



Measles: a global resurgence

From France to the Philippines, Yemen to the USA, measles is on the rise, undermining elimination goals. Sophie Cousins reports.

Cases of childhood measles have risen to high levels across the globe. Although countries have until April to report measles cases for 2018 to WHO, 229 000 cases have already been reported, compared with 170 000 in 2017. The true burden is expected to be far higher because of under-reporting. A worldwide survey by UNICEF found that 98 countries reported a rise in measles cases in 2018 compared with 2017. Amid warnings of “disastrous consequences” for children if the disease continues to spread unabated, the survey found that the increase in cases is driven by ten countries: Ukraine, Philippines, Brazil, Yemen, Venezuela, Serbia, Madagascar, Sudan, Thailand, and France.

The disease is easily preventable with two doses of a safe and efficacious vaccine. Before the introduction of the measles vaccine in 1963, measles killed more than 2.5 million people every year. In 2016, the estimated number of deaths from measles fell to 89 780, the first time in history that annual deaths had fallen below 100 000. But by 2017, it had risen to 110 000 and in 2018, measles caused an estimated 136 000 deaths, according to WHO’s preliminary figures.

“We’re backsliding. Unless we turn the tide on what is happening, the number of cases we have are going to go up—and we expect they will—unless we take urgent action”, said Kate O’Brien, director of the WHO’s department of immunisation, vaccines, and biologicals.

“Brazil reported no cases of measles in 2017. In 2018, there were 10 262.”

The latest measles outbreaks are threatening global progress against not only measles but other vaccine-preventable diseases too. “When you have a resurgence of measles, it’s an indication that we’re backsliding on other vaccine targets. The same children that are getting measles are the exactly the same children who are poorly immunised against polio, diphtheria, and pertussis” said O’Brien.

The resurgence of measles at a global level is being driven by multiple factors, including conflict, poor health education, lack of access to health care, complacency, and increasing vaccine hesitancy. “An important aspect to consider is that we’re seeing outbreaks all over the world in a wide range of contexts”, said Robin Nandy, principal adviser and chief of immunisation at UNICEF.

“From Ukraine to France to the Philippines to Yemen and Madagascar, outbreaks are occurring in extremely diverse countries and the causes for the outbreaks is different for these areas. In some places it’s conflict and a lack of access to services, in others it’s a lack of trust in the system and lack of quality services.”

Some of the worst affected countries are embroiled in serious conflict, war, or political crisis, such

as Yemen and Venezuela, where health systems have crumbled, making it difficult or impossible to reach children for vaccination. Yemen, which is facing the worst humanitarian crisis in the world, had 7000 more cases of measles in 2018 than in 2017. In response to the increase in cases, local authorities with support from UNICEF, WHO, and GAVI vaccinated more than 11.5 million children in February.

Meanwhile, the Democratic Republic of the Congo is facing a major measles outbreak while simultaneously combating an Ebola outbreak and an extremely precarious humanitarian situation. More than 67 000 cases were reported last year and as of February this year, 16 000 have been reported. A vaccination campaign is planned.

Measles is also returning to areas previously declared free of disease. In 2016, the WHO declared the Americas to be the first region to eliminate measles. 1 year later, a measles outbreak hit Venezuela and now other South American countries as millions of Venezuelans flee the country. The political and economic crisis in Venezuela has caused major food and medicine shortages, along with worsening of the country’s health-care system, once considered one of the best in the region.

Brazil reported no cases of measles in 2017. In 2018, there were 10 262. Although vaccination campaigns have taken place, the resurgence shows the dangerous weakness of vaccination programmes in countries such as Brazil. For Nandy, complacency is at the heart of this resurgence.

“Once you get high [vaccine] coverage, you stop seeing the disease and the programme takes the foot off



Dr P Manazil/Science Photo Library

the pedal. There has been a certain amount of complacency", he said. "It has been a successful programme but the momentum and intensity have not been sustained. What that does each year is that as coverage declines and as more kids are born the pool of susceptible people increases."

Complacency from a programmatic side can extend to parents who become complacent about getting their children vaccinated. That aside, another major driver of the outbreak is the inability of parents to access to vaccines.

In Madagascar, one of the world's poorest countries, which has been battered by decades of coups and instability, between September and February, there were more than 79 000 measles cases, 926 of which were fatal. The epidemic is blamed on a low rate of vaccination across the island over many years. Measles is endemic on the island but as of 2017, the vaccination coverage was less than 60%, according to UNICEF. According to media reports, the country is facing a vaccine shortage, and many people are too poor to afford them. Other obstacles include chronic health system problems from a lack of doctors to long walks to clinics. An emergency vaccination campaign is under way. It reached 1.4 million children in February and should immunise a further 3.9 million children in March. A concern in Madagascar and other African countries is that they have not introduced the second booster shot into their national immunisation programmes.

Both Chad and New Zealand are also experiencing measles outbreaks, which have also been linked to vaccine shortages. O'Brien, however, said there was no shortage of the vaccine at the global level.

Ukraine, where there were 35 000 cases of measles in 2018, has seen vaccine supplies interrupted by conflict. But vaccine hesitancy has also played a major role, as in other

parts of Europe, the USA, and the Philippines.

In the Philippines, vaccination rates fell from 88% to 73% in 2017. Confidence in vaccines was rocked after dengue vaccination was linked to the deaths of several children. This claim was never proven, but the damage was done and so far this year there have been almost 13 000 measles cases and 203 deaths, compared with just over 18 000 cases in the whole of 2018.

Peter Hotez, vaccine scientist and dean of the National School of Tropical Medicine at Baylor College of Medicine in Texas, said the measles outbreak in the Philippines shows that the anti-vaccination movement was spreading globally. "I believe the US and European anti-vaccine movement will begin extending into Africa, Asia and Latin America, where we are already seeing anti-vaccine activities in the Philippines", he said.

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"So far, the major US federal agencies, European governments, and UN agencies have taken the approach that this is mostly still a fringe movement and have not enacted strong pro-vaccine advocacy messaging directed at the major assertions of the anti-vaccination lobby."

O'Brien said she was concerned about the "potential direction" the anti-vaccination movement could go because "information does not respect borders". She added: "What is most concerning is that we're seeing repeated examples of vaccines being politicised. That is a place we should never go. Health is not political. Protecting the lives of children is not a political act".

Nandy said the antivaccination movement remained a "small marginal



A motorbike transports measles vaccines in DR Congo

William Daniels/Panos

group" but emphasised that he was concerned about the ease in which misinformation was spreading. As experts warned of increasing cases in the coming months, they stressed that governments must take responsibility.

Hotez called on European and the US governments to dismantle "the anti-vaccination media empire" by partnering with Facebook, Yahoo, Amazon, Google, and YouTube to prevent the spread of misinformation. At the end of February, YouTube took note of increasing calls to clamp down on the spread of misinformation via social media, stopping advertising revenue for numerous channels promoting anti-vaccination conspiracy views. He also called on UN agencies and other federal bodies to mount a comprehensive pro-vaccine advocacy campaign, similar to Australia's new \$12 million programme that will reinforce the health benefits of the nation's immunisation programme.

"No one entity holds responsibility, but it is government's responsibility to ensure that every child is vaccinated on time. What that means is investing money in strong immunisation programme, strong primary health care, and strong information on the safety on vaccines", said O'Brien.

Sophie Cousins