

## Spanish Flu (1918)

The Spanish flu, also known as the 1918 influenza pandemic, was an unusually deadly influenza pandemic caused by the H1N1 influenza A virus. Lasting from February 1918 to April 1920, it infected 500 million people – about a third of the world's population at the time – in four successive waves. The death toll is typically estimated to have been somewhere between 20 million and 50 million, although estimates range from a conservative 17 million to a possible high of 100 million, making it one of the deadliest pandemics in human history.

The first observations of illness and mortality were documented in the United States (in Kansas) in March 1918 and then in April in France, Germany and the United Kingdom. To maintain



morale, World War I censors minimized these early reports. Newspapers were free to report the epidemic's effects in neutral Spain, such as the grave illness of King Alfonso XIII, and these stories created a false impression of Spain as especially hard hit. This gave rise to the name "Spanish" flu. Historical and epidemiological data are inadequate to identify with certainty the pandemic's geographic origin, with varying views as to its location.

Most influenza outbreaks disproportionately kill the very young and the very old, with a higher survival rate for those in between, but the Spanish flu pandemic resulted in a higher-than-expected mortality rate for young adults. Scientists offer several possible explanations for the high mortality rate of the 1918 influenza pandemic, including

a severe six-year climate anomaly that affected the migration of disease vectors and increased the likelihood of the spread of the disease through bodies of water. Some analyses have shown the virus to be particularly deadly because it triggers a cytokine storm, which ravages the stronger immune system of young adults. In contrast, a 2007 analysis of medical journals from the period of the pandemic found that the viral infection was no more aggressive than previous influenza strains. Instead, malnourishment, overcrowded medical camps and hospitals, and poor hygiene, all exacerbated by the recent war, promoted bacterial superinfection. This superinfection killed most of the victims, typically after a somewhat prolonged death bed.

The 1918 Spanish flu was the first of three flu pandemics caused by H1N1 influenza A virus; the most recent one was the 2009 swine flu pandemic. The 1977 Russian flu was also caused by H1N1 virus, but it mostly affected younger populations.