



WHY VACCINES DO NOT WORK WITHOUT TRUST

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YOUNG REVIEWER:



TALAL

AGE: 14

Vaccines protect you against diseases. They work by giving you a harmless version of the germ that causes the disease, so your immune system gets ready to fight the real thing. Getting a vaccine can hurt a bit, especially if it involves an injection, but a little pinch is nothing compared to getting sick with the disease itself. So why do some people refuse vaccines? Often it is because they do not trust the people who are offering them the vaccine. To keep society healthy we need doctors and scientists to build great vaccines, but we also need to build trust among ordinary people. One would not work without the other.

WHAT HAPPENS WHEN TRUST BREAKS DOWN?

There is one country where this lack of trust is happening right now. In August 2018, a dangerous disease called Ebola broke out in the Democratic Republic of Congo (DRC), in Africa. Teams of doctors and other experts flew in from abroad to help their Congolese colleagues fight the epidemic, or outbreak. At the moment, they are working with two vaccines. Because the vaccines are very new, one has only just received official approval and the other has yet to be approved, but

they have already saved lives. And yet the disease is still spreading. So far, around 1,800 people have died of Ebola—probably more by the time you read this. Why is the vaccine not stopping the disease?

One reason seems to be that people are avoiding the vaccine. The DRC is the second biggest country in Africa, and unfortunately for those who live there, this country has seen many wars and changes of government. That has left some Congolese people feeling suspicious of the authorities. Even though the government has put out a lot of information about Ebola, not everybody believes the disease is real. Others worry that the vaccines will poison them. In some cases, anti-government politicians have encouraged these rumors. The organizations fighting the Ebola epidemic say that mistrust and false information are their biggest obstacles [1].

IS THIS MISTRUST NEW?

Rumors and mistrust have always fuelled epidemics. A 100 years ago, the world saw its worst-ever flu pandemic. A pandemic is an epidemic that affects the whole globe, and this flu was much more dangerous than the type that comes around each winter. In 3 years, the pandemic is estimated to have killed between 50 and 100 million people. That is more than the First World War, probably more than the Second World War, and maybe even more than the two put together.

Flu is caused by a virus, but viruses had only just been discovered in 1918, and doctors did not know much about them. They thought, wrongly, that all infectious diseases were caused by bacteria. Today, we have a vaccine against flu and all kinds of drugs for treating it. One hundred years ago, doctors had nothing. Meanwhile, people were turning blue and dying in front of their eyes. To try to help their patients, the doctors started making vaccines against bacteria they knew infected the throat and breathing passages. Unsurprisingly, the vaccines did not work very well against the flu. What is interesting, though, is how people reacted to them.

In rich countries like America and France, where people tended to trust their governments, many people agreed to be vaccinated. But in other countries they did not. Many Indians steered clear of doctors, for example. India was ruled by the British at the time, and the British had invested far less in healthcare for Indian people than for British people living in India. The British had also dealt very harshly with a recent outbreak of plague in the country. Indian families were separated, supposedly to stop the infection spreading, and sometimes their houses were burned down. In South Africa, many black people also refused to be vaccinated. Rumors spread in the black community that white doctors armed with long needles were trying to kill them [2].

ARE GOVERNMENTS TO BLAME FOR CREATING MISTRUST?

Although governments are not always the reason people mistrust vaccines, they can make a big difference. When Thabo Mbeki was president of South Africa, between 1999 and 2008, AIDS was a serious problem in his country. AIDS is also caused by a virus, and by then treatments were available that attacked the virus and slowed the disease. So everyone was shocked when the president denied that AIDS was caused by a virus. He also appointed a health minister who said the best way to treat AIDS was with garlic, beetroot and lemon juice. The result was that many AIDS patients were unable to get the drugs they needed. Hundreds of thousands of them died, needlessly [3].

It seems impossible to understand Mbeki's attitude, until you remember the history of his country. He was only the second black president to rule South Africa after the end of apartheid, the cruel system of segregating black and white people that was put in place there soon after the 1918 flu pandemic. During the apartheid years, whites often blamed blacks unfairly for diseases that affected them both. Perhaps Mbeki was afraid that would happen again, with AIDS, and he preferred to believe the disease was something it was not. The point is, memories are long. It takes time to build up trust, or to rub out mistrust.

BUT CAN TRUST BE RESTORED?

Yes, trust in vaccines can be restored. Take an example from Nigeria. In July 2003, a rumor spread in that country that a polio vaccine was contaminated with toxins. Polio is an infection which, in rare cases, can cause children and adults to lose the ability to move their arms or legs, or even to breathe on their own. The rumor about the polio vaccine being contaminated was false, but five states in the north of the country decided to pull out of a polio vaccination campaign. Once again, the issue was trust. Religious and political leaders in the north feared what they saw as an American conspiracy to spread HIV and cause infertility. The rate of new polio cases rose by five times over the next 4 years in Nigeria, and the disease also spread beyond the country's borders.

The events in Nigeria were a major setback to the campaign to eradicate polio from the world. But the Nigerian government, supported by international health organizations, went to work to build trust in the north. They did so by listening to local leaders' worries and giving them accurate information. The five states rejoined the vaccination campaign, and by 2016 it was back on track. Though polio has not been eradicated entirely from the world, it

now occurs regularly in only three countries: Nigeria, Pakistan, and Afghanistan [4].

HOW IS TRUST BEING BUILT IN THE DRC?

One third of the workers fighting Ebola in the DRC are social scientists and community engagement workers. Their job is to understand why Congolese people are mistrustful and to reassure them. It is also to tell them the truth about the disease and the vaccines. One of the problems those workers face is that rumors spread really fast over social media—especially WhatsApp, which Congolese people use a lot. So communications experts keep an eye out for new rumors on social media. Whenever one appears they broadcast the facts instead, by the same channel.

WHAT ABOUT RICH, PEACEFUL COUNTRIES?

Rumors and mistrust can be a problem in rich, peaceful countries, too. Look at the current resurgence of measles worldwide, which is caused in part by people refusing to get their children vaccinated. Sometimes that is because these parents have less trust in experts than they used to. Some suspect, wrongly, that the vaccines are unsafe. Sometimes, the refusal happens because they have forgotten how horrible childhood diseases can be. Why have they forgotten? Because in rich, peaceful countries, vaccination campaigns do not get interrupted, and they have been very successful.

The lesson is that building trust is never finished. We have to keep building, otherwise old diseases will return and new ones will emerge. There will almost certainly be another flu pandemic, for example. We probably cannot stop it from happening, but we can protect ourselves to some extent. That means getting vaccinated at the right times, which means listening to the experts. Flu spreads quickly. If trust is not in place when a pandemic breaks out, it will be too late to build it. All the more reason to start building now.

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YOUNG REVIEWER



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I am a 14 years old boy who lived in England and had all my education there. I have recently moved back to Belgium. I play a lot of sport including tennis, football, and hockey. I am also interested in sciences and would be inspired to be a doctor in the future.

AUTHOR

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Laura Spinney is a writer and science journalist. Her writing on science has appeared in *Nature*, *The Economist*, *The Guardian*, and *National Geographic*, among others. She is the author of two novels, *The Doctor* (2001) and *The Quick* (2007), and a collection of oral history, *Rue Centrale* (2013). Her critically acclaimed non-fiction account of the 1918 influenza pandemic, *Pale Rider: The Spanish Flu of 1918 and How it Changed the World* was published in 2017 and has since been translated into seven languages. *lfspinney@gmail.com.

