

# THE 1918 SPANISH INFLUENZA

## THREE MONTHS OF HORROR IN PHILADELPHIA

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**ABSTRACT:** In the fall of 1918, the world came to a virtual standstill while Spanish influenza raged. In the United States, no other city suffered more than Philadelphia. The virus entered via the Philadelphia Navy Yard, arriving on a ship from Boston. As soldiers fell victim to the virus, city authorities believed the outbreak was under control and continued with plans to kick off the Fourth Liberty Loan drive with a parade September 28. After 200,000 people jammed the parade route, the virus exploded in the civilian population. For three months, hundreds of thousands of Philadelphians battled the virus, which, at the end, took over 13,000 lives. Schools, churches, saloons, and theaters closed, thirty-two emergency hospitals opened, and burying the dead became almost impossible. By November, the disease receded, and while the flu continued into the spring, its virulence decreased. As quickly and deadly as it struck Philadelphia, the influenza epidemic receded from collective memory and, largely forgotten, is barely mentioned in discussions of World War I.

**KEYWORDS:** 1918 Spanish influenza, Philadelphia, World War I, Dr. William Krusen

By the fall of 1918, World War I had raged across the European continent for four years, the Allies aided by the entrance of the United States in 1917. Men, supplies, and medical personnel poured across the Atlantic. In the United States, those left behind threw themselves into the war effort to train additional soldiers, raise funds, and produce supplies. Philadelphia, the country's fifth-largest city, became a manufacturing stronghold during the war, with 300,000 additional transient workers brought into the city to fill the demand for supplies. While manufacturing for the war effort brought many new workers, the medical community headed overseas, with approximately twenty-six of Philadelphia's doctors and nurses serving in Europe, and 75 percent of its surgical staff also abroad.<sup>1</sup>

Through the spring and summer of 1918, an unusual strain of influenza had been noted throughout the country, but it did not appear unusual enough to make headlines. At the time, the Bureau of the Public Health Service in Washington, DC, did not yet require physicians to report influenza cases, so the extent of the spring cases was never truly calculated.<sup>2</sup> By the fall, however, the virus caused catastrophic devastation and death. The fall outbreak of the Spanish influenza has been traced to the Boston Navy Yard. The American commitment to its allies in Europe to provide troops trumped any medical issues, and so all US navy yards continued their military priorities of sending troops around the country and overseas and, with them, this deadly new strain of influenza.

Afterward, even as the Spanish influenza still threatened, medical researchers, political entities, and historians began their research on the virus, searching for cause and cure, analyzing local and national responses, and documenting the impact of the epidemic on American culture. In 1961 A. A. Hoehling wrote *The Great Epidemic: When the Spanish Influenza Struck*, discussing its history in general terms, over a wide swath of arenas—military, political, medical, state, and city. In 2003 Alfred W. Crosby penned *America's Forgotten Pandemic: The Influenza of 1918*, focusing on the period in the fall of 1918, during its height, through the spring of 1919, its impact on American society, and the inability of American people to remember it. In 2004 John Barry wrote the most famous work on the topic, *The Great Influenza: The Story of the Deadliest Pandemic in History*. Barry provided an in-depth look at the event and the reaction to it at home and abroad, focusing on how Americans responded to the enormous challenges of war and pandemic, especially those in power, that is, scientists and politicians.<sup>3</sup>

Since then, researchers have uncovered additional insight. In *Fever of War: The Influenza Epidemic in the U.S. Army during World War I*, Carol R. Byerly delved into the impact of the epidemic in the military by looking at medical officer memoirs and diaries, official reports, and scientific articles. She claimed the epidemic fell from memory due to a conscious effort by the Army to downplay the impact the virus had on the military. In 2009 Dorothy A. Pettit and Janice Bailie reviewed the social history of life between 1918 and 1920 in *A Cruel Wind: Pandemic Flu in America, 1918–1920* and concluded the postwar tiredness historians claimed resulted from a spiritual tiredness resulted instead from a physical tiredness left from battling the 1918 epidemic.<sup>4</sup>

This study of the 1918 Spanish influenza focuses on the hardest-hit city in the United States: Philadelphia. While often discussed in histories about the epidemic, these works do not cover the city in-depth. One other work, the article “The Flu of 1918” by Eileen A. Lynch, published by the University of Pennsylvania in the November/December 1998 issue of *The Pennsylvania Gazette*, gives an overview of how the virus affected Philadelphia between the brief sixteen-day period of October 4 and 20. It is too short to give a full explanation of the impact due to its narrow scope. This work explores the epidemic in a more in-depth way to analyze the city’s response between September 1918 and March 1919, bringing together reports, newspaper articles, vital records, and medical research to tell a comprehensive experience.

What was this new strain of influenza racing around the world? At the time, newspapers called it the Spanish influenza, although the *United States Public Health Service Report*, published September 28, 1918, contradicted this nomenclature saying, “although the present epidemic is called ‘Spanish Influenza,’ there is no reason to believe it originated in Spain. Some writers who have studied the question believe that the epidemic came from the Orient and they call attention to the fact that the Germans mention the diseases as occurring along the eastern front in the summer and fall of 1917.”<sup>5</sup>

During World War I, Spain remained a neutral country. While press in the combatant countries censored information it published (to keep word of the virulence of the disease from spreading and worrying both the general population and troops concerned about family and friends back home), Spanish authorities did not censor the country’s press. Spain reported on the disease as it occurred and newspapers around the globe picked up reports of the outbreak from the Spanish press. Since much of the information about the Spanish influenza came from Spain, including reports that King Alphonse XIII had fallen seriously ill, the disease picked up the name “Spanish influenza,” even though there is no evidence the disease originated there.<sup>6</sup>

Throughout history, epidemics of influenza covered the globe, and people in 1918 thought they knew what to expect. The most recent world epidemic prior to 1918 occurred in 1889–1890. Two years later, in 1892, doctors believed they had cracked the influenza code. Richard Pfeiffer discovered a rod-shaped organism in uncomplicated cases of influenza, which would allow for confirmation of an influenza diagnosis.<sup>7</sup> This discovery would be called Pfeiffer’s bacillus. Today, we know that “influenza viruses . . . are complex antigenic (allergen) agents, which stimulate the host to produce defensive antibodies. The process is set in motion when influenza viruses enter

the nasopharyngeal [nose and throat] cavity is [*sic*] a highly complicated phenomenon that is still not completely understood.” In 1918 the prevailing hypothesis that the Pfeiffer bacillus found in samples caused the virus was incorrect, as isolation of it by the British research team of Wilson Smith, Christopher H. Andrewes, and Patrick P. Laidlaw did not occur until 1933.<sup>8</sup>

Symptoms experienced by patients during the 1918 epidemic and during nonepidemic years were eerily similar, making it difficult to recognize the danger inherent in the disease in the fall of 1918. Symptoms of the flu included headache, cough, general muscular pain, chills, backache, weakness, sore throat, nausea, dyspnea (labored breathing), vertigo, vomiting, and earache. Spanish influenza also included extreme contagiousness, rapid onset, early and rapidly developing adynamia (lack of strength or vigor due to a pathological condition), cyanosis, a high rate of mortality, and an incubation of one to four days. Doctors and nurses treating the Spanish influenza noticed an additional symptom, “a marked mental depression not uncommon, sometimes associated with a fixed idea of recovery possible and death to follow—delusional insanity of the mild, melancholic or suicidal variety occasionally occurred.”<sup>9</sup>

Another unusual characteristic of Spanish influenza was its mortality rate. Generic strains of influenza strongly affect the young and old, with the largest loss of life occurring in these age groups. The 1918 strain acted differently. G. Dennis Shanks and John F. Brundage outlined the characteristics of those most affected. While illness levels were highest among school-age children, the mortality rate was highest among infants, young adults, and the elderly. They noticed influenza infection was most common in military bases among those with the least service time, and mortality rates were highest among soldiers who lived in rural rather than urban areas. The opposite was true outside military bases, where they found mortality rates highest in cities compared to rural areas. Shanks and Brundage admitted researching the responses to the pandemic proved to be difficult for several reasons: it occurred so close to the end of the war; the origins of the influenza virus at that point had not been discovered; effective flu vaccines, antivirals, and antibiotics did not exist; and the intensive medical care provided to take care of patients made it difficult to keep records up to date.<sup>10</sup> An additional surprising find when looking through death tallies involved the number of stillbirths to mothers in this time period. A report by the Bureau of the Census in 1920 found a large number of stillbirths for the month of October, when the virus peaked. The greatest number of women experiencing a stillbirth at

this time were aged 20–24, 147 percent above average in the areas of Indiana, Kansas, and Philadelphia, Pennsylvania.<sup>11</sup>

On September 6, 1918, the Spanish influenza arrived in Philadelphia on a ship from the Boston Navy Yard, carried by troops arriving at the Philadelphia Navy Yard.<sup>12</sup> Approximately one week later, on September 14, the *Philadelphia Evening Bulletin* noted, “Spanish Influenza Here.” The symptoms, as described by Surgeon-General of the US Public Health Service Dr. Rupert Blue were typical:

The disease is characterized by its sudden onset. People are stricken on the streets, while at work in factories, shipyards, offices, or elsewhere. First, there is a chill, then fever with temperature from 100 to 103, headache, backache, reddening and running eyes, pains and aches all over the body and general prostration. Persons so attacked should go to their homes at once, get in bed without delay, and immediately call a physician.<sup>13</sup>

In Philadelphia, Dr. William Krusen, director of the Department of Health and Charities, along with acting director of the Bureau of Health Dr. A. A. Cairn seemed unconcerned. “Absolute precautions are being taken to isolate any such cases that might occur, and there is no fear of an epidemic of the disease.”<sup>14</sup>

Within days, Dr. Paul A. Lewis of the Phipps Institute at the University of Pennsylvania determined the new disease was “La Grippe,” a common name for influenza at the time and often used interchangeably. “The germ of Spanish influenza has been isolated and identified as the Pfeiffer bacillus, the cause of the old form of grip, thus giving the medical profession absolute knowledge for its fight against the disease which is assuming aspects of epidemic in this city.”<sup>15</sup> While this announcement put many at ease, Dr. Lewis’s findings were wrong; this strain of influenza mutated to be more virulent and deadly than the typical flu.

Just days later, the *Evening Bulletin* disclosed the first death attributed to Spanish influenza at the Navy Yard as sailor James J. Keegan, storekeeper first class, from Scranton.<sup>16</sup> According to Keegan’s death certificate, Dr. William L. Weber diagnosed him September 16 and saw him again September 19, the day he died. Officially, Keegan died of influenza, complicated by broncho-pneumonia, listed on the certificate as the contributory factor. The death certificate lists very little personal information about Keegan, only his

age (approximately thirty years old), gender (male), race (white), and where buried (Scranton).<sup>17</sup>

The same article lists two other deaths. Sailor R. S. (Richard Savage) Singleton, a chief boatswain's mate from Wheeling, West Virginia, died September 19 at 5:01 a.m. at Thomas Jefferson Hospital.<sup>18</sup> Singleton, a twenty-seven-year-old, married, white male, died of pneumonia, lobar (pneumonia affecting one or more lobes, or part of a lobe, of the lung).<sup>19</sup> Also noted was the third death, Mark J. Harrison, first-class fireman who died at the US Naval Hospital September 20, 1918.<sup>20</sup> Harrison, a twenty-one-year-old white male from Provo, Utah, also died of influenza complicated by bronchial pneumonia.<sup>21</sup> An estimated 400 cases of influenza raged at the Navy Yard, with 31 cases at Pennsylvania Hospital, and about 1,200 total cases of Spanish influenza across Philadelphia.<sup>22</sup> Time and again, death certificates of victims revealed the cause of death as influenza, complicated by lobar pneumonia as a contributory factor.

Prior to the fall of 1918, physicians were not required to report influenza cases either locally or nationally. In trying to keep ahead of the disease, the Philadelphia Board of Health ordered doctors to start reporting influenza cases as a temporary measure for the current emergency.<sup>23</sup> On the day reporting requirements went into effect, the Navy Yard indicated an additional 126 cases. The practice of reporting influenza continues today.

The situation in Philadelphia appeared bad, and unfortunately no one could predict how deadly the following weeks would become. On September 28, 200,000 Philadelphians jammed the streets for the Fourth Liberty Loan Parade.<sup>24</sup> According to John M. Barry in *The Great Influenza*, "The parade stretched at least two miles, two miles of bands, flags, Boy Scouts, women's auxiliaries, marines, sailors, and soldiers. Several hundred thousand people jammed the parade route, crushing against each other to get a better look, the ranks behind shouting encouragement over shoulders and past faces to the brave young men."<sup>25</sup> The parade went on, even with the number of flu patients rising.

Why would the parade continue as cases of influenza increased? Dr. Krusen had little direction from City Hall; Mayor Thomas B. Smith had been arrested in early September on a conspiracy to murder charge and spent his time with the lawyer working on his case rather than handling the city's needs.<sup>26</sup> This caused chaos at City Hall; no one took control. With no direction from city leaders, Krusen went forward with the parade.

Within days of the parade, the number of cases of influenza exploded. According to Crosby, “635 new cases of flu were reported for the single day on October 1.”<sup>27</sup> The city needed to take strong measures and on Thursday, October 3, the Philadelphia Board of Health closed all public schools and canceled all indoor Liberty Loan meetings. With the number of ill and dead mounting, the Board of Health also closed all saloons, theaters, and churches.<sup>28</sup>

As the number of ill and dying patients rose, the resulting loss of manpower had a deep impact on city businesses. About 20 percent of the J. G. Brill Company, a manufacturer of trollies and undercarriages, suffered from illness. Standard Roller Bearing, a manufacturer of ball, roller, and tapered bearings, estimated 10 percent of its plant employees were sick. Influenza struck approximately 20 percent of the Baldwin Locomotive Works’ employees.<sup>29</sup>

The city morgue’s coffin supply proved grossly inadequate. Funerals were being postponed due to a lack of coffins, and bodies piled up. The true magnitude of the situation failed to manifest in the public consciousness, especially when the *Evening Bulletin* announced on October 4 that “the situation is not serious, but the manufacturers are hard pressed to meet demands and undertakers are obliged to take what they can get.”<sup>30</sup>

The epidemic did not just impact manufacturing companies, hospitals, and morgues, it also affected entertainment activities, including football games at the University of Pennsylvania. It postponed a football pep rally scheduled for Friday, October 4, due to the Board of Health’s ban on all public gatherings made earlier that day.<sup>31</sup> This was followed by cancellation of the football game itself the next day between Penn and the Marines.<sup>32</sup>

By October 5, a week after 200,000 people thronged the streets of the city to support the Fourth Liberty Loan kickoff, health authorities instituted “unprecedentedly severe” measures:

It is held that the extremely rapid progress of the disease in and about Philadelphia during the past few days in due as its likely progress has been elsewhere, to the assembly of people in mass, and that no immediate headway can be made in checking it until all such gatherings shall have been reduced to the smallest number consistent with the maintenance of the necessary business and functions of the community.<sup>33</sup>

Due to these new restrictions, organizers of the Liberty Loan Drive (which contributed to the flu proliferation) adjusted their fundraising methods.

To raise pledge funds, the Four-Minute Men, a volunteer group organized to keep morale up during the war through speeches, sent nearly 200 speakers armed with megaphones and cowbells as town criers, instead of speaking to large gatherings. These men drove slowly through the neighborhoods morning and evening to speak to people in their homes about the need to subscribe.<sup>34</sup> Advertisements in local newspapers reminded Philadelphians to continue their support of the Liberty Loan Campaign: "The influenza epidemic has broken down our plan of campaign, but the peace talk should spur you on to subscribe today without being solicited! Go to your employer, to any Bank or Trust Company, to any business place, or store, to any Booth and BUY Liberty Bonds to back up our Glorious Fighters in France!"<sup>35</sup> The city, while on its knees from the flu, still fulfilled its pledge by raising \$72,020,115.<sup>36</sup>

Even as the war homefront effort continued, the infected population and death toll increased. Dr. Krusen announced 200,000 cases of influenza in the city by October 6. In just the previous twenty-four hours, the death toll from flu and pneumonia numbered 289; 201 from influenza and eighty-eight from pneumonia. For the first time since 1890, when the last influenza epidemic swept through Philadelphia, churches throughout the city could not hold Sunday service. A second emergency hospital with 400 beds opened at the Medico-Chirurgical College, located on the north side of Cherry Street between Seventeenth and Eighteenth streets, to help with the number of patients throughout the city.<sup>37</sup> At the University of Pennsylvania, "orders were issued last night for all Junior and Senior medical students to report to Room D, Medical Building at 2 o'clock to-day. These men will be used to fight the influenza epidemic in various parts of the city. The shortage of physicians is being felt very keenly, not only in this city, but throughout the country."<sup>38</sup> Other universities joined the fight. On Monday, October 7, Dr. Krusen entered a lecture hall at Jefferson Medical College, asking the students there to use their skills to assist in the current medical emergency.<sup>39</sup>

Years after the epidemic, Dr. Isaac Star, a third-year medical student at the University of Pennsylvania in the fall of 1918, wrote down his memories of the epidemic:

When patients began to arrive, fourth-year students were assigned the jobs as interns; I and other third-year students were to act as nurses. Soon the beds were full, but nobody on my floor was very ill. Unhappily, the clinical features of many soon changed drastically.



As their lungs filled with rales [an abnormal rattling or crackling sound heard when examining unhealthy lungs with a stethoscope] the patients became short of breath and increasingly cyanotic [bluish or purplish discoloration of the skin or mucous membranes due to the tissues near the skin surface having low oxygen saturation]. After gasping for several hours they became delirious and incontinent, and many died struggling to clear their airways of a blood-tinged froth that sometimes gushed from their nose and mouth. It was a dreadful business. The deaths in the hospital [Medico-Chirurgical] as a whole exceeded twenty-five percent per night during the peak of the epidemic. At the height of the epidemic about one fifth of the total patient population of the emergency hospital died each night. To make room for others the bodies were being tossed from the cellar into trucks, which when filled carted them away.<sup>40</sup>

The responsibility of overseeing hospital floors fell to third- and fourth-year medical residents, while the city's nurses took up the slack in many hospitals and private homes. The Visiting Nurse Association's staff increased from fifty-five nurses to seventy nurses, reflecting the dire need for medical assistance. Each nurse saw between twenty and thirty patients a day, for a total of 4,050 patients during the epidemic, accounting for 16,165 visits. One nurse indicated she saw forty patients in one day.<sup>41</sup> The Visiting Nurse Association did not only supervise their own staff, they oversaw the 120 nurses under Dr. Krusen's jurisdiction for use during the epidemic. He declared, "If you would ask me the three things Philadelphia most needs to conquer the epidemic, I would tell you 'Nurses, nurses, nurses, and more nurses.' Doctors we have enough of. Supplies are plentiful, buildings are offered us everywhere. We have many beds that might be open to patients. But without enough nurses to tend those we already have, we are helpless."<sup>42</sup>

In response to the dire need for nurses and assistance in care of the sick, the Most Reverend Archbishop D. J. Dougherty granted permission October 8 to the uncloistered nuns of the diocese to go into "the local communities and mission houses, in order to thus relieve suffering, and control conditions which were baffling the best efforts of the medical profession and city authorities in private homes, in general and emergency hospital and public institutions." In his letter, dated October 10, Archbishop Dougherty announced, "During the Influenza Epidemic, permission is given to utilize church edifices,

particularly halls and parochial schools, as hospitals. Permission is also granted for uncloistered Sisters to serve as nurses.<sup>43</sup> Archbishop Dougherty told Dr. Krusen that 1,000 nuns of the orders of the Sisters of St. Joseph were available for private residence work.<sup>44</sup> In reality, “more than 2,200 nuns left their convents and schools and went wherever needed, making no distinction of color, race, or religion.”<sup>45</sup> The lack of social distinctions the nuns followed stood in stark contrast to the segregated hospitals and poor patients’ inability to pay. Nancy Bristow’s *American Pandemic: The Lost Worlds of the 1918 Influenza Epidemic* brings attention to the idea that the flu’s victims suffered “from the cumulative consequences of centuries of white supremacy and consigned to shoddy facilities and inadequate care.”<sup>46</sup>

The Sisters responded in droves to enter hospitals, food kitchens, and private residences to assist the affected. Many convents answered the call, including the Sisters of the Blessed Sacrament, the Sisters of the Third Order of St. Frances, the Sisters of the Holy Child St. Edwards, the Sisters of St. Joseph, the Sisters of Mercy, the Sisters of Notre Dame de Namur, and several others. Their experiences during the outbreak were later recorded in the “Work of the Sisters during the Epidemic October 1918.” As indicated by the report’s compiler, the American Catholic Historical Society, “Facts unrecorded are quickly lost in the new interests of changing time. Incidents of personal experience, even the most touching and pathetic, pass away generally with the memory of those immediately concerned.”<sup>47</sup> The publication recognized the horrors the city faced and the devastation experienced on a personal level would be lost to time as new concerns caught the nation’s attention. The following stories detail the work undertaken by the Sisters of Philadelphia.

They described tales of unprecedented and unbelievable horror. An experience by the Sisters of the Blessed Sacrament involved a sixteen-year-old girl at an emergency hospital set up at St. Peter Claver’s School, a school established in 1859 for African American Catholic children on Lombard Street.<sup>48</sup> One Sister described the scene:

Opposite her bed lay her dying mother and sister; beside her lay her three little nieces, ranging from one to five years. They had just lost their father through the dreaded disease, and were about to lose their mother, their grandmother, and aunt. This young girl soon showed that she also was to be called away. On the night of her agony she clutched the sister’s hand with the grip of death.<sup>49</sup>

Five Sisters of the Immaculate Heart came to the Philadelphia General Hospital to assist medical personnel. Upon arrival, they were surprised to learn they were responsible for five wards of men, consisting of twenty-five to thirty patients each. The men in these wards worked in Philadelphia-area munitions plants. The Sisters mixed medicines, took temperatures, and recorded respiration, in addition to feeding those too weak to feed themselves (22).

Sisters from St. Veronica's worked at the Holmesburg Emergency Hospital no.1, the city's poorhouse, and shared several situations:

Several times, during the first four days, we would stand aside in the corridors and on the stairways to give place to the men who were carrying out dead bodies. The first day we saw thirteen bodies carried out to the dead-house within four hours. The odor from this dead-house was something dreadful. We could notice it two squares away. On the second day they dug a trench on the grounds, and placed the dead bodies in it until the relatives could have the remains removed. (31)

Another Sister shared her experience with an Italian boy of fifteen. His mother had died on the ward while he was at her side, and at her death he began sobbing uncontrollably.

As she knew that the body must be removed, she tried to offer some consolation. She then, through an interpreter, an Italian working at the place, learned that the boy's father lay at home dead, and that he had not a dollar in the world to meet the cost of burying the remains of his parents. (34)

While many of the Sisters worked in the hospitals, many went into private homes to aid those who could not reach a hospital.

Just outside the parish limits the Sisters [of St. Gabriel] one day came upon a very pathetic scene. Six little children stood weeping outside a house waiting to bid farewell to their dead father, whose body was being prepared for burial, though no one could be found to dig the grave. After offering some consolation, the Sisters passed on to another house. Returning a few hours later, they met the six children again, and the eldest, a girl of twelve, between sobs

explained that as soon as their father's body had been removed, the mother was found dead upstairs. The Sisters had these children taken to the Catholic Home Bureau until relatives could be found to care for them. (66)

The Sisters of Holy Name received a call late one Saturday afternoon. It came from a poor African American family in the parish. The Sisters found a mother and two boys gravely ill and starving. They said that they had no nourishment of any sort for over a week. The Sisters at first saw no other sign of life around the house, but soon the weak voice of another victim called them upstairs. The first requisite in this house was to prepare some liquid diet, for they could take no solid food. Then the house had to be thoroughly cleaned, the patients had to have their faces washed, the beds had to be arranged and the rooms aired. The Sisters continued to care for them for over a week, when they had improved sufficiently to help themselves (68).

The importance of the Sisters' work in the African American communities cannot be overstated during this time of stark racial segregation. The Sisters were going into the homes of African Americans to provide much-needed care, for African American patients and families had few other avenues of assistance. There were only two African American hospitals in the city. Dr. Nathan Maxwell, the medical director of the seventy-five-bed Frederick Douglass Memorial Hospital, needed to open an emergency hospital at the St. Peter Claver School just blocks away to help with the numbers of patients. This emergency hospital housed forty patients, regardless of their ability to pay.<sup>50</sup>

During the months of October and November, while the Sisters spent nursing the sick, twenty-two nuns succumbed to the flu. Five were from the Order of the Franciscans, one from the Sisters of the Holy Child, nine from the Sisters of the Immaculate Heart, and seven from the Sisters of Saint Joseph. The Sisters were not the only ones to suffer losses as they answered the archbishop's call to assist patients; fifteen priests and five student clerics also passed away during this time.<sup>51</sup>

Outside Philadelphia, the entertainment publication *Variety* wrote of the city, "The situation here has become so bad the city is on the verge of a panic. It has gotten to the stage when the spread of the plague has grown beyond the control of the health officials, and all that can be done is to exert the utmost and wait for an abatement of the disease."<sup>52</sup> What caused *Variety*

to print this? Startling statistics. It reported on October 10, “the epidemic alone killed 759 people in Philadelphia. Prior to the outbreak, deaths from all causes—all illnesses, all accidents, all suicides, and all murders—averaged 485 a week.”<sup>53</sup> The October 11 national *Public Health Reports*, listed influenza in Pennsylvania as “especially prevalent in industrialized district Philly/vicinity; Lehigh.”<sup>54</sup>

As the virus spread, many sought ways to remain healthy. On October 10 the *Evening Bulletin* published suggestions by J. Madison Taylor, a professor of applied therapeutics from the medical school at Temple University. His recommendations included not taking any broths made of meat because “broths furnish the liver and other parts of the body with much of the very material the body is already trying to rid itself of.” He divulged that his

routine is to use a hot foot bath for ten minutes, as often as the headache and back pains increase, the legs hanging over the side of the bed, the body lying flat all the time; next an enema of warm water, one quart salt and bicarbonate of soda, each a tablespoonful, run slowly in, from a height of three or four feet, stopping when a pain in the stomach occurs, then continuing. Use a bed pan if the bowels move, but the object is to retain the saline solution for absorption, and to wash out the blood vessels. If the temperature be very high this can be used cool; if low it can be used so as to equalize the temperature of the abdominal vessels.

After that let the patient lie on the breast, apply a damp blanket or piece of woollen cloth to the whole back, and pass a warm flat iron up and down for 5 minutes, lifting away if it burns and then drop again and proceed.<sup>55</sup>

In addition to the above, Taylor stipulated no food for the first three days, but the patient could have buttermilk.<sup>56</sup>

The US Public Health Service offered more pragmatic instructions on how to avoid and prevent influenza. Several tips to avoid catching the flu included “breathe clean air and plenty of it,” also “avoid coughing, sneezing, or snuffling persons and do not cough or sneeze on others. The firing range of a careless cougher or sneezer is at least three feet.” “Clean pasteurized milk and clean lemonade are good anti-grip drinks, while alcohol drinks (‘booze’) may make you subject to the disease,” and finally, “buck up. be cheerful.” If you caught influenza, the Public Health Service suggested a series of steps to

take to help fight the disease. "Report to the yard doctor or nurse or go to bed and call your physician." While resting you need to "see that the bedroom at all times is well flooded with fresh air by having the windows open," "take a laxative," and make sure to "have at hand pieces of cloth or soft paper to hold over your nose or mouth when you cough, sneeze or spit, and put these clothes containing the secretions from the nose or throat in a paper sack to be destroyed by burning."<sup>57</sup>

As the flu ran rampant through Philadelphia, more emergency hospitals opened. On October 13, a new hospital at 2101 Spruce Street opened with 300 beds for flu and pneumonia patients and staffed by the Emergency Fleet Company. Many of the company's employees intended to briefly reside in Philadelphia as they assisted in the war effort, and so lived in temporary housing not suitable for proper medical attention. The Emergency Fleet Company created the emergency hospital for these employees to get the medical care they needed.<sup>58</sup> Several days later, due to ongoing racial segregation and an increasing number of African American patients, the Douglass Hospital for Negroes opened an emergency annex with forty beds. Before the epidemic ended, thirty-two emergency hospitals opened throughout the city.<sup>59</sup>

Even as local universities closed their medical schools so students could assist in the understaffed hospitals, the new emergency hospitals opening around the city still needed more medical personnel. At the University of Pennsylvania, the city published a request in *The Pennsylvanian* for all students willing to help fight the influenza epidemic to report to the chief nurse at Blockley Hospital any night at 7:00 p.m. or the University Christian Association Houston Club. The hospitals greatly needed orderlies.<sup>60</sup>

Nurses, though, continued to be in short supply. Dr. Krusen explained, "The demand for doctors has been supplied to a reasonable degree, but we have not nearly enough women to supply the hospitals." "Many of our nurses we already have are ill themselves, which further complicated matters. One hundred and ten are at the present time stricken with influenza, at the Philadelphia General Hospital and an annex has been fitted up especially to accommodate them."<sup>61</sup> To help with the shortage, citizens were asked to open their homes to nurses and provide a room, bed, and bath.<sup>62</sup>

Even with newspapers printing suggestions on how to avoid the flu, people continued to sicken and die. By October 15 the number of new cases reached 2,990 within twenty-four hours. The number of dead in the previous forty-eight hours increased to 1,299 (835 from influenza and 464 from pneumonia).<sup>63</sup>

With the number of dead rising, newspapers continued to report on the inability to process the mounting number of corpses. Equipped to handle thirty-six bodies, Philadelphia's city morgue could not handle the influx of dead, due in part to the sheer number of victims and the absence of employees stricken with influenza. Corpses stacked up in the morgue, in the hallways, or never even arrived. The lack of personnel to remove bodies from homes meant the dead often remained with the living.<sup>64</sup> On September 10 500 bodies awaited burial, and that number continued to increase over the next few weeks.<sup>65</sup> On October 15 newspapers wrote that ten trucks carried bodies from the morgue to Potter's Field for burial.<sup>66</sup> The corpses were tagged for later identification, and then interred into the trench dug by a steam shovel.<sup>67</sup> The Pennsylvania Council of National Defense expounded, "it is doubtful whether the city of Philadelphia, at any time in its history has been confronted with a more serious situation than that presented in connection with the care and burial of its dead during the recent epidemic."<sup>68</sup>

The increasing numbers of influenza dead caused problems for more than the morgue. As supplies became scarce, the cost of burial skyrocketed. Some graveyards raised the price of burial to fifteen dollars, even if the family themselves buried the body. City officials, hearing of this price gouging, intervened and set the price at nine dollars for burial, which could increase to fifteen if cemetery employees dug the grave. Those who had paid the exorbitant pricing were refunded.<sup>69</sup>

The numbers of infected and dead continued to rise by leaps and bounds. On October 19, the *Evening Bulletin* updated the city on the 1,332 new cases of flu in the last twenty-four hours. In the previous seven days, there were 5,270 deaths; 4,596 of them from flu. In the previous three weeks, there were a total of 10,301 dead.<sup>70</sup>

Just two days later, the *Philadelphia Inquirer* announced the surgeon-general of the Army requested 150 women to serve as nurses' aides in the hospitals. Requirements to become a nurse's aide included being between thirty-five and forty years of age, a graduate of the Red Cross course teaching home care of the sick, and having one month experience in a hospital. A thirty-dollar monthly allowance and maintenance or allowance for maintenance came with the position.<sup>71</sup>

As the month of October waned, the spread of the disease did as well. On October 23 the *Inquirer* detailed a decrease in new cases reported: 465 new cases in the last twenty-four hours compared to 2,990 made public in the previous week. The total number of new deaths each day also dropped. The

previous Thursday, October 17, the city recorded 606 deaths; October 18 listed 463 deaths; the combined Sunday and Monday total tallied only 850. The decrease of new cases and deaths stirred the idea of lifting the ban on public gatherings instituted at the beginning of the month.<sup>72</sup>

Dr. Krusen also believed the ban should be lifted, although it could not be done until Dr. Royer, the acting Pennsylvania commissioner of health, approved. In his justification, "Dr. Krusen cited the Act of 1905, giving the Commissioner of Health the right to revoke or modify any order, regulation, or ordinance, of a local Board of Health concerning a matter, which in his judgment affects the public health beyond the territory over which such a local board has jurisdiction."<sup>73</sup>

The month-long ban created financial hardship for theaters, saloons, and businesses. Owners believed lifting the ban could help alleviate their revenue lost during October. Theater owners estimated an unrecoverable loss of between \$1,000 and \$3,000 per week. Actors, who could not work due to the ban, lost their salaries. Members of the Philadelphia Orchestra suffered less financially; their season began one week later than scheduled and extended one week later to compensate for any losses. With this decision, these musicians received their full salaries for the season. Unfortunately, three members of the orchestra, who all played second violin, succumbed to the epidemic: David Savidowsky (seventeen), Harry Silverman (twenty), and Benjamin H. Winterstein (twenty-one).<sup>74</sup>

With the cases of flu shrinking and the death rate slowing, Dr. Krusen decided to defy Dr. Royer and lift the ban in Philadelphia. Dr. Royer did not interfere, although he advised against the action. To control the situation, the bans instituted at the beginning of October were lifted over several days. The first step in removing the ban allowed churches and synagogues to open the following day, October 26, with church services beginning again on Sunday, without Sunday school. Schools were scheduled to reopen Monday. "Whereas the influenza epidemic has largely abated in the judgement of the Board of Health, the restrictions which previously have been imposed upon the public are no longer necessary. Therefore, it be resolved that all places of worship may be opened for services on Sunday, October 26 and Sunday, October 27 and public and other schools and colleges may be opened on Monday, October 28." To discuss the remaining aspects of the ban, the Board of Health agreed to meet again on Monday.<sup>75</sup>

Slowly, Philadelphia reopened. On October 26 the University of Pennsylvania's football team met the Marine team behind closed gates,



following rules set in place by the Board of Health. To keep the public from crowding the trolley cars traveling to Franklin Field and potentially spreading the virus again, only students could attend the game. The university anticipated the pool opening the following week, and if the ban was lifted by Wednesday, campus entertainment scheduled for the following Friday and Saturday could continue as planned, including the showing of *Fit to Fight*.<sup>76</sup>

Though the ban officially ended on Wednesday, October 30, allowing theaters, motion-picture houses, saloons, and wholesale liquor stores to reopen, it continued on selling liquor in clubs, and funerals remained closed to the public.<sup>77</sup> Dr. Royer approved lifting the ban and suggested liquor sales be restricted to six hours a day: two hours each in the morning, afternoon, and evening at first. The Board of Health resolved "That the Board of Health hereby rescinds the resolution of October 3 and 4, 1918, to take effect at 8 A.M. Wednesday, October 30, 1918."<sup>78</sup> Dr. Krusen declared, "There can be no doubt that the situation has returned to normal. The weather continues to be favorable to stamping out what little of the disease remains and we are quite sure its grip on the city has been completely broken."<sup>79</sup>

That day public schools reopened for the first time in three weeks, "after the longest enforced vacation known in the school system in Philadelphia." The city asked teachers battling the flu or taking care of those at home still infected to stay home. The city requested students who were ill with the flu or still had flu in their homes to check in with the medical examiner or school nurse upon their return to school. During the ban, janitors completely disinfected classrooms and planned to continue doing so daily once the ban ended.<sup>80</sup> The nuns of the Catholic church battling the disease in the community prevented the private schools from opening for another week as they continued assisting the afflicted.<sup>81</sup>

The city began reporting overall death statistics at this time. The *Inquirer* publicized the greatest number of deaths suffered in the city in one day as 711, with the peak on October 16 with 1,831 deaths in a single day for the entire state. The decline in cases began between October 16 and October 19, with the exception of a one-day uptick October 22, on which 1,580 deaths were recorded.<sup>82</sup>

Calculations on the quantity of people infected continued, with the cases of influenza since September 30 numbering 47,094, and the total of deaths 11,811, with an additional 3,087 deaths attributed to pneumonia. The peak of new cases occurred on October 9 with 4,166. Although reporting on the total

number of Philadelphians ill and dead continued, the total number of victims will never truly be known. The lack of medical personnel and the sheer number of patients made keeping accurate records difficult, and many suffering from the virus never made it to a hospital or had a nurse visit. However, 150,000 cases of influenza and 15,000 deaths by the same were estimated for Philadelphia. Approximately 30 percent of people aged twenty to thirty and 70 percent of people aged ten to forty died as a result of the epidemic. This, in a city of 1.7 million at the time.

While the number of infected and dead was shocking, the effect of the bans and lack of workers cost the city finances dearly. During the ban, transit numbers fell off by \$25,000 a day at the height of the epidemic. Dr. Royer estimated the 11,000 deaths were a potential loss of \$55,000,000 (calculated by the medical and insurance statisticians and based on court decisions). The *Inquirer* estimated the total bill for the epidemic to the city could potentially be as high as \$75,000, based on bills being submitted to the Department of Public Health and Charities by those providing the city materials and services.<sup>83</sup>

By November 10, even though the ban on public gatherings had been lifted and city officials felt confident that the epidemic had passed, scattered cases still remained.<sup>84</sup> City health officials reminded Philadelphians to expect sporadic cases throughout the winter and spring with doctors recommending good food, fresh air, sunshine, and rest to those recovering. "One of the most common and pronounced after-effects is extreme weakness. Patients who are recovering claim the slightest exertion tires them. Convalescence is slow owing to the poisonous effect of influenza on the heart and the nervous system."<sup>85</sup>

The tide turned in November. Fewer cases were tallied each passing day and week. Even with fewer cases identified and fewer deaths, newspapers reminded Philadelphians to be ever vigilant. Unlike previous influenza outbreaks, this version indicated a slower recovery and possible relapse. Physicians recommended "convalescents should be doubly cautious about overexertion, fatigue, and exposure to wet and cold."<sup>86</sup>

Archbishop Dougherty, who authorized the assistance of local Catholic nuns in the fight against the disease, offered a Solemn Pontifical Mass of Requiem in the cathedral for all the priests, nuns, Christian brothers, and seminarians who perished. The Reverend Dr. Joseph M. Corrigan gave the sermon.

These, our faithful dead, have proven their loyalty to all that is best and highest in the traditions of the Catholic Church. Yet we are gathered together in a pull-hung hour; we mourn our loss; and we sorrow with those who grieve for loved ones, bound to them by ties of natural affection as well as by the more sacred bond of a living faith; and . . . our grief wells up even in this very hour when our High Priest shows forth in this mystical sacrifice of the Lamb of God, the eternal pledge that they are at rest in the bosom of the Father.<sup>87</sup>

December arrived and with it an uptick in influenza cases, which the city acted upon quickly. The Board of Health sent educational materials to families with patients, reminding them to isolate any person with symptoms. Doctors received orders to continue reporting influenza cases to the Board of Health. Medical inspectors visited the homes of patients, explaining isolation and non-compliance results in a whole-house quarantine.<sup>88</sup> With these measures, and with an influx of 250 doctors returning from the war, the city believed it could keep the virus from spreading as it had in September and October.

Even with cases of influenza still being diagnosed, the worst of the epidemic had passed. In December Dr. Royer estimated there were between 40,000 and 50,000 orphans who had lost their parents during the epidemic throughout Pennsylvania. These children were being identified to determine how many there were and how to proceed.<sup>89</sup>

During December reports were written and expenses calculated as the war machine wound down. The horror of daily death tolls fell and people recovered. Those who contracted the virus in December seemed to succumb to a different variant, one that did not have the same devastating death rate the earlier version had. City leaders also knew to avoid a relapse; they needed to continue some of the measures instituted in October.

In January 1919 Dr. Krusen called on all physicians to report any influenza cases promptly to the Board of Health. Knowing influenza cases would continue throughout the winter months, Krusen wanted to ward off a repeat of the fall. Window placards indicating flu existed in the home were no longer necessary, and, unless a medical professional requested it, no medical inspector sent to the house. Doctors suggested a ten-day regime of bed rest to keep from infecting others and preventing relapses in patients.<sup>90</sup> About mid-month, the number of influenza cases increased, the highest two-week period since the fall of 1918. For the week ending January 17, there were 617 new cases, although weaker than the fall strain.<sup>91</sup>

As the number of cases fluctuated throughout the winter and spring, Philadelphians remembered the fall victims. In March 1919 students at the University of Pennsylvania took on a fundraising drive to assist children affected by the epidemic. Their goal was to raise \$3,000 for 1,100 children in need. Money raised through this fundraiser benefitted the Children's Bureau of the Emergency Aid.<sup>92</sup> Though this type of fundraiser assisted some orphans, it did not assist all. Older orphans had adulthood forced upon them; younger orphans ended up with extended family or were placed in institutional care.<sup>93</sup>

As the number of cases and the number of dead decreased, the epidemic faded from memory. Nancy K. Bristol describes the aftermath of the epidemic to the collective memory in *American Pandemic: The Lost Worlds of the 1918 Influenza Epidemic*. She indicates two separate narratives to the flu, one public, one private. Public health officials, doctors, and nurses quickly acknowledged the devastation and lack of effective medical care, but moved quickly to a future in which they would put what they learned to use in combatting future outbreaks. "Looking ever forward, too, they relegated the pandemic to an increasingly irrelevant past, leaving little for the retention of public memorials of its real costs."<sup>94</sup>

The public narrative may have spoken to the advances in medicine and the professionalism gained in the medical field by both doctors and nurses, but individual patient stories tell a different tale. Patients and loved ones left behind remembered the horror of the disease and the consequences on their day-to-day lives. Bristol explains, "[Americans] often articulated narratives that recalled the pain, the losses, and the dislocation that infused their private memories." The average American experience with the flu is difficult to extrapolate, though, as reports or diaries from victims and their families are not easy to locate, making the exact thoughts of the average resident hard to pinpoint.<sup>95</sup>

Newspapers of the period strove for a middle ground between extreme optimism for the future and pain felt by those immediately affected by the epidemic. While "journalists too joined the upbeat chorus of optimism with expressions of faith in modern science and a conviction that progress was sure to follow in the wake of the epidemic," they could not ignore the human element to the experience. Many newspaper articles described the heartache the epidemic wrought by covering the hard statistics of the number of dead reported through the various health agencies. Even as the newspapers wrote about the facts of the past epidemic and the current consequences, "it also tended to dilute these reports in storylines that recreated the upbeat narrative of the health care professionals."<sup>96</sup>

Life moved on. People's minds turned to other issues. In the fall of 1919 Congress enacted the Eighteenth Amendment, also known as the Volstead Act, which prohibited the making, transporting, and selling of alcoholic beverages, ushering in the Roaring Twenties and the rise of organized crime. The following year the passing of the Nineteenth Amendment, granted universal women's suffrage. The 1918 influenza epidemic became a small footnote to history, one rarely discussed in the conversation on World War I.

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#### NOTES

1. James F. Armstrong, "Philadelphia, Nurses, and the Spanish Influenza Pandemic of 1918," *Navy Medicine* 92, no. 2 (March–April 2001): 16–20.
2. Edgar Sydenstricker, "Preliminary Statistics of the Influenza Epidemic," *Public Health Reports*, 33, no. 52 (1918): 2305–21, doi:10.2307/4574973.
3. A. A. Hoehling, *The Great Epidemic: When the Spanish Influenza Struck* (Boston: Little, Brown, 1961); Alfred W. Crosby, *America's Forgotten Pandemic: The Influenza of 1918* (Cambridge: Cambridge University Press, 2003); John Barry, *The Great Influenza: The Story of the Deadliest Pandemic in History* (New York: Viking Penguin, 2004).
4. Carol R. Byerly, *Fever of War: The Influenza Epidemic in the U.S. Army during World War I* (New York University Press, 2005); Dorothy A. Pettit and Janice Bailie, *A Cruel Wind: Pandemic Flu in America, 1918–1920* (N.p.: Timberlane Books, 2009). Other recent works include Gina Kolata, *Flu: The Story of the Great Influenza Pandemic of 1918 and the Search for the Virus That Caused It* (New York: Farrar, Strauss and Giroux, 1999); and even an illustrated version styled as a graphic novel: Katherine Krohn, *The 1918 Flu Epidemic* (Mankato, MN: Capstone Press, 2008).

5. "Spanish Influenza," "Three-Day Flu," and "The Flu." Supplement 34 (Washington, DC: US Public Health Service, 1918).
6. Barry, *The Great Influenza*.
7. John M. Eyler, "The State of Science Microbiology, and Vaccines circa 1918," *Public Health Reports* 125, supplement 3 (2010).
8. Pettit and Bailie, *A Cruel Wind*.
9. Judson Daland, "Observations on the Epidemic of Influenza occurring in the U.S. Naval Hospitals in Philadelphia," *Transactions of the American Climatological and Clinical Association* (1919).
10. Dennis G. Shanks and John F. Brundage, "Pathogenic Responses among Young Adults during the 1918 Influenza Pandemic," *Emerging Infectious Diseases* 18, no. 2 (2012): 201–7.
11. *Special Tables of Mortality from Influenza and Pneumonia in Indiana, Kansas, and Philadelphia, Pa.*, Department of Commerce, Bureau of the Census, 1920.
12. "Epidemic of Influenza in the Navy During the Autumn of 1918," *Report of the Secretary of the Navy, Miscellaneous Reports* (1919), 2428, <http://www.ibiblio.org/hyperwar/AMH/XX/WWI/Navy/rep/SecNav-1919/Misc/BuMed.html>.
13. "Spanish Influenza Here," *Philadelphia Evening Bulletin*, September 14, 1918, <http://hdl.handle.net/2027/spo.697oflu.0007.796>.
14. "Gradual Drop in Death Roll Here," *Philadelphia Evening Bulletin*, September 14, 1918, <http://hdl.handle.net/2027/spo.797oflu.0007.797>.
15. "Phipps Institute Identifies Germ of Spanish Grip," *Evening Public Ledger*, (Philadelphia), September 20, 1918, <http://chroniclingamerica.loc.gov/lccn/sn83045211/1918-09-20/ed-1/seq-1/>.
16. "Influenza Causes Third Death Here," *Philadelphia Evening Bulletin*, September 20, 1918, <http://hdl.handle.net/2027/spo.608oflu.0007.806>.
17. "James. J. Keegan," death certificate no. 95380, Pennsylvania Department of Health, September 19, 1918, available via Ancestry.com; originals at the PSA.
18. "Influenza Causes Third Death Here."
19. "R. S. Singleton," death certificate no. 96090 Pennsylvania Department of Health, September 19, 1918, available via Ancestry.com; originals at the PSA.
20. "Influenza Causes Third Death Here."
21. "Mark J. Harrison," death certificate no. 95228, Pennsylvania Department of Health, September 20, 1918, available via Ancestry.com; originals at the PSA.
22. "Influenza Causes Third Death Here."
23. "Influenza Cases Must Be Reported," *Philadelphia Evening Bulletin*, September 21, 1918, <http://hdl.handle.net/2027/spo.808oflu.0007.808>.
24. Thomas Wirth, "Influenza ("Spanish Flu" pandemic, 1918–1919)," *Encyclopedia of Greater Philadelphia* (Philadelphia: University of Pennsylvania Press, 2011), <http://philadelphiaencyclopedia.org/archive/influenza-spanish-flu-pandemic-1918-19/>.
25. Barry, *The Great Influenza*.
26. *Ibid.*

27. Crosby, *America's Forgotten Pandemic*.
28. Philadelphia War History Committee, *Philadelphia in the World War: 1914–1919* (New York: Wynkoop, Hallenbeck, Crawford Co., 1922).
29. “Hits War Industries,” *Philadelphia Evening Bulletin*, October 4, 1918, <http://hdl.handle.net/2027/spo.738oflu.0007.837>.
30. “Coffin Shortage Grows,” *Philadelphia Evening Bulletin*, October 4, 1918, <http://hdl.handle.net/2027/spo.738oflu.0007.837>.
31. “Influenza Stops Football Rally,” *The Pennsylvanian*, October 4, 1918, [http://www.library.upenn.edu/docs/kislak/dp/1918/1918\\_10\\_04.pdf](http://www.library.upenn.edu/docs/kislak/dp/1918/1918_10_04.pdf).
32. “Varsity Eleven Will Remain Idle To-Day,” *The Pennsylvanian*, October 5, 1918.
33. “The Influenza Edicts,” *Philadelphia Evening Bulletin*, October 5, 1918, <http://hdl.handle.net/2027/spo.838oflu.0007.838>.
34. Philadelphia War History Committee, *Philadelphia in the World War*.
35. Advertisement, *Evening Ledger*, Philadelphia, PA, October 7, 1918, Chronicling America: *Historic American Newspapers*, Library of Congress, <http://chroniclingamerica.loc.gov/lcc/sn83045211?1918-10-07/ed-1/seg-13/>.
36. Philadelphia War History Committee, *Philadelphia in the World War*.
37. “Day’s Influenza Death Toll 289,” *Philadelphia Inquirer*, October 7, 1918, <http://hdl.handle.net/2027/spo.579oflu.0007.975>.
38. “Spanish Influenza Under Control at University,” *The Pennsylvanian*, October 7, 1918.
39. “1919 Clinic Yearbook,” *Jefferson University Medical College Yearbook*, 1919, [http://jdc.jefferson.edu/jmc\\_yearbooks/28](http://jdc.jefferson.edu/jmc_yearbooks/28).
40. Isaac Star, “Influenza in 1918: Reflections of the Epidemic in Philadelphia,” *Annals of Internal Medicine*, 145, no. 2 (July 2006): 138–40.
41. “‘Visiting Nurses Saved Many Lives’ Self-Sacrifice and Devotion During ‘Flu’ Epidemic Shown at Society’s Annual Meeting.” No date, no paper listed, Scrapbook, Barbara Bates Center for the Study of the History of Nursing, University of Pennsylvania.
42. Arlene W. Keeling, “Alert to the Necessities of the Emergency: U.S. Nursing During the 1918 Influenza Epidemic,” *Public Health Reports*, Suppl. 3 (2010): 105–12.
43. “Work of the Sisters during the Epidemic of Influenza October, 1918,” gathered and arranged from *Reports of Personal Experiences of the Sisters and Contributed by Request of the Compiler*, American Catholic Historical Society of Philadelphia, Philadelphia, 1919. Online digital library of Villanova University, 109.
44. “Worst in City’s History,” *Philadelphia Evening Bulletin*, October 9, 1918, <http://hdl.handle.net/2027/spo.758oflu.0007.857>.
45. Philadelphia War History Committee, *Philadelphia in the World War*.
46. Nancy K. Bristow, *American Pandemic: The Lost Worlds of the 1918 Influenza Epidemic* (Oxford: Oxford University Press, 2012).
47. “Work of the Sisters during the Epidemic of Influenza October, 1918,” 1.

48. Faith Charlton, "Black Catholics in Philadelphia and The Journal," Philadelphia Archdiocesan Historical Research Center. Pub. February 24, 2011, <http://www.pahrc.net/tag/st-peter-claver-church/>.
49. "Work of the Sisters during the Epidemic of Influenza October, 1918," 4. Subsequent page numbers appear in the text.
50. Vanessa Northington Gamble, "There Weren't a Lot of Comforts in Those Days: African Americans, Public Health, and the 1918 Influenza Epidemic," *Public Health Reports*, Suppl. 3 (2010): 114–22.
51. "Work of the Sisters during the Epidemic of Influenza October, 1918," 113–14.
52. "Philadelphia Near Panicky," *Variety*, October 9, 1918, 22.
53. Barry, *The Great Influenza*.
54. *Public Health Reports* 33, no. 41 (October 11, 1918): 1730, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1999832/?page=1>.
55. "Hints for Relief of Epidemic Cases," *Philadelphia Evening Bulletin*, October 10, 1918, <http://hdl.handle.net/2027/spo.768oflu.0007.867>.
56. *Ibid.*
57. "Influenza: Avoid It and Prevent Its Spread," instructions by the Department of Health and Sanitation, Emergency Fleet Corporation," prepared by L. L. Lumsden, United States Public Health Service, *Public Health Reports* 33, no. 41 (October 11, 1918): 1731–32.
58. "Open New 'Flu' Hospital," *Philadelphia Evening Bulletin*, October 14, 1918, <http://hdl.handle.net/2027/spo.488oflu.0007.884>.
59. "Rules for Personal Hygiene," *Philadelphia Inquirer*, October 16, 1918.
60. "Need Men to Combat Influenza," *The Pennsylvanian*, 34, no. 15 (October 15, 1918).
61. "Nurses Greatest Need," *Philadelphia Evening Bulletin*, October 15, 1918, <http://hdl.handle.net/2027/spo.788oflu.0007.887>.
62. "Rules for Personal Hygiene."
63. "2,990 New Epidemic; 1,299 Deaths," *Philadelphia Evening Bulletin*, October 15, 1918, <http://hdl.handle.net/2027/spo.788oflu.0007.887>.
64. Barry, *The Great Influenza*.
65. Crosby, *America's Forgotten Pandemic*.
66. "Trucks Used as Hearsets," *Philadelphia Evening Bulletin*, October 15, 1918, <http://hdl.handle.net/2027/spo.788oflu.0007.887>.
67. Crosby, *America's Forgotten Pandemic*.
68. Nancy K. Bristow, "It's as Bad as Anything Can Be': Patients, Identity, and the Influenza Pandemic," *Public Health Reports* 125, no. 3 (2010): 134–44, doi:PMC2862342.
69. "Epidemic Falls Off: Only 1,435 New Cases," *Philadelphia Evening Bulletin*, October 18, 1918, <http://hdl.handle.net/2027/spo.798oflu.0007.897>.
70. "Deaths Set Records as Epidemic Breaks," *Philadelphia Evening Bulletin*, October 19, 1918, <http://hdl.handle.net/2027/spo.898oflu.0007.898>.



71. "Surgeon-General Asks for 150 Nurses' Aides," *Philadelphia Inquirer*, October 21, 1918, <http://hdl.handle.net/2027/spo.7000oflu.0008.007>.
72. "Deaths Decrease," *Philadelphia Inquirer*, October 23, 1918, <http://hdl.handle.net/2027/spo.8000oflu.0008.008>.
73. "Epidemic Broken but Ban Stays On," *Philadelphia Evening Bulletin*, October 24, 1918, <http://hdl.handle.net/2027/spo.6090oflu.0007.906>.
74. "Loss to Theaters by Closing \$200,000," *Philadelphia Evening Bulletin*, October 25, 1918, <http://hdl.handle.net/2027/spo.7090oflu.0007.907>.
75. "Church and School Ban Lifted: Royer Is Defied by City," *Philadelphia Evening Bulletin*, October 25, 1918, <http://hdl.handle.net/2027/spo.8090oflu.0007.908>.
76. "Marine Team to Face Varsity Eleven To-Day," "Swimming Pool to Open," and "Amusements Again Postponed," *The Pennsylvanian*, 34, no. 26 (October 26, 1918).
77. "Philadelphia Closing Ban Rescinded, To Take Effect Wednesday," *Philadelphia Inquirer*, October 27, 1918, <http://hdl.handle.net/2027/spo.6100oflu.0008.016>.
78. "8 A.M. Wednesday Hour for Lifting Grippe Ban Here," *Philadelphia Inquirer*, October 27, 1918, <http://hdl.handle.net/2027/spo.8100oflu.0008.018>.
79. "Situation Normal," *Philadelphia Inquirer*, October 28, 1918, <http://hdl.handle.net/2027/spo.8100oflu.0008.018>.
80. "Schools Open Today," *Philadelphia Inquirer*, October 28, 1918, <http://hdl.handle.net/2027/spo.8100oflu.0008.018>.
81. "Catholic Schools Open Nov. 4," *Philadelphia Inquirer*, October 28, 1918, <http://hdl.handle.net/2027/spo.8100oflu.0008.018>.
82. "Ban Raised Here as Epidemic Ends," *Philadelphia Inquirer*, October 31, 1918, <http://hdl.handle.net/2027/spo.9200oflu.0008.029>.
83. "Flu Bill \$75,000," *Philadelphia Inquirer*, November 29, 1918, <http://hdl.handle.net/2027/spo.9300oflu.0008.039>.
84. "Quarantine Order Over State Lifted," *Philadelphia Inquirer*, November 10, 1918, <http://hdl.handle.net/2027/spo.6300oflu.0008.036>.
85. "Rest, Influenza's Cure," *Philadelphia Inquirer*, November 11, 1918, <http://hdl.handle.net/2027/spo.8300oflu.0008.038>.
86. "150,000 'Flu' Cases Here," *Philadelphia Evening Bulletin*, November 30, 1918, <http://hdl.handle.net/2027/spo.9290oflu.0007.929>.
87. "Mass for Victims of Epidemic," *Philadelphia Evening Bulletin*, November 30, 1918, <http://hdl.handle.net/2027/spo.8290oflu.0007.928>.
88. "Health Board Asks Isolation of Flu," *Philadelphia Evening Bulletin*, December 17, 1918, <http://hdl.handle.net/2027/spo.6390oflu.0007.936>.
89. "Decline in New 'Flu' Cases," *Philadelphia Evening Bulletin*, December 18, 1918, <http://hdl.handle.net/2027/spo.7390oflu.0007.937>.
90. "Physicians Are Given Influenza Directions," *Philadelphia Inquirer*, January 4, 1919, <http://hdl.handle.net/2027/spo.6400oflu.0008.046>.
91. "Influenza Attacks 617 in City in Week," *Philadelphia Evening Bulletin*, January 18, 1919, <http://hdl.handle.net/2027/spo.6490oflu.0007.946>.

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92. "Drive for Influenza Victims," *Philadelphia Inquirer*, March 30, 1919, <http://hdl.handle.net/2027/spo.950oflu.0008.059>.
93. Bristow, "It's as Bad as Anything Can Be," 134-44.
94. Bristow, *American Pandemic*.
95. Ibid.
96. Ibid.