

EXECUTIVE SUMMARY

Global setbacks threaten gains made against rubella, measles

Progress toward more equitable protection¹ against rubella was seen in every region of the world but progress toward measles elimination eroded and surveillance deteriorated in the early stages of the COVID-19 pandemic globally.

With the COVID-19 pandemic overstretching national health systems and health workers and causing significant disruptions in immunization services worldwide, global coverage of the first dose of the measles vaccine (MCV1) dropped to 84 percent, which was the lowest level in a decade. In absolute numbers, an estimated 22.3 million infants did not receive MCV1 in 2020, an increase of three million over 2019. Additionally, only 82 countries, down from 113 in 2019, had more than 90 percent MCV1 coverage in 2020.

This was the largest annual increase of infants missing MCV1 in 20 years. A majority of these infants were in just 10 countries: Afghanistan, Angola, Brazil, Democratic Republic of the Congo, Ethiopia, India, Indonesia, Nigeria, Pakistan and the Philippines. Coverage of the second dose of the measles vaccine (MCV2) declined to 70 percent in 2020, well below the 95 percent coverage needed to ensure communities are protected against spread of the highly contagious and potentially deadly virus.

A major backslide in other routine immunizations was also recorded with a drop in the coverage of the third dose of the diphtheria-tetanus-pertussis (DTP3) vaccine from 86 percent in 2019 to 83 percent in 2020, leaving 23 million children unvaccinated, the highest number since 2009. The number of never vaccinated children, referred to as zero dose children, also increased by 3.4 million globally compared to the year before and overall a high of 17 million infants did not receive DTP1, also the highest since 2009.

On account of disruptions caused by the COVID-19 pandemic, 24 supplementary immunization activities (SIAs) that were originally planned to be held in 23 countries in 2020 were postponed, affecting ≥ 93 million people, most of whom were children.

On the other hand, fewer cases of measles were reported in 2020² than previous years and the number of specimens submitted for measles diagnostic testing was the lowest in over a decade despite 193 countries (99%) having access to standardized quality-controlled laboratories. This decrease in measles surveillance was due to the pandemic and related disruptions. While the reported number of measles cases dropped to just under 150,000, the number

of estimated cases globally was 7.5 million³, with an estimated incidence of 22 cases per million people.

Relative to 2000, estimated measles deaths decreased by 94 percent to approximately 60,700. However, there were large and disruptive outbreaks reported in 26 countries, including 17 in Africa. These large outbreaks suggest that measles cases were likely underreported in 2020 due to COVID-19 effects such as fewer specimens for testing due to supply chain and workforce issues and decreases in healthcare access. Measures to mitigate COVID-19, such as social distancing and mask use, may have helped prevent measles transmission.

Progress towards elimination was already back-sliding pre-pandemic

The reversal in routine immunization coverage caused by the COVID-19 pandemic came when measles was already having a devastating effect on communities, with a daily death toll in 2019 of nearly 570 people, most of them children. Measles infections and deaths were already at the highest levels in a quarter-century, and four European countries lost their measles-free certification in 2019.

In 2019, the world had experienced the highest number of measles cases since 1996. Even countries with robust immunization programmes and certified measles-free status experienced outbreaks, and deaths from measles were up 50 percent from 2016. The outbreaks in 2019 came on the heels of stagnating measles and routine vaccination rates for a decade, with measles vaccinations stalled well below the 95 percent coverage level needed to prevent outbreaks.

Progress towards rubella elimination goals

Despite the setbacks in progress towards measles elimination, in 2020 national programmes reached more infants than ever before with rubella vaccine, which offers lifelong protection from the virus. The number of countries that have introduced rubella-containing vaccine (RCV) into national immunization programmes increased globally, from just 4 percent in 2012 to 48 percent in 2020 in lower-income countries, and from 43 percent to 93 percent in lower-middle income countries. With this, most countries worldwide (89%) have introduced RCV into their national immunization programmes and nearly half (48%) of all countries have eliminated rubella transmission. The Americas retained its regional rubella-free status since certification in 2015.

These developments demonstrate significant progress globally toward more equitable protection against rubella and congenital rubella syndrome (CRS), the leading cause of vaccine-preventable birth defects. Thirty percent of the world's infants, however, remain at-risk. Women who are infected with rubella in the first three months of pregnancy have up to a 90 percent chance of delivering an infant with birth defects such as cataracts, heart defects and hearing impairment. People who are vaccinated against rubella neither contract nor spread the disease to others.

M&RI partners' response

The [Measles & Rubella Initiative](#) (M&RI) includes the American Red Cross, the U.S. Centers for Disease Control (CDC), the United Nations Foundation, the United Nations Children's Fund (UNICEF) and the World Health Organization (WHO). Organizations such as Gavi, the Vaccine Alliance, the Bill and Melinda Gates Foundation (BMGF), the Alwaleed Philanthropies, the Lions Clubs International Foundation, the International Federation of Red Cross (IFRC), Médecins Sans Frontières (MSF) and others contribute needed resources and unique expertise.

With the support of partners and stakeholders, the M&RI leads and coordinates efforts to achieve a world without measles and rubella death and disease. The Initiative, together with its stakeholders and partners, was quick to sound the alarm on the impact of the COVID-19 pandemic on measles and routine vaccination through a widely published [joint statement⁴](#) in April 2020 which was the first, globally, to raise the alarm about the impact of COVID-19 on childhood immunization.

M&RI continued to leverage its convening role, private sector fundraising and communication expertise to help advance measles and rubella elimination goals and played a key role in vaccinating 67,690,401 children with MCV during 18 vaccination campaigns in 13 countries in 2020 despite challenges caused by the pandemic.

Looking forward

Guided by the [Measles & Rubella Strategic Framework 2021–2030⁵](#), M&RI and its partners are purposefully and closely aligned with the [Immunization Agenda 2030 \(IA2030\)⁶](#). This global strategy promises to maximize the lifesaving impact of vaccines over the next decade by increasing equitable access and use of new and existing vaccines. If fully implemented, IA2030 could avert over 50 million deaths over the next decade (the majority from measles and 75 percent in low- and lower-middle-income countries).

M&RI partners strongly believe that advancing measles and rubella elimination targets will help drive progress toward IA2030 goals and objectives, as measles

is a leading cause of death and disease in children under 5 years of age, and rubella is the leading cause of vaccine-preventable birth defects. Measles vaccination dominates global return on investment (ROI) in immunization ([measles vaccines showed the greatest ROI with \\$58 dollars⁷](#)), especially when combined with rubella vaccination, and measles cases and outbreaks can be used as a tracer to highlight and address immunization system weaknesses and broader health inequities.

Immunity gaps are growing and resumption of normal activities with the lifting of COVID-19 restrictions are expected to increase measles risk worldwide. Vaccination activities for measles and other vaccine-preventable diseases can and should safely continue during the COVID-19 pandemic with additional mitigation measures. The substantial increase in children not fully immune to measles portends a bleak future if vigorous efforts to close immunity gaps are not undertaken.

There is an urgent need to expand and strengthen immunization services and surveillance systems to prevent large-scale outbreaks and deaths. The [Measles Outbreaks Strategic Response Plan 2021–2023⁸](#) describes the critical actions underway for outbreak prevention, preparedness, response and recovery.

Measles outbreaks illustrate weaknesses in immunization programmes. Public health leaders should use measles outbreaks as a tracer to identify communities at risk, understand causes of under-vaccination, and help deliver locally tailored solutions to ensure vaccinations are available to all. Global immunization partners must support country investments that ensure measles vaccines are safely delivered and surveillance systems are properly utilized.

In the last 20 years, measles vaccines have prevented an estimated 31.7 million deaths globally, and equitable protection against rubella has demonstrably improved in lower-and-middle-income countries. Reversing the COVID-19 related deterioration of immunization services and systems is critical to maintain these gains into the next decade; thus M&RI partners urgently call for restoration of essential childhood immunization services.

The Measles & Rubella Initiative Partners



American Red Cross



CDC



unicef

UNITED NATIONS FOUNDATION



World Health Organization

For more information:

www.measlesrubellainitiative.org

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4 <https://measlesrubellainitiative.org/measles-news/more-than-117-million-children-at-risk-of-missing-out-on-measles-vaccines-as-covid-19-surges/>

5 <https://tinyurl.com/yt546mmp>

6 <https://tinyurl.com/5dbkycae>

7 <https://measlesrubellainitiative.org/return-on-investment-from-childhood-immunization-in-low/>

8 <https://apps.who.int/iris/handle/10665/340657>



1 WHO and UNICEF estimates of national immunization coverage (WUENIC).

2 CDC's Morbidity and Mortality Weekly Report (MMWR) and Weekly Epi Records (WER).

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2020 IN NUMBERS



In 2020, the number of completely unvaccinated children increased by

3.4 million



An estimated

23 million

children under the age of one year did not receive basic vaccines, which is the highest number since 2009

©UNICEF Yemen



WHO European Region could soon be the second region in the world to achieve verified rubella elimination status, following the Region of the Americas in 2015



67,690,401

children received measles vaccines during

18

vaccination campaigns in

13

countries

©AmCross Philippines



3,418 volunteers mobilized by the volunteers mobilized and trained by the American Red Cross reached

1,079,638

households in 4 countries

Large and disruptive outbreaks were reported in

26

countries,

17

of which occurred in the Africa region. These large outbreaks suggest that measles cases were likely underreported in 2020, likely due COVID-19 effects. Measures to mitigate COVID-19, such as social distancing and mask use, may have also helped prevent measles transmission

©UNICEF South Sudan



In 2020, the reported number of measles cases dropped to just under

150,000

Measles incidence dropped to 22 per million

22 per million

The estimated number of measles cases in 2020 was

7.5 million

©UNICEF Macedonia



©UNICEF Venezuela

84%

children received one dose of measles-containing vaccine by their second birthday

70%

of children received two doses of measles vaccine



111,903

specimens were tested for measles

96,728

specimens were tested for rubella



12

countries delivered additional health interventions including deworming, polio and Vitamin A during measles campaigns

149,796

measles cases in 2020

©UNICEF Uganda



UNICEF procured and delivered

162 million

doses of measles vaccines on behalf of 71 countries in 2020



179

countries

(92%)

including Nigeria, introduced a 2nd dose of the measles vaccine in their immunization schedule



173

countries

(89%)

provided rubella vaccines in their immunization schedule, up from 65 countries in 1996



32

countries vaccinated nearly

129 million

children during

43

supplemental immunization activities with M&RI financial support