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for every child



REGIONAL BRIEF:
EAST ASIA AND THE PACIFIC
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 East Asia and the Pacific, this figure is 8.3 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.

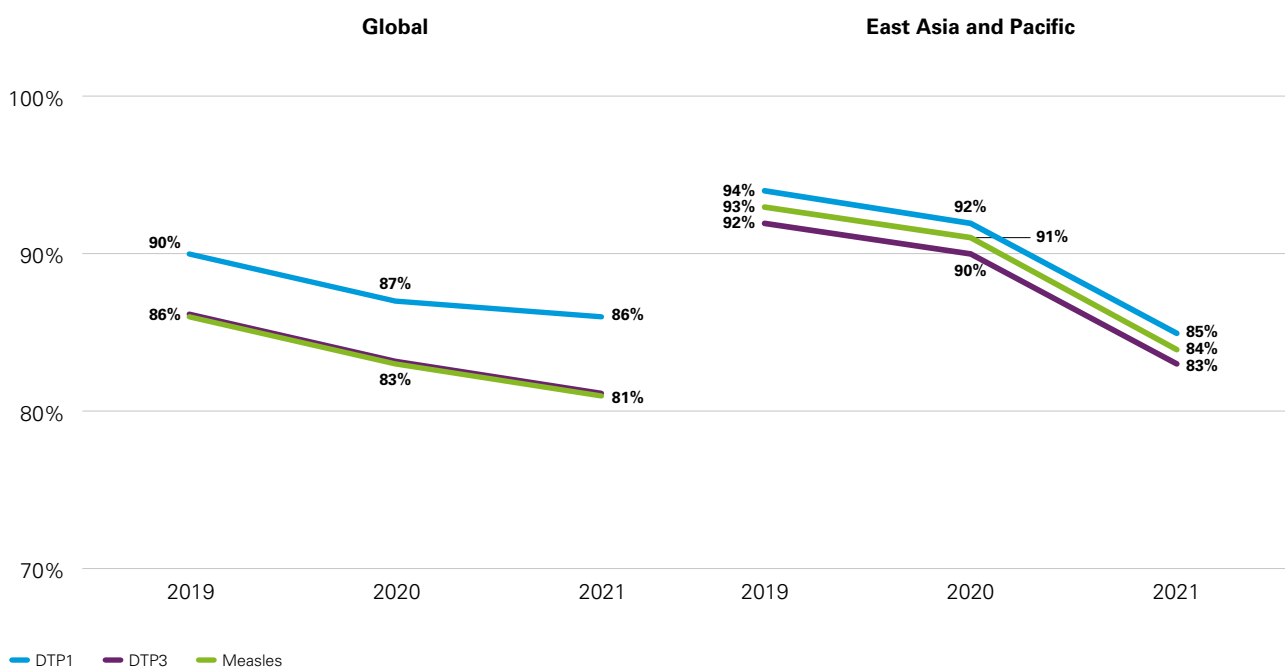
Now is a time for political will.

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

Immunization coverage in East Asia and the Pacific

East Asia and the Pacific has among the highest immunization coverage rates in the world, but the COVID-19 pandemic set back immunization. Compared to the rest of the world, **the region experienced the biggest drop in diphtheria, tetanus and pertussis (DTP) and measles vaccine coverage.**

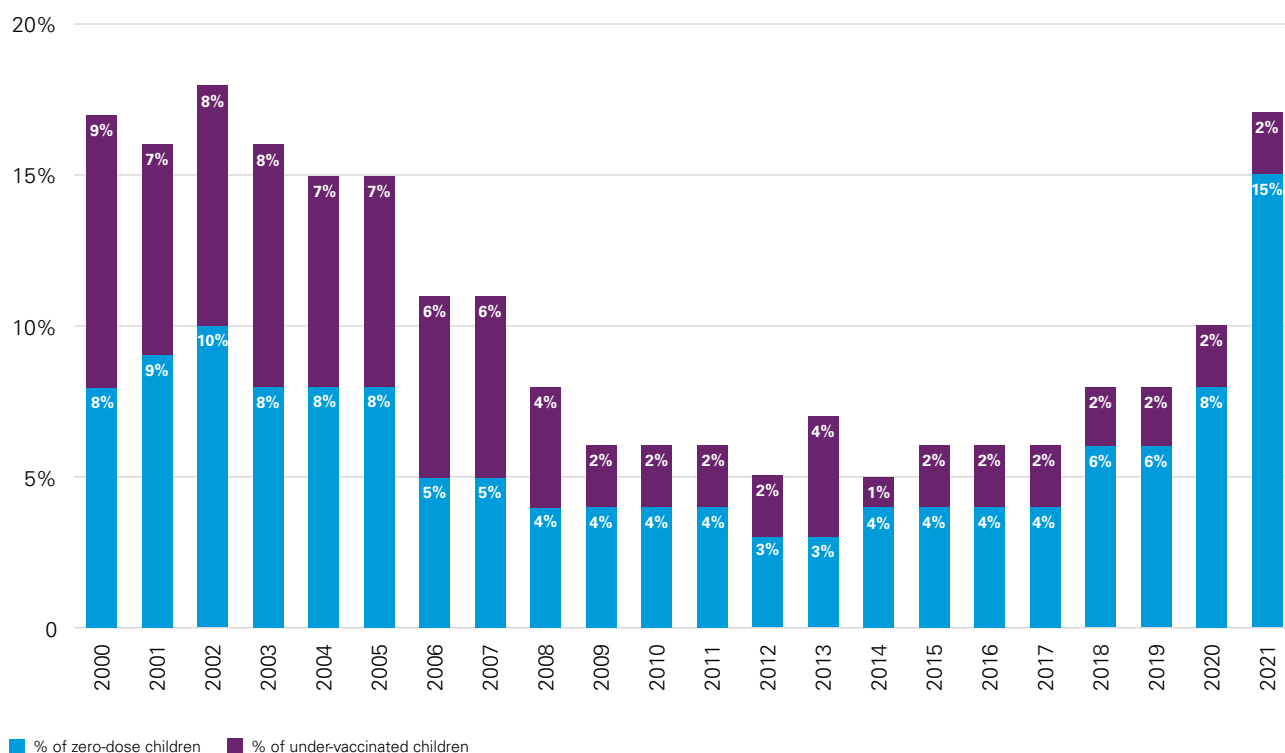
Figure 1. Prevalence of children in East Asia and the Pacific who received DTP1, DTP3 and measles vaccines, 2019–2021



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 East Asia and the Pacific

Historical trends over the past two decades show an impressive decline in the prevalence of zero-dose and under-vaccinated children. But since the onset of the COVID-19 pandemic, the **prevalence of zero-dose children has nearly doubled – from 8 per cent in 2020 to 15 per cent in 2021.**



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



In Buadiposo-Buntong, Philippines, one-year-old Hussein receives his mumps and rubella vaccine.
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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?

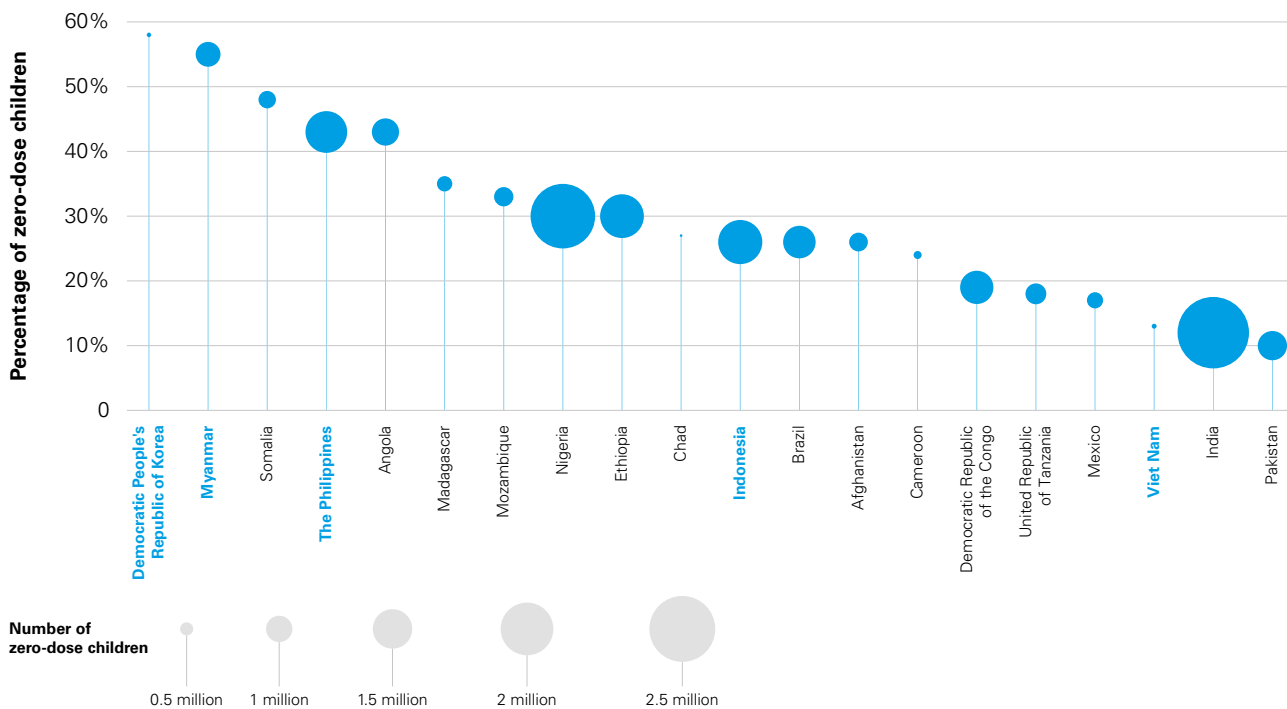
Zero-dose refers to children who have not received any vaccinations. Most live in communities that experience multiple deprivations.

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

Five of the top 20 countries in the world with the largest number of zero-dose children are in East Asia and the Pacific.



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



In Indonesia, 8-year-old Nurselsiani smiles as she readies herself to receive immunization at her primary school in Indonesia.
© UNICEF/UN0692912/Clark

Figure 4. Zero-dose and under-vaccinated children in East Asia and the Pacific in 2021

Across countries, there was significant variation in the prevalence of zero-dose and under-vaccinated children in 2021. However, the burden is still high in the region: **a total of 3.9 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
Indonesia	1,149,784	26	309,557	7
Philippines (the)	1,047,996	43	0	0
Myanmar	491,542	55	71,497	8
Democratic People's Republic of Korea (the)	197,227	58	3,400	1
Viet Nam	187,315	13	57,636	4
Papua New Guinea	150,267	61	19,708	8
China	108,285	1	0	0
Lao People's Democratic Republic	23,766	15	15,844	10
Cambodia	18,896	6	6,298	2
Malaysia	10,161	2	15,242	3
Thailand	6,404	1	12,807	2
Timor-Leste	4,164	13	320	1
Vanuatu	2,676	29	831	9
Mongolia	2,126	3	1,418	2
Solomon Islands	1,040	5	1,663	8
Samoa	236	4	649	11
Fiji	176	1	0	0
Micronesia (the Federated States of)	116	5	532	23
Brunei Darussalam	61	1	0	0
Kiribati	34	1	238	7
Marshall Islands (the)	24	3	90	11
Tonga	24	1	0	0
Cook Islands (New Zealand)	3	1	3	1
Nauru	3	1	4	1
Palau	3	1	10	4
Tuvalu	3	1	13	5
Niue (New Zealand)	0	1	0	0

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 Viet Nam, 12-year-old Dong Duc Huy heads to the monitoring room after receiving a COVID-19 vaccination.

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CAMBODIA

Progress from the pandemic: COVID-19 inspires innovation in immunization for children

On a sweltering day in June 2022, three generations of women in the same family arrived outside a small rural grocery store where a team of vaccinators had temporarily set up a one-stop shop for protection against disease.

Beneath a shady tree, Satha, the baby, was immunized against measles and rubella. Her mother, Pum Sony, and grandmother, Krak Nhuong, received booster shots to protect them from COVID-19.

For mother and grandmother, the store-front vaccination service was a sign of progress for Mondulkiri, a remote region in the northeast of Cambodia, home to the Bunong indigenous community.

At the start of the pandemic, the Cambodian Government, with the support of partners, including UNICEF and the World Health Organization, launched an intensive communications and social behaviour change campaign aimed at reaching the entire adult population with COVID-19 vaccinations.

Health officials adapted tools from successful polio and measles campaigns to design and conduct rapid community assessments. These adapted tools provided up-to-date information on where people were not vaccinated, and why.

Consequently, health workers could provide targeted outreach services and communication campaigns in local languages to communities where coverage was low. The tools were used in eight provinces with low immunization rates.

In addition, the Government of Cambodia launched the country's first digital immunization registration system, KhmerVacc. The mobile application, which has 15.8 million registered users, allowed people to sign up for vaccination and sent reminders for follow-up.

Cambodia generally has high routine vaccination coverage rates, with only about 6 per cent of children considered zero-dose. However, in communities with large populations of ethnic minorities in remote areas, such as Mondulkiri, far too many children miss out.

For Sony, the improvements in routine immunization services mean that her daughter will benefit from a full range of immunizations that are supported by better registration, targeted communications and expanded integrated outreach services.

"Previously, children from poor families who couldn't afford to travel to health centres missed out on vaccinations," Sony said. "I'm so happy my children won't miss out and will be properly protected."



Pum Sony, 20, holds her 6-month-old daughter, Les Satha. Sony said improvements in vaccination systems in Cambodia mean that she and her daughter will not miss out.
© UNICEF/UN0673061/Raab

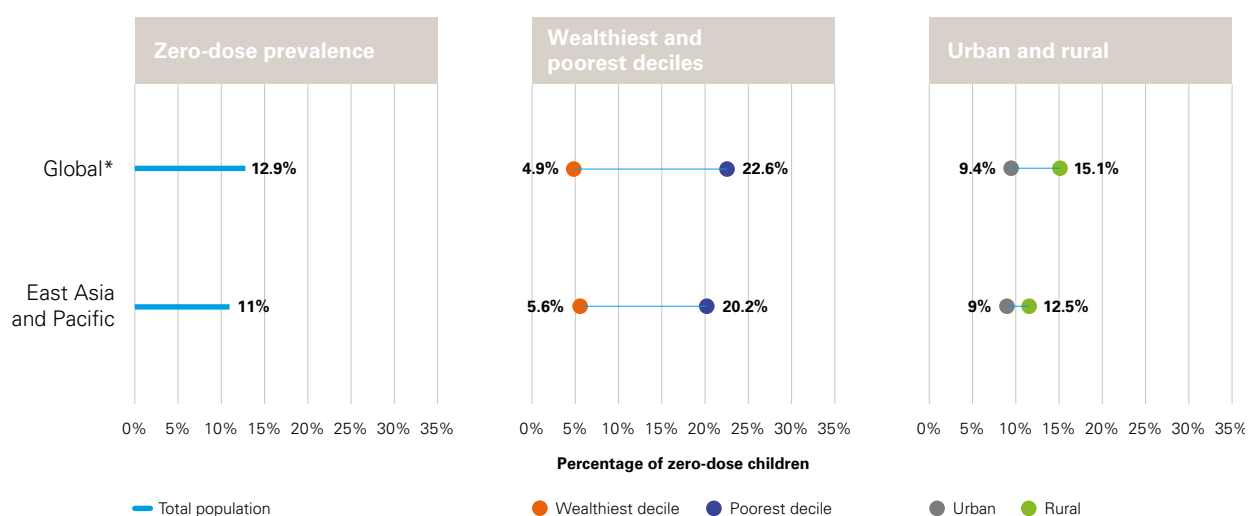
Who is missing out on vaccines?

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 East Asia and the Pacific by wealthiest and poorest deciles, and urban and rural

Children in the **poorest households are four times as likely to be zero-dose** as children in the wealthiest households. Children in rural areas are also more likely (12.5 per cent) to be zero-dose than children in urban areas (9 per cent) (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 in the world that were included in the study.

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

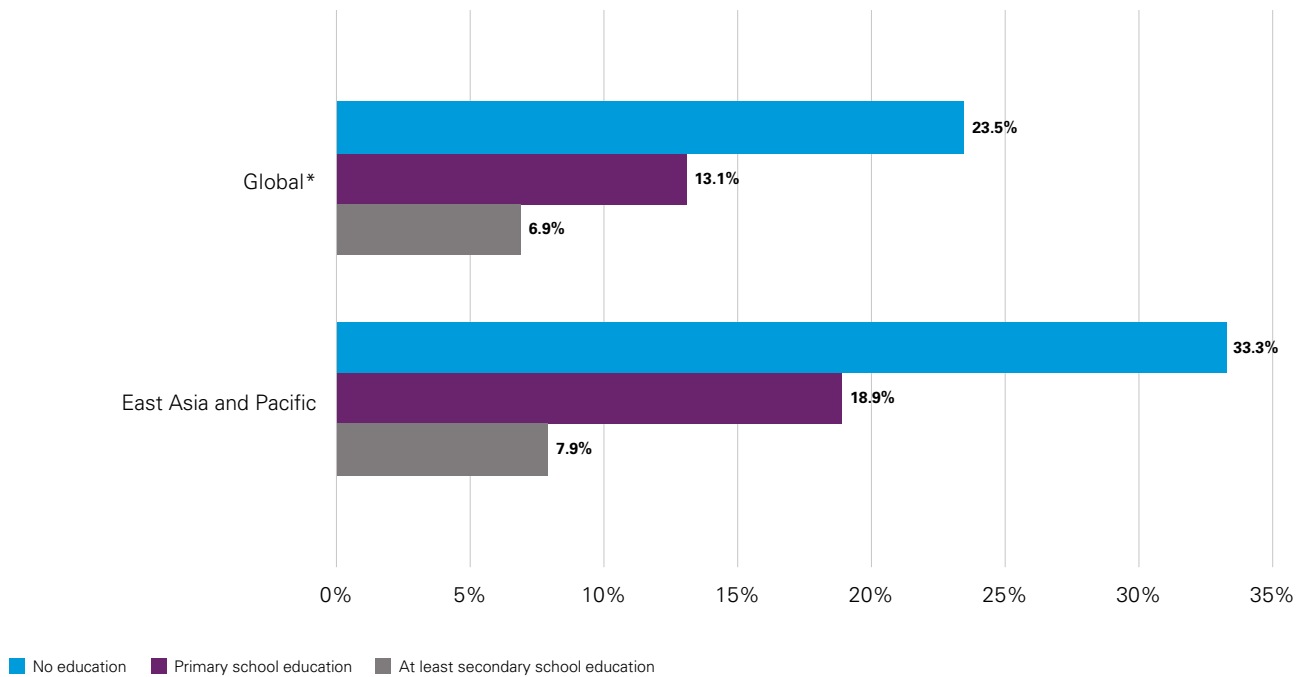
Country*	Rural	Urban	Poorest decile	Wealthiest decile
Fiji	3.6	3.1	1.8	-
Indonesia	13.4	8.8	19.3	7.6
Kiribati	37.5	42.3	33.9	40.1
Lao People's Democratic Republic	29.2	22.2	45.6	13.6
Mongolia	3.9	2.5	0.7	3.5
Myanmar	14.6	9	19.7	2.1
Papua New Guinea	38.7	17.8	58.6	10.1
Philippines (the)	15.3	11.1	28.2	2.6
Samoa	31	21.5	33.4	28.1
Thailand	2	5.1	2.4	0.1
Timor-Leste	24.8	13.2	43.4	7.8
Tonga	3.8	3.1	0	-
Tuvalu	1.9	1.6	-	-
Viet Nam	4.2	6.3	13.5	6.6
Regional	12.5	9.0	20.2	5.6

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

The 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.



In Timor-Leste, a health worker engages with the community during a routine immunization campaign targeting children under age 5.
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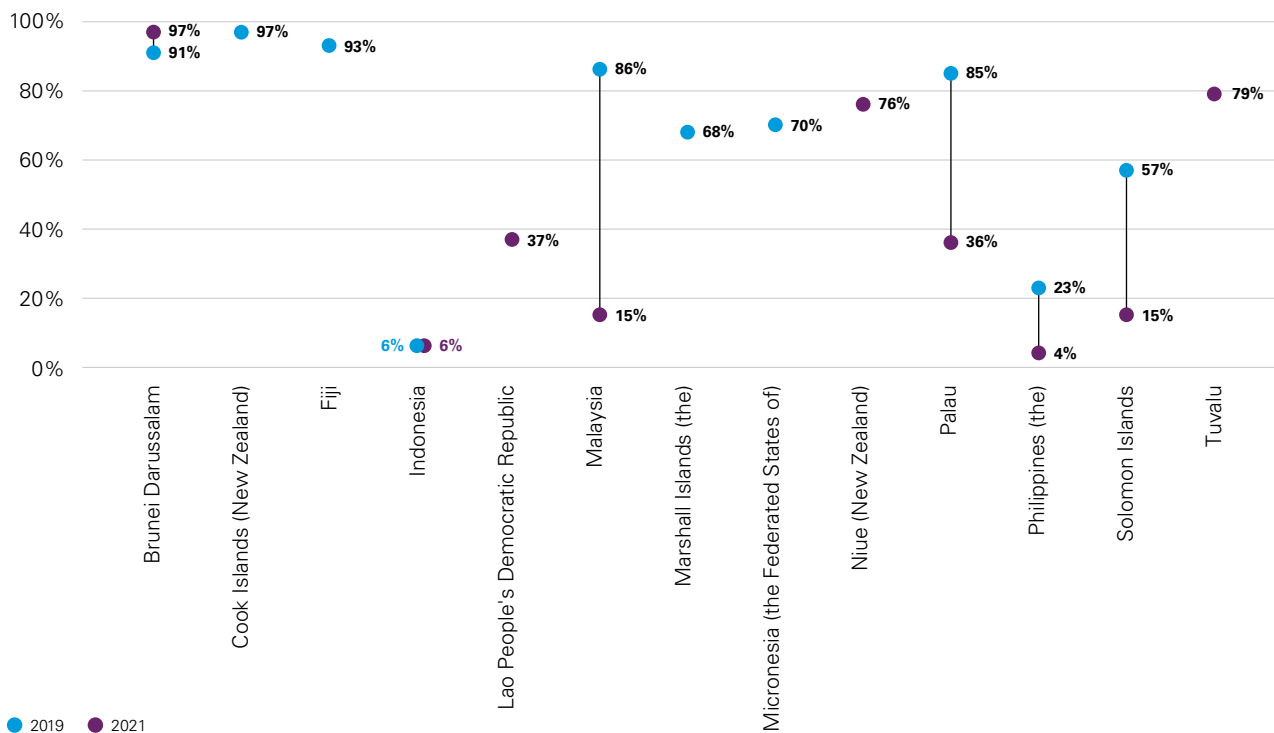
Adolescent girls' health: Focus on HPV

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**.

Between 2019 and 2021, some countries in East Asia and the Pacific experienced a **considerable drop in HPV vaccine 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.



UNICEF and Rotary partnership is delivering pneumococcal conjugate vaccine (PCV), rotavirus vaccine and the human papillomavirus vaccine (HPV) in Kiribati. A mother and baby attend an immunization event at a health centre in South Tarawa.
 © UNICEF/UN0820305/Labade

INDONESIA

In the wake of COVID-19: Catching up on childhood immunization

The sun had just risen on a Sunday morning in August as Irwan Hakim, a community clinic nurse, strode through the streets of Kerayaan, a remote village in Kalimantan, the Indonesian part of Borneo Island.

With a megaphone pressed to his mouth, Irwan broadcast his message: Immunize your children today.

By 8:30 a.m., 381 children aged 5–12 years and their parents had gathered at the Rusung Raya Public Primary School for vaccines against potentially deadly diseases.

“The turnout is usually not this high,” Irwan said, surveying the front yard of the school where the children and their families assembled. “This morning is an exception.”

The major reason for this success is efforts by Irwan and a network of nurses, midwives and traditional birth attendants who work closely with the community to build trust, dispel myths and encourage parents to immunize their children.

COVID-19 took a significant toll on routine immunization services for children throughout Indonesia. Full vaccination coverage dropped from 93.7 per cent in 2019 to 84.5 per cent in 2021, according to the Ministry of Health.

In part, the drop was caused by disrupted supply chains, regulations that limited vaccination activities, and a lack of available health workers.

In Kerayaan, an area that already had a small health workforce, the virus sidelined many health-care workers. Vaccines were also not delivered, and locations that provide vaccinations were closed.

Vaccination has been particularly low in Kerayaan, where only 10 out of 45 newborns were vaccinated as of April 2022. The remote location is a major barrier.

“It takes about 13 hours by motorized vehicles, ferry and wooden boat to reach Kerayaan from the province’s capital,” said Dr. Suprpti Tri Astuti, Head of Kotabaru District Health Office, which oversees immunization services in Kerayaan. “So the pandemic exacerbated this situation.”

Thanks to Irwan and the wider network of nurses, nearly 90 per cent of newborns in Kerayaan were vaccinated during the National Child Immunization Month.

“It is our dream that all children on Kerayaan Island can have the right to live a healthy life free from illness, disability and death from diseases that can be prevented through immunization,” Irwan said.



Irwan Hakim, a community clinic nurse on Kerayaan Island in a remote part of Indonesia, dreams that all children live healthy lives free of vaccine-preventable diseases.

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Disease outbreak map

Figure 9. Countries in East Asia and the Pacific that experienced outbreaks of measles and poliovirus in 2022

Five of the 29 countries in East Asia and the Pacific **experienced disease outbreaks 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.

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.



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Cover photo: Arkan, 5 years old, was immunized at his
school in Indonesia.

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