

History of Pandemics Resource List

Books

- Flu: The Story of the Great Influenza Pandemic of 1918 and the Search for the Virus that Caused It
 - Author: Gina Kolata
 - Publisher: Farrar, Straus and Giroux, November 1999
 - **ISBN 0743203984**

Through personal stories, modern research, and harrowing medical descriptions, a science writer chronicles the widespread devastation of the Great Flu Epidemic of 1918, a plague that killed 40 million people worldwide. Addressing both the layperson and scientists, the author claims that learning about the causes of this epidemic is the only way to prepare for and prevent future outbreaks of such magnitude. A New York Times Notable Book for 1999.

- When Germs Travel: Six Major Epidemics That Invaded America Since 1900 and the Fears They Have Unleashed
 - Author: Howard Markel
 - Publisher: New York, Pantheon Books/Alfred A. Knopf Books, 2004. (Simultaneously published in Canada: Toronto: Random House of Canada, Ltd., 2004; paperback edition published by Vintage Books/Random House, New York, 2005.)
 - **ISBN: 978-0-375-72602-6 (0-375-72602-0)**

The struggle against deadly microbes is endless. Diseases that have plagued human beings since ancient times still exist, new maladies like SARS make their way into the headlines, we are faced with vaccine shortages, and the threat of germ warfare has reemerged as a worldwide threat.

In this riveting account, medical historian Howard Markel takes an eye-opening look at the fragility of the American public health system. He tells the distinctive stories of six epidemics—tuberculosis, bubonic plague, trachoma, typhus, cholera, and AIDS—to show how our chief defense against diseases from other countries has been to attempt to deny entry to carriers. He explains why this approach never worked, and makes clear that it is useless in today's world of bustling international travel and porous borders. Illuminating our foolhardy attempts at isolation and showing that globalization renders us all potential inhabitants of the so-called Hot Zone, Markel makes a compelling case for a globally funded public health program that could stop the spread of epidemics and safeguard the health of everyone on the planet.

- The Great Influenza: The Epic Story of the Deadliest Plague in History
 - Author: John Barry
 - Publisher: Penguin Books, 2005
 - **ISBN: 0143034480**

No disease the world has ever known even remotely resembles the great influenza epidemic of 1918. Presumed to have begun when sick farm animals infected soldiers in Kansas, spreading and mutating into a lethal strain as troops carried it to Europe, it exploded across the world with unequalled ferocity and speed. In his powerful new book, award-winning historian John M. Barry unfolds a tale that is magisterial in its breadth and in the depth of its research, and spellbinding as he weaves multiple narrative strands together.

- Secret Agents: The Menace of Emerging Infections
 - Author: Madeline Drexler
 - Publisher: Joseph Henry Press, 2005
 - **ISBN: 0309076382**

Secret Agents looks at today's new and emerging infections—those that have increased in attack rate or geographic range, or threaten to do so—and tells the stories of scientists racing to catch up with invisible adversaries superior in both speed and guile. Each chapter focuses

on a different threat: foodborne pathogens, antibiotic resistance, animals and insectborne diseases, pandemic influenza, infectious causes of chronic disease, and bioterrorism, including the latest information on the public health threats posed by anthrax and diseases such as smallpox. (APHA Bookstore)

- Plagues and Poxes: The Impact of Human History
 - Author: AJ Bollet
 - Publisher: Demos Medical Publishing, 2005
 - **ISBN: 188879979X**

Plagues and Poxes is a series of essays, frequently very technical, on individual diseases, but for those who want to know the long-range history and what general progress has been made in the containment or treatment of many of the world's worst diseases, or for those interested in the relationship between human progress and the increase of certain types of disease, it would be a good choice." (APHA Bookstore)

- Rapid Reference to Influenza, 2nd edition
 - Author: Jan Wilschut, Janet Mcelhaney, Abraham Palache
 - Publisher: Mosby, June 2, 2006
 - **ISBN: 0723434336**

The ongoing threat of pandemic influenza is very serious indeed as evidenced by recent articles within The Lancet and The Lancet Infectious Disease. This title provides the reader with authoritative and accessible information on the subject of influenza. Clearly written by key experts in the field and highly illustrated in full colour, the book provides an overview of influenza, its pathogenesis, epidemiology, the burden of disease and its health economics. Rapid Reference Influenza also summarises available information on the molecular biology of influenza and the emergence of new influenza viruses. Completely updated with the latest information on H5N1, the book aims to contribute to international efforts to emphasize the major burden of influenza and the need for better control.

- America's Forgotten Pandemic: The Influenza of 1918,
 - Author: Alfred Crosby
 - Publisher: Cambridge: Cambridge University Press, 1989
 - **ISBN: 0521833949**

Between August 1918 and March 1919 the Spanish influenza spread worldwide, claiming over 25 million lives, more people than those perished in the fighting of the First World War. It proved fatal to at least a half-million Americans. Yet, the Spanish flu pandemic is largely forgotten today. In this vivid narrative, Alfred W. Crosby recounts the course of the pandemic during the panic-stricken months of 1918 and 1919, measures its impact on American society, and probes the curious loss of national memory of this cataclysmic event. In a new edition, with a new preface discussing the recent outbreaks of diseases, including the Asian flu and the SARS epidemic, America's Forgotten Pandemic remains both prescient and relevant. Alfred W. Crosby is a Professor Emeritus in American Studies, History and Geography at the University of Texas at Austin, where he taught for over 20 years. His previous books include Throwing Fire (Cambridge, 2002), the Measure of Reality (Cambridge, 1997) and Ecological Imperialism (Cambridge, 1986). Ecological Imperialism was the winner of the 1986 Phi Beta Kappa book prize. The Measure of Reality was chosen by the Los Angeles Times as one of the 100 most important books of 1997.

- Influenza 1918
 - Author: Lynette Izzoni
 - Publisher: TV Books, March 1999
 - **ISBN: 157500108X**

By conservative estimates, the influenza pandemic of 1918 killed 21 million to 40 million people around the world, 675,000 of them in the United States. After only 17 months, the mortality was half that attributed to the 4-year span of the Black Death in 14th-century Europe and Asia. To many, "Spanish" influenza ranks as the deadliest plague to afflict human beings

in recorded history. Its origins were obscure, its pathologic features unique, and its consequences, coming in the midst of the American entry into World War I, almost unendurable. In the panic that ensued, churches and schools were closed, the Army canceled the draft, corpses overflowed mass graves in Philadelphia, and black wreaths hung from virtually every door. *Influenza 1918* recounts these statistics with the clarity of a tocsin.

Even more affecting are the stories of children, now in their 80s and 90s, whose pastoral reminiscences about Sunday picnics and Thrift stamps darken at the memory of lost friends, parents, siblings, and entire families. This book, adapted in part from the information televised in *The American Experience*, examines with a documentarian's eye the portraits of individual Americans against the canvas of the global pandemic.

The tracing of the nearly simultaneous eruptions of influenza in coastal Spain (in February 1918) and Fort Riley, Kansas (in March 1918), is complicated by the disease's wildfire proliferation across Europe as troops in trenches, hospitals, and overloaded transports spread the infection. In April and May 1918, the disease spread through Spain and the rest of Europe, but it remained quiescent in the United States until September, when explosive illness ravaged the East Coast. Continental epidemics in Africa, South America, India, and Australia followed. A time line summarizing these outbreaks might have been helpful to the reader; although they make for an effective journalistic portrayal of the simultaneity of foci, the book's rapid-fire shifts from Europe to the United States, then to India and Australia may be confusing to some readers. The book reads like a modern newscast, with rapid cutting from one scene to the next and brief but memorable sound bites from witnesses.

However, many of the scientific questions that would occur to the lay reader, not to mention the medical expert, are left unanswered. For example, what was the origin of the virus? The book breathes mystery: "A chance encounter occurred. Perhaps between a duck and a pig. Perhaps between a duck and a man, woman, or child. Perhaps between a pig and a man." But scientific evidence has demonstrated that partial sequences from 5 of the virus's 10 genes and the entire hemagglutinin sequence are much more akin to mammalian than to avian clades (J.K. Taubenberger, et al. *Initial Genetic Characterization of the 1918 "Spanish" Influenza Virus*. *Science* 1997;275:1793-6; and A.H. Reid, et al. *Origin and Evolution of the 1918 "Spanish" Influenza Virus Hemagglutinin Gene*. *Proceedings of the National Academy of Sciences* 1999;96:1651-6). Some of this work is summarized in the epilogue, but at times a tendency toward sensationalism displaces fact.

Other readers might wish to know more about the manifestations of illness, which were described as horrifying, even in contemporaneous medical reviews. Much is made of the awful premonitions that heralded imminent collapse, of the cutaneous, genital, and pulmonary hemorrhages that appalled medical personnel, and of the astounding rapidity of death, but no extracts from medical reports published at the time are provided. In other examples, we are told variously that workers in gas and cordite factories, blacks in the South, and those with tuberculosis were mysteriously spared, but without precise footnoting, these statements appear undocumented.

Finally, almost all readers will ask, "Can this happen again?" No facts are presented to dispel this very reasonable concern. A brief discussion of international surveillance organizations -- even without mention of the nearly immediate identification of the avian variant of the Hong Kong flu in 1998 -- would have been appropriate.

The book vividly evokes the fear and terror sparked by the pandemic but discusses its clinical, epidemiologic, and virologic correlates cursorily. This is a great read for those attracted to the "you are there" approach, but in the end a dissatisfying one for those who want to know why, how, and whether again.

- Purple Death : The Mysterious Flu of 1918
 - Author: David Getz
 - Publisher: Henry Holt and Co. (BYR), November 15, 2000
 - **ISBN: 080505751X**

This medical history begins by describing how the influenza of 1918 spread across the world, infecting 2 billion people and killing 20 to 40 million. Once symptoms began, death could take place within three hours, mostly from lack of oxygen that caused victims to turn purple when their lungs filled with blood due to the virus. The second half of the book is devoted to the efforts of scientists, once the pandemic subsided, to determine its cause. In 1918, no one had a microscope powerful enough to see a virus. Finding a sample of it was a challenge, and in 1951 scientists went to Alaska and Norway where diseased bodies were buried and preserved in permafrost. The author successfully relays the significance this epidemic had upon the world and the importance of continued study to prevent another occurrence. Black-and-white photographs enforce the reality of the crisis and soft, charcoal-pencil drawings capture the somber mood. The format of the book features large, inviting print with lots of white space on quality paper. The painstaking and heroic deeds scientists must take on in order to identify a disease and develop a cure will be interesting to budding scientists.

- The Great Epidemic
 - Author: Hoehling, A. A.
 - Publisher: Boston: Little Brown and Company, 1961

Articles

- Markel, Howard. The foreignness of germs: the persistent association of immigrants and disease in American society. *Milbank Q.* 2002;80(4):757-88, v.
 - PMID: 12532646 [PubMed - indexed for MEDLINE]

During the 20th century the United States witnessed social, political, and economic transformations as well as advancements in medical diagnosis and care. Despite changes in demography, the meaning of citizenship, and the ability to treat and cure acute and chronic diseases, foreigners were consistently associated with germs and contagion. This article explores why, at critical junctures in American history, immigrants have been stigmatized as the etiology of a variety of physical and societal ills. The article analyzes three periods from 1880 to the present and suggests that now, as germs progressively and, often, indiscriminately cross national, social, and economic boundaries through multiple vectors, the mistakes of the past must not be repeated. Protecting the public health in the current era of globalization requires an ecumenical, pragmatic, and historically informed approach to understanding the links between immigration and disease.

History of Pandemics – Expert Articles

- Steve Perry – Bird Flu: This Thing Just Continues to March – interview with Osterholm, from *CityPages*, 3/22/06
 - The CP interview: Dr. Michael Osterholm of the University of Minnesota's Center for Infectious Disease Research and Policy talks about the flu bug that could bring the world to its knees
- Howard Markel – The Iraq War and Global Public Health, from *The Globalist*, 4/21/03
 - The War in Iraq has been won decisively – but the battle to provide adequate health care to the abused Iraqi people is only just beginning. History teaches us that few influences are as strong as war at helping epidemic diseases gain ground. That is why any public health crisis in Iraq might quickly spill beyond its borders. Howard Markel explains what is at stake.

- Howard Markel – The Flu Snafu – The Story Behind Strain A (H2N2), from The Globalist, 4/18/05
 - In a world haunted by the threat of bio-terrorism, a simple miscommunication can have very serious consequences. Dr. Howard Markel – author of “When Germs Travel” – goes behind the scenes of how a deadly strain of influenza was inadvertently distributed around the United States.
- Gina Kolata – New York Times
 - Genetic Material of Virus From 1918 Flu is Found (3/21/97)
 - Scientists Uncover Clues to Flu Epidemic of 1918 (2/16/99)
 - Experts Unlock Clues to Spread of 1918 Flu Virus (10/6/05)
 - Hazard in Hunt for New Flu: Looking for Bugs in All the Wrong Places (11/8/05)
 - The 1918 Flu Killed Millions. Does it Hold Clues for Today? (3/28/06)
 - How Serious is the Risk of Avian Flu? (3/27/06)

Videos

- From FluLab.com – Bird Flu Report 10 – 1918 Spanish Flu
 - <http://video.google.com/videoplay?docid=7423997674238499075>
- PBS - Influenza 1918
 - <http://www.shoppbs.org/product/index.jsp?productId=2151690&cp&keywords=1918&searchId=18311413522&parentPage=search>

As the nation mobilized for war in the spring of 1918, ailing Private Albert Gitchell reported to an army hospital in Kansas. He was diagnosed with the flu, a disease about which doctors knew little. Before the year was out, America would be ravaged by a flu epidemic that killed 675,000 people--more than died in all the wars of this century combined--before disappearing as mysteriously as it began.

- *copy on hard drive*
- PBS – Secrets of the Dead IV: Killer Flu
 - <http://www.shoppbs.org/product/index.jsp?productId=1756740&cp&keywords=1918&searchId=18311413522&parentPage=search>

In 1918, at the end of the World War I, a flu pandemic ripped through the world with such speed and virulence that by the end of the following year an estimated 40 million people, four times more than those claimed by the war. Where did this particular flu strain come from and what made it so deadly? "Killer Flu" will show how 85 years later, virologists and epidemiologists are still hunting down the answers to those two critical questions

- PBS – Rx for Survival
 - <http://www.shoppbs.org/product/index.jsp?productId=2248254&cp&keywords=flu&searchId=18311501732&parentPage=search>

During the past 100 years, life expectancy more than doubled in developed countries. In the last few decades thirty new infectious diseases have emerged. New diseases travel the globe with unprecedented rapidity, and older killers that once seemed controllable are roaring back with a vengeance. How Safe Are We? examines the most critical threats we face today and the pressing need to strengthen global public health systems.

Web Sites

- <http://www.nature.com/nature/focus/1918flu/index.html>
- <http://www.cidrap.umn.edu/cidrap/content/influenza/panflu/websites/index.html>
 - ABC News: Podcast of Sept 29, 2005, Nightline Program on Pandemic Flu
- <http://www.foreignaffairs.org/20050701faessay84402/michael-t-osterholm/preparing-for-the-next-pandemic.html>
 - Preparing for the Next Pandemic – article by Michael T. Osterholm, 2005
 - Summary: If an influenza pandemic struck today, borders would close, the global economy would shut down, international vaccine supplies and health-care

systems would be overwhelmed, and panic would reign. To limit the fallout, the industrialized world must create a detailed response strategy involving the public and private sectors.

- <http://www.cdc.gov/ncidod/EID/vol12no01/05-1254.htm>
 - Influenza Pandemics of the 20th Century – article by Edwin D. Kilbourne, 2006
 - Three worldwide (pandemic) outbreaks of influenza occurred in the 20th century: in 1918, 1957, and 1968. The latter 2 were in the era of modern virology and most thoroughly characterized. All 3 have been informally identified by their presumed sites of origin as Spanish, Asian, and Hong Kong influenza, respectively. They are now known to represent 3 different antigenic subtypes of influenza A virus: H1N1, H2N2, and H3N2, respectively. Not classified as true pandemics are 3 notable epidemics: a pseudopandemic in 1947 with low death rates, an epidemic in 1977 that was a pandemic in children, and an abortive epidemic of swine influenza in 1976 that was feared to have pandemic potential. Major influenza epidemics show no predictable periodicity or pattern, and all differ from one another. Evidence suggests that true pandemics with changes in hemagglutinin subtypes arise from genetic reassortment with animal influenza A viruses.
- <http://www.stanford.edu/group/virus/uda/>
 - The influenza pandemic of 1918-1919 killed more people than the Great War, known today as World War I (WWI), at somewhere between 20 and 40 million people. It has been cited as the most devastating epidemic in recorded world history. More people died of influenza in a single year than in four-years of the Black Death Bubonic Plague from 1347 to 1351. Known as "Spanish Flu" or "La Grippe" the influenza of 1918-1919 was a global disaster.
- http://www.ninthday.com/spanish_flu.htm
 - The 1918 Spanish Flu Pandemic, and the Emerging Bird Flu Panic: Mankind's most devastating recorded global epidemic, and its latest close call – Leonard Crane
- <http://www.pbs.org/wgbh/amex/influenza/>
 - In September of 1918, soldiers at an army base near Boston suddenly began to die. The cause of death was identified as influenza, but it was unlike any strain ever seen. As the killer virus spread across the country, hospitals overfilled, death carts roamed the streets and helpless city officials dug mass graves. It was the worst epidemic in American history, killing over 600,000--until it disappeared as mysteriously as it had begun.
 - Can order PBS Videos via this site
- http://www.jhsph.edu/publichealthnews/magazine/archive/Mag_Fall04/prologues/index.html
 - The Blue Death – Jim Duffy
- <http://www.jaoa.org/cgi/content/full/105/11/498>
 - The Coming Influenza Pandemic: Lessons from the Past for the Future – Michael M. Patterson
- http://www.jhsph.edu/publichealthnews/articles/2005/great_influenza.html
 - Author Brings "The Great Influenza" to the School – 3/4/05
- <http://www.archives.gov/exhibits/influenza-epidemic/records-list.html>
 - The Deadly Virus: The Influenza Epidemic of 1918 – Selected Records from the National Archives
- http://history-world.org/spanish_influenza_of_1918.htm
 - The Spanish Influenza Outbreak, 1918 by Sarah Cummings
- <http://www.prisonplanet.com/articles/october2004/211004fearescape.htm>
 - Experts fear escape of 1918 flu from lab – 10/21/04
- <http://historymatters.gmu.edu/d/107>
 - There Wasn't a Mine Runnin' a Lump O' Coal: A Kentucky Coal Miner Remembers the Influenza Pandemic of 1918-1919

- In 1918 the Spanish influenza hit the United States and then the rest of the world with such swiftness that it sometimes went unnoticed until it had already passed. By mid-1919 it had killed more people than any other disease in a similar period in the history of the world. Kentucky coal miner Teamus Bartley was interviewed at ninety-five years of age and vividly recalled the impact of the flu pandemic on his community. With a dearth of healthy laborers, the mines shut down for six weeks in 1918 and miners went from digging coal to digging graves.
- http://www.who.int/mediacentre/events/2005/World_Bank_Milan_Brahmbhattv2.pdf
 - Avian and Human Pandemic Influenza – Economic and Social Impacts – 11/8/05
- <http://www.pitt.edu/~super1/lecture/lec21431/001.htm>
 - The Impact of Pandemic Influenza on Public Health – presentation from Johns Hopkins Bloomberg School of Public Health
- <http://www.globalhealth.org/>
- <http://www.npr.org/templates/story/story.php?storyId=5222034>
 - A Hunt for Life-Saving Lessons from a Grim Past – Richard Harris – 2/20/06