

Influenza Pandemic of 1918:

A Review of the Literature

HIST 297

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## Abstract

The influenza pandemic of 1918 lasted three years and killed over fifty million people worldwide. This particular virus strand gives humans little to no immunity to it and no definitive answers of its origin. The mystery of the 1918 flu remained unknown for eighty years until the final discovery of the original strand in October 2005. The monographs that address the topic of the influenza of 1918 are developed from two distinct perspectives: medically and historically. These six monographs differ from each other based on the time they were written and the information they provide. Two of these works were published during the swine flu outbreak of 1976, and three were published shortly after the swine flu scare and into the avian flu outbreak of 1997. The authors of these monographs come from different backgrounds and have different methodologies such as: a journalist, a veterinarian, and a historian. Each work brings a unique take or theory on the topic of as time progresses, technology advances, and new strains of the virus develop, each monograph dedicates a part of its research to current findings.

Over hundred years ago, the influenza pandemic of 1918 became one of the deadliest events recorded in human history. This H1N1 virus lasted three years and killed an estimated 50-100 million people worldwide (targeting mostly young adults) and took over 675,000 American lives. This particular virus strand, to humans, has little to no immunity and does not have a vaccine to treat the virus. The control efforts of 1918 were limited to quarantine and disinfectants. Without consensus of its origin, the mystery of the 1918 flu remained unsolved for more than eighty years. “October 2005, researchers at the Center of Disease Control and Prevention and the Armed Forces Institute of Pathology announced that they had isolated, decoded and replicated the entire sequence of the 1918 flu virus now known as H1N1. It was a monumental achievement. Working with tissue samples of flu victims from autopsy archives”<sup>1</sup> Because this event, Historians and scientists have made great efforts to research and analyze the cause in order to prepare for and prevent future influenza outbreaks.

The monographs that address the influenza of 1918, also known as the Spanish flu, range from immediately following the event (1920) to contemporary times (2004). Because little scientific research was done on the flu at the time, the earliest article was limited to foundational information about the effects of the flu with little speculations as to the cause. Later monographs looked at the outbreak from both a historical and a medical perspective. Although medical science had advanced and there was a greater understanding of viruses, the only data the pre-1980 researchers had were the foundational early monographs that had little scientific value. Later researchers could try to compare and contrast the earlier outbreak to contemporary outbreaks (such Swine flu and Avian flu) from both historical and medical perspectives but,

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<sup>1</sup> John Galvin, *Spanish Flu Pandemic: 1918*, Popular Mechanics, November 14, 2017.

lacking hard medical data on the Spanish flu, the best they could do this was to try to compare the common basic facts (e.g., symptoms, death rates, spread). Lacking medical evidence and samples (both physical and documented) all speculations as to cause or source were theoretical.

As modern technology advanced, the earlier works, predating the 1980s, focus on the medical findings, explanations, and theories of the pandemic. The most recent monographs (two were published in the 2000s) benefits from new historical insights, advances in medical science, and comparative data of more recent viruses but the still had to really on the 1918 medical evidence (or lack thereof) and the summary 1920s sources. Therefore, the monograms became more accurate in comparing historical information regarding the flu such as origins, spread, and the effect on societies. However, on the medical side, since the authors of recent works found themselves using the same previous publications that could only speculate on some medical topics, their research could at best only continue that speculation and provide insight on the latest research until the 2005 discovery of the original virus strand was made.

In 1920, the British Ministry of Health issued the *Report on Pandemic Influenza 1918-19*, the document's author, *George Newman*, wrote a report of invaluable information on the influenza pandemic manifestations to the Chief of medical officers of England.<sup>2</sup> The source is historical survey that addresses the past experience with influenza, causation of infections, the effects of the 1918 outbreak in England and Wales, and addresses the recent clinical research that is supplemented with graphs. For specialist, this report has great clinical foundational facts and basic studies on patient cases discovered in England. The intention of this report was to make an official record of the outbreak that occurred. The author suggest the this document serves as

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<sup>2</sup> Ministry of Health, *Report of the Pandemic of Influenza 1918-19* Whitehall, 1920, iv.

future reference in the event this epidemic may come again.<sup>3</sup> What is unique about this work, is that it focuses on the citizens of England, but has very little to say about the spread of the disease into the United States, an epicenter of the virus outbreak. Even after two years of the virus pandemic disappearing, this work provides little evidence towards information known about the origins of this virus. This report only focuses on the clinical symptoms and commonalties between patients and the epidemiology within Wales. Though this work had little to provide historically, it did serve as a foundational piece for later works.

Author of the first published 1976 book under the title *Epidemic and Peace 1918* by Greenwood Press<sup>4</sup>, and re-issued in 1989 by Cambridge University Press under the current title, *America's Forgotten Pandemic: The influenza of 1918* Alfred Crosby, a professor emeritus in history at the University of Texas, uses his background as a historian of American study and geography to provide a well-researched history of the Spanish influenza pandemic of 1918.<sup>5</sup> The majority of Crosby's book focuses on the epidemic and its impact on Americans and military personnel affected by the flu by relating it to world events at that time. Crosby incorporates the evidence from preceding research and medical information with greater detailed portrayed through the use of charts and graphs. Unlike most scholarly medical journals, this book is meant to engage a general audience, despite the author's scholarly background. In his book he illustrates the spread of the flu from its origin at Camp Devens in Massachusetts in 1918 and

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<sup>3</sup> Ibid., iv.

<sup>4</sup> Alfred W. Crosby Jr., *Epidemic and Peace, 1918*. West Port, CT. Greenwood Press, 1976.

<sup>5</sup> Alfred W. Crosby Jr., *America's Forgotten Pandemic: The Influenza of 1918*. New York: Cambridge University Press, 1989.

its spread westward<sup>6</sup> and his the many speculative theories he brings up. He lays out these questions such as, why was the flu so deadly and why is the 1918 flu forgotten -- he answers these with his own conclusions towards the ends of his book. His main theory is that the flu came in three waves containing Pfeiffer's bacillus.<sup>7</sup> During the time of his book, medical research has advanced and provides more information for Crosby. Though he expresses his theories and thoughts, Crosby doesn't not have solid medically evidence to provide answers to the exact origin, and able to identify the original virus strand.

W.I.B Beveridge's *Influenza: The Last Great Plague* was published in 1977.<sup>8</sup> Beveridge is a distinguished author and veterinarian of infectious diseases. His monograph is a well-organized nine chapters that focuses upon a medical outlook on the pandemic. He provides background information and the epidemiology of the 1918 virus. In his last chapters, Beveridge is clear about the 1970s approaches to parasite control methods. As a veterinarian, he incorporates his background knowledge of animals into his research by explaining the virus transmission and adaptability in animals, especially birds. He clearly states that the purpose in writing this book is to enlighten the general reader as well as to provide doctors and scholars a panoramic view of the epidemic.<sup>9</sup> This book is a different approach to explaining the current research than Crosby. With his expertise as a veterinarian of infectious diseases, his book was written from a medical methodology perspective.

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<sup>6</sup> Alfred W. Crosby Jr., *America's Forgotten Pandemic*, 99

<sup>7</sup> *Ibid.*, 302.

<sup>8</sup> W.I.B. Beveridge, *Influenza: The Last Great Plague*: New York. Prodist, 1977.

<sup>9</sup> *Ibid.*, xi.

It is not surprising that both Crosby's first book and Beveridge's book were published around the time of the nation's swine flu scare, a descendant mutated strand of the same virus (H1N1) from 1918. The swine flu of 1976 was a massive threat to public health. After the end of the influenza outbreak of 1918-20, the H1N1 virus would continue to cause seasonal flu outbreaks in pigs and later humans when the virus jumps from pigs and transmits back to humans. Fortunately, unlike the 1918 variety, it is isolated. The fears of a replay of the 1918 pandemic led to people being hastily vaccinated against the swine flu virus.

Alfred Crosby's and Beveridge's books are published a year apart from each other and when being compared, they have two different styles or methodologies for the same information. The authors come from different areas of expertise. Crosby is a historian, while Beveridge is an animal pathologist. For Crosby, the main focus of his research was the background and history of the virus and its effect on society. For Beveridge, his book builds upon his medical background so he focuses on the flu itself and the relations of animals and human infections. Crosby and Beveridge's thesis are both similar in providing explanations and theories, but are different in what those theories could be. (Crosby believes in the theory of Pfeiffer's bacillus and Beveridge theorizes the development of the virus in birds.)

In 1999, Gina Bari Kolata, an American science journalist writing for The New York Times, published her story of the epidemic called *Flu: The Story of the Great Influenza Pandemic of 1918 and the Search for the Virus That Caused It*.<sup>10</sup> Kolata argues that "This is a detective story. Here was a mass murderer . . . who's never been brought to justice. And what

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<sup>10</sup> Gina Kolata, *Flu: The Story of the Great Influenza Pandemic of 1918 and the Search for the Virus That Caused It*. New York: Farrar, Straus, and Giroux, 1999.

we're trying to do is find the murderer."<sup>11</sup> Her story begins with the epidemiology of the influenza of 1918 and the rapid spread of it. The main point of her book is based on the deciphering the mystery of this virus. Kolata finds her own theory, the virus-bacteria theory, through her research she uncovered in experiments and explanations. Similar to previous the books, Kolata wrote her book in a chronological order using a timeline that explains the historical information regarding the spread of the virus across the United States and the quick spread of it worldwide. Kolata findings are based on new medical information such as the discovery of the swine flu in 1976. With the new information being available to her, Kolata had more access to advanced research than the previous authors. Her book is the first major work to explain the origin of the H1N1 virus and to attempt at uncovering the mystery of this virus.

In 2000, Pete Davies published his book *The Devil's Flu: The World's Deadliest Influenza Epidemic and the Scientific Hunt for the Virus That Caused It*. Davies is a well-published author of history and sports. When acknowledging his invaluable sources, Davies explains that Crosby's work, *America's Forgotten Pandemic*, and the British Ministry of Health's *Report on Pandemic Influenza 1918-19* were his best sources when doing his research. Much like Kolata's book but with a more journalistic tone, the book was written as an adventure story about finding the missing pieces and answers to the influenza outbreaks of the time.. In order to complete this map, Davies organized his book chronologically. He starts with the most recent issue of the time, Hong Kong's 1997 outbreak of the mutation of the 1918 virus strand called the Avian flu. He traces this strand back to the Influenza pandemic of 1918. Even though his book references many scholarly articles and monographs, his book is written for a general audience. His books served as an entertaining mystery novel than a research analysis. Also,

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<sup>11</sup>ibid., 3.

unlike the previous two monographs, this book is not about the clinical manifestations and the history behind the Spanish flu specifically. Instead this work is a narrative of puzzling all the findings together, in other words, reflecting on previous work and findings in order to answer the questions where the deadly virus comes from and its biology.

Four years after Davies's work was published, a board member of Infectious Disease Board and a well-known author, John M. Barry, wrote *The Great Influenza: The Epic Story of the Deadliest Plague in History* (2004).<sup>12</sup> Barry's book interest the readers that are specifically looking into the 1918 flu epidemic, as he relies on many primary sources. Much like Crosby, the bulk of the book contains historical detail of epidemic itself, focusing on the spread of the flu from Army camps to Europe during World War I as well as the basic biology and epidemiology of the flu. Barry endorses answers to certain mysteries such as the high case fatality rates in young adults and the rapid spread of this virus itself. Similar to Crosby's theories, Davies explains the immune response theory, as well as the Pfeiffer's bacillus theory for these questions.

Similar to the reasons behind the publication the Crosby and Beveridge's books, the *Flu*, *The Devil's Flu*, and *The Great Influenza* were printed during the time of a new flu outbreak of the Avian flu starting in 1997 through 2008. With two descendant strains (the Swine flu and Avian flu) and more advanced technology, these two works support the fact that there was information and recent research to focus on the answers regarding origins, spread, and effect to society to discover the mystery of this this virus.

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<sup>12</sup> John A. Barry, *The Great Influenza: The Epic Story of the Deadliest Plague in History*. New York: Viking, 2004.

The methodology of each author is different, all of the books were well researched and detailed. The British Ministry of Health *Report on Pandemic Influenza 1918-19*, W.I.B Beveridge's *Influenza: The Last Great Plague*, and Crosby's *Americans Forgotten Pandemic: The influenza of 1918*, are all medically based writings that focus on the scientific and experimental background works in more detail. Each book has an analysis the scientific data they were able to access, and explains different theories on the origins of the virus and the development of research in findings the original strand. In contrast; John M. Barry's *The Great Influenza: The Epic Story of the Deadliest Plague in History* and Kolata's *Flu: The Story of the Great Influenza Pandemic of 1918 and the Search for the Virus That Caused It* are more historically oriented. Davies book, *The Devils Flu: The World's Deadliest Influenza Epidemic and the Scientific Hunt for the Virus That Caused It* is unlike the other authors books based on his journalist writing style, even though it had historical information and scholarly sources similar to the other author's works.

The Spanish Flu of 1918 is thoroughly covered in all of these monographs. All the authors books, respective of the time, contains current information that was organized chronologically. As the time progressed from the 1920s to 2004, each monograph had access to the most recent resources available to them in order to write about the progressive discovery of the H1N1 virus's origin.

I hereby declare upon my word of honor that I have neither given nor received unauthorized help on this work.

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## Bibliography

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In this paper, we review the literature from the pandemic of 1918 to better understand the crossover in the role of race on mortality. The literature has used insurance, military, survey, and routine notification data. Results show that the black population had lower morbidity, and during September, October, and November, lower mortality but higher case fatality than the white population. The results also show that the black population had lower influenza morbidity prior to 1918. The reasons for lower morbidity among the black population both at baseline and during the herald and later waves i Influenza pandemic of 1918â€“19, the most severe influenza outbreak of the 20th century and among the most devastating pandemics in human history. The outbreak was caused by influenza type A subtype H1N1 virus. Learn about the origins, spread, and impact of the influenza pandemic of 1918â€“19.Â Thank you for your feedback. Our editors will review what youâ€™ve submitted and determine whether to revise the article. Join Britannica's Publishing Partner Program and our community of experts to gain a global audience for your work! Share. SHARE. Facebook Twitter. Home World History Accidents & Disasters. Influenza pandemic of 1918â€“19. Written By: The Editors of Encyclopaedia Britannica. See Article History. Alternative Titles: Spanish flu, Spanish influenza pandemic. The lethal influenza pandemic that struck New Zealand between October and December 1918 killed about 9000 people in two months. No other event has claimed so many New Zealand lives in such a short time.Â What they got was a major reorganisation in the form of the 1920 Health Act, which Geoffrey Rice, author of Black November: the 1918 influenza pandemic in New Zealand, describes as â€˜the most useful legacy' of the pandemic. COVID-19 (novel coronavirus). See the Ministry of Health website for information about New Zealand's response to COVID-19 (novel coronavirus). Next: Page 2. The pandemic begins abroad. 1.