

FEAR OF THE NEEDLE





With a new report showing **increasing scepticism** around the **safety and effectiveness of vaccines**, we look at the social drivers behind this shift and ask what can be done to **increase uptake**.

Mistrust in vaccination is growing, both in high-income and low-income countries. A new survey published by the Wellcome Trust shows that, across the globe, only 79% of people believe that vaccines are safe – a figure that drops to 59% in Western Europe. The *Wellcome Global Monitor 2018* surveyed over 140,000 people from more than 140 countries to find out more about their perceptions of science and of global health challenges. Part of the study focused on vaccination and how people think about it. “What we find is a complex picture and we are talking of correlation rather than causation, but the trend we see is that the more wealthy a country is, the more distrust in vaccines there is. And the more people trust science, the more likely they are to trust vaccines,” Imran Khan, Head of Public Engagement at the Wellcome Trust, points out.

This loss of faith in the safety and efficacy of vaccination is not a new subject. This year, it has even prompted

the World Health Organization (WHO) to call vaccine hesitancy one of the top 10 biggest global health threats. In many countries, a growing number of parents express their concerns over the idea of vaccinating their children. One of the most recent examples is Scotland, where the number of children receiving the MMR vaccine by five years of age was reported to have fallen from 97% to 96.6% in the last year.

The reasons why people refuse vaccination are multiple, and complex. They often vary with the local context, the scares of the day and the personal history of the individuals involved. Getting a more coherent picture of these evolutions is crucial to better address this major global health problem, whose consequences are already starting to be seen on health systems.

Back from the pages of history

While vaccination protects individuals from infectious diseases, it also stops the spread of those illnesses to the larger population. This means that even people who cannot get vaccinated for medical

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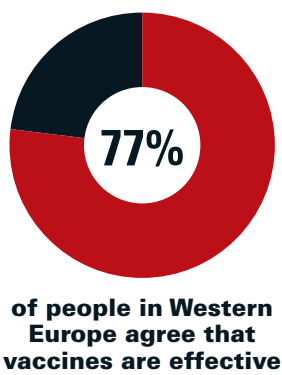
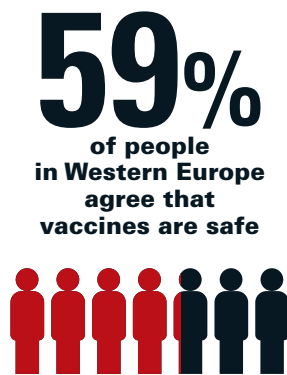
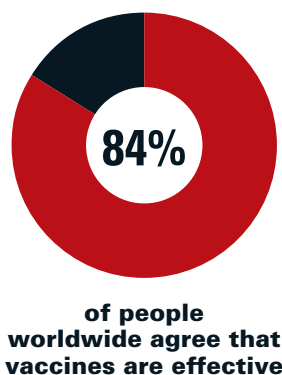
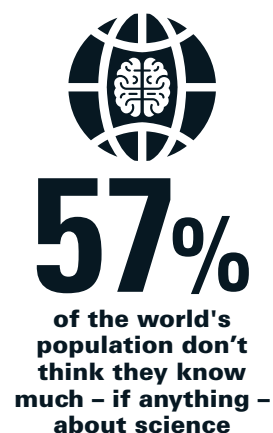
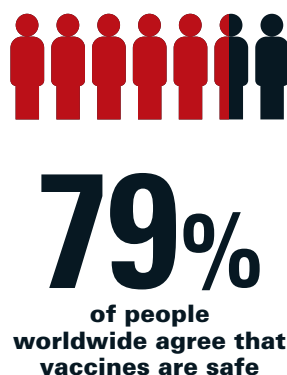
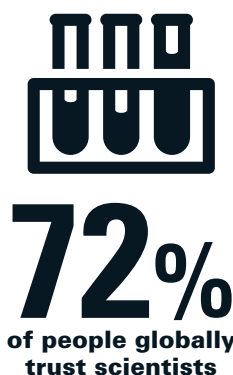
reasons can be protected. This is the concept of “herd immunity”, but it only works if enough of the population, usually between 85 and 95%, gets the vaccine. For the most contagious diseases, like measles, a drop of the vaccination coverage below 90 or 95% of the population is problematic, but this is less the case for less contagious diseases, such as polio.

Yet, as mistrust increases and vaccination coverage drops, epidemiologists are seeing the return of many diseases in geographical areas where they had previously disappeared.

In the first four months of 2019, for instance, more than 6200 cases of measles were reported in Europe, especially in France, Italy, Bulgaria and Poland.

That it is those countries that are struggling with those epidemics is significant when you look at the Global Monitor Survey : France, in fact, had the highest percentage of citizens who disagreed that vaccines were safe. Mistrust in vaccines thus seems to correlate with epidemics making their comeback. All these countries had a vaccination coverage rate of below 95%. “Diseases that should be in the pages of history, we are now seeing in our communities. Cases of measles notably, because it’s a disease that is more visible and very infectious, but other preventable diseases, like diphtheria, are also coming back. It’s hugely important for all of us to understand the fact that whenever a disease exists in any part of our world, we are all at risk, as viruses don’t respect borders”, says Dr Siddhartha Datta, Manager of the Vaccine-Preventable Diseases and Immunization Programme at the WHO Regional Office for Europe.

VACCINES IN NUMBERS



While the health consequences are often the most visible, a drop in vaccination coverage also comes at an important economic cost. As more and more people get sick from diseases that could have been prevented, the burden on doctors and hospitals becomes heavier. This situation may ultimately lead to an increase in expenditure for the health system as a whole, as more children are hospitalised with vaccine-preventable diseases and

more time and resources are dedicated to treating them. “Out of all the public health interventions, vaccination is one of the most cost-effective, with a high return on investment. There are direct health benefits, children suffer less, less investment is needed in curative services. But vaccinated children also grow up better, they are less often absent from school for being ill, their parents might lose less time at work and thereby

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contribute more to the economy. Immunisation has a huge public value that goes beyond preventing the suffering of children”, Dr Siddhartha Datta explains.

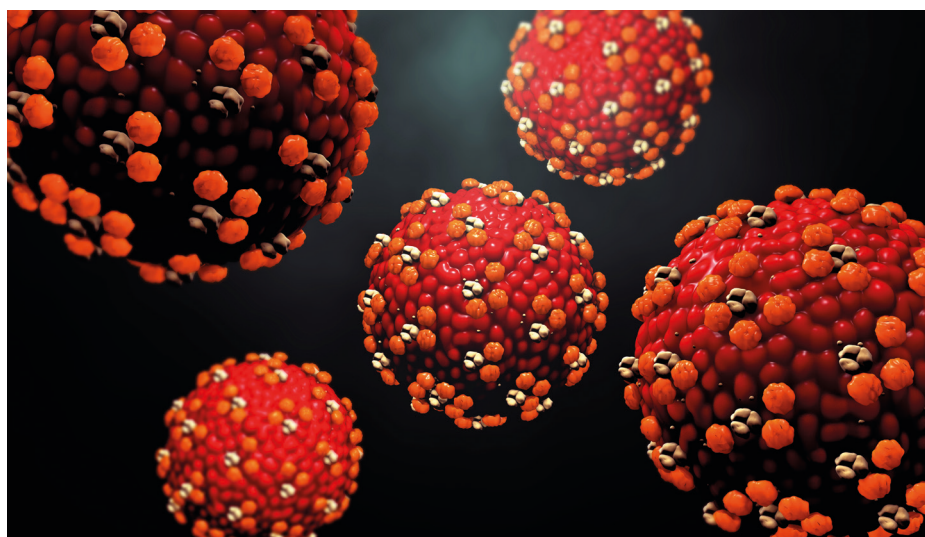
Studies have proven this time and time again. In 2016, a study by researchers from Johns Hopkins Bloomberg School of Public Health showed that for every dollar invested in vaccines between 2010 and 2020, there would be a return on investment of 16 times the costs, taking into account treatment costs and productivity losses.

Untangling the causes of vaccine hesitancy

People are driven away from vaccination by multiple factors that are more often than not time- and context-specific. Although there are some commonalities, the determinants of vaccination vary in nature and importance, depending upon the vaccine and the country of interest, and experts often point out that socio-psychological factors are more relevant to understand vaccine hesitancy in high-income countries, because there are fewer access barriers to vaccination.

What is certain is that, all over the world, parents take the decision to vaccinate their children based on their risk perception of the vaccine. “Risk perception and vaccine confidence influence vaccination decisions. If people feel they or their children are likely to get a disease that is quite serious, and they believe vaccines are safe and effective, most will get vaccinated,” says Dr Ana Wheelock Zalaquett, a Behavioural scientist at Imperial College London.

In the past decades, specific media moments have contributed to decreased



confidence in vaccines, and it has led parents to perceive some vaccines as dangerous. This was for instance the case at the time of 1998 MMR scandal, when a paper published that year claimed that the MMR vaccine was linked to autism spectrum disorder – a statement which was widely reported in the press at the time. While both the findings of this work and the lead researchers were then discredited, it is clear that this made many parents worry over whether or not to get their children vaccinated.

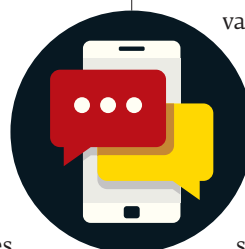
These claims of a link between the vaccine and autism have since then often resurfaced online, and they are shared extensively on social media. In this respect, social networks are a force to take into account when tackling vaccine hesitancy today, as these platforms enable misinformation around vaccines

to travel fast, and to reach a much greater audience than ever before. “We tend to give greater weight to negative information. This is known as negativity bias. So, negative stories about vaccines are likely to stick, particularly if people are already concerned about side-effects,” Dr Ana Wheelock Zalaquett adds.

The Wellcome survey also highlighted a gap between higher and lower income countries, suggesting that mistrust in vaccines was greater Europe and in the US. Countries like Bangladesh and Rwanda on the other hand scored higher when it came to expressing their confidence in vaccines.

A very large majority of people in both countries agreed that vaccines are safe, effective and that it is important for children to be vaccinated.

This discrepancy is also interesting to behavioural scientists and may be explained



79%

A NEW SURVEY PUBLISHED BY THE WELLCOME TRUST HAS NOW SHOWN THAT, ACROSS THE GLOBE, ONLY 79% OF PEOPLE BELIEVE THAT VACCINES ARE SAFE.

by the fact that in many higher income countries, infectious diseases like measles had virtually disappeared from communities for generations, potentially luring people into a false sense of security and leading them to see less of a need in vaccination. “An interesting idea is that of the ‘complacency effect’. If you live in those high-income countries, several generations may have passed since measles or other infectious diseases were endemic, and so you have forgotten how bad they are, and how important vaccines are. Because the daily reality in some lower-income countries may be much more coloured by infectious diseases, people may be more aware of the need for vaccines,” explains Imran Khan.

Learning about these different factors and all the nuances that explain why people don’t want to vaccinate requires frequent, robust studies at country-level to understand what can be done and how vaccination uptake strategies should change overtime. “Vaccination uptake is also linked to other factors such as weather patterns – particularly in the case of influenza – trust in government, science and vaccine manufacturers, and of course, vaccination scares. To address emerging issues opportunely, we need to measure vaccination sentiment routinely using validated instruments, ideally as part of national immunisation surveys,” Dr Ana Wheelock Zalaquett says.

Increasing vaccination uptake

As the causes of vaccination hesitancy become untangled, researchers, public health institutions and policy makers are

trying to harness this knowledge to come up with new strategies to change people’s minds about vaccines. What they all agree on is that a one-size-fits-all approach will not work, especially considering the variety of possible reasons that people put forward to reject vaccination.

A recent study led by Noel Brewer, a Professor of Health Behaviour at the University of North Carolina, has explored the success of different interventions to increase vaccination uptake. It found in particular that vaccination can be facilitated directly by leveraging, but not by trying to change what people think and feel. In that context, focusing on people who are hesitant to vaccinate, but not entirely against it, can be an interesting approach. “Strategies to

increase vaccination coverage should take into account people’s stance toward vaccination. We know that those who are completely against vaccination are a small minority. We also know that changing entrenched

beliefs is difficult. So, as Brewer and colleagues suggest, focusing our efforts on harnessing the favourable beliefs of people who are in two minds about vaccines could yield more impactful results,” Dr Ana Wheelock Zalaquett says.

Working with local health professionals is also crucial to understand what is happening in specific communities and to tweak the vaccination uptake strategy accordingly. This is something that the WHO is trying to develop more in the European region. “Health professionals and experts in the clinic might know best why parents in an area are not coming to have their children vaccinated. We have

to start zooming in to see what the problems are in local communities” Dr Siddhartha Datta says.

And relying on health professionals may be helpful not only because it can tell us more about what’s going on at various localities, but also because their recommendations of vaccination may be the key to unlocking people’s resistance. As the Wellcome survey suggests, there is still a high level of trust in medical staff around the world. In total, 73% of people who took part in the study said they would trust a doctor or nurse more than any other source of health advice, including family, friends, religious leaders or famous people. What remains to be done is find out exactly how these doctors and nurses should speak to the people they see in the clinic, and how they should tailor their message to different types of patients to convince them of the need to get a vaccine. “A key factor linked to vaccination is a provider’s recommendation, but we are less clear about which aspects of a recommendation lead to vaccination uptake and for whom,” Dr Ana Wheelock Zalaquett says.

Vaccine hesitancy will continue to be a major global health threat unless governments invest time and resources in tackling this problem. Working hand in hand with NGOs, international institutions and scientists, they need to prioritise research that allows them to catch a glimpse of people’s reasons to doubt vaccination, and to repeat this research overtime, to understand how perceptions evolve and how they can be addressed with well-designed, relevant strategies that rebuild people’s trust in science and in vaccines. 