Measles immunisation: time to close the gap

Since the beginning of the century, the number of measles-related deaths has fallen substantially; between 2000 and 2014 mass immunisation efforts prevented an estimated 17·1 million deaths worldwide, and the number of cases decreased from 146 to 40 per million. Unfortunately, after this decrease the situation has stagnated and many countries are falling far behind the 2015 elimination targets according to a report by WHO and the US Centers for Disease Control and Prevention (CDC) released in November, 2015. The elimination target was to reduce rates of measles virus infection to fewer than five cases per million people, as well as to reduce worldwide mortality rates by 95% from the 2000 estimate. By contrast, the report points out that although in all countries immunisation schedules include at least one dose of measles-containing vaccine, by 2014 only 122 countries—compared with 131 in 2012—met the target of at least 90% of children receiving the first dose. Moreover, only half the world is receiving the recommended second dose of the vaccine.

In 2011, reported measles cases in the USA were 118 for the period from January to May and 46% of cases were import associated, mostly with the WHO Europe region. As of Nov 15, 2015, the annual number of measles cases in the USA was 189. Of those cases, 113 were related to the outbreak of measles linked to Disneyland (CA, USA) at the beginning of 2015, thought to have been caused by a visitor to the amusement park who had become infected overseas and then visited the park while infectious. This outbreak together with another one in Ohio’s Amish country in 2014, in which 383 people fell ill after unvaccinated missionaries travelled to the Philippines and returned with the virus, has raised concerns over the efficiency of the national health-care system. Outbreaks across Canada, where the immunisation coverage for measles fell to 89-6% from 94-5% in the past 15 years, have occurred as well. And some individual countries still had large outbreaks, including Angola, Ethiopia, and India.

Since 2000, 29 countries have run large immunisation campaigns with the support of the Measles and Rubella Initiative, and the Vaccine Alliance, meaning almost 2 billion children have received a supplemental dose of measles vaccine. Thanks to these campaigns there have been more than 25 million children vaccinated in Pakistan and more than 53·6 million in Bangladesh; in addition, the Rubella and Measles initiative supported a vaccination campaign in Liberia, where after the Ebola epidemic a serious outbreak of measles has occurred.

However, despite success in these countries, more than 100 000 children have died because of measles in 2014. Failure to vaccinate is still common for different countries across the world, but the reasons behind this failure are different. In many developing countries, parents do not have access to immunisation services that could protect their children from preventable diseases. Factors such as poverty, poor health systems, and lack of information can make it difficult for families to secure preventive vaccinations for their children, even when parents are in favour of vaccination. In developed countries, where health systems are good and vaccine preventable diseases become less common, parents’ hesitancy for vaccination derives from the fear that vaccines might cause serious allergic reaction or autism and thus some parents tend to focus more on potential adverse events rather than on the fact that diseases such as measles can kill if not prevented.

When it comes to the measles vaccine, two shots are better than one; if a fully vaccinated person does get infected, transmission to others is not thought possible. After the outbreak in early 2015, California has made the vaccination booster against measles mandatory. In some provinces of Canada, such as Ontario, proof of vaccination is required for children to attend school. However, exemption for medical, religious, and personal reasons is still allowed. In Australia, vaccinations are not mandatory, but parents who do not immunise their children are not entitled to a variety of tax benefits and child-care reimbursements.

Health authorities need to address hesitancy and communicate the importance and the safety of vaccination to be able to close the immunisation gap and thus meet the elimination targets for measles. In developed countries, vaccine reluctance should be fought through better communication between parents and health officials since this is key to maintaining the public trust in vaccines; in developing countries financial strategies and strong commitments from donors and governments should continue to address barriers such as access to health care. ■ The Lancet Infectious Diseases