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for every child

REGIONAL BRIEF:
SOUTH ASIA

THE STATE OF THE WORLD'S CHILDREN 2023

For Every Child, Vaccination



For every child, vaccination

Immunization is one of humanity's most remarkable success stories. It has saved countless lives. Many more lives will be saved if the goals of the *Immunization Agenda 2030* are achieved. This global strategy aims for a world where “everyone, everywhere, at every age, fully benefits from vaccines for good health and well-being.”

Immunization allows children everywhere to live lives free of many forms of disability and illness. It has led to the eradication of smallpox, a disfiguring and often fatal disease that in the twentieth century alone claimed an estimated 300 million lives. There has been remarkable progress, too, towards eradicating polio. The power of immunization was demonstrated again in the COVID-19 pandemic. The disease claimed 14.9 million lives – directly and indirectly – in 2020 and 2021, according to the World Health Organization (WHO), and disrupted lives around the world, especially children's. While it has taken far too long to get COVID-19 vaccines to people living in the poorest countries, the global impact is still astounding: Already, at least two thirds of the world's population has been immunized against COVID-19. Those vaccines have prevented an estimated 20 million deaths globally. These examples demonstrate that public demand, scientific innovations and – perhaps above all – political will can drive rapid change.

We must do more, and we must do better, now

Globally, an estimated 67 million children missed out entirely or partially on routine immunization from 2019 to 2021. **In South Asia, this figure is 13.9 million children.** As these children pass the age when vaccines are routinely given, it will require a dedicated effort to ensure that they catch up with their vaccinations.

The backsliding in immunization highlighted that the story of zero-dose and under-vaccinated children is overwhelmingly a story of inequities. The children who are not vaccinated are also often the children of mothers who have not been able to go to school and who are given little say in family and spending decisions.

The pandemic also exposed – and exacerbated – persistent weaknesses in health systems and primary health care. Key resources were diverted to respond to the pandemic, which, along with many other factors, contributed to the backsliding in routine immunization. But even before the pandemic, far too many primary health care systems suffered from a lack of skilled health workers, limited access to essential supplies and equipment, weak capacity for collecting and using data and conducting disease surveillance, shortages at the local level of key medicines and vaccines, and barriers to using available resources efficiently and effectively.

The pandemic highlighted the difficulties facing women working in health care and immunization programmes. Although they form the bulk of the health workforce, women have long been under-represented in leadership roles and denied opportunities for professional advancement, and have faced the risk of gender-based violence in doing their jobs. If primary health care is to become more resilient, the needs and potential of health workers, especially women health workers, must be better recognized.

The consequences of failure

Unfortunately, the world continues to see far too many outbreaks of vaccine-preventable diseases. The consequences of failing to vaccinate children may become more severe in years to come. Climate change risks exposing new communities to infectious diseases such as malaria, dengue and cholera and may alter seasonal disease patterns. Also of long-term concern is the rise of drug-resistant infections. Failure to immunize children sets back still further the prospects of attaining the Sustainable Development Goals (SDGs). Immunization is key to achieving SDG 3, which aims to “ensure healthy lives and promote well-being for all at all ages.” But it is also linked to 13 of the other SDGs. In that sense, immunization is at the heart of our collective commitment to achieve a better and more sustainable future for us all.

A time for political will

Much will have to happen if we are to protect *every* child against vaccine-preventable diseases. The needs are complex, even daunting. But overriding them all is one single necessity: political will. Nothing will happen unless we garner the political will – globally, nationally, and locally – to protect children against vaccine-preventable diseases.

That will should be grounded in optimism. The emergence of mass immunization in the 1980s and the development of COVID-19 vaccines show we can make progress, and we can make progress quickly. Encouragingly, and despite the setbacks it caused to childhood immunization, the pandemic may also have helped lay the groundwork in some countries for faster progress.

Political will should also be grounded in the realization that immunizing children makes economic sense. At an average cost of about US\$58 per child in low- and middle-income countries, the standard course of vaccines can contribute enormously to protecting against disease and lifelong disability. Despite shrinking national budgets in some countries, immunization must remain a priority because it is a proven strategy for reducing future health-care costs and supports economic growth. It generates strong returns on investment – as much as US\$26 for every US\$1 invested. Continued and sustainable investment in immunization as part of health budgets is essential. But governments and donors need to work together to improve the efficiency and effectiveness of planning, budgeting and service delivery.

Now is a time for determination.

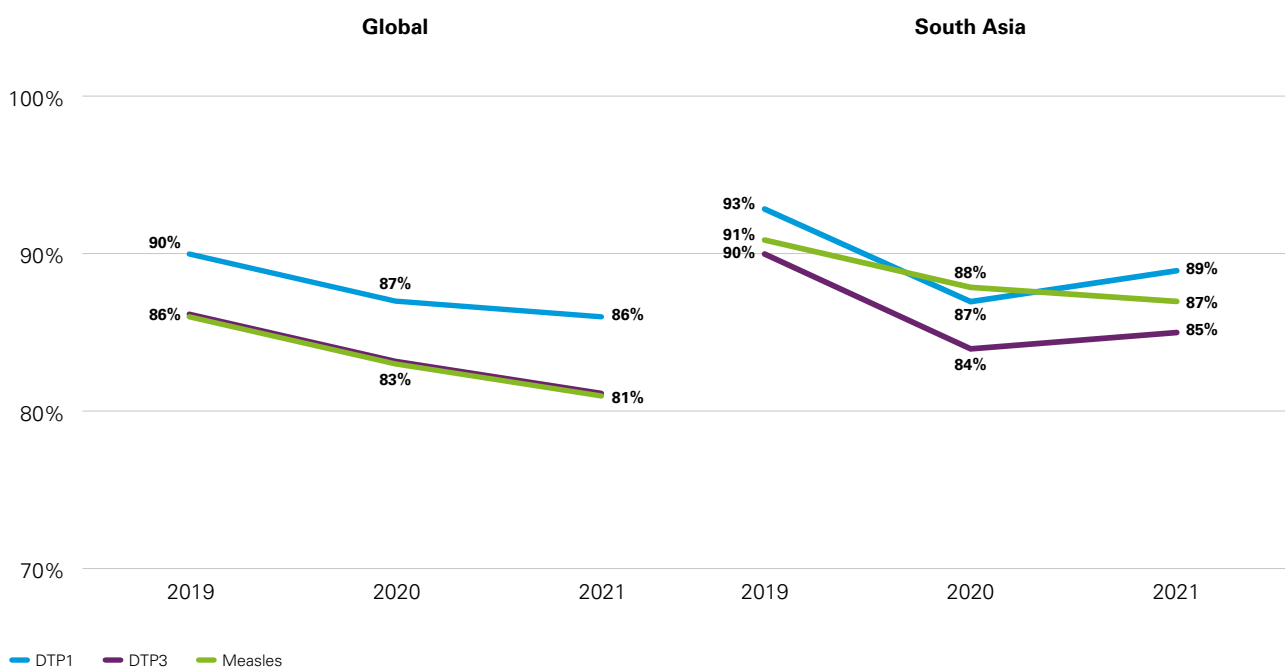
Now is a time for political will.

Now is the time to protect the health of *every* child.

Immunization coverage in South Asia

South Asia has among the highest immunization coverage rates in the world. But the pandemic set back immunization. Between 2019 and 2021, the **coverage of diphtheria, tetanus and pertussis (DTP) and measles vaccines dropped**, leading to an increase in the prevalence of zero-dose and under-vaccinated children in the region.

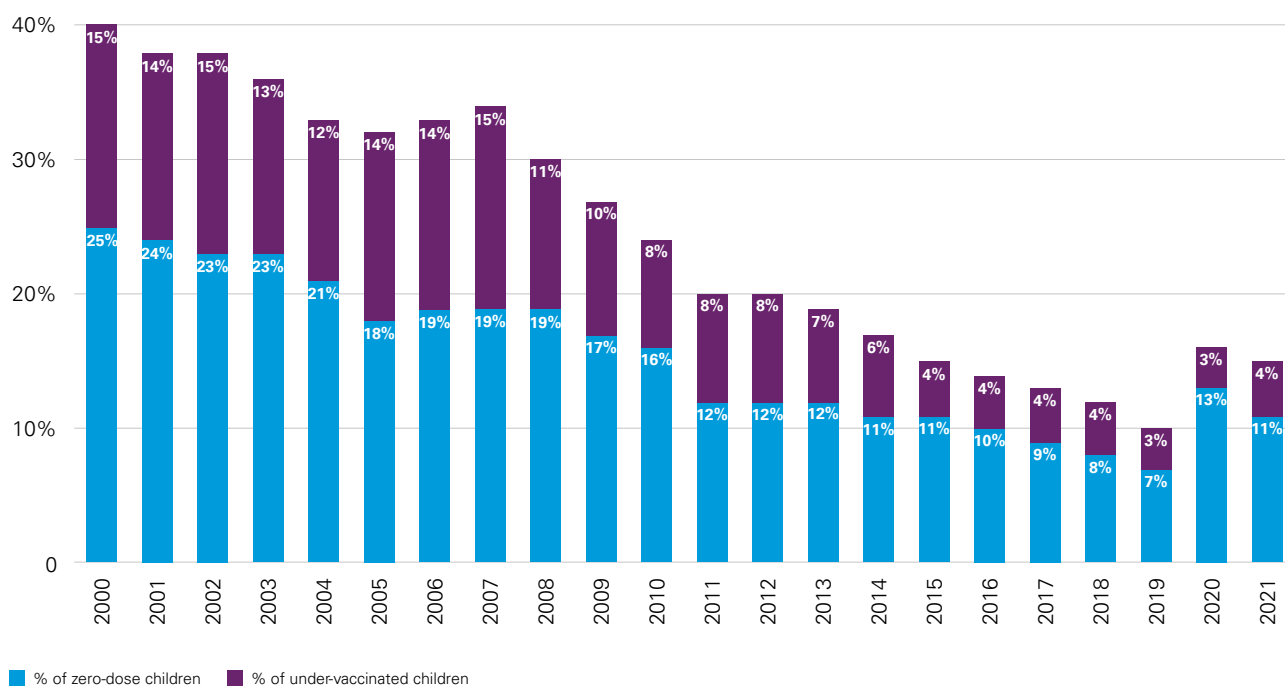
Figure 1. Prevalence of children in South Asia who received DTP1, DTP3 and measles vaccines, 2019–2021



Source: World Health Organization and United Nations Children’s Fund, ‘Estimates of National Immunization Coverage (WUENIC), 2021 revision’, July 2022.

Figure 2. Prevalence of zero-dose and under-vaccinated children in South Asia

Historical trends over the past two decades show an impressive decline in the prevalence of zero-dose and under-vaccinated children. But since the COVID-19 pandemic, the prevalence of zero-dose children has increased in the region. In 2021, some progress was made, but the prevalence of zero-dose children is **still higher than pre-pandemic levels: 11 per cent in 2021, compared with 7 per cent in 2019.**



Source: World Health Organization and United Nations Children’s Fund, ‘Estimates of National Immunization Coverage (WUENIC), 2021 revision’, July 2022.



At the Surjer Hashi clinic in Dhaka, health worker Amena Begum is photographed at work. Amena has a daily target of vaccinating 20 children, which she typically surpasses, reaching on average 150 children with immunizations each week. © UNICEF/U.S. CDC/ UN0722974/Fabeha Monir

Box 1

Understanding zero-dose

'Zero-dose' and **'under-vaccinated'** have become key concepts in explaining immunization coverage, in aligning global efforts to improve vaccine coverage, and for monitoring success. What do they mean?

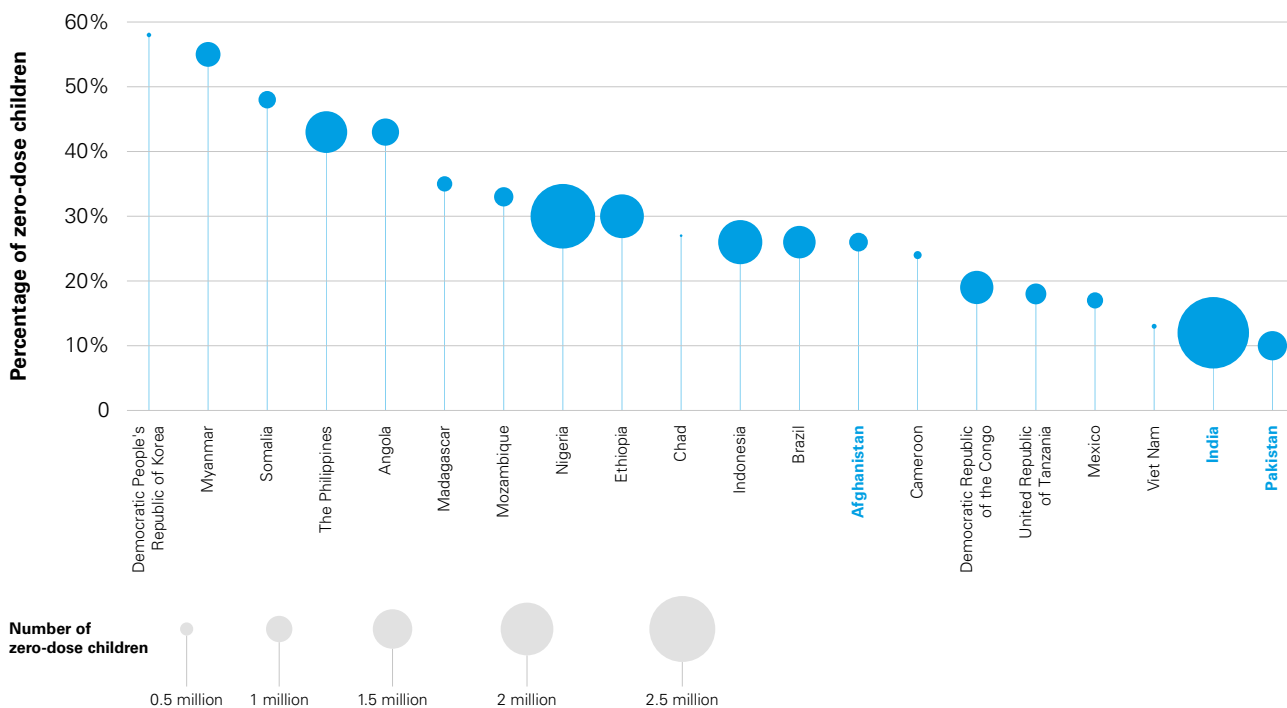
Zero-dose refers to children who have not received any vaccinations. Most live in communities that experience multiple deprivations.

Under-vaccinated refers to children who have received some, but not all, of their recommended schedule of vaccinations.

To calculate the numbers of zero-dose and under-vaccinated children, a proxy measure is used. Children who have not received the first dose of diphtheria, tetanus and pertussis (DTP1) vaccine are described as zero-dose. Children who have received DTP1 but not the third dose (DTP3) are described as under-vaccinated. Children typically receive these vaccines in the first year of life. In general terms, therefore, where data for zero-dose and under-vaccinated children are presented in percentage terms, these numbers represent percentages of surviving infants (rather than the entire child population).

Figure 3. Countries with the largest number of zero-dose children in 2021

Three of the top 20 countries in the world with the largest number of zero-dose children are in South Asia.



Source: World Health Organization and United Nations Children's Fund, 'Estimates of National Immunization Coverage (WUENIC), 2021 revision', July 2022.



Basanta Malla, a health worker, attends to a nine-day-old child brought in by his mother, Nisha Rokaya. Malla provides immunization outreach services in five communities in a remote region of Nepal.

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UN0666532 r/Laxmi Prasad
Ngakhusi

Figure 4. Zero-dose and under-vaccinated children in South Asia in 2021

Across countries, there was significant variation in the prevalence of zero-dose and under-vaccinated children in 2021. Although South Asia is the most populated region, the number of children missing essential vaccines in the region is still significant: **a total of 5 million zero-dose and under-vaccinated children.**

Country*	Number of zero-dose children	Zero-dose percentage share of children under age 1	Number of under-vaccinated children**	Under-vaccinated percentage share of children under age 1
India	2,710,956	12	677,739	3
Pakistan	610,564	10	427,395	7
Afghanistan	360,765	26	111,005	8
Nepal	47,790	8	5,973	1
Bangladesh	29,577	1	29,577	1
Sri Lanka	12,175	4	0	0
Maldives	219	3	73	1
Bhutan	95	1	95	1
Regional	3,772,141	11	1,251,857	4

Source: World Health Organization and United Nations Children's Fund, 'Estimates of National Immunization Coverage (WUENIC), 2021 revision', July 2022.

* Countries are ranked by numbers of zero-dose children.

** The number of under-vaccinated children excludes zero-dose children.



In Afghanistan, Masoma, a volunteer vaccinator in Herat Province, marks the left pinky finger of a little boy to indicate he has just received his polio vaccine and Vitamin A supplement.
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INDIA

To the mountain top: Health workers brave challenging terrain to deliver vaccines

In the mountains of north-eastern India, where the sun rises early, Dematso Khamblai's day of delivering vaccines starts well before dawn.

At 3:30 a.m., Dematso leaves his home and heads to the local health centre. There, he stocks up on vaccines, packing them into a grey insulated carrier. By 4:30 a.m., he is on the road, bumping along for as far as a motorbike will take him. When the roads end, he begins his trek over hills, through valleys and across rickety suspended bridges. His mission: to deliver vaccines to one of the most remote rural regions in the world.

Dematso is a member of the area's alternative vaccine delivery system, a corps of health care workers who bring vaccines to hard-to-reach children.

"The mountains are steep, and we have to be very careful while hiking," Dematso said. "It becomes dangerous during the monsoon season, as rains make the trek slippery. There are also frequent landslides during the monsoon season, which make the trek tough."

North-east India, known for its natural beauty and rugged terrain, poses a challenge for health workers striving to ensure that all children

receive necessary vaccinations. The vaccinators who brave the journey need skills, courage, and patience to transport and maintain vaccines at the right temperatures. Most of the villages that depend on Dematso's team for immunization, cannot be accessed by road.

"Earlier there was no health facility available here," said Kheti Meyor, a *Gaon Burha* (elder). "But now Dematso Khamblai and his team members visit us periodically to immunize the children."

Long distances without roads are not the only challenge to immunizing children in this region.

The remote location means that few children are born in health care facilities and few families record the birth of the children, said Dr. S. Nayil, a district health officer specializing in reproductive and child health.

The alternative vaccine delivery team and health workers are also required to register births in the villages they cover. With this information, district health officials are able to track children's immunization histories and plan vaccination outreach on a micro level. Thanks to their efforts, more children in north-east India are receiving the vaccines they need to stay healthy and thrive.



Dematso Khamblai treks over mountains and across rivers to bring vaccines to a remote rural region of India. He and the Alternative Vaccine Delivery team helped make immunization programmes a success.
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Bannerjee VII Photo

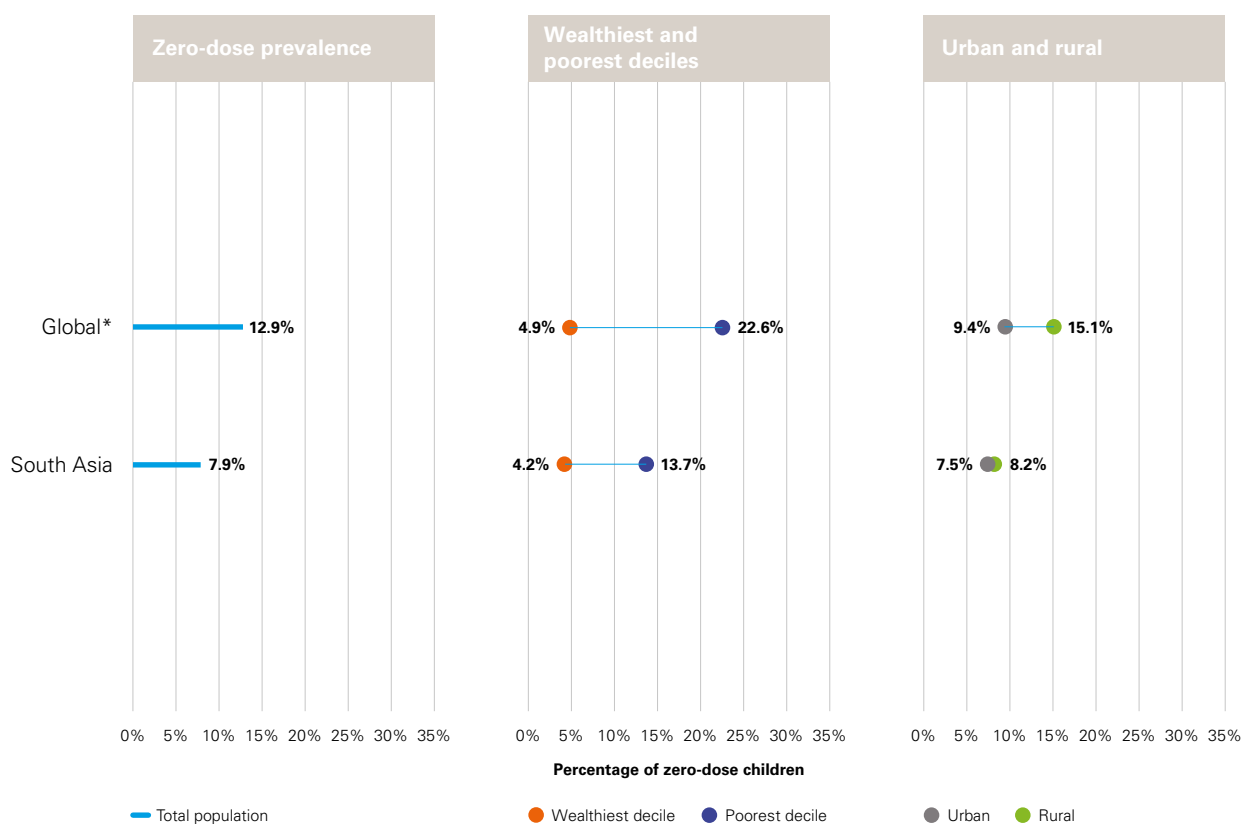
Who is missing out on vaccines?

An analysis for *The State of the World's Children 2023* shows some of the socioeconomic determinants associated with immunization.¹ The numbers make the connection between children who miss out on vaccination and inequity. Wealth decile and location play a significant role in whether a child is immunized or not, as does a mother's level of education.

¹ This analysis includes surveys carried out from 2015 to 2020, covering 74 countries. The most recent Demographic and Health Surveys (DHS) and Multiple Indicator Cluster Surveys (MICS) from that period were included for each country.

Figure 5. Prevalence of zero-dose children in South Asia by wealthiest and poorest deciles, and urban and rural

In South Asia, **children in the poorest households are three times more likely to be zero-dose** than children in the wealthiest households. But the prevalence of zero-dose children is similar in children from rural and urban areas (see Figure 7).



Source: Victora, Cesar and Aluísio Barros, 'Within-country Inequalities in Zero-dose Prevalence: Background paper for The State of the World's Children 2023', International Center for Equity in Health at the Federal University of Pelotas, Brazil, December 2022.

* Global refers to the 74 countries included in the study.

Figure 6. Prevalence of zero-dose children in South Asia by rural, urban, poorest decile and wealthiest decile (per cent), by country

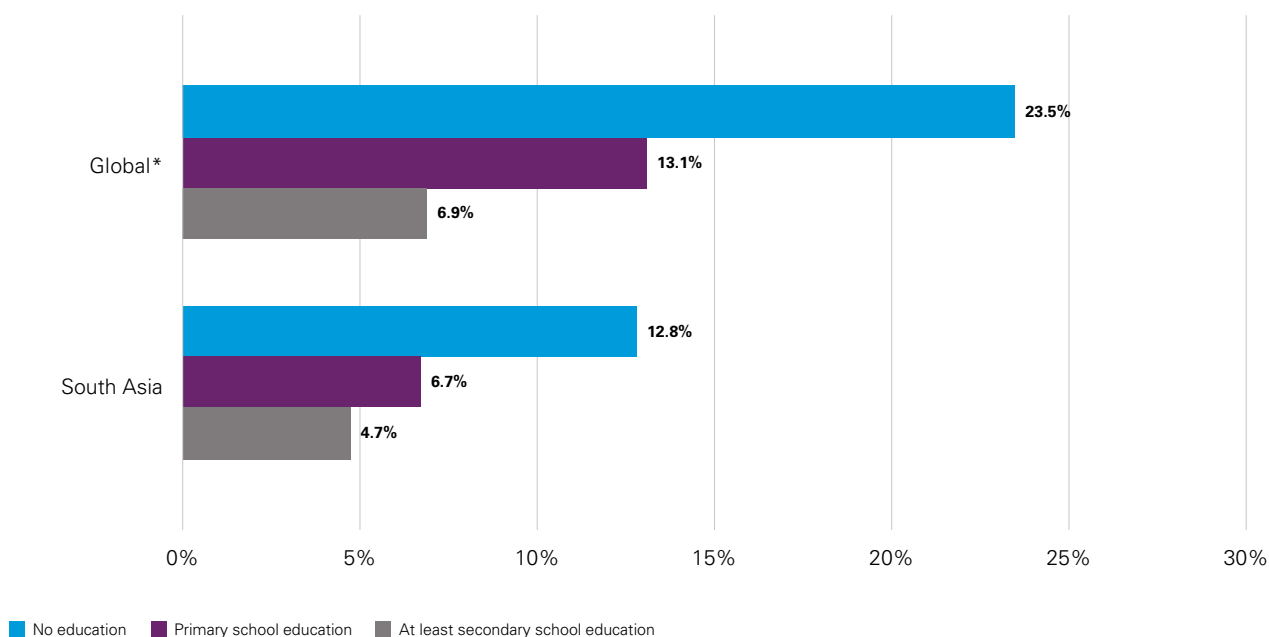
Country*	Rural	Urban	Poorest decile	Wealthiest decile
Afghanistan	29.9	18	36	18.1
Bangladesh	1.5	1.5	4.2	0.3
India	5.9	7.5	9	4.4
Maldives	9.6	8.4	12.2	-
Nepal	9.2	11.3	16.7	9.9
Pakistan	16.6	7.9	33.4	1.8
Region	8.2	7.5	13.7	4.2

Source: Victora, Cesar and Aluísio Barros, 'Within-country Inequalities in Zero-dose Prevalence: Background paper for The State of the World's Children 2023', International Center for Equity in Health at the Federal University of Pelotas, Brazil, December 2022.

* Only countries in the region with available data are listed in the table.

Figure 7. Mothers' education and prevalence of zero-dose children

Prevalence of **zero-dose children declines as a mother's level of education increases.**



Source: Victora, Cesar and Aluisio Barros, 'Within-country Inequalities in Zero-dose Prevalence: Background paper for The State of the World's Children 2023', International Center for Equity in Health at the Federal University of Pelotas, Brazil, December 2022.

* Global refers to the 74 countries included in the study.



Sumaiya, a new aunt, accompanies 22-day-old Ruhi and his mother, Jamil, for the newborn's vaccinations at a camp for refugees in Cox's Bazar in Bangladesh. Crisis and fragility far too often hinder vaccination.

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Adolescent girls' health: Focus on HPV

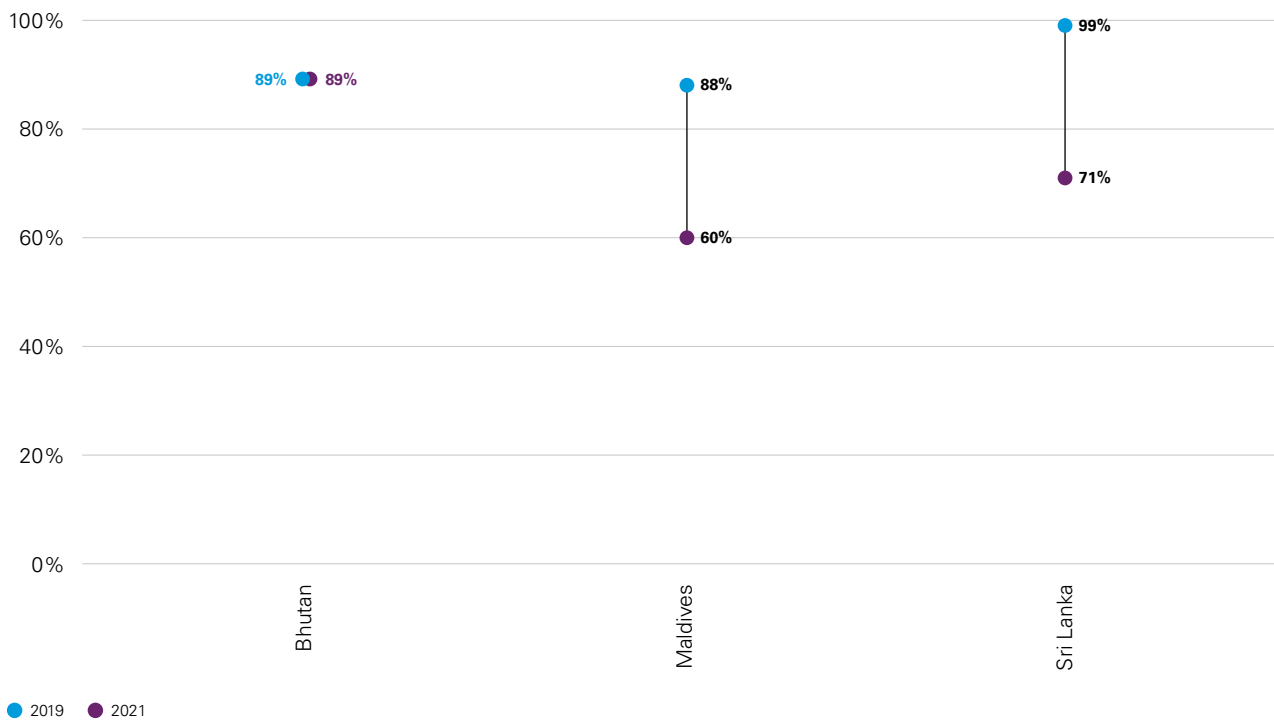
According to the World Health Organization, more than 95 per cent of cervical cancer is caused by sexually transmitted human papillomavirus (HPV). The HPV vaccine helps protect against a number of cancers, notably cervical cancer, which is estimated to be the **fourth largest cause of cancer deaths** among women worldwide.

Almost **three out of five cervical cancer cases** occur in countries that have **yet to introduce HPV vaccination**.

In South Asia, **only three countries have introduced the HPV vaccine**, and some countries experienced a **drop in HPV vaccine coverage between 2019 and 2021**.

The HPV vaccine is usually administered through schools, and school closures during the COVID-19 pandemic may have influenced coverage.

Figure 8. Percentage of girls who received the first dose of HPV vaccine, 2019–2021



Source: World Health Organization estimates of human papillomavirus (HPV) immunization coverage, 2010–2021, 15 July 2022.



Surekha Jadhav, an auxiliary nurse midwife, administers a dose of Vitamin A to 9-month-old Jivika at her home in India. The vitamin was paired with a dose of vaccination against measles and rubella.

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Disease outbreak map

Figure 9. Countries in South Asia that experienced outbreaks of measles, cholera and wild poliovirus in 2022

Four of the eight countries in South Asia experienced outbreaks of measles, cholera and wild poliovirus in 2022.



Source: UNICEF analysis based on data from the World Health Organization's (WHO's) global wild and vaccine-derived polio update, January 2023; WHO's Measles and Rubella Global Update, January 2023; International Coordinating Group (ICG) on vaccine provision/cholera vaccine dashboard, accessed 13 February 2023.

Note: This map does not reflect a position by UNICEF on the legal status of any country or territory or the delimitation of any frontiers.



Mahainue Marma, a volunteer health worker, travels in the remote Thanchi, Bandarban District of Bangladesh to immunize children.
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PAKISTAN

Earned trust: Integrated service delivery changes minds about polio vaccines

There was a time when Halima would have set the dog on any polio worker who arrived at her door with vaccines for her grandchildren. But Saima Gul was not any polio worker.

For two years, Saima visited Halima's home in Gujro, on the outskirts of Karachi. She brought medicines and mosquito nets as gifts. She spoke to Halima in Pashto, the language of many families in Gujro. On one visit, Saima noticed that Halima had a skin allergy, and she took the 50-year-old grandmother to the nearby Jannat Gul health centre. At the health centre, Halima received help with her skin and treatment for her troublesome knees. The care convinced Halima to trust Saima and the health centre – trust them enough to allow polio vaccinations for her granddaughters, Iman, 4, and Ayd, 18 months.


“Only iron can tackle iron,” Halima said. “We don't let outsiders come here... Saima is *Pathan* (Pashtun). And so a *Pathan* will be straightened out by another *Pathan*.”

Saima is part of an Integrated Service Delivery (ISD) initiative that links polio vaccination to multiple services, including health care, nutrition, water, sanitation, hygiene and birth registration.

The initiative was developed in response to feedback from parents and caregivers in poor communities whose demands for improved water, sanitation or basic health services were too often ignored. However, it also stemmed from a recognition that polio cases were more likely to arise in communities that faced multiple deprivations.

In Pakistan, the Polio Eradication Programme delivers integrated services in 43 Union Councils that face the greatest risk of polio. In Gujro, the ISD initiative has contributed to a dramatic decline in the number of people who refused to have their children vaccinated against polio: from 4,254 refusals in 2019 to 1,209 in 2022 – a 72 per cent drop. In addition, Gujro and the Karachi area have stayed polio-free even as the disease has re-emerged. From April to December 2022, 20 polio cases were reported in Pakistan.

ISD at the Mother and Child Health Centre Jannat Gul Town started in 2019, and includes services such as paediatrics, nutrition, family planning, antenatal services, birth registration and essential vaccines, among others.



A persistent health worker changed Halima's mind about the importance of the polio vaccine. Once convinced, Halima allowed her granddaughters Iman, 4, and Ayd, 18-months-old, to be vaccinated.
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Bukhari

A framework for action

Despite undeniable progress over many decades, we continue to face critical challenges in immunization. Immunization coverage has fallen back, or stagnated, in too many places. We are persistently missing children with life-saving vaccines, especially the socially marginalized and poorest children, and the situation has only deteriorated during the pandemic. The failure of health systems to reach every child with vaccines reflects domestic underinvestment in primary health care, inadequate human resources for health, and leadership gaps across different government levels and areas.

The decline in immunization throughout the pandemic should sound an alarm bell: Routine immunization must be a priority in the coming years. We must take concerted action to catch up on children who missed out on being vaccinated during the pandemic, rebuild systems and tackle major gaps in health systems. Failure to act will devastate the lives of today's children and adolescents and tomorrow's adults, and will set back still further progress towards reaching the SDGs.

Building on the global strategies outlined in the *Immunization Agenda 2030* and the Gavi 5.0 Strategy to promote equity and sustainably scale up immunization coverage, presented here is a set of concrete and actionable recommendations to reach every child with vaccines and to ensure that immunization and primary health-care systems are ready to meet future challenges.

Enacting this agenda will require strong political will from governments and other major stakeholders in the immunization landscape. The COVID-19 pandemic has shown the centrality of collective and concerted action to ensure that vaccines reach everyone. We are constantly reminded that “vaccines don't save lives; vaccination saves lives”. For vaccination to happen, political will must be a number one priority across countries.

1. Vaccinate every child, everywhere

Vaccination is an equity agenda. This means reaching: children who missed out on vaccination during the pandemic; children in remote locations, informal urban settlements and conflict areas; and zero-dose children.

Key priorities:

- ✓ **Catch up on the vaccination of children missed during the pandemic:** The COVID-19 pandemic response generated enormous momentum for immunization, which can now be used to focus on the needs of children who were not vaccinated over the last three years. Tailored responses are needed in the countries most affected, backed by financial and other support from key donors and international partners.
- ✓ **Identify zero-dose and under-vaccinated children and address key inequities:** Use high-quality and fit-for-purpose data to identify zero-dose and under-vaccinated children and to inform and guide action, and invest in new technologies and approaches to make data timelier and more granular. Develop an individual child-health record system to monitor outcomes, including a community's vaccine status, and monitor progress and needs with publicly accessible dashboards. Design immunization services to be responsive to addressing key socioeconomic inequities and barriers to accessing immunization.

- ✓ **Identify children in urban areas, and access children in rural areas:** In urban areas, strengthen community engagement to encourage people to engage with health services; improve security for parents and health workers; and offer flexibly timed vaccine services. In rural areas, focus on motivating and retaining health workers with salary top-ups and other incentives; consider using private operators to lower the high marginal cost of delivering vaccine services; and better integrate health services across sectors.
- ✓ **Meet the challenges in emergency and fragile settings:** Invest in preparedness to ensure countries are equipped to respond, including through the creation of contingency stocks, resilience-building and civil society engagement. Support children and families on the move, ensuring vaccines and health services are available and accessible. Prioritize and invest in innovative solutions, such as using mobile money and digital systems to pay health workers and developing vaccines with longer shelf lives.

2. Strengthen demand for – and confidence in – vaccination

Understanding factors that influence vaccine readiness with effective social listening is critical to identify and develop tailored interventions and strategies that can help promote vaccine demand.

Key priorities:

- ✓ **Talk to communities:** Strengthen engagement with communities to better understand: their attitudes towards the safety of vaccines and the value of vaccination; their experiences – both good and bad – with health systems and government officials; and the support they need if they are to take the time to vaccinate their children.
- ✓ **Tackle gender barriers:** Use innovative approaches to inform and educate caregivers, especially mothers; involve and engage fathers and men; and tailor services to meet the needs of time-pressed caregivers.
- ✓ **Equip health workers to address concerns:** Health workers enjoy high levels of trust. They should be supported to be powerful allies to persuade parents to vaccinate children, counter misinformation in the community, and inform the design of responses that meet families' needs.
- ✓ **Rethink accountability in health systems to boost trust:** Governments should consider setting up well-designed governance bodies, such as health-care facility committees, to give community leaders a formal mechanism for voicing concerns and tackling issues related to immunization and primary health-care services in their area.

3. Spend more and spend better on immunization and health

Despite significant global investment in immunization and health systems-strengthening, health systems in many countries remain fragile.

Key priorities:

- ✓ **Invest in primary health care at the national level:** Governments should prioritize funding for primary health care to ensure it does more to meet the needs of its users and ensures equitable access, especially to underserved communities.
- ✓ **Better align donor support:** Donors should work to integrate their support into national priorities and national systems, shifting from disease-specific initiatives to systems-strengthening. Better harmonization of support can help reduce fragmentation and eliminate wasteful overlaps, including the duplication of, among others, infrastructure, service delivery and information platforms.
- ✓ **Strengthen leadership capacity and promote accountability:** Improve mechanisms for social accountability to ensure transparency, adequate budget allocations, quality of service and community engagement. Such approaches should be part of an overall push to maximize returns on current investment by improving planning and budgeting, identifying budget challenges, improving public financing management systems, and strengthening coordination between national-level ministries and between national and subnational levels of government.
- ✓ **Explore innovative financing:** Stakeholders at all levels need to build on recent successes and explore how innovative financing mechanisms can maximize returns on current investment and tap into new sources of funding. Such approaches need to be informed by a clear understanding of the potential risks involved, as well as the need for governance and oversight.

4. Build resilient systems and shockproof them for the future

Resilient systems can respond to outbreaks, epidemics or pandemics, while continuing to provide essential services.

Key priorities:

- ✓ **Focus on health workers, especially women:** Improve pay and working conditions to motivate and retain health workers, especially the many women working in health systems. Women need to be better represented in leadership; offered access to training and professional advancement; protected from discrimination and gender-based violence in the workplace; and provided with flexible working arrangements to help them better manage their family and professional commitments.
- ✓ **Improve data collection and disease surveillance:** Within broader information systems for primary health care, it is essential to improve data collection on immunization and ensure it is actionable. Countries also need to build and strengthen comprehensive surveillance systems for vaccine-preventable diseases as part of a national system for public health surveillance, all supported by strong and reliable laboratory networks.
- ✓ **Secure vaccine and other supplies:** Ensure a secure supply of high-quality vaccines and related commodities. Making better use of pooled procurement processes and strategies can ensure affordable prices and support strategic stockpiles. The potential of expanded regional manufacturing to speed up and diversify vaccine supplies also needs to be fully explored and supported.
- ✓ **Develop and promote worthwhile innovations:** Invest in novel delivery technologies, such as solar-powered cold chains, heat-resistant vaccines and micro-array patches, to ensure access to vaccines for communities in the most challenging settings.



This regional brief was produced by UNICEF Innocenti –
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Cover photo: A girl in Kathmandu holds her arm after being
vaccinated against typhoid. The disease is endemic in Nepal.
After an introductory campaign in 2022, the vaccine is now
being routinely given to children in Nepal.

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