

Syphilis

USARAH COOK, LILY FORD, TESSA HAWS

Abstract

Syphilis is an **sexually transmitted** disease that was first introduced to the Europe during the **Columbian Exchange** around 1495. We examined the symptoms, spread, origin, and lasting effect of Syphilis on the world. We found that it has greatly affected the culture, life, and economy of the world after traveling to the Old World. It has spread rapidly, killed many, but decreased in severity over time. The treatment has also developed greatly with new technology such as penicillin, but it has remained prevalent due to societal changes. The spread of Syphilis from the New World to the Old World has influenced the economy, health, technology, and society of the entire world.

Origins

There are **many theories** as to how syphilis came into contact with humans because there are no definite origins to this disease, but it has been proven multiple times that it came to Europe from Columbus' return from his voyage to the New World. In the 15th and 16th centuries, many theories arose that incorporated spiritual and cultural beliefs into how syphilis entered humans. Christians believed it was a **punishment from God** while others believed it was passed on from contact with a person with leprosy. Before syphilis came into contact with humans, it was only found in animals such as monkeys, leading to the idea that it had been passed down from a monkey to a human. Most theories were disproved because Europeans discovered that it was a sexually transmitted disease. There are also more probable theories about syphilis and how it was contracted by humans. Some scientists believe it started out as Yaws, a less severe version of syphilis. Yaws would have mutated and developed into syphilis in Europe. Still, there is no definite answer as to how it came into humans.

Syphilis arrived in **Spain and Italy** in 1493, coming from Christopher Columbus, his team of explorers, and the natives brought along on the journey from the New World. After syphilis had entered Spain and Italy, it became a chain reaction, spreading throughout Europe and across the world.

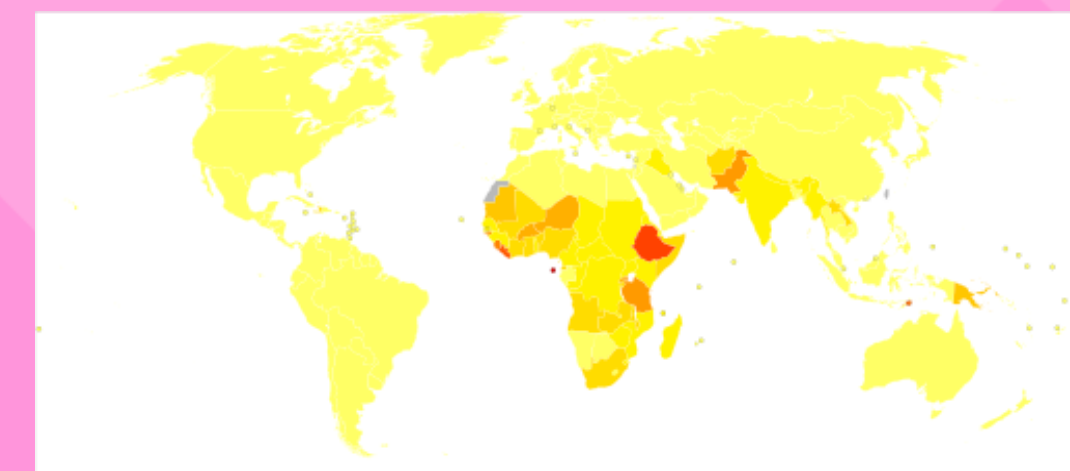


Figure 2: Daily Rates of Syphilis (per 100,000 people) around the World

Figures 1 & 3: WWII Propaganda



Symptoms & Spread

Syphilis is caused by an infection of the bacteria **Treponema Pallidum**. It spreads from **parent to child** or through **direct contact** with a syphilitic sore. In congenital syphilis, spread through the placenta, the child may experience a range of symptoms including death, blindness, deafness, or no symptoms at all. The initial exposure, a week to a month after the infection, causes a painless skin lesion or chancre at the sight of infection. The spirochete bacteria may be isolated from the lesion or inside the white blood cells which help it spread further. The lesion heals immediately, giving the illusion the syphilis is gone. If not treated, the syphilis will reach a secondary stage where the bacteria multiply and spread, resulting in malaise, headache, skin rash, sores in the mouth or throat, or joint ache. The tertiary stage is only experienced by 10% of those infected, and it is where the bacteria infiltrates the body. It can infect the brain, cause loss of memory, and create soft tumors called gummas in the eyes, bone, lung, and brain. In the primary and secondary stages, it can be treated with penicillin, but in the tertiary stage, an antibiotic must be used. The antibiotic can get rid of the organism, but it will not reverse the organ damage. Although new vaccines are in development with genetic engineering, the current solution is safer sex and education.

Deliberate or Accidental?

The transport of Syphilis from the New World to the Old Word was **accidental**. It was unknowingly carried by the travelers coming back from the New World to Europe and the Natives that were brought along unwillingly.

Lasting Impacts across the World

During **World War II**, there was a surge of awareness against all STDs, including syphilis. In World War I, the army lost nearly seven million personal days and **10,000** men to STDs. As soon as outbreaks began at the start of World War II, the government launched anti-STD campaigns with "Susie-Rottencrotch" films that centered around plots featuring soldiers contracted STDs through sexual intercourse with a temptress. Many of these campaigns were placing blame on women, even saying that 98% of women were infected with STDs. Because of this, in the 1950s, it had almost been eradicated, but with a loss of funding it rose again.

Today, Syphilis remains the third worst STD in the Western Hemisphere. Most cases with the tertiary stage have disappeared, but there are still over **50,000** cases overall each year in the United States with a significant increase in congenital syphilis. It is still prevalent because of prostitution, increased amount of risky sex practices among homosexual men, and general apathy towards the disease. Although it is ancient, it is still of great importance in the medical world because of its link with HIV. Those infected with syphilis have a greater increase of transmitting or contracting HIV. Scientists are continuing to research possible vaccines and the human genome corresponding with the bacteria. In 2010, Scientists found antibiotic pills (azithromycin) are as effective as penicillin at early stages of syphilis which will help in areas of low resource with those that are HIV-negative.

The **average cost** per treatment of the average syphilis case in the United States is **\$444** which may seem small, but with 50,000 cases per year, that adds up to over \$22 million spent on syphilis each year in the United States alone.

Impact on Old World

After syphilis arrived in the Spain and Italy, it spread across the entire Old World, killing many significant people, and causing major social change. In **1495**, it broke out among **Charles VIII of France's** soldiers during the Italian Wars. From written records, it seems that the disease they experienced was far more severe than modern day syphilis. From there, it spread to France, Switzerland, and Germany. By 1500, it had reached Britain, Greece, Hungary, Poland, and Russia. The European explorers then brought it to Africa, China, Japan, and Oceania. Around this time, it was clear that it was sexually transmitted. **Henry VIII of England** tried to close down brothels and communal bathhouses in London to try to contain it. Even though many were trying to control it with regulations, Europeans continued to die. Some famous European leaders that have died of syphilis since it was brought over by Columbus' voyage include Randolph Churchill, Prince Edward, Ivan the Terrible, and Queen Elizabeth I.

Sources

<https://goo.gl/qTPdwi>

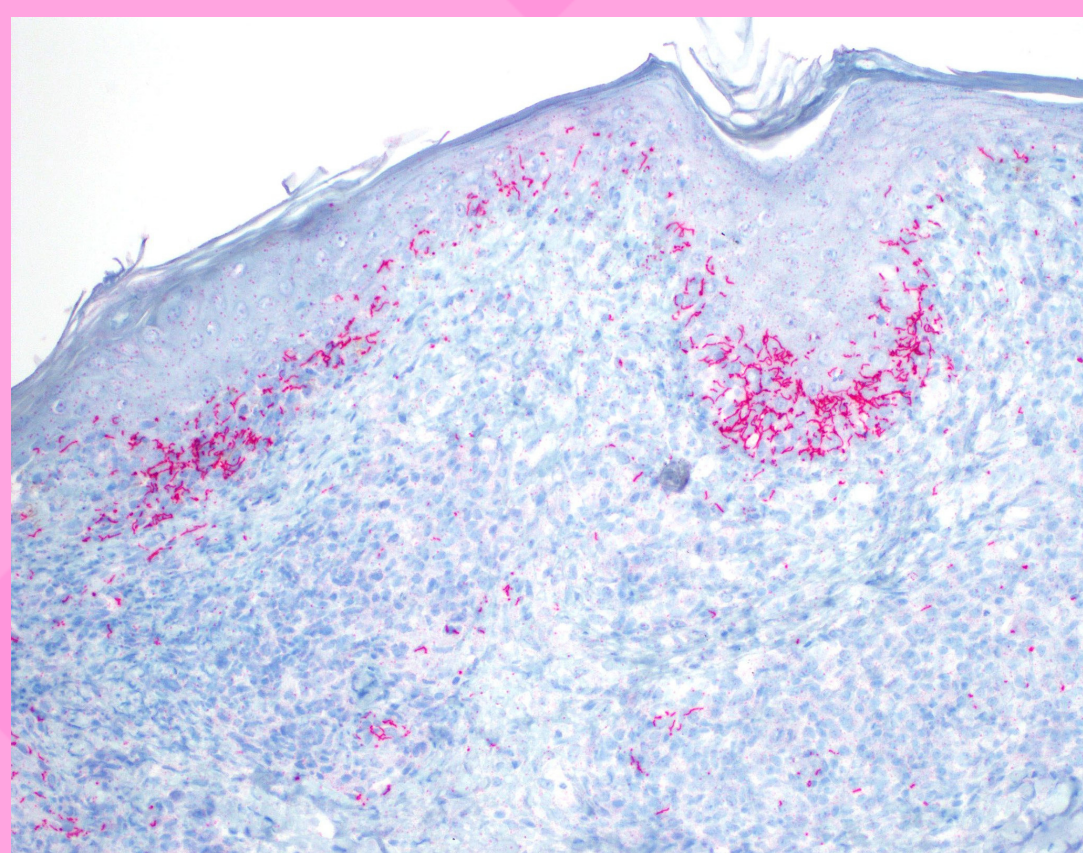


Figure 4: Secondary Syphilis
Spirochete organisms are stained bright red (200x)

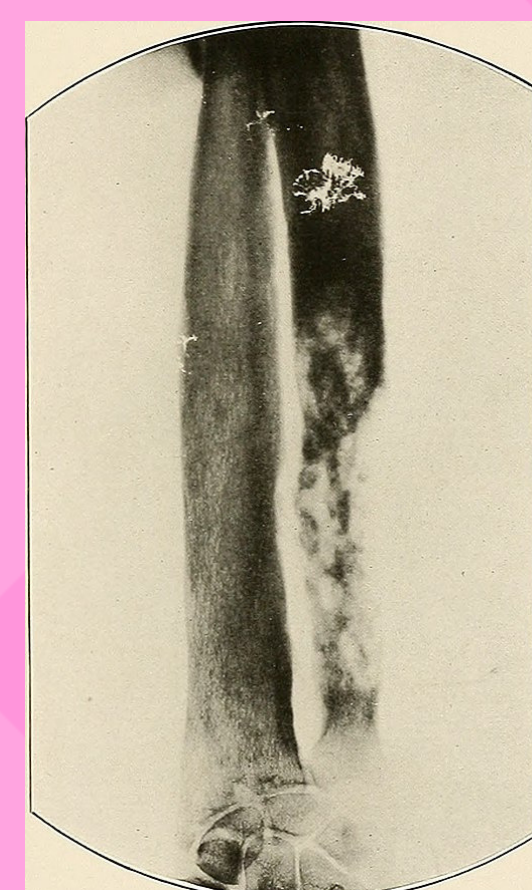


Figure 5: Bones and Joints Showing Effects of Syphilis