitted into early hospitals.⁸³

The Federal Level

The public Health system in 1918 was not nationally organized, in fact it was primarily a local affair.⁸⁴ There was no National Health Department with an official health policy. After the Civil War, John Shaw Billings, who had been active in scientific medicine and the promotion of public health, was asked to study the Marine Hospital Service.⁸⁵ He recommended the reorganization of the existing Marine Hospital Service under one Supervising Surgeon.⁸⁶ The Marine Hospital Service had been, since 1798, a collection of independently operated port hospitals exclusively for, and funded primarily by, merchant seaman.⁸⁷ In 1870, the Congress approved Billings suggestion, but he was not appointed to

⁸² Rosenberg, 40, 44-46, 50, 108.

⁸³ Rosenberg, 50, 77, 108, 116-18.

⁸⁴ Harden, *Inventing the NIH*, 2, 3, 10, 31, 38.

⁸⁵ Mustard, 42-3.

⁸⁶ Harden, *Inventing the NIH*, 10-11; Mustard, 43.

⁸⁷ Harden, 10; "History of the Office of the Surgeon General," *The Virtual Office of the Surgeon General*, <http://www.surgeongeneral.gov/library/history/sghist.htm> [22 July 2000]. Although the Marine Hospitals were independently operated, the funding, by payroll deduction, was managed by a single clerk in the US Treasury Department; (Harden NIH, 10).

the newly created position. The first Supervising Surgeon was John Maynard Woodworth. The primary responsibility of this Supervising Surgeon and his small staff of doctors was still marine health. He had the ability to quarantine ships to prevent the spread of diseases from ships passengers and crew. In 1887, the Marine Hospital Service spent a few hundred dollars to put a laboratory in one of the back rooms of the Marine Hospital in Staten Island, New York.⁸⁸ In 1891, Congress authorized a new building for the Marine Hospital Services.⁸⁹ After much debate and a tragedy involving the death of thirteen children caused by an unregulated and poorly manufactured diphtheria antitoxin, Congress, in conjunction with the Biologics Control Act of 1902, again reorganized, and renamed, the Marine Hospital Service.⁹⁰ Now it was the *Public Health and Marine Hospital Service* and the little Hygienic Laboratory became an officially recognized federal research laboratory.⁹¹ The title of the Supervising Surgeon became the Surgeon General and congress appropriated funds so that the Surgeon General could meet once a year with state and

⁸⁸ Harden, Inventing the NIH, 9, 13; Hardin, "Short History," 1.

⁸⁹ Harden, "Short History," 2.

⁹⁰ Harden, Inventing the NIH, 14, 17-8, 28.

⁹¹ Harden, Inventing the NIH, 17-8; Half Century of Public Health, "History of Bacteriology," 92.

territorial health officers to exchange ideas and concerns.⁹² While the Surgeon Generals had no legal jurisdiction over state organizations, they could share knowledge and procedures as colleagues.

This 1902 reorganization was still primarily concerned with research, and researchers were limited to the study of "infectious and contagious diseases."⁹³ In 1912, Congress shortened the name to the Public Health Service and added the ability to research non-contagious diseases, including sanitation, sewage and pollution in streams and lakes.⁹⁴ The primary responsibility of the Public Health Service was still research, not the creation of public policy. The federal office of Public Health Service had no official control over individual states, except perhaps in matters of quarantine. The states did not easily give any of their power over to federal control, but they did share a desire to improve living conditions.⁹⁵ There was a pride, as well as economic motivation, involved in improving the mortality figures in local cities and states.

The demographics of death were changing. Deadly childhood diseases were being challenged, therefore more people survived childhood, and more

⁹² Harden, Inventing the NIH, 18.

⁹³ *Ibid.*, 30.

⁹⁴ Harden, Inventing the NIH, 38; Harden, "History", 3.

⁹⁵ Harden, Inventing the NIH, 35-37.

people were expected to live longer. It seemed that epidemic disease was being beaten by modern medical science. The top four causes of death between 1908 and 1912, according to a 1915 publication of Prudential Insurance Company of America, entitled "American Public-Health Problems," were heart disease, tuberculosis, pneumonia, and accidents. Life expectancy was changing from an average of 47 for those born in 1900 to 55 for those born in 1920.⁹⁶ The 1918 influenza epidemic was a slap in the face to modern medicine.

Participation in World War I

The growth in government during WWI is well documented, as is the critical nature of early twentieth-century American attitudes toward this growth.

As one would expect, government planning began before America officially promised to join the fight.⁹⁷ One of the most important aspects of fighting an early twentieth-century war was raising an army. The mechanism for creating the conscription of Americans was pulled out of the Civil War files, dusted off and updated.⁹⁸ As every man called for service was now required to

⁹⁶ DeSpelder & Strickland, 8-9;

⁹⁷ Innocence, 60.

⁹⁸ Lewis B. Hershey, Outline of Historical Background of Selective Service and Chronology, Revised, (Washington: Govt. Printing Office, 1961) 6. One major change in this new draft was that it eliminated the ability of a draftee to pay a \$300 fee in lieu of service.

report to his local draft board and be examined, it created an unexpected opportunity to assess the state of the nation's health. The results were shocking to many; fully one third of the American men drafted for service were found to be physically unfit for duty.⁹⁹

There were many areas which had previously been outside the scope of government interest which, once the United States entered the war, became a concern. For example, the government rated the importance of various types of employment based on their designated economic necessity to the country.¹⁰⁰ In this view the worth of a man's life was based on the nature of his labor. For example, a man who was employed as a steel worker was more valuable to the country than a man who was a student at a university. Consequently, the student would be drafted and sent to the fighting front more quickly than the steelworker. In the same sense the new profession of the laboratory scientist, once a sort of hobby among elite medical men, became a useful part of the government war machine.¹⁰¹ This first modern war fought with chemical gasses needed research to fight back, as well as new sanitary requirements.¹⁰² The use

⁹⁹ Oldstone, 173; Harden, Inventing the NIH, 43.

¹⁰⁰ War Department, Selective Service Regulations, 2nd ed. (Washington: Govt. Printing Office, 1918) 98.

¹⁰¹ Rosenberg, 156; Harden, Inventing the NIH, 41.

¹⁰² Harden, Inventing the NIH, 4, 41; Harden "Short History," 4.

of a government funded laboratory helped to set the precedent for further funding of the biomedical research laboratory of the Public Health Services, legitimizing the use of biomedical scientists under government auspices. This was the foundation of National Institutes of Health.¹⁰³

It was in this new world of scientific and medical bravado that the quiet little flu bug started to go around again. Naturally, news of the war overshadowed news of the epidemic, even though, world wide, the pandemic killed more people.¹⁰⁴ For American soldiers and sailors, the 43,000 reported killed by this epidemic was almost eighty percent of the number of American

¹⁰³ Harden, Inventing the NIH, 41-3.

¹⁰⁴ Oldstone, 173.

combat related fatalities.¹⁰⁵ There is no way to guess how dramatically the pandemic affected the war, or perhaps influenced the outcome, as little research has been done on this topic. However, it probably had some impact. For instance, the German push against Paris in the Spring of 1918 was slowed as German soldiers were attacked by influenza.¹⁰⁶ In June "over 2000 men in each division" had the virus.¹⁰⁷

¹⁰⁵ Crosby, 206 ;Oldstone, 173. Oldstone cites; Influenza in America 1918-1976, New York [no date given]. There is apparently some confusion on this issue. Crosby states that, "The sum of American sailors and soldiers who died of flu and pneumonia in 1918 is over 43,000, about 80% of American battle deaths in the war." Crosby, 206. Oldstone says that, "The majority (nearly 80%) of United States Army war casualties were caused not by bullets, shells, or shrapnel but by influenza. ...the virus killed over 43,000 soldiers in the American Expeditionary Forces." Oldstone, 173. I'll err with Crosby until I can isolate the combat figures.

¹⁰⁶ Oldstone, 172-3.

¹⁰⁷ Oldstone, 172-3.

THE EPIDEMIC AND ITS EFFECTS

The Epidemic

In March 1918, Fort Riley's Camp Funston in Kansas was full of soldiers training to go fight in the war in Europe. In fact it was overfilled, as were many of the training camps. According to Jessie Lee Brown Foveaux (an eye-witness) there were as many as 60,000 soldiers at Camp Funston when Pvt. Albert Gitchell reported sick with flu-like symptoms.¹⁰⁸ The next day there were forty more cases, and a week later there were 522 sick with the flu, and forty-six had died.¹⁰⁹ The surviving soldiers, and perhaps the flu, shipped out for France. There were other outbreaks in other U.S. training camps, but no one paid much attention to the flu that spring; there was a war on. The War was big news. Besides, the flu wasn't that bad, was it? Normally when the flu kills, it kills the very young, the very old, or the very weak. But the flu that went around the world in 1918 killed healthy people, primarily in the twenty to forty age group.¹¹⁰ That age factor alone was shocking. The 1918 "Spanish Flu" killed at

¹⁰⁸ Lori Goodson, "Pandemic," The Manhattan Mercury, 1 March 1998, <http://www2.okstate.edu/ww1hist/flu.html> [11 Nov. 1999].

¹⁰⁹ Goodson, [online].

¹¹⁰ Crosby, 21-24.

least twice as many as people as the war did, perhaps more.¹¹¹ Added to that was the additional burden of the sheer numbers of those who were incapacitated by this deadly mutation of a common illness. The "second wave" of this most deadly flu hit the U.S. on August 28, 1918.¹¹² A letter dated September 29, 1918, perhaps the most famous letter of the flu epidemic, was written by Doctor Roy.¹¹³ Stationed at Fort Devens, Massachusetts, Roy describes the quick deaths of hundreds of soldiers and macabre scenes of mortality to his friend, a fellow doctor, in matter of fact, down home terms;

These men start with what appears to be an attack of la grippe or influenza, and when brought to the hospital they very rapidly develop the most viscous type of pneumonia that has ever been seen. Two hours after admission they have the mahogany spots over the cheek bones, and a few hours later you can begin to see the cyanosis extending from their ears and spreading all over the face, until it is hard to distinguish the coloured men from the white. It is only a matter of a few hours then until death comes, and it is simply a struggle for air until they suffocate. It is horrible. One can stand it to see one, two or twenty men die, but to see these poor devils dropping like flies sort of gets on your nerves. We have been averaging about 100 deaths per day, and still keeping it up.

¹¹¹ Kolata, 7. It is believed that the virus was often called the Spanish flu, because Spain, being at that time neutral, was the first country to report the epidemic in its newspapers.

¹¹² Kolata, 13.

¹¹³ Kolata, 13; PBS American Experience: Influenza 1918 Available [online] <http://www.pbs.org/wqbh/amex/influenza/sfeature/devens.html> [22 July 2000]. The full letter as printed on the website appears in the appendix [fig.6].

The normal number of doctors here is about 25 and that has been increased to over 250.... We have lost an outrageous number of nurses and doctors, and the little town of Ayer is a sight. It takes special trains to carry away the dead. For several days there were no coffins and the bodies piled up something fierce, we used to go down to the morgue (which is just back of my ward) and look at the boys laid out in long rows. It beats any sight they ever had in France after a battle. An extra long barracks has been vacated for the use of the morgue, and it would make any man sit up and take notice to walk down the long lines of dead soldiers all dressed up and laid out in double rows. We have no relief here; you get up in the morning at 5:30 and work steady till about 9:30 p.m., sleep, then go at it again. Some of the men of course have been here all the time, and they are tired.¹¹⁴

This was not in a war zone, this was in a training camp.

As the flu spread around the country, from one city to the next, no one really believed it could be as bad they heard it was, until it came.¹¹⁵ Then it was too late. The entire population was at risk. In many cities all public places, churches, and movie theatres were closed.¹¹⁶ The annual meeting of the American Public Health Association, scheduled for mid-October, was postponed

¹¹⁴ *Ibid.*

¹¹⁵ Crosby, 92; Influenza 1918: The Worst Epidemic in American History, Host David McCullough, (PBS home video: 1998).

¹¹⁶ Oldstone, 176; Influenza 1918 PBS Video.

until December.¹¹⁷ People were forced to wear gauze masks.¹¹⁸ Towns and individuals tried to isolate themselves to keep the flu out.¹¹⁹ Public services and public health facilities were often overwhelmed to the breaking point.¹²⁰

It is estimated that at least 28% of the US population got the flu that year, and in some areas, like army camps, as many as fifty percent of the population got sick.¹²¹ Overall about 2.5% of the sick died -- at least 600,000 Americans.¹²² Within three weeks or less the resources of any given city were depleted, volunteers exhausted or sick, morticians overworked, and morgues overflowing.¹²³ The workload for Cleveland's visiting nurses increased as much as 400%.¹²⁴ Cities reported shortages of doctors, nurses, and coffins.¹²⁵

¹¹⁷ "Influenza Postpones Convention of American Public Health Association," Public Health Nurse 10 (November 1918): 290.

¹¹⁸ Oldstone, 176-7.

¹¹⁹ Oldstone, 177; Influenza 1918 PBS Video.

¹²⁰ Influenza 1918 PBS Video; Sherman C. Kingsley, "Cleveland and The 'Flu,'" The Public Health Nurse 10 (December 1918): 314; Crosby, 50-51.

¹²¹ Crosby, 205.

¹²² Kolata, 7; Crosby, 206-7.

¹²³ Influenza 1918 PBS Video.

¹²⁴ Sherman C. Kingsley, "Cleveland and The 'Flu,'" The Public Health Nurse 10 (December 1918): 314.

¹²⁵ Crosby, 51-2. Lillian D. Wald, "The work of the Nurses' emergency Council," The Public Health Nurse 10 (December 1918): 306-311.

Sometimes when there were coffins, there was no one to dig the graves.¹²⁶

Many doctors believed that "Pfeiffer's bacillus" was the cause of influenza and concocted vaccines based on that belief.¹²⁷ They were wrong.

In 1918 there was an almost unnoticed parallel; an epizootic (animal epidemic) among hogs in the U.S.. Dr. Koen, an inspector in the Hog Cholera Control Division of the United States Bureau of Animal Industry during the epidemic, recognized the similarity of the symptoms between the human influenza epidemic and the swine epizootic and called the disease a "swine flu."¹²⁸ Dr. Koen noted that, "an epidemic among people and the epizootic among pigs was so close, the reports so frequent, that an outbreak in the family would be followed by an outbreak among the hogs, and vice versa...."¹²⁹ His findings were not popular. Many of our worst diseases have come about as a result of our domestication of animals, and our close association with them.¹³⁰ Recent research (1996-9) has shown that the influenza of 1918 was in fact a

¹²⁶ Crosby, 76.

¹²⁷ Dowdle, 9; Crosby, 269.

¹²⁸ Dowdle, 13-4.

¹²⁹ Dowdle, 14.

¹³⁰ Diamond, 196-97.

swine flu.¹³¹

There was no cure, no medicine, and no valid vaccine. Although Congress appropriated \$1,000,000.00 for the Public Health Service for its fight against influenza, Science was helpless.¹³² People suffered raging fevers, delirium, and fluid-filled lungs. Some people were sick for a few days, others were sick for months, or had complications for years. Some, however, died within hours. The epidemic usually peaked after three weeks, and then continued killing for several more weeks. Although popular history says the epidemic mysteriously ended with the Armistice in November, the numbers show that the epidemic kept killing well into 1919 [fig.2].¹³³

Many of the numbers cited in texts are based on those figures gathered and sent to the Surgeon General's office during the epidemic. The Surgeon General could only request, not command, information from local health officers. Much of the evidence of the spread of the disease is actually based on a 1918 map, which is said to have been drawn based on the reports from 175 cities.¹³⁴

¹³¹ Oldstone, 182-3. That is to say that the 1918 influenza virus is of the H1N1, or type A, variety, and can be shared or passed between people and pigs.

¹³² American Experience: Influenza 1918.

¹³³ Gerald F. Pyle, The Diffusion of Influenza: Patterns and Paradigms (New Jersey: Rowman & Littlefield, 1986), 61; Crosby, 203, 205-6. see also the Mortality Figures section found on the unnumbered pages between 207-215. There are more pages between 207 and 215 than the seven you would expect.

¹³⁴ Pyle, 42-3.

All we have now is the map -- the data for the 175 cities is missing [fig.3].¹³⁵ Federally, the morbidity (diseased) and mortality (dead) figures are available for only about forty-two major cities in the US.¹³⁶ If the locally appointed "health officer" got sick, who made out the reports? According to Alfred Crosby, there are gaps in the health board reports. Therefore, all of the reports must be viewed with caution.¹³⁷ Perhaps the influenza epidemic was worse than we think.

Post-Epidemic Changes

Professionalization

Other than the immediately obvious (the direct and overwhelming number of deaths) I have been unable to determine the longer lasting effects of the influenza epidemic on the funeral industry. The industry did continue in its quest for professionalization, and while the number of funeral directors increased, the dropping mortality rates caused them financial problems.¹³⁸ The

¹³⁵ *Ibid.*

¹³⁶ Pyle, 42-3; Crosby, 56. Crosby says 45 cities.

¹³⁷ Crosby, 204-7.

¹³⁸ J.J. Farrell, 218-9.

shortage of funerals per director caused an increase in prices in order to maintain the standard income. The rising prices eventually culminated in the previously mentioned attack on the high cost of dying in The American Way of Death.¹³⁹

Professionalization in health care was affected by the influenza epidemic in that the increased workload helped to strengthen some of the new divisions within the medical profession (such as surgery, gynecology etc.). Trained nursing became not just widely recognized but was considered invaluable during the epidemic, more important even than doctors.¹⁴⁰ Toba Schwaber Kerson wrote of the boost given to Hospital Social Work in the *Social Work in Health Care* journal. She cites World War I and the Influenza Epidemic as the critical factors that gave the chance for the, "fledgling operation [of hospital social work] to demonstrate its capabilities and its value," thereby securing its place within the hospital structure and insuring its future as a profession.¹⁴¹

The Science of Medicine

In an age where modern medicine was transforming illness from a

¹³⁹ J.J. Farrell, 219-20.

¹⁴⁰ Crosby, 51, 76 , 80-1.

¹⁴¹ Toba Schwaber Kerson, "Sixty Years Ago: Hospital Social Work in 1918," Social Work in Health Care 4 (March 1979): 331-2.

private to a public event, the influenza epidemic gave some people their first experience with modern medicine – influenza patients, unlike other diseased patients, were not quarantined in the pesthouse on the outskirts of town.¹⁴² During the epidemic people showed more confidence in the science of medicine by their increased use of institutionalized health facilities. Hospitals overflowed with people seeking medical aid.¹⁴³ From our vantage point, looking back, the idea of taking a sick person to the hospital is not a surprising one, but in the day to day life of most early twentieth-century Americans a hospital was not the automatic choice when illness struck.

The science of medicine brought a distrust and fear of bodily fluids with its model of sanitation and personal hygiene. These fears were reinforced during the epidemic when people were very often required by law to wear gauze masks to prevent the passage of “flu germs” from one person to another.¹⁴⁴ In San Francisco hundreds of “mask-slackers” were arrested and fined (one was actually shot by a panicked public health officer).¹⁴⁵ People were warned not to sneeze or spit in public. “Let Sneezers Beware” was the headline in The Morning Oregonian on October 7,

¹⁴² Smolensky, 60, 61, 90, 107,

¹⁴³ An American Experience: Influenza 1918, PBS.

¹⁴⁴ An American Experience: Influenza 1918, PBS.

The theatres have already pledged themselves to eject the constant sneezer and the persistent cougher. Failure to smother a sneeze or cough in the handkerchief will hereafter be something more than a mark of ill-breeding. It will be a signal for a polite escort to the exit. Through the medium of the picture slide every theatre in the state will aid the campaign of education.¹⁴⁶

Crowding in structures, streets, and stores was "discouraged," and no spitting in public places was allowed.¹⁴⁷ People were told not to breath through their mouths, not to work up a sweat, and not to use a "napkin, towel, spoon, fork, glass or cup" which had been used by another person and not washed.¹⁴⁸ During the epidemic, volunteers were shown that nursing required special procedures and supplies to prevent one from coming in contact with the bodily fluids of another.¹⁴⁹ These apparently necessary precautions fostered an impersonal atmosphere and created a physical distance between nurse and patient, and reinforced the professionalization of the care of the sick.

¹⁴⁵ Crosby, 101-110; An American Experience: Influenza 1918, PBS.

¹⁴⁶ The Morning Oregonian (Portland) 7 October 1918, 6.

¹⁴⁷ The Morning Oregonian (Portland) 11 October 1918, 1; 4 November 1918, 6.

¹⁴⁸ The Morning Oregonian (Portland) 4 November 1918, 6.

¹⁴⁹ "How to Care for Influenza and Pneumonia Patients," The Public Health Nurse 10 (December 1918): 240-45.

Public Health

Much of the burden of the epidemic fell to Visiting Nurses who were the nurses of Public Health. As the name suggests, visiting nurses checked on and cared for sick people in their homes. They also recommended and arranged for more specialized care if they felt it was needed. According to Marion Crowe, the Superintendent of the Visiting Nurse Association in Portland, Oregon, in a June 1919 article, there were "only about 12 nurses doing public health work" in Oregon, although, "never before was the value of the Public Health Nurse realized in Portland as during the influenza epidemic."¹⁵⁰ They had just received a donation of \$25,000 from a local businessman and were recruiting more nurse trainees to serve in Oregon.¹⁵¹ One visiting nurse who had worked in the Camp Lewis, Washington area claimed that, "our patients see Uncle Sam in a guise they have never seen him before."¹⁵² These nurses were seen as representatives of state and federal public health agencies who had come to care for sick families in their homes.

In the two years following the epidemic, the Public Health budgets for county health offices in most states more than doubled. The total budget for

¹⁵⁰ Marion G. Crowe, "The Call of the Northwest," The Public Health Nurse 11 (June 1919): 439.

¹⁵¹ *Ibid.*, 439-40.

¹⁵² Davies, 47.

full-time county health departments in the United States increased from \$194,437 in 1917 to \$1,215,141 in 1920.¹⁵³ The number of county health departments shot from 44 in 1918, to 138 in 1920, and continued to increase rapidly each year until 1933.¹⁵⁴ This rapid expansion during a post-war economy is reflected in countless graphs and charts related to local public health. For example, a 1932 Public Health Bulletin "Health Departments of States and Provinces of the United States and Canada" contains a graph [fig.4] showing the rapid increase of county health departments between 1915 and 1929.

This table shows a total of only fourteen full-time county health organizations in operation in 1915. After the 1918 influenza epidemic, this number jumps dramatically, and continues to rise. The county health organizations were believed to be the most economically efficient way to provide and monitor public health care.¹⁵⁵

¹⁵³ John A. Ferrell, b. History of County Health Organizations in the United States 1908-33, Public Health Bulletin no. 222 March 1936. (Washington: US Govt., 1936.) 10.

¹⁵⁴ J.A. Ferrell, b., 10.

¹⁵⁵ U.S. Treasury Department, Public Health Service. Health Departments of States and

In the 1945 monograph Government in Public Health, Harry S. Mustard shows an incredible boost for the rural sanitation work for the Public Health Service between 1918 and 1919 [fig.5] – a budget which was matched by the states making the requests for federal assistance in setting up these rural sanitary programs.¹⁵⁶ He then states that, “the financial details in the period 1917-1935 are not nearly so important as the policies, precedents and sound federal-state relationships which were established at this time.”¹⁵⁷

The 1918 Influenza Epidemic was a truly national epidemic. Prior to 1918 the primary concern of the Public Health Service was to research and to prevent the introduction of epidemic diseases into the US, along with their first duty to those ill sailors whose hospitals they managed.¹⁵⁸ Most of the local epidemics were the responsibility of city or state agencies. When local epidemics became or threatened to become regional epidemics the Public Health Service could be called in to help coordinate quarantine regulations between states or more often, to bring in one of their mobile laboratories for

Provinces of the United States and Canada, Public Health Bulletin No. 184 (revised) Washington: Government Printing Office, 1932. 45-49.

¹⁵⁶ Mustard, 60.

¹⁵⁷ *Ibid.*

¹⁵⁸ Harden, Inventing the NIH, 10, 11, 13, 18-21, 29-31; Health Departments of States and Provinces of the United States and Canada, 1.

testing.¹⁵⁹ The 1918 Influenza Epidemic was the first attempt at a national coordination of efforts. The flu was however, too quick, and the Public Health Service was not prepared. But the Public Health Service was not alone.¹⁶⁰ Many public health groups got into the fight including local city and state groups who worked in cooperation with school boards. In the Camp Lewis, Washington area Public Health officials called in teachers to do house to house surveys to determine families in need.¹⁶¹ Or as in Louisville, Kentucky, the Public Health Service was helped by the Babies' Milk Fund Association, the Board of Tuberculosis, and the District Nurse Association.¹⁶² Cooperation between private, local, state and federal health departments in a national crisis had proven to be possible, but it had also shown the existing limitations on those systems.

In a pamphlet printed during the influenza epidemic, the Oregon State Board of Health pleaded for more funding, citing the influenza epidemic as an example for the need for an improved health care system:

It is very evident that there is a distinct need of a much more thorough supervision of health conditions.

¹⁵⁹ *Ibid.*

¹⁶⁰ Crosby, 50.

¹⁶¹ Davies, 45.

¹⁶² Helen Bell Lupton, "Influenza In Louisville, KY," Public Health Nurse 11 (January 1919): 47.

This became appallingly apparent during the present epidemic of influenza: *there was no real organization to meet it!* There has been a state health officer rather than a state health office; an individual rather than an organization. This condition, while it may have been fairly satisfactory in the past, is outgrown and totally inadequate.¹⁶³

The state health board was asking for a budget increase of more than \$15,000, or from \$12,500 per year, to \$47,612.50 in order to create and organize a state health department, one which would now include a Bureau of Vital Statistics, a Bureau of Hygiene and Sanitation, as well a Bureau of Preventable Diseases. This latter Bureau was to be headed by an epidemiologist, "the necessity for one is not even debatable."¹⁶⁴ The pamphlet describes a plan to divide the state into five districts to be supervised by five full-time district health officers.¹⁶⁵ That at least part of this plan was realized is evidenced by a map included in the 1932 Public Health Bulletin on Health Departments that list Oregon as having five full-time county health organizations by December 1929.

¹⁶³ Oregon State Board of Health, "It is within the power of man to do without all infectious diseases" (Portland: State of Oregon, 1918) 3.

¹⁶⁴ *Ibid.*, 4,8-10. Re: the proposed Bureau of Vital Statistics, "The war has taught the people many things, among them the value of vital statistics and the absolute necessity of birth and death certificates, especially those of birth. Many people take a great deal of care and trouble to have their stock registered yet they entirely overlook their babies, these must be registered too—they are just as good as any hog, horse or cow and its registration is just as important." (8)

¹⁶⁵ *Ibid.*, 9.

There is not, however, a listing for a Bureau of Preventable Diseases.¹⁶⁶

Twenty-one other states added separate divisions or bureaus of epidemiology between 1915 and 1925, while only nine had one prior to 1915.¹⁶⁷ It was the responsibility of these public health organizations to report incidence of disease to the national office.

Prior to the epidemic, influenza had not been a reportable disease, but since the epidemic it has been monitored every year.¹⁶⁸ Even now, in the background of the medical machine, there are vast networks devoted to monitoring and researching current trends and mutations of influenza for fear of a return of the 1918 form of the virus.¹⁶⁹ For instance, a quick look on the government health statistics web site, "Fastats A to Z," nicknamed the "Statistical Rolodex," will show you that in 1997, 720 people died of influenza in the United States.¹⁷⁰ In 1996, there were 83,727 who died of Pneumonia.¹⁷¹

¹⁶⁶ U.S. Treasury, Health Departments of States, 48, 56, 59.

¹⁶⁷ *Ibid.*, 58-9.

¹⁶⁸ Oldstone, 184, 186, 191.

¹⁶⁹ Harden, 41; US Government, National Center for Health Statistics, Fastats A to Z, <http://www.cdc.gov/nchs/fastats/flu.htm>.

¹⁷⁰ Fastats A to Z, Influenza.

¹⁷¹ Fastats A to Z, Pneumonia.

CONCLUSION

While the transition of death and dying from the realm of family and home to professionals and institutions began before 1918, the move was accelerated by the influenza epidemic of 1918. Many of the assorted epidemics which had plagued mankind for centuries appeared, in 1917, to be coming under some level of control. They were often smaller and more quickly contained by new full-time health authorities using the modern methods available by 1917: the medical or biological laboratory, refined sanitation and hygienic practices, and improved vaccinations. These methods had begun to make a difference in morbidity and mortality figures. People were healthier, and living longer. But the public willingly granted only the minimum amount of power and funding to local, state and federal agencies, and since public health had improved, these agencies probably had enough of both. How could the agencies justify their requests for additional money or power if things were fine? The 1918 Influenza epidemic gave health agencies the justification they needed. The epidemic showed the professionals, as well as the public, that more needed to be done. Oregon had been dodging the plague, at times epidemic in San Francisco, for years, and yet something as simple as influenza

turned into a killer and swept across the entire nation in just five weeks -- and no one could stop it.¹⁷² Nothing the scientists had learned, nothing they had done seemed to make much difference, "In a gradual remorseless way it kept moving closer and closer."¹⁷³ So too, in retrospect, the institutionalization of death seems to have moved remorselessly closer and closer, urged on by the professionalization of medicine, which was itself enhanced by the introduction of new scientific discoveries, technologies and methods.

¹⁷² Smolensky, 48,108, 117-8.

¹⁷³ William Maxwell, quotation from the American Experience: Influenza 1918 PBS Video.

Appendix



Figure 1.

Cartoon against the use of Cow Pox as vaccine against small pox.

1802 Painting by James Gillray, Wellcome Trust.

Oidstone, Michael B.A.. Viruses, Plagues, and History. New York: Oxford University Press 1998 39

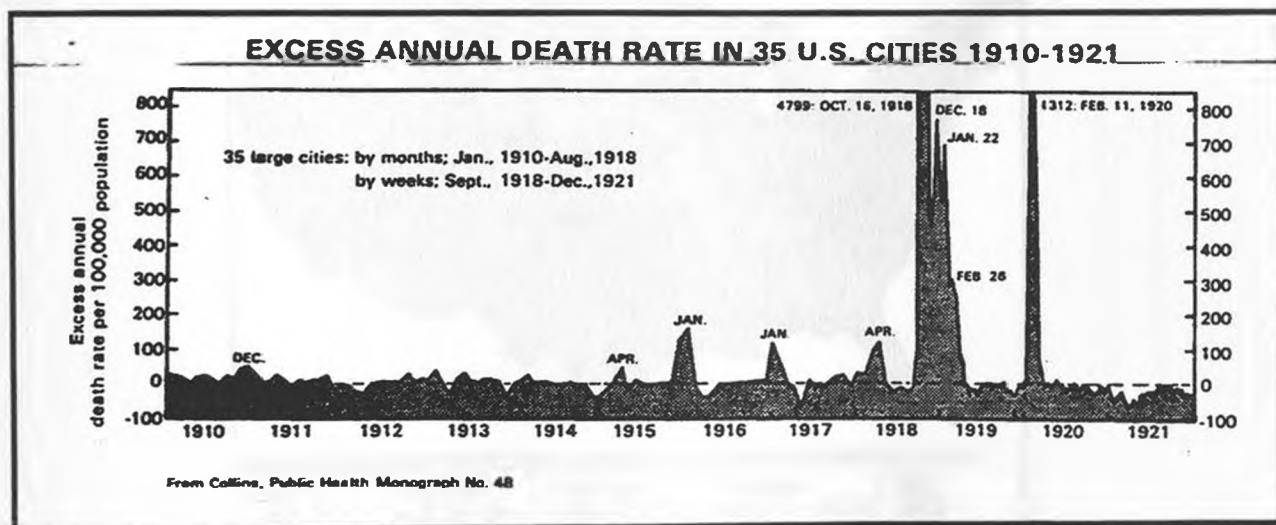


Figure 2.

Chart showing excess death rates from influenza in 1918 and into 1919.

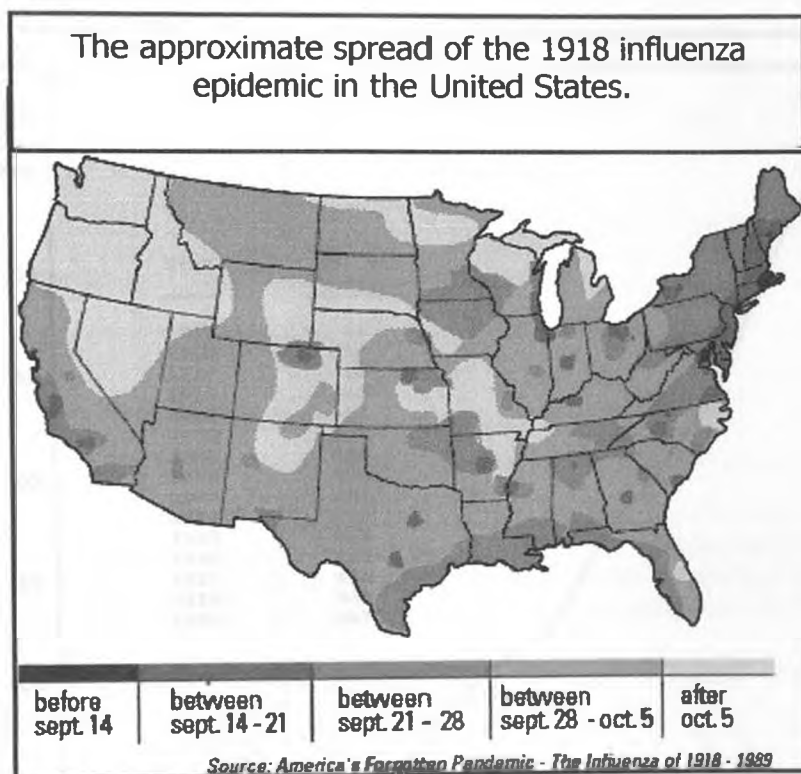


Figure 3

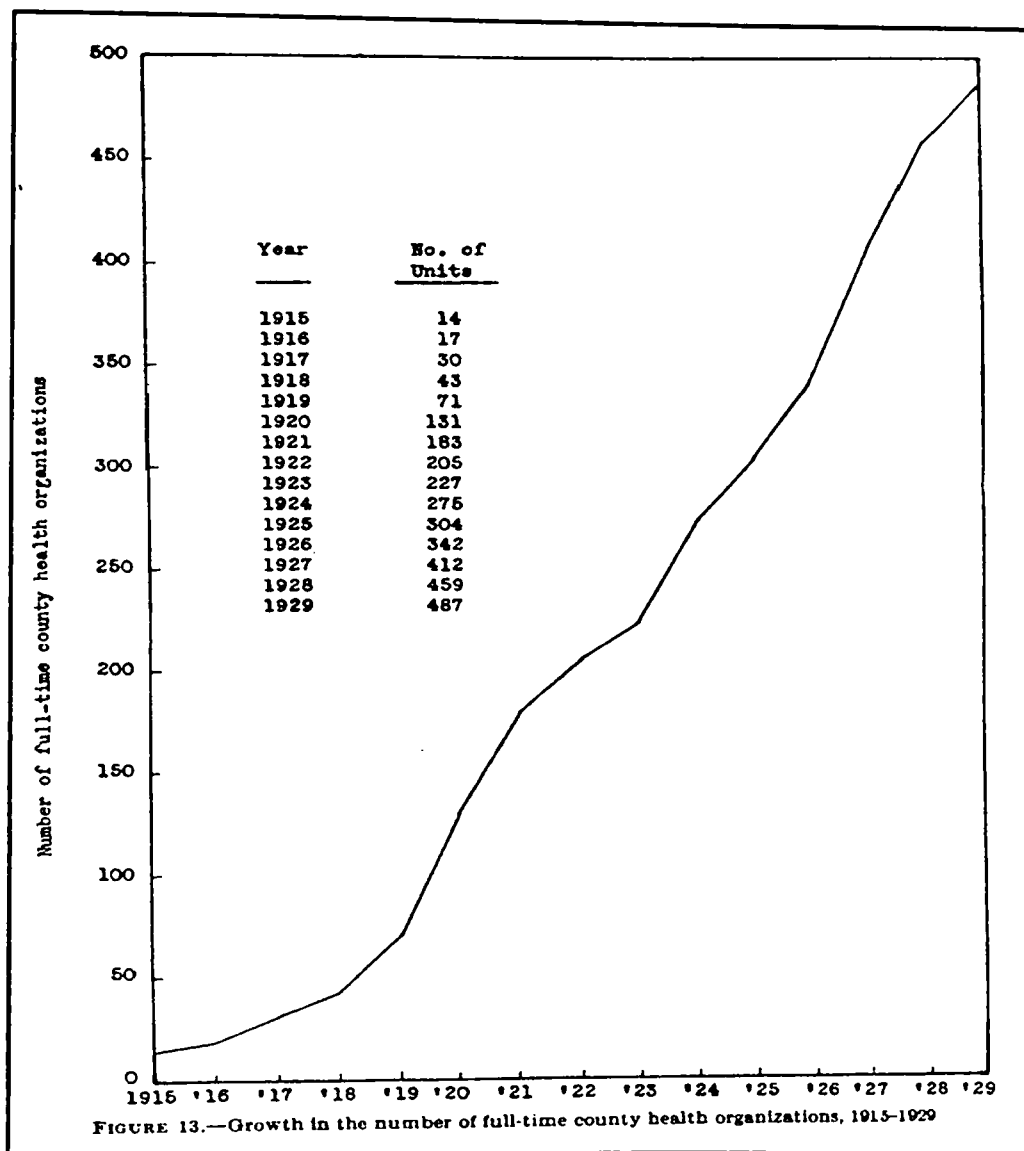


Figure 4.

Number of full-time county health organizations, 1915-1929.

U.S. Treasury Department, Public Health Service. Health Departments of States and Provinces of the United States and Canada. Public Health Bulletin No. 184 (revised). Washington: Government Printing Office, 1932.

TABLE I. Amounts specifically appropriated by the Congress for the rural sanitation work of the United States Public Health Service (39)

<i>Fiscal year</i>	<i>Amount</i>	<i>Fiscal year</i>	<i>Amount</i>
1917	\$ 25,000	1926	\$ 75,000
1918	150,000	1927	75,000
1919	150,000	1928	265,740 ^a
1920	50,000	1929	347,000
1921	50,000	1930	346,000
1922	50,000	1931	726,650 ^b
1923	50,000	1932	1,949,350 ^c
1924	50,000	1933	300,000
1925	74,300	1934	150,000 ^d

a. Including \$180,740 released from appropriation for the prevention of the spread of epidemic diseases and applied to county health work in the Mississippi flood area.

b. Including \$388,650 from the special appropriation for health work in the drought-stricken area.

c. Including \$1,611,350 from the special appropriation for health work in the drought-stricken area.

d. Amount actually available, \$25,000.

Figure 5.

Table showing Congressional appropriations to the Public Health Service for rural sanitation work 1917 to 1934.

Harry S. Mustard, Government in Public Health (New York: The Commonwealth Fund, 1945) 61.

Figure 6.

PBS, *The American Experience, Influenza 1918*, available [online]
<http://www.pbs.org/wgbh/amex/influenza/sfeature/devens.html> [22 July 2000].

A Letter from Camp Devens, Massachusetts

A doctor stationed at Camp Devens, a military base just west of Boston, writes to a friend, and fellow physician, of the conditions to be found there as influenza was making its presence felt.

Camp Devens, Mass.
 Surgical Ward No. 16
 29 September 1918

My dear Burt,

It is more than likely that you would be interested in the news of this place, for there is a possibility that you will be assigned here for duty, so having a minute between rounds I will try to tell you a little about the situation here as I have seen it in the last week.

As you know, I have not seen much pneumonia in the last few years in Detroit, so when I came here I was somewhat behind in the niceties of the Army way of intricate diagnosis. Also to make it good, I have had for the last week an exacerbation of my old "Ear Rot" as Artie Ogle calls it, and could not use a stethoscope at all, but had to get by on my ability to "spot" 'em thru my general knowledge of pneumonias...

Camp Devens is near Boston, and has about 50,000 men, or did have before this epidemic broke loose. It also has the base hospital for the Division of the Northeast. This epidemic started about four weeks ago, and has developed so rapidly that the camp is demoralized and all ordinary work is held up till it has passed. All assemblages of soldiers taboo. These men start with what appears to be an attack of la grippe or influenza, and when brought to the hospital they very rapidly develop the most viscous type of pneumonia that has ever been seen. Two hours after admission they have the mahogany spots over the cheek bones, and a few hours later you can begin to see the cyanosis extending from their ears and spreading all over the face, until it is hard to distinguish the coloured men from the white. It is only a matter of a few hours then until death comes, and it is simply a struggle for air until they suffocate. It is horrible. One can stand it to see one, two or twenty men die, but to see these poor devils dropping like flies sort of gets on your nerves. We have been averaging about 100 deaths per day, and still keeping it up. There is no doubt in my mind that there is a new mixed infection here, but what I don't know. My total time is taken up hunting rales, rales dry or



* It is only a matter of a few hours until death comes. It is horrible *

moist, sibilant or crepitant or any other of the hundred things that one may find in the chest, they all mean but one thing here--pneumonia--and that means in about all cases death.

The normal number of doctors here is about 25 and that has been increased to over 250, all of whom (of course excepting me) have temporary orders-- "Return to your proper station on completion of work"-- Mine says, "Permanent Duty," but I have been in the Army just long enough to learn that it doesn't always mean what it says. So I don't know what will happen to me at the end of this. We have lost an outrageous number of nurses and doctors, and the little town of Ayer is a sight. It takes special trains to carry away the dead. For several days there were no coffins and the bodies piled up something fierce, we used to go down to the morgue (which is just back of my ward) and look at the boys laid out in long rows. It beats any sight they ever had in France after a battle. An extra long barracks has been vacated for the use of the morgue, and it would make any man sit up and take notice to walk down the long lines of dead soldiers all dressed up and laid out in double rows. We have no relief here; you get up in the morning at 5:30 and work steady till about 9:30 p.m., sleep, then go at it again. Some of the men of course have been here all the time, and they are tired.

If this letter seems somewhat disconnected overlook it, for I have been called away from it a dozen times, the last time just now by the Officer of the Day, who came in to tell me that they have not as yet found at any of the autopsies any case beyond the red hepatitis stage. It kills them before it gets that far.

I don't wish you any hard luck Old Man, but do wish you were here for a while at least. Its more comfortable when one has a friend about. The men here are all good fellows, but I get so damned sick o' pneumonia that when I eat I want to find some fellow who will not "talk shop" but there ain't none, no how. We eat it, sleep it, and dream it, to say nothing of breathing it 16 hours a day. I would be very grateful indeed if you would drop me a line or two once in a while, and I will promise you that if you ever get into a fix like this, I will do the same for you.

Each man here gets a ward with about 150 beds (mine has 168), and has an Asst. Chief to boss him, and you can imagine what the paper work alone is-- *fierce*--and the Government demands all paper work be kept up in good shape. I have only four day nurses and five night nurses (female) a ward-master, and four orderlies. So you can see that we are busy. I write this in piecemeal fashion. It may be a long time before I can get another letter to you, but will try.

Good-by old Pal,

"God be with you till we meet again"

Keep the Bouells open,

Roy

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