

The Spread of Influenza: How the United States Military Caused a Global Pandemic

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I. INTRODUCTION

Influenza – what at one time was regarded as one of the deadliest and most prevalent diseases in the world – has become known as a harmful, but treatable, disease that garners more annoyance than fear in its victims. The Center for Disease Control estimates that “influenza has resulted in between 9 million – 45 million illnesses, between 140,000 – 810,000 hospitalizations and between 12,000 – 61,000 deaths annually since 2010.”¹ This high infection rate, coupled with its relatively low mortality rate, granted influenza the reputation it has today. However, while that might be the case for today, this was not what influenza was thought as in the early twentieth century during the 1918 Influenza Epidemic. The 1918 Influenza Epidemic granted influenza its designation as one of the most prevalent and deadly diseases in history. With death estimates around 50

million worldwide, the 1918 Influenza Pandemic has since gone down in history as the one of deadliest disease outbreaks ever.²

While countries were suddenly battling the emergence of this deadly disease, at the same time, the world was fighting another deadly battle in the form of World War I. Although the United States did not join the war until 1917, they would still sustain great losses of life in combat and combat-related deaths. While U.S. military leadership was focused on their success in Europe during World War I, they were simultaneously fighting a losing battle against a deadly and invisible opponent: influenza. In my essay, I am going to prove that, in their efforts to aid in World War I, the American military would unknowingly spread deadly, virulent influenza throughout Europe and eventually the rest of the world. This was mainly due to overcrowded base conditions, limited

¹ “Disease Burden of Influenza,” Centers for Disease Control and Prevention, October 5, 2020, <https://www.cdc.gov/flu/about/burden/index.html>.

² “1918 Pandemic (H1N1 Virus),” Centers for Disease Control and Prevention, Centers for Disease Control and Prevention, March 20, 2019, <https://www.cdc.gov/flu/pandemic-resources/1918-pandemic-h1n1.html>.

knowledge, and conflicting advice on how doctors should fight influenza, and the rotation of troops through the trenches, bases, and battlefields that provided the disease with an unlimited supply of healthy bodies to infect.

II. RESEARCH

While the exact geographical origins of the strain of influenza that caused the pandemic in the early twentieth century have not been pinned down, some modern historical study theorizes that the 1918 Influenza Epidemic began in Haskell County, Kansas. One strong advocate for this theory is historian John M. Barry, who published his book *The Great Influenza* about the epidemic. According to Barry, Dr. Loring Miner, a practicing physician in the sparsely populated area, was the first doctor to record the appearance of the abnormally deadly strain in January and February 1918. Dr. Miner was perplexed; patients were presenting with symptoms consistent with influenza, but they were dying at abnormal rates.³ Prior to the 1918 epidemic, influenza typically only killed the very young, the very old, and the sick.⁴ However, unlike typical cases of influenza, this new strain was killing young, healthy people that would have normally survived the illness. Barry writes that Dr. Miner attempted to warn colleagues at the U S Public Health

Service about his findings, but no one paid much attention to his concerns.⁵

While this deadly strain of influenza was starting to spread, wartime efforts were in full swing at Camp Funston. Funston was, as Barry describes, “the second-largest cantonment in the country [which] held on average fifty-six thousand green young troops.”⁶ When called to serve, Funston was also the base that soldiers drafted from Haskell County reported to. Soldiers leaving ground zero in Haskell County for Camp Funston would inevitably bring this influenza virus with them introducing the disease into the military. From there, as soldiers traveled around the country, they would spread influenza wherever they went.

One of the first major recorded outbreaks of influenza at a military base was at Camp Devens in Massachusetts. At the height of the outbreak there, there were 14,000 influenza cases and 500 deaths among the 50,000 men stationed there.⁷ There were similar situations at other bases around the country, and military hospitals all over America were overrun with influenza. Many hospitals were ill-equipped and understaffed.

In a letter home, Corporal Hubert G. Culin, who was stationed at Camp Mills on Long Island and worked at the base hospital there, wrote that their

³ John M. Barry, *The Great Influenza: The Epic Story of the Deadliest Plague in History* (New York, NY: Viking, 2004), 114-116.

⁴ Barry, *The Great Influenza*, 115-116.

⁵ Barry, *The Great Influenza*, 116.

⁶ Barry, *The Great Influenza*, 118.

⁷ Kathleen M. Fargey, “The Deadliest Enemy: The U.S. Army and Influenza, 1918-1919,” *Army History*, no. 111 (Spring 2019), 32.

hospital had, at the time, over 2,000 patients with the majority of those patients being treated in tents. Corporal Culin writes that the hospital was severely understaffed with less than 600 medical staff available to treat these patients. The situation was so dire that Culin tells his correspondent that “it is necessary to use our convalescent patients” to treat the sicker patients. Culin also writes that the government was building a new hospital for the base, but it would not be completed until December, by which time it would be much too cold for patients to remain in tents outside.⁸ The case of the base hospital on Long Island and how they were forced to keep patients in tents is indicative of the larger issue that plagued military hospitals during the pandemic – overcrowding – and the result was unsafe working conditions for medical professionals and soldiers alike.

Other bases faced similar issues with understaffing and overcrowding. At Camp Grant in Rockville, Illinois, 11 out of the 81 medical professionals that worked at the base got sick with influenza after treating patients. 6 of them died from the disease. Eventually, conditions at the base got so severe that the military leadership there lifted their ban on employing Black nurses.^{9,10} With the conditions at Camp Grant in Illinois,

Camp Mills in New York, and Camp Devens in Massachusetts being so dire that patients and medical professionals alike were dying from the virus, it was evident that the disease had thoroughly infiltrated military ranks and was swiftly making its way through the United States.

Back at Camp Devens, with the infection rate as high as it was, military officials soon took notice of the situation and sent several medical experts to examine the troops and their living conditions. The experts outlined 16 recommendations for how the troops could slow the spread of influenza at the camp. One of their recommendations included pausing all soldier transfers in and out of the base until the conditions were better. However, before this plan could be implemented fully, a transfer of soldiers was sent to Camp Upton on Long Island, unwittingly bringing influenza with them.¹¹ Camp Upton served as one of the final transfer points soldiers had to go through before they were sent overseas to France. Once influenza spread here, it was only a matter of time before it made its way to Europe.

In addition to efforts to slow the spread of influenza by officials at Camp Devens, American military leadership was still working to prevent the spread of the virus across the armed forces.

⁸ Union Trust Company, *Service Letters: A Record of Experiences and Achievement* (Pittsburgh : Union Trust Company, c1918), 17.

⁹ These nurses were still segregated, and they were required to work separately from white medical personnel.

¹⁰ Carol R. Byerly, “The U.S. Military and the Influenza Pandemic of 1918–1919,” *Public Health Reports* 125, no. 3_suppl (2010): 87.

¹¹ Byerly, “The U.S. Military,” 86–87.

Army Surgeon General Charles Richard recommended temporarily pausing military deployments to France, transfers of soldiers between infected bases, and the drafting of new soldiers to the infected bases.¹² He also recommended a one-week quarantine period for transfers before they traveled and suggested that the number of soldiers allowed on troopships should be reduced by 50% to prevent overcrowding in already tight quarters.¹³ Army Chief of Staff Peyton March took his suggestions into consideration, but ultimately rejected implementing them all to the degree that Richard recommended. Instead, March implemented pre-screening measures for soldiers before they were allowed to disembark, and he allowed a reduction in troopship capacity by 10%. When President Woodrow Wilson asked about the status of troop transfers to France, March told him what precautions had been taken, explained why he had not followed Richard's recommendations, and argued that reducing transfers to Europe by the amount that Richard recommended would send the wrong message to enemy troops. Wilson accepted this argument and Army Surgeon General Richard's recommendations were never implemented.¹⁴

Influenza swept through the United States in several waves. The first

wave, first witnessed in Haskell County by Dr. Miner before it spread throughout the rest of the country, was fairly mild, did not cause much panic, and resulted in relatively few deaths. This wave more closely resembled traditional influenza pandemics where healthy adults generally came through the illness with little difficulty. The second wave, which is thought to have begun in late 1918, was much deadlier; it was this wave that would establish this outbreak of influenza as endemic.¹⁵ With wartime efforts in full swing, there was a steady movement of soldiers between military bases all over the country. This increased traffic around the nation and the rate of infection among service members ensured that the disease was transmitted around the country and reached civilian populations. Had the country not been currently at war and involved in World War I, the infection rates could have been much lower.

Given that the 1918 influenza epidemic was uniquely lethal for young and healthy people like the soldiers needed to fight in the war, the demand for physicians on military bases grew as influenza threatened military numbers. Consequently, nurses and doctors from civilian populations had to join forces with the army to try and quell the rising infection rate and death toll. Many bases had issues with understaffing. On Long

¹²D. C. Howard, W. P. Chamberlain, and A. G. Love, "The Influenza Epidemic of 1918," in *The Medical Department of the United States Army in the World War, Volume VI, Sanitation*, eds. Frank W. Weed and Loy

McAfee (Washington, D.C.: Government Printing Office, 1926)349-371.

¹³ Byerly, "The U.S. Military," 89.

¹⁴ Byerly, "The U.S. Military," 89-90.

¹⁵ Byerly, "The U.S. Military," 88.

Island, as Corporal Culin said in his letter, convalescent patients who were healthy enough were required to aid more critical patients even though they were still sick with the virus. However, while understaffing was a significant issue, overcrowding was a much larger problem that contributed greatly to the spread of the disease among servicemen.

The Epidemiological and Statistical data report published by the Navy states that overcrowding at the bases was a major contributing factor to the spread of the disease, but there was little that military officials could do to alleviate this issue.¹⁶ Several bases were forced to treat patients outside of base hospitals because there was not enough room. There are reports of patients being relocated to tents at Camp McClellan in Alabama, Camp Meade in Maryland, and Camp Greenleaf in Massachusetts.¹⁷ The government had only a short amount of time to prepare adequate housing and spaces for the increased number of troops required to contribute to the war, and the result was that there simply was not enough space for influenza patients. Overcrowding would continue to be a major contributor in the transmission of the virus among servicemembers.

As more and more doctors were required to treat the growing number of influenza victims in the military, civilian

populations were left without enough physicians to treat them back home. Carol R. Byerly writes in her article on the American military's involvement in the pandemic that "almost 30% of American physicians [were] in [the] military service, ' . . . there were [even] sections of the country that were absolutely stripped of physicians.'"¹⁸ This shortage of doctors led to an even worse spread of the disease among civilians. Additionally, physicians had not yet come to a consensus about the best way to treat influenza. In one collaborative publication put out by practicing physicians titled *The Medical World*, doctors recommended using different methods of treatment like ingesting sodium bicarbonate or castor oil while others suggested using drugs like morphine, opium, or codeine to treat symptoms. The doctors even suggested treating patients with dangerous methods like ingesting strychnine, injecting mercury salicylate into the bloodstream, or ingesting creosote.¹⁹

Though an influenza vaccine existed and had been distributed among civilians and soldiers alike prior to the 1918 Influenza Epidemic, there was still some debate among physicians on the effectiveness of the vaccine. In *The Medical World*, Dr. A.G. Servoss says that the vaccine can be effective if the proper vaccine is used. Later, in the

¹⁶ Department of the Navy, Bureau of Medicine & Surgery, *Epidemiological and Statistical Data, U.S. Navy, 1918* (Washington, D.C.: Government Printing Office, 1920) "Epidemiological and statistical data, U.S. Navy, 1918," U.S. Department of the Navy, 435-436.

¹⁷ Fargey, "The Deadliest Enemy," 26-29.

¹⁸ Byerly, "The U.S. Military," 85.

¹⁹ Dr. C.F. Taylor and Dr. J.C. Rommel, *The Medical World*, vol. 37 1919, 1, 12, 13.

same publication, Dr. T. E. Reed warns against the use of vaccines, calls them a fad, and recommends treating symptoms with drugs rather than using preventative vaccines. The next article by Dr. H. J. Jennet argues that there is little use of vaccines in the treatment of influenza.²⁰ *The Medical World* contains many articles from doctors from all over the country arguing for homeopathic treatments of influenza or the use of vaccines and serums. These articles and the differing opinions that the doctors who wrote them took show that there was no consensus among physicians on how influenza should be treated.

While doctors might not have had concrete methods for treating the disease, they largely understood how the disease was transmitted from person to person. The Epidemiological and Statistical Data Report outlines preventative measures that they say, when employed properly, help slow the spread of influenza at military bases. These measures included quarantines for infected individuals, regular temperature checks of personnel, the use of face masks, reduction of overcrowding in military buildings, improvement of ventilation in these buildings, mandates concerning indoor gatherings and travel, increased attention to personal hygiene, and the sanitation of shared spaces and utensils.²¹ With our knowledge of influenza today and our understanding of how diseases spread, we know that

the report was correct that these measures could have successfully prevented the spread of the disease or at least could have reduced the rate of infection.

After American troops landed in Europe, they moved through battle zones, spreading their disease wherever they went. The inherently cramped and overcrowded conditions of trench warfare allowed the disease to spread rapidly among service members. When infected soldiers made it to the front lines and inevitably got too sick to fight, they were removed from their posts and replaced with healthier soldiers who were able to fight.²² These healthy soldiers, having been exposed to influenza during the rotation, would eventually fall victim to the disease themselves and the cycle would start over. This constant rotation of healthy and sick men in and out of the trenches ensured that the virus had a steady supply of bodies to infect. From the trenches, the disease would spread to civilian populations in Europe and eventually made its way across the world.²³

As men on the battlefield got sicker, it became more difficult for the military to fight the war they had come to fight. Meanwhile, Europe was swiftly feeling the effects of the new deadlier influenza epidemic. The European side of the epidemic appeared in waves of varying severity, just like how the United States experienced the

²⁰ Taylor and Rommel, *The Medical World*, 13, 17, 389, 391.

²¹ "Epidemiological and statistical data," 426-427.

²² Byerly, "The U.S. Military," 86.

²³ Byerly, "The U.S. Military," 86.

pandemic. The deadlier wave of the virus was likely caused by the movement of infected American troops through Europe. Biologist James E. Hollenbeck explains how the virus continued developing and becoming deadlier while the war raged on in Europe. In his article, he says that “the crowded hospitals with hurried medical care procedures and mass transport of sick and dying soldiers... compounded the likelihood of an emerging infectious disease or a possible mutation of an existing disease that would target this age group.”²⁴ He argues that the influenza strain that the American troops brought over with them developed into a much more serious and deadly disease on the battlefield. From the trenches, the disease spread to Russia, America, Spain, Germany, and the rest of the world.²⁵ As Hollenbeck says, the virus traveled from the trenches and ravaged country after country until finally the whole of Europe was thoroughly infected with the disease. While the American military might not have brought the deadliest form of influenza with them, they supplied the necessary factors needed to develop the disease into the killer that it became.

An armistice was signed on November 11, 1918, ending World War I, which ended the constant rotation of infectious troops and the need for

overcrowded military hospitals. It was too late, however, as the damage had already been done. In the end, the number of soldiers that died from influenza rivaled the number of soldiers that died in battle. The official estimate of combat or combat-related deaths for American troops during World War I is 50,500 soldiers. In contrast, influenza killed an estimated 55,322 soldiers during the same period.^{26,27}

III. CONCLUSION

The 1918 Influenza Pandemic, coupled with the battles waged during World War I, decimated the world’s population. The American military played a large role in facilitating the spread of influenza through Europe. First, the virus began infecting bases in the United States as soldiers traveled around the country, bringing influenza with them. The prevalence of the disease in military bases and their chronic issue with overcrowding allowed the virus to spread efficiently and thoroughly. This effect continued as American troops made their way to Europe, acting as hosts to influenza and providing the disease with a new population to infect. The disease soon spread throughout Europe, multiplying and mutating until it was much deadlier than the disease that the soldiers brought with them. Therefore, it is evident that the American

²⁴ James E. Hollenbeck, “The 1918-1919 Influenza Pandemic: A Pale Horse Rides Home from War,” *Bios* 73, no. 1 (2002): 21.

²⁵ Hollenbeck, “The 1918-1919 Influenza Pandemic,” 21.

²⁶ It is important to remember that this estimate of soldier deaths due to influenza does not include civilian deaths from influenza.

²⁷ Fargey, “The Deadliest Enemy,” 25.

military's involvement in World War I facilitated the spread of influenza throughout the rest of the country, Europe, and eventually the rest of the world.

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