

**Retropolis**

# History's deadliest pandemics, from ancient Rome to modern America



**Antonine Plague**  
165 - 180 A.D.  
**5 million deaths**

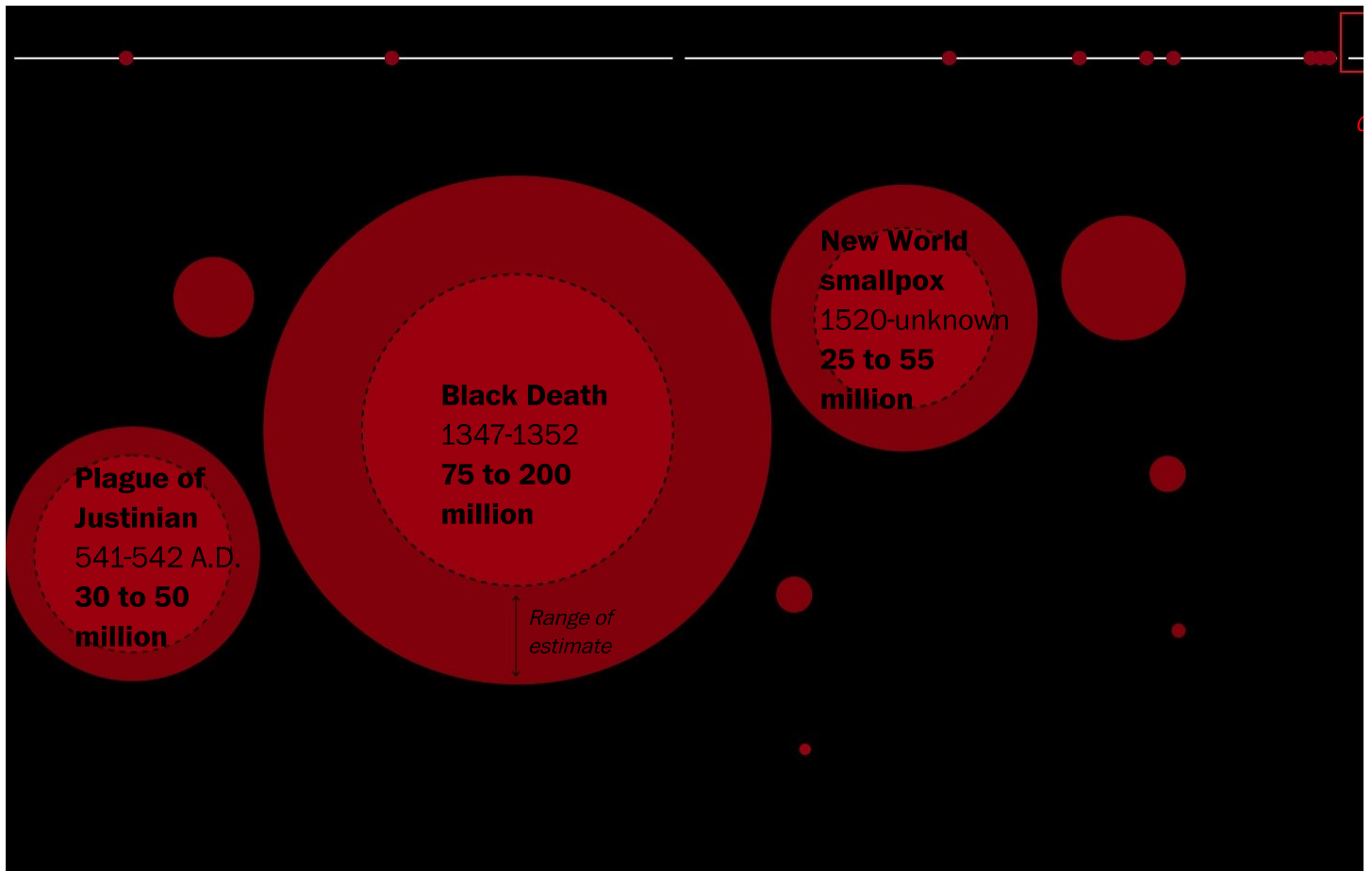
Centuries before coronavirus, plague, smallpox, yellow fever and other contagions killed hundreds of millions around the world

**Access The Post's coronavirus coverage for free through our newsletter.**





The novel coronavirus has taken just a few months to sweep the globe. How many will die, how societies will change — those questions are impossible to fathom as the disease rages. But history shows that past pandemics have reshaped societies in profound ways. Hundreds of millions of people have died. Empires have fallen. Governments have cracked. Generations have been annihilated. Here is a look at how pandemics have remade the world.



**165-180 A.D.**

# Antonine Plague

**Deaths:** 5 million • **Cause:** Measles and smallpox



In "The Plague in Rome," painted in 1869, artist Jules Elie Delaunay creates an allegorical representation of the scourge breaking down doors. (Photo Josse/Leemage/Corbis via Getty Images)

Many historians trace the fall of the Roman empire back to the Antonine Plague, which swept Rome during the reign of Marcus Aurelius. Nobody has ever nailed down the exact cause, but symptoms recorded by a physician named Galen — gruesome skin sores, high fever, diarrhea and sore throats — strongly suggest it was smallpox and measles. How'd it get

there? Armies and tradesman returning from Asia. More than 2,000 people died daily. "The ancient world," one scholar wrote, "never recovered from the blow inflicted upon it by the plague."

**541-542 A.D.**

# Plague of Justinian

**Deaths:** 30-50 million • **Source:** Rats and fleas



Josse Lieferinxe's "Saint Sebastian Interceding for the Plague Stricken," ca. 1497, depicts Saint Sebastian kneeling to pray before God on behalf of people suffering from or killed by the plague.

(Josse Lieferinxe/The Walters Art Museum)

Thought to be the world's first episode of bubonic plague, its namesake was the Byzantine emperor who was in power when it hit, likely arriving in the form of infected fleas hitching rides across the world on the backs of rodents. Frank M. Snowden, a Yale historian who studies pandemics, wrote in his book "Epidemics and Society" that definitive accounts of this plague have largely vanished. However, diaries from Procopius, a noted historian back then, indicate that many thought the end of civilization was upon them. "A pestilence," Procopius wrote of the plague, "by which the whole human race was near to being annihilated." Researchers are still digging up evidence connected to the plague all these years later. "Scientists working in Bavaria in 2005," Snowden wrote, "identified the *plague bacillus* in skeletal remains from a sixth-century cemetery at Ascheim, strongly suggesting that the traditional diagnosis of bubonic plague is accurate."

**1347-1352**

# Black Death

**Deaths:** 75-200 million • **Source:** Rats and fleas



The plague in Tournai, then part of France, as depicted in "The Annales of Gilles de Muisit" from the mid-14th century. (Photo 12/Universal Images Group via Getty Images)

History Today, a monthly magazine of historical writing published in London, calls this pandemic “the greatest catastrophe ever.” The number of deaths — 200 million — is just astounding. Put it this way: That would be like wiping out roughly 65 percent of the current U.S. population. (Covid-19 disease modeling predicts U.S. deaths to potentially reach 240,000.) Like the Plague of Justinian, the Black Death was caused by the **bubonic plague**. The swift spread of the disease continues to astonish historians and epidemiologists. “The central explanation lies within characteristic features of medieval society in a dynamic phase of modernization heralding the transformation from a medieval to early modern European society,” Ole J. Benedictow, a University of Oslo historian, wrote in History Today. Big

ships carried goods across ever-widening shipping routes throughout Europe and beyond. “This system for long-distance trade was supplemented by a web of lively short and medium-distance trade that bound together populations all over the Old World,” Benedictow wrote, dubbing this the “golden age of bacteria.”

**1520-unknown**

## New World smallpox

**Deaths:** 25-55 million • **Cause:** Variola virus

Explorers arrived to the New World bearing more than just turnips and grapes. They also brought smallpox, measles and other viruses for which New World inhabitants had no immunity. “Although we may never know the exact magnitudes of the depopulation, it is estimated that upwards of 80–95 percent of **the Native American population** was decimated within the first 100–150 years following 1492,” according to a 2010 paper in the *Journal of Economic Perspectives*. “Historian and demographer [Noble] David Cook estimates that, in the end, the regions least affected lost 80 percent of their populations; those most affected lost their full populations; and a typical society lost 90 percent of its population.”

**1665**

# Great Plague of London

**Deaths:** 75,000-100,000 • **Source:** Rats and fleas



An engraving ca. 1880, likely from Cassell's "Illustrated History of England," depicts the streets during the Great Plague of London in 1665. (Universal History Archive/Universal Images Group via Getty Images)

Again, blame the rats with those pesky fleas on their backs: “They were attracted by city streets filled with rubbish and waste, especially in the poorest areas,” according to the National Archives in England. While **doctors, lawyers and royalty fled town**, the poor were ravaged by the disease. “Watchmen locked and kept guard over infected houses,” the National Archives said. “Parish officials provided food. Searchers looked for dead bodies and took them at night to plague pits for burial.” **There were no treatments**. If you caught it, you had roughly two weeks to live. This caused people to become desperate. “Sometimes, patients were bled with leeches,” the National Archives said. “People thought impure air caused the disease and could be cleansed by smoke and heat. Children were encouraged to smoke to ward off bad air. Sniffing a sponge soaked in vinegar was also an option.”

**1817-1923**

# The cholera pandemics

**Deaths:** 1 million • **Cause:** V. cholerae bacteria

Few societies have been spared by this highly infectious bacteria, which is transmitted via feces-contaminated water and causes severe diarrhea and vomiting. The epidemic that swept London in 1854 spawned the sort of epidemiological investigations that take place in disease outbreaks today. That's thanks to John Snow, an English physician who almost single-

handedly took on the bacteria. While some scientists suspected cholera was transmitted through the air, Snow thought otherwise. “Through carefully mapping the outbreak, he finds that everyone affected has a single connection in common: they have all retrieved water from the local Broad Street pump,” according to a CDC history. He ordered the pump-handle turned off, and people stopped getting sick.

**Late 1800s**

# Yellow fever

**Deaths:** 150,000 • **Source:** Mosquitoes



"En Route for Kansas — Fleeing From the Yellow Fever," by Sol Eytinge, ca. 1879. (Library of Congress/Library of Congress)

This viral infection is endemic to South America and sub-Saharan Africa. Spread by female mosquitoes, the disease gets its name because it often turns the skin of sufferers a distinct shade of yellow. In 1793, **yellow fever swept through Philadelphia**, then the nation's capital, killing roughly 10 percent of the population. President George Washington and Secretary of State Thomas Jefferson high-tailed it out of town, ultimately settling on Washington as the nation's capital. Back then, nobody knew exactly how and why people came down with yellow fever. It wasn't until 1900 that U.S. Army researchers "pinpointed mosquitoes as the transmission vector for the disease," according to a vaccine history project at the College of Physicians of Philadelphia.

1918-1920

# The 1918 flu

**Deaths:** 50 million • **Cause:** H1N1



An influenza ward at the Walter Reed Hospital in Washington on Nov. 1, 1918. (Library of Congress/Library of Congress Prints and Photographs Division)

The covid-19 pandemic has inspired lots of comparisons to the 1918 flu, sometimes called **the Spanish flu**, which got its name not because it originated in Spain but because it was World War I, and Spain was the only country being honest about the toll the pandemic took on the country. The flu came in two waves, starting in 1918 and ending in 1920. The number of

infected is staggering —as many as 500 million, with estimates of 50 million deaths worldwide, according to the CDC. Isolation and quarantines were used to slow down transmission. Even **President Woodrow Wilson** was stricken, nearly derailing talks at the Paris Peace Conference, where the flu left him bedridden for days.

**1957-1958**

## Asian flu

**Deaths:** 1 million • **Cause:** H2N2



Lt. Frank C. Morrison, a doctor on the destroyer Huntington — where half of the crew had been stricken with Asian flu — checks the temperatures of crewmen G.R. McKay, center, and M. Kosmides before they go ashore on liberty in Norfolk, Va., on Aug. 23, 1957. (AP/AP)

One man saw it coming: Maurice Hilleman. The doctor later regarded as the godfather of vaccines was working at the Walter Reed Army Institute of Research in 1957 when he read a New York Times article about a nasty flu outbreak in Hong Kong that mentioned glassy-eyed children at a clinic. “Something about their eyes tipped him off,” according to Smithsonian Magazine. “His gut told him that these deaths meant the next big flu pandemic.” Hilleman requested samples of the virus be shipped to U.S. drugmakers right away so they could get a vaccine ready. Though 70,000 people in the United States ultimately died, “some predicted that the U.S. death toll would have reached 1 million without the vaccine that Hilleman

called for,” according to the Philadelphia vaccine history project. “Health officials widely credited that vaccine with saving many lives.”

**2009**

# Swine flu

**Deaths:** 200,000 • **Cause:** H1N1



A crane lifts culled pigs into a container on a farm where 80 pigs died of swine fever on March 4, 2006 in Haltern, Germany. (VOLKER HARTMANN/DDP/AFP via Getty Images)

Before covid-19, this was the world's most recent pandemic, infecting as much as 21 percent of the world's population. Swine flu was a hodgepodge of several different flu strains that had never been collectively seen together. Most of those infected by swine flu were children and young adults, with older people — those most at-risk of dying from the flu — immune to it already.

*An earlier version of the graphic on this page said that there have been 50 million deaths from HIV/AIDS. The correct number is 35 million.*

# Coronavirus: What you need to read

The Washington Post is providing some coronavirus coverage free, including:

Updated April 18, 2020

---

**Live updates:** [The latest in the U.S. and abroad](#)

**More news today:** [Coronavirus fatality rate remains unknown as officials plan to reopen the economy](#) | [DIY household cleaners that work if you're short on supplies](#)

**Mapping the spread:** [Cases and deaths in the U.S.](#) | [Map of cases worldwide](#)

**What you need to know:** [How to make your own fabric mask](#) | [What to do if you get laid off or furloughed](#) | [Stay-at-home orders by state](#) | [Calculate how much money you might receive from the stimulus bill](#) | [Follow all of our coronavirus coverage](#) and [sign up for our daily newsletter](#).

**How to help:** [Your community](#) | [Seniors](#) | [Restaurants](#) | [Keep at-risk people in mind](#)

**Share your story:** [Has someone close to you died from covid-19?](#)



## Michael S. Rosenwald

Michael Rosenwald is an enterprise reporter writing about history, the social sciences, and culture. He also hosts Retropod, a daily podcast. Before joining The Post in 2004, he was a reporter at The Boston Globe.

### About this story

Sources: CDC, American Scientist, The Lancet, Social Science & Medicine, WHO, National Geographic, news and historical research.

Graphics reporting by Aaron Steckelberg. Photo editing by Nick Kirkpatrick, Haley Hamblin and Troy Witcher. Design and development by Brandon Ferrill.

<b>Share</b>				
--------------	---	---	---	---

 **119 Comments**

### More stories

## 'You're basically right next to the nuclear reactor.'

"It's a powerless feeling, watching someone die": An anesthesiologist on the frontline of coronavirus outbreak



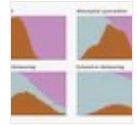
## The U.S. was beset by denial and dysfunction as the coronavirus raged

From the White House to the CDC, political and institutional failures cascaded through the system and opportunities to mitigate the pandemic were lost.



### Most Read

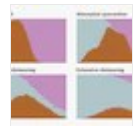
**1** Why outbreaks like coronavirus spread exponentially, and how to 'flatten the curve'



**2** Chevy Chase is 74, sober and ready to work. The problem? Nobody wants to work with him.



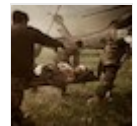
**3** Por que brotes como el del coronavirus crecen exponencialmente y como 'aplanar la curva'



**4** How epidemics like covid-19 end (and how to end them faster)



**5** Confidential documents reveal U.S. officials failed to tell the truth about the war in Afghanistan



### Follow Post Graphics



### Terms of use

