

## Influenza Outbreak of 1918

There were three major epidemics of the bubonic plague - in the 6th, 14th, and 17th centuries. The death toll was 137 million victims. As a result, the plague is considered to be the worst epidemic of all time, but it wasn't (not that we are downplaying the severity of the plague). At its worst, the bubonic plague killed 2 million victims a year. This is certainly a bad situation, but there is one that is worse. The pandemic (an epidemic that is spread worldwide) that killed at least 25 million people in one year. It was a disease that is largely forgotten. A disease that occurred in the 20th century! I know what you're thinking - AIDs, syphilis, or the dreaded ebola. All of these guesses are wrong.

It was the influenza of 1918-1919, right after World War I (the war killed 9 million men in 4 years). This was no minor disease - everyone on the planet was at risk. It was started right here in the good old U. S. of A. In one year, nearly twenty million cases were reported in the United States, accounting for almost one million deaths. The cause is still unknown, but is believed to have been a mutated swine virus.

It all started on the morning of March 11, 1918 at Camp Funston, Kansas. A company cook named Albert Mitchell reported to the infirmary with typical flu-like symptoms - a low-grade fever, mild sore throat, slight headache, and muscle aches. Bed rest was recommended. By noon, 107 soldiers were sick. Within two days, 522 people were sick. Many were gravely ill with severe pneumonia. Then reports started coming in from other military bases around the country. Thousands of sailors docked off the East Coast were sick.

Within a week, the influenza was hitting isolated places, such as the island of Alcatraz. Whatever the cause, it was clearly airborne. Within seven days, every state in the Union had been infected. Then it spread across the Atlantic. By April, French troops and civilians were infected. By mid-April, the disease had spread to China and Japan. By May, the virus was spread throughout Africa and South America. The actual killer was the pneumonia that accompanied the infection.

In Philadelphia, 158 out of every 1000 people died. 148 out of 1000 died in Baltimore. 109 out of 1000 died in Washington, D.C. The good news (if there was any) was that the disease peaked within two to three weeks after showing up in a given city. It left as quickly as it arrived. The United States death toll was a total of 850,000 people, making it an area of the world that was least devastated by this virus.

Sixty percent of the Eskimo population was wiped out in Nome, Alaska. 80-90% of the Samoan population was infected, many of the survivors dying from starvation (they lacked the energy to feed themselves). Luxury ocean liners from Europe would arrive in New York with 7% less passengers than they embarked with. The confined area of the ship was especially conducive to the spread of the disease. In the end, 25 million people had died. Some estimates put the number as high as 37 million.

Eighteen months after the disease appeared, the flu bug vanished and has never shown up again. So what happened? Until recently, no one was really sure. In March of 1997, the news broke that researchers at the Armed Forces Institute of Pathology in Washington, D. C. had isolated genetic material from the virus. This was no easy task. The living virus is no longer around. It turns out that while conducting autopsies in 1918, Army doctors had preserved some specimens in formaldehyde. One of these jars contained the lungs of a 21 year old soldier that died on September 26, 1918. Bingo!

The researchers spent nearly two years extracting just seven percent of the genetic code, but the evidence gathered has provided a great wealth of information. It appears that the virus passed from birds to pigs and then to humans. These are the deadliest of all viruses. The viruses tend to remain stable in the birds, but occasionally they infect pigs. Of course, the pig immune system kicks into action and the virus is forced to mutate to survive.

Both the Asian flu (1957) and the Hong Kong flu (1968), which were not as deadly, mutated from pig viruses. The scary part is that it could happen again - and we're not prepared for it.