

1918 INFLUENZA PANDEMIC

Excerpted from: *No Need to Panic: Public Resilience in CBRN Events*

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“There is not the slightest danger of an epidemic... [because disease seldom attacks] a well-nourished people.”

–Royal Copeland, health commissioner, New York City, 1918

Salient Points

- *Official reaction ran the spectrum of denial, obfuscation, confusion and contradiction severely testing public trust.*
- *The government could not meet the needs or expectations of the public even though the expectations were far below what they are today.*
- *Use of media for public communication was problematic given wartime efforts.*
- *The role of home-centered healthcare and volunteer service programs was crucial in caring for patients at home.*

The “Spanish” influenza pandemic of 1918–1920 caused an estimated 50 million deaths worldwide and sickened nearly one-third of the world’s population. With millions of people incapacitated, the social fabric frayed, governments ceased to effectively govern, many activities in the public realm halted. On Oct. 18, 1918, the surgeon general of the United States predicted “if the epidemic continues its mathematical rate of acceleration, civilization could easily disappear from the face of the earth within a few weeks.”¹ The pandemic was like no other, with a mortality rate surpassing even the Black Plague by modern estimates. In one study of the era, 97.5 percent of the people who died did so of either influenza or pneumonia resulting from the flu.² Most of the deaths occurred in a 16-week period, from mid-September to

mid-December of 1918, paralyzing social, political and economic life across the globe. In the United States, businesses, schools and public activities closed or ceased. Public services failed. Machinery dug mass graves as cities ran out of coffins and grave diggers were among the dying. As quickly as it had come, the virus faded in late 1918, reoccurring in the spring of 1919 and sporadically until June 1920 when it disappeared.

The epidemic was startling, quick, and deadly. Experts were left with more questions than answers – questions scientists grapple with yet today. Why was this influenza strain so deadly? Why did it kill those in their prime as readily as the old and the young who are the normal victims of influenza? What is its relationship to other influenza viruses? And finally, where and how did it originate? This case study will not attempt to answer all those questions, but rather will review the outbreak, the U.S. Government’s reactions and the public’s ability to persevere through one of the greatest crises Americans have ever faced.

The Beginning

Ninety years after the pandemic, scientists still search for answers about the lethal 1918-20 influenza strain that swept through virtually every country in the world. While there are many theories, no one has been able to definitively determine precisely where the virus began. One of the leading hypotheses is it began in January 1918 in Haskell County, Kansas, “an isolated and sparsely populated county in the southwest corner of the state.”³ From this remote area, draftees reported to Camp Funston at Fort Riley, Kansas. From Camp Funston, soldiers went to other camps across the United States, took trains to the East Coast to prepare for departure, and unknowingly carried the influenza virus to hundreds of thousands of soldiers and civilians worldwide along the way.

¹ John Barry, *The Great Influenza*, (London: Penguin Books, 2005), p. 365.

² Michel Garenne and Andrew Noymer, *Spanish Influenza of Demographic 1918: Consequences in The Long Run*, Pasteur Institute, (no date) [powerpoint presentation in French].

³ Several other theories exist regarding where the virus originated including France and China. John Barry details his findings in “The Site of the Origin of the 1918 Influenza Pandemic and its Public Health Implications,” *Journal of Translational Medicine* (2004), pp. 2:3.

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The flu killed an estimated 675,000 Americans, 10 times more than would die in the “war to end all wars.” The virus of 1918-1920 was most deadly for people ages 20 to 40, a highly unusual statistic, as influenza usually kills the young and the old. The death rate for 15 to 34 year olds of influenza and pneumonia were 20 times higher in 1918 than in previous years.⁴ Twenty-eight percent of the American population was stricken. In San Antonio over 90 percent of households reported at least one person sick. The effect of the influenza epidemic was so severe in 1918 the average life span in the U.S. was shortened by 11.8 years.⁵ The life expectancy of an American male dropped as many as 17 years between 1915 and 1919 owing to both the war and the pandemic.⁶

Influenza was not unknown in the early 1900s. There had been significant epidemics during the 1850s and in 1889. Influenza was thought to be mildly worse than the common cold. Symptoms included body and headaches, stuffy nose, and a cough that usually lasted no more than three days. Thus, in 1918 when patients began presenting with much more dramatic symptoms and many deaths, doctors misdiagnosed influenza as the plague, meningitis or other serious diseases. As one historian noted, “Many of them did not identify it as influenza because, it didn’t fit the definition. Influenza does not kill people in great numbers; influenza does not particularly affect young adults; influenza is a pest, it’s not a slaughterer of human beings.”⁷

Some claimed German saboteurs arriving on U-boats had released poison gas in U.S. harbors. The United States was in the middle of the WWI, shipping hundreds of thousands of men and materiel to fight in Europe. In the spring of 1918, America’s role in the

⁴ Jeffery K. Taubenberger and David M. Morens, “1918 Influenza: The Mother of All Pandemics,” *Emerging Infectious Diseases*, (January 2006), <http://www.cdc.gov/ncidod/EID/vol12no01/05-0979.htm> (Dec. 14, 2007).

⁵ *The Deadly Virus: The Influenza Epidemic of 1918*, <http://www.archives.gov/exhibits/influenza-epidemic>, (Jan. 8, 2008).

⁶ Garenne and Noymer.

⁷ Alfred Crosby, *The American Experience: Influenza 1918*, Public Broadcasting Service, <http://www.pbs.org/wgbh/amex/influenza/filmmore/reference/interview/index.html>, (Dec. 19, 2007).

war increased. In March 84,000 American soldiers set out for Europe; followed by another 118,000 in April.⁸ But soldiers arrived in Europe sick or dead. By summer influenza was reported in Russia, North Africa, India, China, Japan, the Philippines and New Zealand.⁹

“Spanish Influenza”

Influenza hit Spain in May 1918, killing an estimated 8 million people. At the time, Spain was one of the few neutral countries in Europe and had no wartime censorship. Media reports of the illness were much more numerous than most countries, leading to the claim by other nations the outbreak originated in Spain. It was later determined to be untrue; however, the name “Spanish Influenza” remained in perpetuity.

The influenza pandemic roughly can be broken into three phases: Phase 1: March – June 1918, Phase 2: end of August 1918 – March 1919 and finally, Phase 3: March 1919 – June 1920. While scientists believe the same virus caused the three waves, they have samples only from the second wave, which caused the greatest amount of death and social chaos. Virologists continue to study the outbreak attempting to pinpoint its origin and prove or disprove the linkage among the three outbreaks.

The first wave caused a great number of illnesses, but not a noticeably higher rate of death, as was the case with the second wave. In 1918 influenza was not a reportable disease in any country and thus pinpointing its precise rate of illness and lethality is difficult. The only way to measure the severity is through mortality rates. Most cases of pneumonia in spring 1918 are now linked to the epidemic, but at the time were considered normal. While the origins are argued, the first major outbreak seems to have begun in early March 1918 in Camp Funston at Fort Riley, Kansas, followed closely by illness in New York City and other locales. In August 1918, a more virulent strain

⁸ “People & Events: The First Wave,” *The American Experience: Influenza 1918*, Public Broadcasting Service, <http://www.pbs.org/wgbh/amex/influenza/peopleevents/pandeAMEX86.html>, (Jan. 4, 2008).

⁹ Ibid.

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appeared simultaneously in Brest, France; in Freetown, Sierra Leone; and in Boston, Mass.

Patients suffered and died from varying symptoms complicating diagnosis as well as the lack of helpful information to prevent infection. The symptoms were so unusual that initially influenza was misdiagnosed as dengue, cholera or typhoid. Some patients died suddenly, seemingly perfectly healthy one minute and dead the next. Several anecdotes exist of people dropping dead on the streets with no warning. Other patients suffered from the onset of “normal” influenza followed by a rapidly development of a ferocious pneumonia that would fill their lungs with fluid, killing a patient by drowning. This variant was the most brutal as a patient’s lungs were unable to function, oxygenation of blood failed causing victims to turn blue and even black. One army physician in Boston noted in many cases race could not be determined by skin coloration alone. Some patients coughed so violently they broke ribs. Other patients suffered from morbid bouts of bleeding from virtually every orifice of their bodies. The last group had less virulent forms of secondary bacterial pneumonia, suffering for longer periods of time. Scientists believe there is a possible link between the 1918 flu and mental health problems later in life including dementia and Alzheimer’s disease.¹⁰

War as a Catalyst

By late September 1918, the United States had over 2 million soldiers in Europe and was planning on sending another 2 million as quickly as possible. Germany was under pressure; a pressure that could only be maintained with addition of young, able-bodied Americans to the fight. The U.S. Government needed soldiers, but it needed public funding and industrial support as well. As government leaders became aware of the possibility of epidemic spreading from military installations to the general public, the threat had to be weighed against the war effort. In hindsight, the war ended in early November 1918, however, at the time, it was unclear when Germany would capitulate. The difficult decision was made to maintain troop movements, although some were curtailed or delayed. Historian Alfred Crosby explains:

¹⁰ Barry, pp. 378-381.

There were two enormously important things going on at once and they were at right angles to each other. One, of course, was the influenza epidemic which dictated that you should sort of shut everything down; and the war which demanded that everything should speed up – that certainly the factories should continue operating. You should continue to have bond drives. Soldiers should be drafted and sent to the camps jammed into barracks, put on boats with bunks six high, and sent off to France. One of the great tragedies of the situation is that there was no correct thing to do. You can’t look back and say, ‘If our officials had only done the correct thing.’ There wasn’t any correct thing to do.¹¹

Thus, when the city of Philadelphia was planning its fourth Liberty Loan parade on Sept. 28, 1918, the possibility of raising millions of dollars to help the war effort outweighed the fears of a few health officials voicing concern over illness spreading through military camps, including the local Navy yard. Within seven days after the parade attended by over 200,000 people, Philadelphia’s hospital beds were filled to capacity with victims of influenza. The flu killed almost 11,000 Philadelphia residents during October 1918.

Soldiers from all countries were hit hard by influenza. According to a report in the *New York Times* in June 1918, the German troops suffered from an epidemic “all along the German front.”¹² The flu may have even delayed the Germany offensive in the battle of Château-Thierry in June 1918.¹³ Of the U.S. soldiers who died in Europe, the influenza killed half. An estimated 43,000 servicemen mobilized for WWI died of influenza while 621,000 were sickened.¹⁴ The

¹¹ Alfred Crosby, *The American Experience: Influenza 1918*.

¹² “Spanish Influenza Is Raging in the German Army; Grip and Typhus Also Prevalent among Soldiers,” *The New York Times*, (June 27, 1918).

¹³ Rex W. Adams, “The 1918 Spanish Influenza, Berkeley’s “Quinta Columna,” *Chronicle of the University of California*, 1, (Spring, 1998), pp. 51-52.

¹⁴ Alfred Crosby, *America’s Forgotten Pandemic: The Influenza of 1918*, (Cambridge: Cambridge University Press, 2006 [reprint]), p. 205.

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mortality rate for army camps in the United States ran between five–10 percent.

Unraveling the Cause

Between 1890 and 1917, medicine had made many great strides. Scientists had learned to counter or control smallpox, cholera and yellow fever. Pasteur had linked germs to diseases boosting a feeling of innovation and invincibility. As one noted historian explained, “It was a time of great optimism in infectious disease control mainly because Pasteur had advanced knowledge to such a tremendous degree that we were following one success right after another success.”¹⁵ That optimism came to a screeching halt as the influenza pandemic took hold of the planet. National decision makers turned to science for answers; the medical community, however, was just as flummoxed. In 1917 it was strongly believed bacteria caused influenza. It was not until 1933 that it was determined to have been caused by a virus.

The lethality of the 1918 virus had never been experienced before or since, rising to over 2.5 percent, compared to less than 0.1 percent in other influenza pandemics. In some areas, mortality was as high as 35 percent of the population. Scientists do not know why. The virus moved about unexpectedly. In some areas, only a few were sickened, while in other areas whole communities were wiped out. Even when mortality was low, so many people were incapacitated that everyday life came to a halt. Commerce was limited to people standing in the streets yelling orders to clerks behind closed doors. Human contact was limited even within families. The state of public healthcare was in disarray with virtually no help or leadership from the federal government.

The Public Health Response

¹⁵ Dr. Shirley Fannin, *A Time for Great Optimism, The American Experience: Influenza 1918*, Public Broadcasting Service, <http://www.pbs.org/wgbh/amex/influenza/filmmore/reference/interview/dfannin1.html>, (Dec. 19, 2007).

In the fast-paced, just-in-time world we live in today, it is hard to imagine the impact of the 1918 epidemic. But in the fall of 1918, it seemed there might be no end to the nightmare that worsened each day. In September 1918, 12,000 people died in the United States, which alone is a significant number; however, in October that number climbed to an astounding 195,000, crippling American society.

In 1918, the resources and capabilities of the federal government in the public health sector were marginal, limited by lack of personnel, resources and infrastructure. Much of the existing resources were used in support of the war effort. One-third of the American medical establishment – doctors, nurses and support personnel – served in the military stationed in Europe. In some towns and cities the shortages were more extreme. Private hospitals had closed due to personnel shortages, a dearth that would severely challenge many locales in caring for the sick.

As the epidemic reached the United States, the first reaction of many national authorities was denial. The health commissioner of New York City denied influenza had reached his city or that it was an epidemic. He argued no danger existed, but rather panic was unjust and panic itself was the cause of illness. As it became clear the epidemic was going to spread across the United States, public health officials issued statements, albeit sometimes contradictory. As one expert noted, one of the greatest challenges for decision-makers was “the consistent inability to predict when the epidemic was going to increase and decrease, the absence of really strong epidemiological evidence...left the public pretty well disarmed.”¹⁶

The responses of the public health officials represented the prevalent medical concepts of the times. Given that a bacterium was believed to be the cause, good ventilation and fresh air were extolled as the best measures of prevention. In many areas public gatherings were limited in hopes of stemming

¹⁶ Dr. Barbara Rosencrantz, *The American Experience: Influenza 1918*, Public Broadcasting Service, <http://www.pbs.org/wgbh/amex/influenza/filmmore/reference/interview/drbarbara5.html>, (Dec. 19, 2007).

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the tidal wave of infection. However, the severity of the regulations was dependent upon local authorities. A 1918 article in the *Journal of American Medicine* stated the Committee of the American Public Health Association (APHA)¹⁷ issued a report recommending limiting public gatherings. The APHA said:

The committee held that any type of gathering of people, with the mixing of bodies and sharing of breath in crowded rooms, was dangerous. Nonessential meetings were to be prohibited. They determined that saloons, dance halls, and cinemas should be closed and public funerals should be prohibited since they were unnecessary assemblies. Churches were allowed to remain open, but the committee believed that only the minimum services should be conducted and the intimacy reduced. Street cars were thought to be a special menace to society with poor ventilation, crowding and uncleanness. The committee encouraged the staggering of opening and closing hours in stores and factories to prevent overcrowding and for people to walk to work when possible.¹⁸

The report concluded the disease was extremely communicable and “spread solely by discharges from the nose and throats of infected persons.”¹⁹ In 1918, most laborers shared living quarters, cooking and eating utensils, in addition to common work space. Generations of families lived under one roof, making the infection prevention a daily challenge for all. The

¹⁷ The Committee on American Public Health still exists today as the American Public Health Association. According to its website, APHA “is the oldest, largest and most diverse organization of public health professionals in the world and has been working to improve public health since 1872. The Association aims to protect all Americans and their communities from preventable, serious health threats and strives to assure community-based health promotion and disease prevention activities and preventive health services are universally accessible in the United States. APHA represents a broad array of health professionals and others who care about their own health and the health of their communities.” <http://www.apha.org/>, (Dec. 19, 2007).

¹⁸ Molly Billings, “The 1918 Influenza Pandemic: The Public Health Response,” (June 1997), <http://virus.stanford.edu/uda/fluresponse.html>, (Jan. 3, 2008).

¹⁹ *Ibid.*

law prohibited coughing or sneezing without covering one’s face and the use of common cups in factories. Public education campaigns were initiated, espousing hand-washing and general hygiene.

Recent research has suggested non-pharmaceutical interventions such as effective and timely implementation of school closures and bans on public gatherings had significant impacts on death rates. Markel et al. examined the utilization of these interventions in 43 American cities. They found cities that utilized combinations of social contact restrictions and early implementation of these measures, such as New York City, experienced lower death rates than cities that delayed such actions or utilized such restrictions in isolation, such as Philadelphia.²⁰ Recognition of an outbreak and knowledge of how to respond are not the only factors that contribute to decisions to implement such measures and their ultimate effectiveness. Other social and political factors play a role as well.

Telling White Lies

The most important aspect of American life was the war, not illness. As one expert stated, “patriotism was more important than truth.”²¹ Another noted, “The pressure to maintain the war effort made so many other things lose their importance.”²² The value of public honesty was weighed against public morale. Morale won. At times, public health officials were at odds with political leadership. In Pittsburgh, the mayor told the public they should ignore public health official statements.

The media and public officials, however, were complicit in most cases, supporting the idea there was no epidemic and thus, no need to worry. People were forced to judge the juxtaposition among closing of businesses and limiting human contact and

²⁰ Howard Markel, et al, “Nonpharmaceutical Interventions Implemented by US Cities During the 1918 Influenza Pandemic,” *JAMA*, (2007), pp. 298 (6), 644-654.

²¹ John Barry, “Pandemic Influenza: Past, Present and Future,” CDC Workshop, (Oct. 17, 2006), p. 7.

²² Richard Hatchett, *Ibid.*, p. 9.

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authorities telling them not to worry. A Chicago official stated, "Worry kills more people than the disease itself." Newspaper stories stating public officials had the outbreak under control ran side-by-side with advertisements for goods used in "preventing" the flu including snake oil, castor oil, laxatives, Vaporub, pine tar, cayenne pepper and camphor. Advertisements in newspapers declared, "Wear a mask and save your life! A mask is 99 percent proof against influenza." Many cities, including San Francisco, passed ordinances requiring gauze masks to be worn in public. Penalties for violation included up to \$100 fine and 10 days in jail. Spitting, coughing and sneezing publicly were fineable offenses in many cities. "Open face sneezers" were equated with the Kaiser.

Cities across the eastern part of the country were losing control. Bodies piled up in the streets. Some corpses stayed in homes for days, as family members were too ill to remove them. Telephone networks were overwhelmed. In New York City authorities begged citizens to use the phone only in case of emergency because influenza had decimated the ranks of operators and jammed the lines with people seeking help. By Oct. 4, the U.S. Public Health Service advised state and local officials to enforce closure of all public gathering places.²³ This notice was only a recommendation as the federal government did not have the authority to enforce the measure, requiring local entities to issue their own ordinances – on their own terms and timelines.

Assistance from Private Sources

The importance of private relief organizations cannot be overstated. Philanthropic organizations, whose members were women of prominence, took up the mantle of leadership, effectively managing and operating civic functions and preventing total collapse of society. In Philadelphia, women's groups picked up where the local government collapsed, organizing nurses, supplies and even scheduling pick up of the dead. They took out full-page advertisements in local papers, pleading for volunteers with any medical background to join their ranks. The Red Cross played a vital role in organizing nurses and providing

infrastructure nonexistent within the federal government. The Red Cross sought graduate nurses, undergraduates, nursing aides and retired medical personnel. By Oct. 8, the Red Cross operated full force across the country.

Another organization, the Society of Visiting Nurses, was busy around the clock going to homes caring for sick who could not make it to a hospital. Nurses across the country reported entering houses where all the occupants died or all the adults died and the children and those too ill to care for themselves starved. Without the corps of nurses the death toll would have been significantly higher. Hospitals, too, were overwhelmed. Not only was there staff and resource shortages, but generally every hospital bed was full. In larger cities, including Philadelphia, the sick lined the hallways and even stood out in the street waiting for treatment. Private homes opened in many cities for convalescing, freeing up hospitals for the urgent cases.

Where the Virus Hit and Why

Looking at mortality rates from the pandemic, scientists have spent decades trying to determine trends and linkages. Were some populations genetically predisposed to death from influenza? If this were true then perhaps the key is in our genetic code. Few countries escaped the illness.

- An estimated 7 million died in India, about 2.78 percent of India's population at the time. In the Indian Army, almost 22 percent of troops perished from the flu.
- In Britain, as many as 250,000 died.
- In France the number of dead was more than 400,000.
- In Canada, approximately 50,000 died.
- In Australia an estimated 12,000 people died.
- In Fiji, 14 percent of the population died during only two weeks.

²³ Crosby, *America's Forgotten Pandemic*, p. 74.

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- In Western Samoa the number was 22 percent.²⁴
- Entire villages in Alaska and southern Africa perished. In one Alaskan village 178 of 396 residents died in one week.²⁵

In the U.S., about 28 percent of the population contracted influenza, and approximately 675,000 died. Italian-Americans had one of the highest rates of mortality, although scientists believe living conditions were likely the greatest factor. Twenty-four percent of American Indians living on reservations caught the flu, with a 9 percent mortality rate, almost four times higher than rates of big cities in the United States. Interestingly, African-Americans tended to fare better as a population than did whites. An anomaly, historian Alfred Crosby states, is African-Americans normally suffered a much higher rate of mortality from respiratory illnesses than whites, except during the 1918-1920 influenza.²⁶

Scientists believe the most likely reasons for the variation among cultures were the cultural practices and living conditions, rather than genetic weakness.²⁷ Where families groups were crowded together under one roof, influenza flourished. However, statistics show no clear division among class lines. In many aboriginal cultures it is customary for families to gather with the dead, possibly leading to greater infection of the population.

Collective Conscience

The "Spanish flu" killed more Americans than all the wars of the 20th century combined yet no monuments exist to its dead. It is estimated no family in the United States went unscathed. In fact, it was rare to find a

family that did not suffer at least one death, whether a cousin or an aunt, if not an immediate family member. In one study of 1,000 life insurance claims during the epidemic, the average age of the victim was 33, while the average age from previous years had been 55-60. The report estimated the death total in the United States to be at least 400,000 and stated each death represented an economic loss of 25 productive years resulting in a 10,000,000 year productivity loss to the American society as a whole.²⁸

Given the brevity of events, why then does the Spanish Influenza not have a place in our collective conscience? There are many theories for this, the first of which is the speed at which events occurred. The epidemic took more lives worldwide in 25 weeks than AIDS has in 25 years. The events brought many communities to a breaking point, and then as suddenly as it began, it was over. There were three waves of the outbreak through 1918 and 1919; however, the fall of 1918 was the apex of the crisis. As the epidemic culminated, WWI came to an end. Delegations suffering from the flu delayed peace talks on more than one occasion.

Another reason for the lack of remembrance, as one expert suggests, is few "famous" people died – possibly given the age at which most of the victims succumbed. Those aged 25-40 had yet to make their mark on the world. Many dignitaries including the Kaiser, President Wilson, and Franklin D. Roosevelt suffered from influenza, but none died of it. Literary giants including John Dos Passos, William Faulkner, Ernest Hemingway, Thomas Wolfe and F. Scott Fitzgerald were all affected by the flu, either by the loss of a loved one or suffering from the illness themselves, but the disease rates not even a mention in their novels of the times.²⁹

The epidemic changed many scientific, social, political and economic aspects of the time; however, it did not withstand the test of time in collective conscious as it likely did in personal ones. It is unlikely anyone who lived through it failed to remember its horrors, but as communities and nations we did not allow it to linger.

²⁴ http://en.wikipedia.org/wiki/Spanish_flu.

²⁵ Gina Kolata, "The 1918 Flu Killed Millions. Does It Hold Clues For Today?," *The New York Times*, (March 26, 2006), http://www.nytimes.com/2006/03/28/science/28flu.html?_r=1&oref=slogin&pagewanted=print.

²⁶ Crosby, *America's Forgotten Pandemic*, pp. 228-9.

²⁷ *Ibid.*, p. 228.

²⁸ "Experts See Heavy Cost of Influenza," *The New York Times*, (Dec. 6, 1918).

²⁹ Alfred Crosby, *America's Forgotten Pandemic*, pp. 315-317.

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Lessons Learned

There are many lessons to be learned from the events of 1918-1920, some of which have already been described. Below are five broad themes to categorize the primary lessons relevant to public resilience.

1. Public trust in government statements and actions is essential

Industrial productivity, fundraising through war bonds and relief efforts were vital aspects of the war. Maintaining public morale was a priority. News was carefully censored to ensure war efforts were not undermined. Newspaper reports of the war were carefully worded to encourage strong support of U.S. efforts. Additionally, local news was reviewed to keep a positive outlook for the reader. When reviewing newspapers from the fall of 1918, few stories focus on the influenza outbreak. Some papers barely mentioned the flu, with the exception of the obituaries that required more space with each passing day. Government officials regularly decried the concerns as overblown. On the West Coast, Los Angeles and San Francisco's health officials loudly proclaimed their doubts influenza would even reach their fair cities – only days before public places were ordered closed to stem the tide of infections.

War and ignorance played significant roles in government actions at the federal, state and local levels. Only a few brave public health officials took preventative measures, while most stood by until illness brought their constituency to its knees. The lack of leadership, the censorship of the media and the dearth of understanding of the illness severely tested the public's ability to trust elected leaders.

In Philadelphia, public infrastructure strained to the breaking point, until private organizations came in, took control and restored order. In New York City, every statement from the city's health commissioner was incorrect, overstated or incomprehensible – even after his city was overcome with the epidemic.

The public requires trusted figures to give sound advice – what to do, where to go and how to get help. Without those elements chaos ensues. A 2006

Center for Disease Control and Prevention (CDC) Workshop summed it up by saying:

False reassurance is the worst thing you can do. Don't withhold information, because people will think you know more. Tell the truth – don't manage the truth. If you don't know something, say why you don't know, and say what you need to do to know. Drown people with the truth, rather than withhold it...The key is trust. It is when people feel totally alienated and isolated that the society breaks down.³⁰

2. The role of the media is vital

The media, as in all crises, played an important role, partially through its lack of coverage and its misinformation provided by ignorant government leaders and advertising charlatans who preyed on public fear. The role of the media in a modern day epidemic would be vital. Networks and media outlets would have to work with governments to provide truthful and vital information. The current trend toward sensationalism could greatly hamper a government's ability to lead its population through a crisis. Cooperation would be essential for extreme measures such as quarantine. Transparency in communications is key to successful implementation of policy. One expert concluded, "Today, we have the opportunity to frame how the public perceives what is happening."³¹

3. The government should encourage reliance on self, family, community

The war had brought people together, united in one cause. Influenza had the opposite effect – dividing families and communities into isolated and helpless camps. In some cases children or those too sick to care for themselves starved to death because no one was there to help them. People were so afraid of the contagion, once close-knit communities who had shared the good and the bad closed their doors to one another. However, there are numerous examples of bravery and fortitude at the individual level. In many areas, specifically big cities, private philanthropic groups literally saved society through organizing efforts. These local groups do not exist in the same form they did in 1918. Societal roles are different

³⁰ John Barry, CDC Workshop, (Oct. 17, 2006), p. 8.

³¹ Richard Hatchett; *Ibid.*, p. 10.

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today – making philanthropic groups an addition to a resume, not the extent of it. The level of community effort in cities such as Philadelphia is hard to imagine in the modern age, including caring for the sick and managing sanitation, removal and burial of the dead. More thought needs to go into how the government can support communities and private entities in improving self-reliance.

Communities were more self-sufficient in 1918 than today and had local support networks nonexistent today. The family also played an important role. While many families suffered with several members ill, the fact they lived together or near one another meant those who were well could care for one another. Demographics have changed. Today, families are smaller and often live far away from familial support networks, forcing many to rely on whatever government services are available.

4. Leadership and clear lines of authority are necessary

The influenza virus cannot be seen, tasted or smelled. In the fall of 1918, seemingly healthy people dropped dead. At the height of the epidemic, many stores refused patrons entry, but rather asked them to yell their orders from the storefront, wait for their parcels to be prepared, and avoid any personal contact. It is difficult to imagine patrons doing that in today's society. It is also unclear to what extent the public would adhere to government edicts, especially those as extreme as quarantine. Would families agree to separation for the good of the public? With the current trends in individualism it is hard to imagine this would be the case. Any wavering or confliction in official statements would be taken as an opening for individual action.

Even in 1918 quarantine was not advised as it was considered "impractical." Public places were closed, but only fear kept people at home. Hospitals attempted to separate the ill by hanging bed sheets between beds. True quarantines were successful only in isolated areas with the ability to sustain their own community. Few areas of the world could manage that in the modern interconnected world.

In 1918 authority was more evenly dispersed among federal, state, and local officials. In addition, there

was virtually no experience with a nationwide crisis. The federal government only had the authority to recommend actions to the local authorities. Many localities had different ordinances on managing the outbreak, which confused the public. In some areas public officials offered seemingly crazy remedies and outlandish recommendations. Today infrastructure and plans are in place to manage a pandemic. Whether the measures prescribed can be effectively put into action is a question no one can answer until required.

Conclusion

The 1918 pandemic is not measured in the great economic losses it caused. The war ended and life returned to "normal." Because of the limited duration the pandemic is "characterized as a hit-and-run disease that only produced brief slowdowns" in economic and human terms.³² The economic impact would be much more severe today, given the just-in-time nature of the world economy.

Scientists do not discuss the next influenza pandemic in terms of whether, but rather when and how severe. The experience of the 1918 epidemic, as well as the strain itself, remain primary areas of scientific and anthropological study today. The unknowns in this case strike fear in experts' minds when considering what the future holds. In December 2006, one study estimated that an influenza virus as deadly as the one that caused the 1918 Spanish flu could kill as many as 81 million worldwide. The tidal wave of chaos leaves planners challenged to find solutions to incalculable problems in healthcare, manpower and economic stability. The United States has a national strategy for managing pandemic influenza. Today, influenza is a reportable disease monitored across the globe. While scientists search for clues from the past, decision makers try to plan and hope the next pandemic does not rival 1918.

³² Ibid., p. 13.