

LEAVING NO ONE BEHIND

ALL CHILDREN IMMUNIZED AND HEALTHY

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for every child



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Why does universal coverage of vaccines matter?

Childhood vaccinations save lives. Prior to the introduction of vaccines, millions of children died or suffered long-term disabilities from diseases such as diphtheria, measles, polio, tetanus, meningitis and pertussis. Most of these diseases are highly contagious, spreading quickly through populations, with often devastating consequences. Immunization programmes benefit each vaccinated child and halt the transmission of diseases to others. When a high proportion of the population living in a community is immunized, the ability of pathogens to reproduce is disrupted and 'herd' or 'social' immunity develops. Herd immunity protects members of the community who are unable to be vaccinated, such as newborns and individuals with compromised immune systems. Drops in vaccination coverage under the threshold needed for herd immunity leaves populations vulnerable to disease outbreaks and epidemics.¹ The wave of measles outbreaks making news headlines this year in many countries including the United States is the result of such dips in coverage in specific population groups and local areas.

Immunization prevents between 2 and 3 million deaths every year.² Safe and effective vaccines are widely available, often free of cost to families through routine immunization services. However, in 2017, an estimated 19.9 million infants missed out on vaccines such as three doses of DTP vaccine.³ Most of these children live in conflict-affected or insecure communities, among the urban poor or in remote rural areas, with little to no access to immunization services. It is every child's right to be fully vaccinated, yet the world is falling short on delivering on this promise.

The remarkable increase in vaccination coverage levels around the world over the past three decades is a success story to be celebrated. It is a story of what can be achieved through strong political commitment and leadership, adequate and reliable financing that enables countries to plan long term, and efficient coordination between country governments and development partners. Yet the stagnation of around 85 per cent coverage globally and uneven progress across countries – with some countries such as Syria experiencing precipitous declines, and others, such as India, showing improvements – is an alarm bell that must be answered by us all, both swiftly and collectively.⁴

¹ The threshold required for herd immunity varies for each pathogen, but hovers around 80 per cent to 90 per cent population coverage for most. Herd Immunity: A Rough Guide. URL: <http://cid.oxfordjournals.org/content/52/7/911.full>
Description: This article in the Oxford Journal, Clinical Infectious Diseases, provides general information about the concept of herd immunity, as well as various threshold rates for different diseases.

For measles, the herd immunity threshold needs to be around 93 per cent to 95 per cent.
https://www.who.int/immunization/sage/meetings/2017/october/2._target_immunity_levels_FUNK.pdf.

² WHO, "10 Facts on Immunization", March 2018. <https://www.who.int/features/factfiles/immunization/en/>.

³ WHO, Immunization Coverage Fact Sheet, July 2018. <https://www.who.int/en/news-room/fact-sheets/detail/immunization-coverage>.

⁴ WHO/UNICEF estimates of national immunization coverage, 2017 revision. <https://data.unicef.org/topic/child-health/immunization/>.

Threats to progress: Inequities and new challenges on the horizon

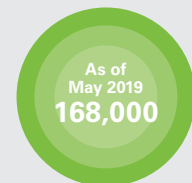
The global success story of immunization masks stark and pervasive inequities in coverage within and across country borders. Although we are making progress in lifting children and their families out of poverty, the poorest and most vulnerable children are still not being reached with immunization services, perpetuating intergenerational cycles of disadvantage. There are also emerging threats to sustaining high vaccination coverage rates in many countries, including reduced risk perception among parents, complacency of governments and donors, and challenges associated with the proliferation of misinformation online. The great achievements in immunization have resulted in a loss of historical memory of wide-scale epidemics. As the impact of infectious diseases becomes less visible in communities, it has become easy to forget the need to stay vigilant to avoid a return to the past, when child death and disability due to vaccine-preventable diseases were common.

Other challenges to immunization programmes are conflicts that both disrupt health-care systems and result in the displacement of children, and demographic changes that make it difficult for countries to anticipate and plan for service needs. These changes include migration within and across country borders, travel for work and tourism, and fertility patterns. Climate change is a future threat if the resiliency of health systems to shocks from natural disasters is not addressed today.

In low- and middle-income countries, pockets of children go unvaccinated mainly because of problems with service availability, including insufficient human resources and a lack of pro-poor policies or effective strategies to ensure universal access. We know how to help countries address these kinds of system-related bottlenecks and the resources required. But in some countries, despite the availability of vaccines, different challenges persist. One emerging and pernicious threat to vaccine coverage is the amplification of misinformation regarding vaccines and immunization programmes through social media, which anti-vaccine groups have effectively exploited in many contexts. These activities are creating confusion and stoking fears among parents, potentially undermining progress in reaching all children with the recommended schedule of childhood vaccines.

The resurgence of measles in countries where the disease had been eliminated and the frequency of reports from many countries on other outbreaks of vaccine preventable diseases is alarming. The total number of measles cases reported by May 2019 (168,000 cases) is more than three times the number reported by this date in 2018 (51,000 cases).⁵ The two continents with the highest number of reported measles cases as of May 2019 are Africa and Europe. Between April 2018 and March 2019, the top 10 countries with the highest number of reported cases were Madagascar, Ukraine, India, Pakistan, Philippines, Yemen, Nigeria, Brazil, Thailand and Kazakhstan. In response to this crisis, UNICEF has ramped up its efforts to support government immunization programmes and circulate accurate information on vaccines via social media and other communication platforms. The World Health Organization (WHO) has declared vaccine hesitancy – the reluctance or refusal to vaccinate despite the availability of vaccines – to be among the 10 threats to public health.

The total number of measles cases reported



Between April 2018 and March 2019, the top 10 countries with the highest number of measles cases reported:

Madagascar	India	Philippines	Nigeria	Thailand
Ukraine	Pakistan	Yemen	Brazil	Kazakhstan

But, what are the reasons for parental reluctance to vaccinate their children? How can we best address their concerns and partner with digital platforms, social media giants and others to: 1) stem the tide of harmful misinformation about vaccines, and 2) promote user-friendly, evidence-based messages about vaccine safety and efficacy? And what will it take for us to improve the quality and reach of vaccination programmes to strengthen trust, equity and parental willingness to protect their children with safe and effective vaccines?



⁵ Source: WHO, Global Measles and Rubella Update, May 2019.

https://www.who.int/immunization/monitoring_surveillance/burden/vpd/surveillance_type/active/measles_monthlydata/en/

Note: Provisional data based on monthly data reported to WHO (Geneva) as of May 2019. WHO estimates that less than 1 in 10 cases are reported globally, with variations by region.

Trends in the causes of vaccine hesitancy: Reports from countries

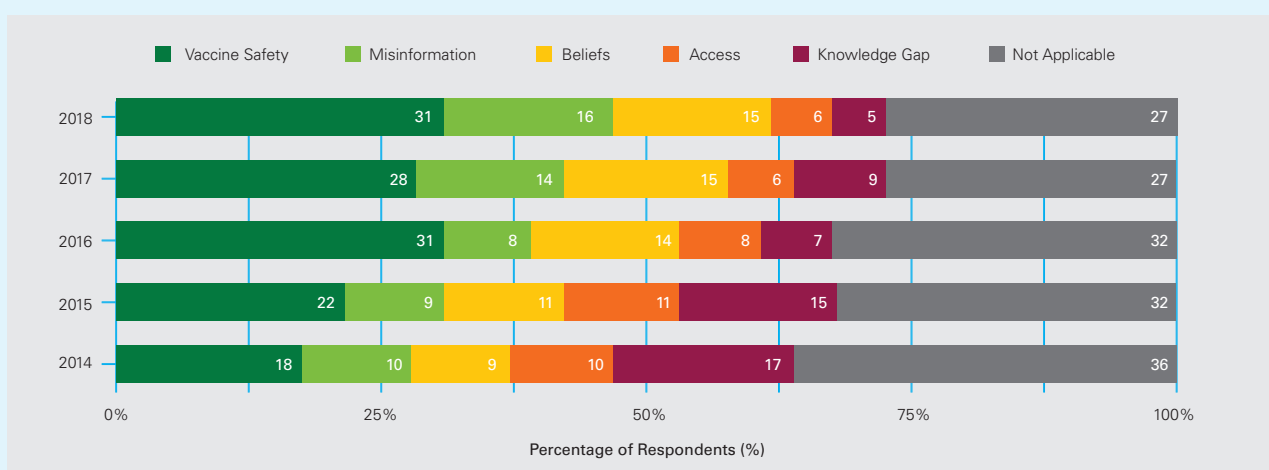
WHO and UNICEF collect a range of information on vaccines annually from 194 countries through the Joint Reporting Form (JRF). This form has included a set of open-ended questions on vaccine hesitancy since 2014. We organized country responses on the first reason provided on the JRF for vaccine hesitancy into seven response types: Access (e.g., parents are working or are engaged in other tasks and cannot take children for vaccination), beliefs (e.g., personal, religious, local norms), knowledge gap (e.g., lack of information about vaccines), misinformation (e.g., distrust of vaccines due to anti-vaccine lobby groups), vaccine safety (e.g., fear of adverse reactions), no hesitancy/not applicable, and no response provided.⁶

The number of countries by UNICEF region and by World Bank income classification that responded to the JRF questions on vaccine hesitancy indicates that a representative number of

countries for each region and income classification responded in all five years. The non-response rate did not differ systematically by region or income categorization. It is important to note that each year only around 30 per cent of countries referenced documented evidence in support of their response.

The trend data from 2014 to 2018 (Figure 1; Table 1) show that the first reason reported by countries for vaccine hesitancy was consistently vaccine safety. The good news is that knowledge gaps and access issues both decreased over time as reasons for vaccine reluctance. But, the percentage of countries reporting beliefs and misinformation as the first source of vaccine hesitancy increased slightly. These patterns were generally the same across regions and country income classification.

Figure 1. First reason for hesitancy to accept vaccines as a percentage of total responses, by UNICEF response type and year, 2014 – 2018



Note: Not Applicable includes: NA responses; no hesitancy reported; and non-response.
Source: UNICEF analysis of WHO/UNICEF Joint Reporting Form, May 2019; 2018 data are provisional.

Table 1. Number of country responses citing a first reason for hesitancy to accept vaccines, by UNICEF response type and year, 2014 – 2018

Response type	2014	2015	2016	2017	2018
Access	19	21	15	12	11
Beliefs*	18	22	27	30	29
Knowledge Gap	33	29	13	17	10
Misinformation	20	18	16	27	31
Vaccine Safety	34	42	60	55	60
No Hesitancy	13	15	15	9	10
Not Applicable	13	10	13	10	7
Not Provided	44	37	35	34	36
Total	194	194	194	194	194

* Personal, local, religious.
Source: UNICEF analysis of WHO/UNICEF Joint Reporting Form, May 2019; 2018 data are provisional.



⁶ Detailed information on the methodology used for the analysis of the WHO/UNICEF Joint Reporting Form is available upon request.

Panel 1 presents the example of the Philippines, a country facing a combination of problems in the delivery of its immunization programme, as well as mistrust in and misinformation about vaccinations. This confluence of factors resulted in a severe measles outbreak in 2017, with residual effects still experienced today.

The findings from the WHO/UNICEF Joint Reporting Form (JRF) and the Philippines example show the role that public confidence in the quality of immunization programmes and vaccine safety plays in achieving universal coverage of vaccines, especially in countries with a history of low public trust in health services. The global health community needs to work together to understand the underlying reasons for vaccine hesitancy in specific contexts and to track how public perceptions change over time so that locally appropriate responses can be implemented. Proactive steps are also required to promote broad-based public trust and support for immunization programmes. One such step involves working with civil society and professional associations, training journalists, and partnering with

influencers such as traditional and religious leaders to promote basic public health literacy and to foster resilience to misinformation. Another step is tracking misinformation about vaccines and ensuring that governments are equipped to manage the communications response to vaccine-related events (e.g., the dengue situation in the Philippines). Achieving this step will require improving country reporting mechanisms on public perceptions of health services and vaccines, and should be a task undertaken jointly by WHO and UNICEF in partnership with government and civil society.

As we collectively work on improving bottlenecks to vaccine service delivery, parallel efforts are needed to promote public demand for basic health and vaccination services and to counter the proliferation of misinformation about vaccines. Recent outbreaks of vaccine-preventable diseases are a warning call that new tactics are required to rise to the challenges of the twenty-first century, and that urgent action is needed before disease outbreaks become a routine occurrence rather than a scourge of the past.

Panel 1. The Philippines: Addressing supply and demand-side challenges to immunization

The Philippines launched its Expanded Immunization Program (EPI) with UNICEF support in 1976. Thirty-five years later, the country passed the Republic Act No. 10152, known as the, “Mandatory Infants and Children Health Immunization Act of 2011” This act mandated the State to adopt a comprehensive, mandatory and sustainable immunization programme for vaccine-preventable diseases, and reflected strong political commitment to the EPI. The act includes a proviso that vaccines be available for free at any government hospital or health centre to improve equitable access.

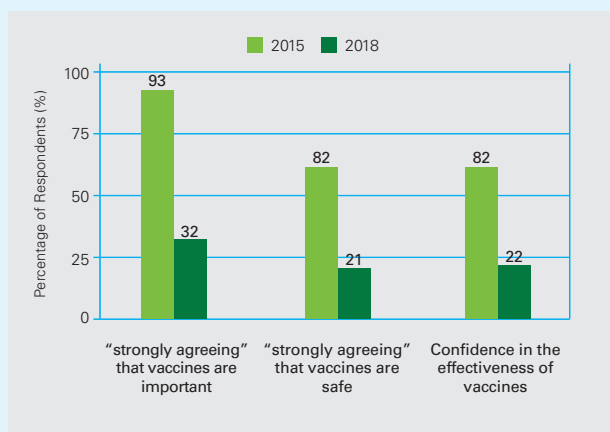
Although the act was passed with lofty intentions, the immunization programme was hampered by problems such as supply shortages, logistical challenges with vaccine distribution due to the country’s thousands of islands, decentralization of the health system and weak governance. These problems were exacerbated by the dengue vaccine crisis. The dengue vaccine was introduced in the country’s immunization programme in 2016 in selected regions but was suspended in the last quarter of 2017 following safety

concerns. A consequence of the dengue debacle was a huge upswing of anti-vaccination activity, waning confidence in vaccines, and a consequent reluctance among parents to vaccinate their children (Figure 2). These trends precipitated a decline in immunization coverage, triggering a severe measles outbreak in 2017. Refusals during the measles immunization campaign in 2018 prolonged the measles outbreak until early 2019. The measles epidemic is now considered controlled and the country has experienced 30 per cent fewer cases (300) as of May this year in comparison to the same time period in 2018 (429 cases).

The Philippines experience is illustrative of how supply and demand-side factors combine to drive the success or failure of immunization programmes. To address these factors, the Philippines must couple investments in strengthening the immunization programme with wide reaching communication strategies on vaccine benefits.

In addition to helping the Philippines strengthen the logistical aspects of its immunization programme, UNICEF is working with the country to increase demand for vaccines. UNICEF is running a social media campaign called Community for Immunity to encourage parents to vaccinate their children and to share accurate information on measles. As of 13 June 2019, the campaign had reached 963,228 social media users with 4.65 million impressions and more than 9,100 likes, comments and shares. UNICEF continues to receive and respond to comments and private messages from parents and caregivers on immunization. UNICEF is also helping the country develop a national communication plan on immunization focusing on partnership-building, risk preparedness and building communication skills among front-line workers. Additionally, UNICEF partnered with an organization of youth volunteers with a national reach to increase awareness on the benefits of immunization during the measles outbreak response. From March to April 2019, they were able to reach more than 3,000 households in 33 communities nationwide.

Figure 2. Dramatic drop in vaccine confidence in the Philippines following the dengue vaccine scare



Source: Survey results from The Vaccine Confidence Project™, London School of Hygiene and Tropical Medicine. Human Vaccines & Immunotherapeutics, 2018. doi.org/10.1080/21645515.2018.1522468.

A CALL TO ACTION

It is time for concerted action to help countries improve communication about vaccines as well as to rapidly detect and respond to threats to public trust. Digital media has changed how people seek out and receive information about health. It has created opportunities for reaching new audiences and tailoring content to meet the needs of specific population groups, but it can also inadvertently facilitate the spread of misinformation.

Misinformation about the safety and efficacy of vaccines – and the motives of those behind immunization programmes – is proliferating on digital channels and is being exploited by sophisticated anti-vaccine activists to sow mistrust. It is increasingly more difficult for parents to determine the truth about how to keep their children safe and healthy. Yet, the spread of misinformation is preventable. We must ensure that accurate information about vaccines is easier to access than vaccine misinformation.

One potential step forward is for countries, UNICEF, WHO and the Centers for Disease Control to work closely with major digital/social media platforms to 1) improve the tracking and reduction of misinformation circulated through these platforms, and 2) make it easier for parents to find relevant, accurate, and compelling information from sources they trust so that they can make informed decisions for themselves and their families. We need to do a better job of listening to parents' concerns and responding to their perspectives. Technology companies also have a responsibility and should commit to promoting accurate, credible content and flagging or removing misinformation from their platforms.

The wide range of threats to reaching and sustaining high vaccination coverage rates is a clear reminder that the world

cannot be complacent. The current stagnation in vaccination coverage levels globally and the erosion of trust in health services in some settings also undermines our progress towards achieving universal health coverage and the health-related Sustainable Development Goals. To combat these trends, multilaterals, governments and the private sector must work together to address the concerns of parents and communities about vaccines, and simultaneously invest in innovative approaches for addressing inequities and barriers to accessing health services. Governments need to strengthen their health systems so that high-quality immunization services are available to all children no matter where they are born, and that health workers are trained to better answer parents' questions and encourage communities to fully protect their children from vaccine-preventable diseases.

Too many people around the world today are not able to access life-saving vaccines, whether due to insecurity or inadequate, unavailable or unaffordable health services. It is unconscionable that people who do have access to immunization services are being misled or are confused about whether it is safe and essential to vaccinate their children. The global health community must join forces with the private sector partners that have built powerful communication platforms to harness their potential for good and to ensure that parents can easily find truthful information about vaccines both online and offline. Children's lives literally depend on it.

Together we can make great strides in shoring up immunization programmes and communication strategies so that all children can benefit from vaccination services, and so that the world stays on course to achieve the 2030 global goal of universal health coverage.

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