

12 Diseases That Altered History

It's often taught that the course of history hinges upon great battles, both in war and among competing ideas. The stars are a few powerful individuals—presidents, monarchs, dictators—whose actions can shift a society's development one way or another.

But . . .

Some influential actors are nasty and ruthless—and microscopic. Bacteria, parasites, and viruses have swept through cities and devastated populations, felled great leaders and thinkers, and in their wake transformed politics, public health, and economies.

The most obvious diseases in history have been the plagues.

These are acute epidemic infectious diseases with high mortality rates.

In other words, they hit suddenly, spread quickly and kill lots of people.

1. Bubonic plague

- **Quarantine**—the isolation of infected or potentially infected people as a way to stem the spread of disease—developed from Europeans' long and storied history with bubonic plague.
- **Parallels between popular reactions to the plague in medieval times and reactions to HIV/AIDS in the modern era?**
 - Fear and ignorance, anxiety, prejudice, isolation, and panic can all result from not understanding the nature of a disease.
- **Earliest Known → the Plague of Justinian 542**
- **Major Outbreaks:**
 - From the fourteenth century, outbreaks occurred approximately once every generation until 1720, when the last major outbreak happened in Marseille.
- **Situation Today**
 - Endemic → All continents except Europe and Antarctica
 - The disease can be treated successfully with antibiotics but local plagues still occur in areas with poor medical facilities.

2. Smallpox

- **It's the only infectious disease that has been eradicated through vaccination.**
- **The medical science of vaccination was a direct result of the devastating effects of smallpox. Essentially, studies of immunity and vaccines emerged from studies of smallpox.**
- **That gives hope that other diseases, too, will be eradicated by similar means.**

Epidemic diseases . . .

- are those that affect large numbers of people in one area at the same time.
- In this category is *influenza*, which has the dubious distinction of killing more people in a single year than any other cause in history.

3. Influenza

- **Few diseases have had such widespread effects on the number of deaths in the modern world as the flu, which remains a major threat worldwide despite the existence of vaccines against it.**
- **Earliest Known → first described by Hippocrates in 412 BCE.**
- **Major Outbreaks**
 - **There were major outbreaks in 1510, 1557 and 1580, the last being a pandemic, before a lull in activity through the seventeenth century.**
 - **In the eighteenth century there were at least three, and possibly five, pandemics in Europe, the worst being in 1781-2.**
 - **In the nineteenth century there were pandemics in 1830-1, 1833 and 1889-90. It was known as Russian flu in this last outbreak.**
 - **Things changed dramatically in 1918 when another pandemic, almost certainly spread by troops returning from World War 1, swept the world. What made this outbreak different was that, instead of killing the very young and the very old, it was killing people in the prime of their life. It also had a remarkable tendency to initiate pneumonia in its victims. Modern estimates put the death toll from that outbreak at around 30 million people, more than had died in World War 1.**
 - **Further pandemics occurred in 1957 (Asian Flu) and 1968 (Hong Kong Flu) and between them they killed 1.5 million people.**

Situation Today

- **Endemic → Globally**
- **The changeability of the virus contributes to the cyclic nature of the pandemics. World Health Organization monitors the disease and the WHO makes recommendations to the manufacturers about the composition of the next year's vaccine.**

Poor Sanitation

- **Diseases that are spread by contaminated food or water fall into the category of “poor sanitation”.**
- **Here you will find cholera and typhoid.**

4. Cholera

- **Spread via paltry or nonexistent sewage systems and lack of clean water, cholera was—and still is—rampant in many parts of the world.**
- **Fatality Rate → Up to 50%.**
- **Control Measures → Good sanitation and safe water supplies are the primary methods of control.**
- **Situation Today**
 - **Endemic → Most of Asia, Africa and South America**
 - **The world is currently in the grip of the seventh pandemic of cholera, which began in Indonesia in 1961. The bacterium responsible for this pandemic is considered to be relatively mild. Death is caused by the dehydration that results from severe diarrhea and oral rehydration is a satisfactory treatment in the majority of cases.**
 - **Antibiotics can be used to reduce the severity of disease, but some drug resistance has been noted.**

Overcrowding

Diseases that are spread by parasites or by proximity to an infected person thrive in poor and overcrowded living conditions.

5. Tuberculosis

- Earliest Known → Evidence of tuberculosis in Egyptian mummies.
- The struggle against TB stimulated some of the first quests for antibiotics.
- The disease most likely promoted pasteurization, which heats and kills TB and other pathogens that can contaminate milk.
- The infectious nature of tuberculosis also prompted the building of sanitariums, where people could be isolated and treated.

■ Situation Today

- Endemic in all human populations → Approximately one person in three carries the bacillus, although it is inactive in the majority.
- Tuberculosis is the most dangerous disease on the planet and it is spreading rapidly. Globally, one person is newly infected every second. Estimates put the expected death toll at anything from 35 million in the next 20 years to as many as 30 million in the next decade.
- HIV and tuberculosis form a deadly combination. HIV weakens the immune system and anyone already infected with the bacillus is much more likely to develop active tuberculosis. In turn, tuberculosis is a leading cause of death among the HIV-positive.
- Compared to the global average of 33% of the world's population infected with tuberculosis, the current rate in the USA is 7%. However, among the homeless in San Francisco it is 30%.

6. Syphilis

- Once treated with heavy metals like mercury, which had devastating effects on patients, syphilis inspired the discovery of chemotherapeutic agents.
- The sexually transmitted disease prompted chemotherapy pioneer Paul Ehrlich to look for what he called a “magic bullet”, which turned out to be the drug salvarsan.
- The history of many drugs can be traced to Ehrlich's work with dye materials that stained not only fabrics but organisms as well, spurring him to look for drugs that could bind to and kill parasites.

7. HIV/AIDS

- While today's chemotherapy cocktails—when available—are effective at reducing the number of AIDS-related deaths, it's a disease that also can be controlled by what is called the most difficult intervention: behavioral control.
- It's also a disease that is modern and yet has its parallels with the past in the kind of reactions that populations have when there's an unforeseen epidemic.

8. Malaria

- **One of the most lethal infectious diseases in history, malaria causes over 300 million cases worldwide and up to 3 million deaths a year.**
- **It's one of the earliest examples of the importance of controlling vectors—animal or insect carriers (in this case, mosquitoes)—in preventing the transmission of disease.**
- **One of the reasons Europeans managed to colonize Africa was that they utilized quinine, an anti-malarial drug derived from the bark of the cinchona tree.**

9. Yellow fever

- **Although vanquished in some countries, this mosquito-borne disease hasn't been eradicated and probably never will be.**
- **The disease influenced the building of the Panama Canal, the Louisiana Purchase, and, in fact, the pre-World War II development of the southern United States.**
 - **The stereotypes of the lazy, drawling southerner and the energetic, bright northerner were typical characterizations due to disease or the absence of disease.**
 - **In the North, mosquitoes couldn't survive “overwintering”, so there wasn't yellow fever. In the South, on the other hand, you had a population that was either decimated or debilitated by the disease.**

Genetic Blood Disorders: Hemophilia and Porphyria

- # 10. The rise of Spanish dictator Francisco Franco can be traced to the lack of an heir to the throne because of *hemophilia*.
- Another example is the collapse of the Romanov dynasty in Russia, which was due to hemophilia in the family. The czar was debilitated and couldn't take over, setting the stage for the rise of the Bolsheviks.

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- **# 11. Many of the British monarchs were unable to manage their kingdoms because of *porphyria*, which can cause a variety of mental problems, like hallucination, paranoia, and anxiety.**
 - **Some describe King George III's treatment of his American subjects, which helped to trigger the American Revolution, as being in part affected by his porphyric attacks.**

Potato blight

(Cause of the Irish Potato Famine)

- Diseases affect not only humans but also sometimes what we eat.
- Potato blight had a profound impact because it devastated a staple food that fed much of Ireland in the mid-1800s.
 - The Irish famine influenced America by generating an influx of Irish immigrants to U.S. cities;
 - those newcomers expanded the Democratic Party,
 - participated in the development of labor unions,
 - and molded the nation's character in numerous other ways.

Other plant diseases could have similarly far-reaching consequences today → Many agricultural economies focus on a particular crop, so a single disease could be a big threat—and a major historic force.