

Many of the resources we have about the eradication focus mostly on what happened while we were trying to get rid of it. More modern resources complicate things due to the politics of the cold war. Due to the cold war the USA and Russia would combat each other by trying to influence smaller countries. These countries would try to play them off each other to get help, but this help often came with other consequences.

Small pox has two forms, major and minor. It was not a fun disease. Variola major killed about 25% of people that caught it, the minor version only gets about 1/2%. The disease is air born, you only really need to be within 7ft of a person with it. When it enters it goes straight for the lymph nodes to get your body to replicate it. After around 14 days you start to see symptoms. A very high fever, head ache, and back ache. These are not weird symptoms. The weird symptoms are the spots that appear and spread all over your body. It starts as a flat red rash and turns into raised bumps (these signify the second stage). The bumps are filled with pus and extremely painful. They eventually harden. Eventually they fall off and turn into pock marks.

This was a target for eradication because there are no animal vectors or reservoirs. This means that you only have to make all humans immune to kill it. They saw that most people with the minor version survived and became immune, unfortunately the major one was the dominant one.

The main way to deal with it was to cut into the pustules and taking materials and putting it into other people so that they would get a mild case. The Chinese and Indian subcontinent took the pustules that fell off and ground it up into a nasal spray. These methods very rarely worked and often just spread the disease.

At the end of the 18th century a doctor known as Edward Jenner had been inoculated and nearly died. There was a myth that milk maids that got cow pox did not catch small pox. Small pox came in waves every 5-10 years but these milk maids didn't catch it. Jenner took material from the cow pox pustules and used that to inoculate a young man. He then inoculated that boy with small pox, and he didn't catch it. He tried again a few times and it all worked so he submitted his research and it was published by the Royal Society in 1796.

They felt that by using the cow pox it wouldn't contain the deadly version of the small pox. When they announced this result some private places tried to do their own version which was a mix of cow and human small pox which didn't work at all. This caused people to be skeptical.

This was the difference between vaccine and inoculation.

Before the cow pox version skepticism about inoculation was pretty valid, most of the time these things did not work or even made things worse. This required very very special preparation and would prevent them from going to work. The working class was very opposed because they couldn't afford to not go to work and it often killed their children. They did not want mandatory vaccination.

A lab found that you could purify the vaccine with glycerine. The vaccine also had to be kept cold. It wasn't until the centrifuge that we found we could freeze dry the vaccine.

It was not uncommon for outbreaks to happen when people travel from other places where the disease was still prevalent. This caused people to want to eradicate this across the whole world.

The world was already becoming a more unified place. We also were already focusing on good health. This led to the creation of the WHO. This was based on the efforts of the League of Nations' health organization. The United States and Russia had not belonged to the League of Nations so there were some problems. They wanted everyone to be able to join and wanted perspective from a global standpoint, not a national one. They felt national politics had too big of a role in health endeavors.

In order to join you had to pay an annual fee that was based on the GDP of the country. Politics of course was going to fuck this up. The USA was going to be a leader of the UN and the headquarters was going to be in New York. The developing countries were not ok with this so it was put in Geneva. The director of the WHO was elected through a competition and the winner was a Canadian dude. This guy eventually retired because he could not stand the politics.

The guy who replaced him is a Brazilian. Brazil had some of the highest small pox in the Americas. He wanted the eradication but felt that it was not possible. Problems also occur when Russia pulls out. After Stalin dies Russia wants to start interacting with the world, they send an envoy with Viktor Zhdanov that brings up the notion of eradicating small pox. He makes the point that eradicating it in your country is not enough as you have lots of people trying to enter all the time. Russia promises tons of vaccines if the WHO would create a vaccination program. The Americans, wanted to have a malaria eradication campaign and felt that the Russians were insulting them. The WHO does not have the funding to do both projects. So they set up a tiny small pox team and give them a very small amount of money and ignore it.

Things change when the first case in a while occurs in the US when missionaries bring back the disease from afar. Fortunately they caught this and quarantined the family. The Ontario government did not want to do a mass immunization campaign

in response to this as the vaccine needed to be refined to not do damage to people. There were a couple of other small outbreaks which led to the idea that smallpox can travel on air planes. Instead of having to organize a mass immunization campaign we should go to where the disease exists and nip it in the bud.

Lyndon Johnson toured India and saw the poverty and poor health of the country which led him to lend support for the eradication of smallpox. He likened it to putting a man on the moon. The CDC at the time was competing for congressional funding so they jumped on board with the smallpox vaccine.

They believed in shoe leather aid, if requested they would send a team to the location of an outbreak to look for the source.

Basically a whole bunch of politics went down. People thought it would fail and wanted to make sure they could pin it on the Americans. Eventually we got some people in charge that actually wanted to help people.

A nonprofit organization developed the freeze-dried vaccine and they are willing to share it in the world. So yay, we got a good vaccine.

Not we are faced with the problem of how to vaccinate people in hard-to-reach places. The Americans invented a gun that could do a bunch of vaccines very quickly. This ran into problems in unhygienic conditions which clogged them up. They then invented a bifurcated needle that was specially designed to just dip and poke people. This couldn't get clogged up as easily. This was almost as fast as the gun and was way less frightening. It was also very easy to use, so people could train locals on how to use it so that the people could get their vaccines from people they trusted. Many people were scared of foreigners.

They realized they couldn't vaccinate everyone and instead just vaccinated those around people that had smallpox. We set the guideline that a country is case-free for two years then we can say it is smallpox-free.

TADA it's done, we killed it. Yay. What do we do with the remaining stock of vaccines. Two Russian scientists defected and told stories about Russia weaponizing diseases. This led people to be concerned that maybe there are more vials of the virus.

People were worried about terrorism and the WHO was given permission to have some of the smallpox virus just in case. In the process they found a freezer with some left-over vaccine. Other places have found other unknown smallpox virus vials. Basically we have no idea where all of the smallpox stuff is. It is possible that this could be used in bioterrorism. You need sophisticated labs and equipment to do it. Basically we are not too worried about it, we are pretty good at dealing with diseases. Just a few days ago we invented a new vaccine for smallpox just in case.