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for every child

REGIONAL BRIEF:  
EASTERN AND SOUTHERN AFRICA  
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

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Globally, an estimated 67 million children missed out entirely or partially on routine immunization from 2019 to 2021. **In Eastern and Southern Africa, this figure is 12 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

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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

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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.

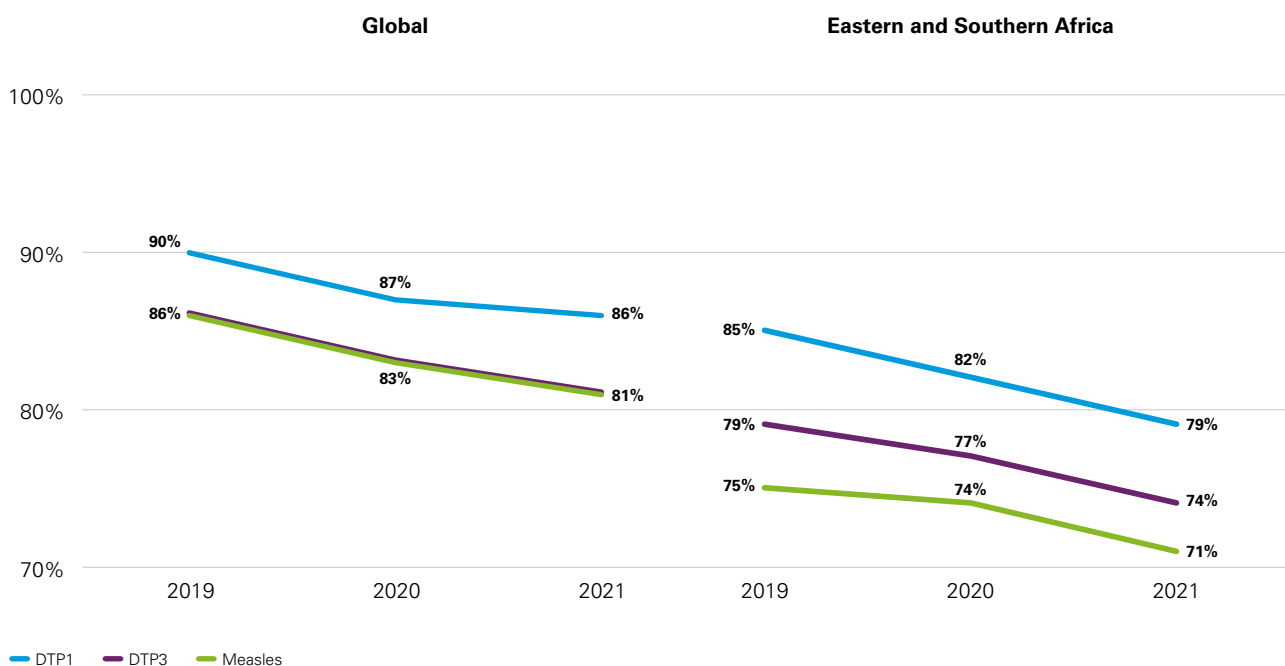
Now is a time for political will.

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

# Immunization coverage in Eastern and Southern Africa

The Eastern and Southern Africa region has experienced a decrease in immunization coverage. The COVID-19 pandemic brought even more setbacks, and children continue to miss critical vaccines. **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.

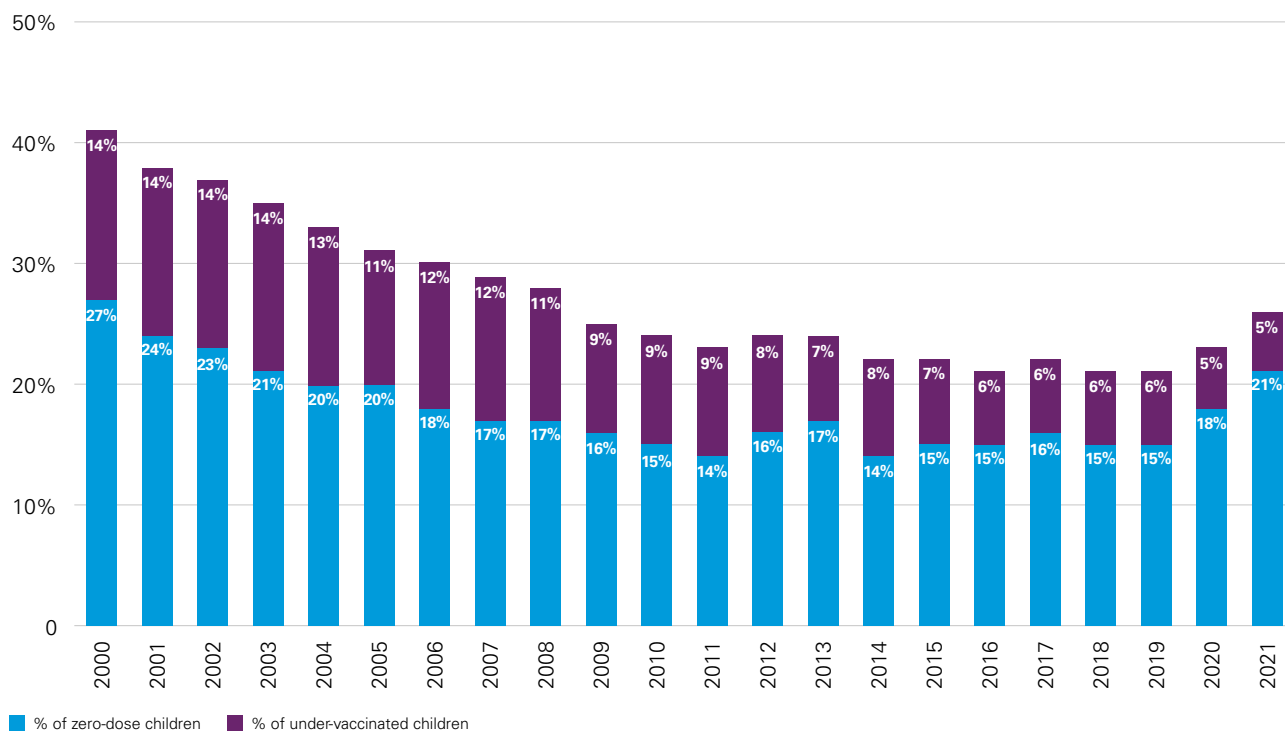
**Figure 1. Prevalence of children in Eastern and Southern Africa who received DTP1, DTP3 and measles vaccines, 2019–2021**



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 Eastern and Southern Africa**

Prevalence of zero-dose and under-vaccinated children reduced impressively in Eastern and Southern Africa at the start of this century, although it remained high by global standards. Progress has since slowed, **and zero-dose prevalence has started to increase**, especially since the onset of the COVID-19 pandemic, **from 15 per cent in 2019 to 21 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 Malawi, 4-year-old Enifa Fredson shows off an ink mark on her pinkie finger that indicates she has been vaccinated against polio.  
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UN0641100/Daylin Paul

## Box 1

### Understanding zero-dose

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**'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?

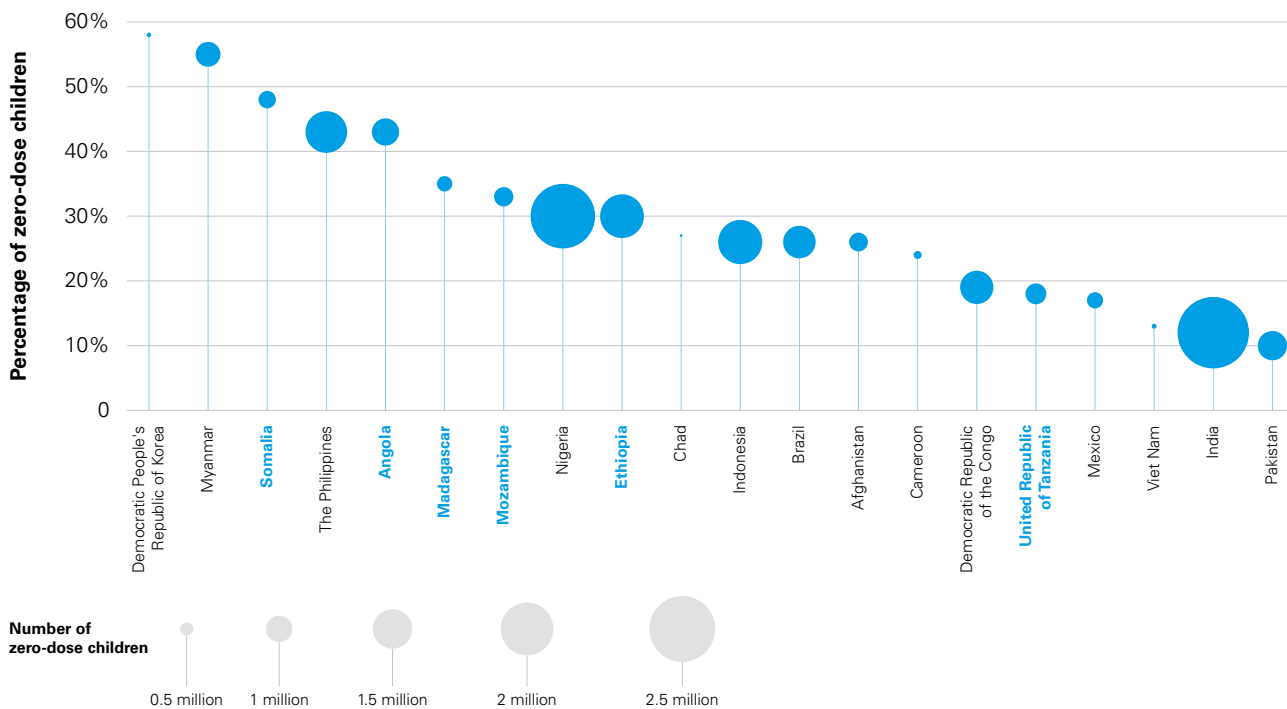
**Zero-dose** refers to children who have not received any vaccinations. Most live in communities that experience multiple deprivations.

**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**

**Six of the top 20 countries** in the world with the largest number of zero-dose children are **in Eastern and Southern Africa**.



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



Vaccines make their way to a flooded village in the Jonglei State of South Sudan as part of an effort to vaccinate children against measles.  
 © UNICEF/UN0598403/  
 Naftalin

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Partners supporting essential health services



**Figure 4. Zero-dose and under-vaccinated children in Eastern and Southern Africa 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 very high in the region: **a total of 4.6 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
Ethiopia	1,134,182	30	189,030	5
Angola	553,309	43	154,412	12
Tanzania (United Republic of)	402,373	18	22,354	1
Mozambique	371,514	33	67,548	6
Somalia	337,948	48	70,406	10
Madagascar	303,775	35	86,793	10
South Sudan	145,940	49	5,956	2
South Africa	103,433	9	57,463	5
Uganda	49,266	3	98,531	6
Rwanda	39,345	10	7,868	2
Zambia	38,957	6	19,478	3
Zimbabwe	33,150	7	33,150	7
Malawi	31,893	5	12,757	2
Burundi	16,946	4	8,473	2
Kenya	14,302	1	114,415	8
Lesotho	4,528	8	2,830	5
Eswatini	3,908	14	2,512	9
Eritrea	3,037	3	2,025	2
Namibia	2,034	3	2,712	4
Botswana	1,185	2	1,778	3
Comoros	1,164	5	2,328	10
Mauritius	929	7	132	1
Seychelles	16	1	81	5
Region	3,593,134	21	963,032	5

**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.

## SOMALIA

# Measles: Health centre outreach provides personal link to vaccination

When all else fails, Maryam Mohamud and her team at the Gargaar Health Centre turn to the experts on the importance of immunization: mothers who have lived through the tragedy of measles.

“We conduct awareness campaigns, and we explain to the moms about the importance of the measles vaccine,” Mohamud said.

Then, Mohamud and her team allow a mother whose child died from measles explain the importance of vaccination.

“That’s when they accept the vaccine,” she said.

It is a difficult lesson, one laced with loss and tragedy. In Somalia, the effects of drought and food insecurity have left children at great risk for disease, including measles. Indeed, from January to October 2022, Somalia had more than 15,000 suspected cases of measles: 79 per cent in children under age 5.

Nasro Dire knows the sorrow of measles.

Dire, 23, lives in the Jawle camp for internally displaced persons, a labyrinth of metal shacks on the northern outskirts of Garowe, in central Somalia. At the beginning of 2022, two of Dire’s children – Aanas, age 2, and Masude, age 1 – fell ill.

First they had a fever, then a rash. She took them to the Jawle Medical Centre, near the camp where she lives. But Aanas and Masude died a month apart. Under the guidance of Luul Agani, a midwife and vaccine volunteer in the Jawle community, Dire made sure her surviving children – ages 3, 4 and 6 – were fully vaccinated. And she will do the same for her 1-month-old boy, Marwan. Dire also helps Agani convince other mothers to do the same.

“The experience I went through with the death of my children made me want to vaccinate others,” Dire said.

Jawle Medical Centre, like many health centres that serve marginalized communities in the Garowe area, mobilizes workers, who reach out by text messages, phone or in person to ensure children have access to vaccination. This personalized outreach paid off for multiple mothers who recently came to Gargaar Health Centre for vaccinations. Amina Said, a mother of four children, walked for an hour to have Kafio vaccinated – she was responding to a message she received from the health centre.

“That’s why I always vaccinate my children,” Said said. “I don’t write, and I don’t read, but they give me calls on the phone.”



In 2022 in Somalia, two of Nasro Dire’s children died of measles. She plans to make sure that her 1-month-old son, Marwan Abdi, is fully vaccinated.

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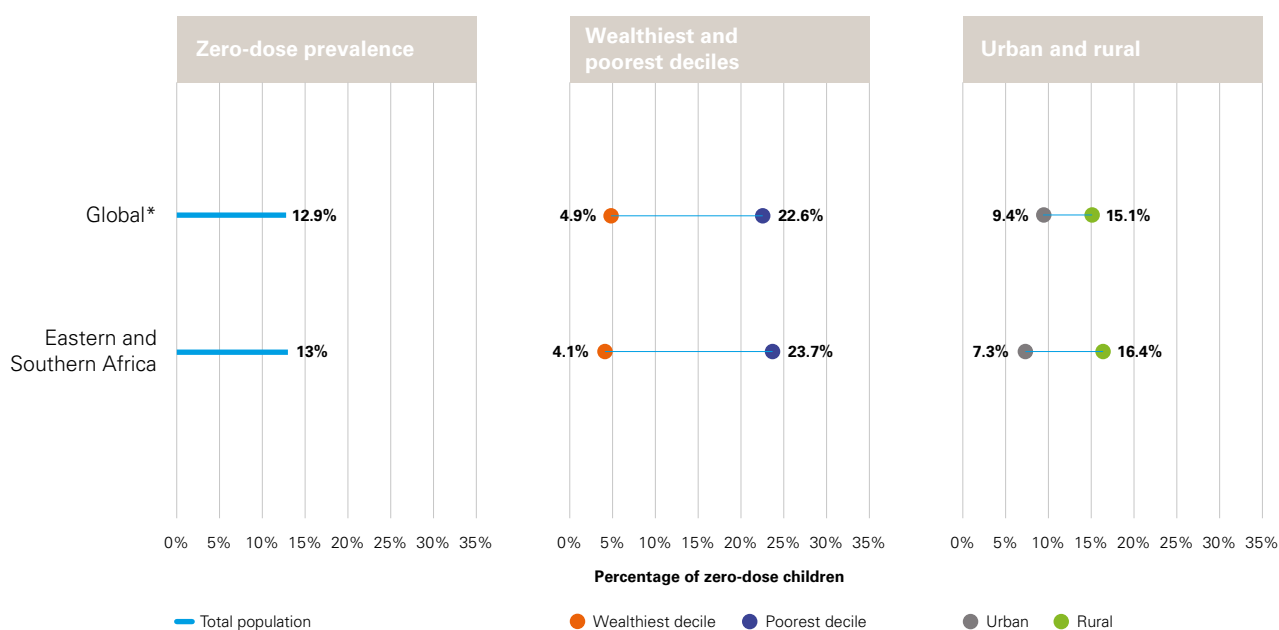
# Who is missing out on vaccines?

An analysis for *The State of the World's Children 2023* shows some of the socioeconomic determinants associated with immunization.<sup>1</sup> 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.

Children in the poorest households are **six times more likely to be zero-dose** than children in the wealthiest households. Similarly, **zero-dose prevalence in rural areas is more than double** the prevalence in urban areas (see *Figure 7*).

<sup>1</sup> 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 the region by wealthiest and poorest deciles, and urban and rural**



**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.

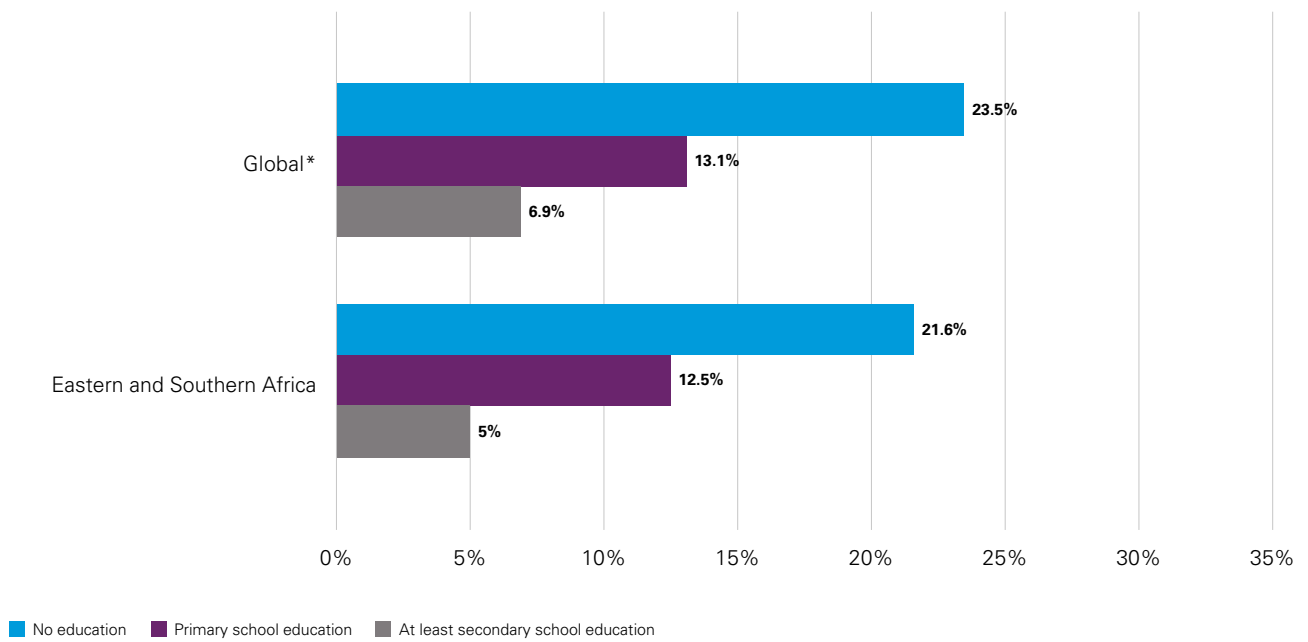
**Figure 6. Prevalence of zero-dose children in Eastern and Southern Africa by rural, urban, poorest decile and wealthiest decile (per cent), by country**

Country*	Rural	Urban	Poorest decile	Wealthiest decile
Angola	50.6	18.5	54.6	5.5
Burundi	0.8	0.9	1.8	0.2
Ethiopia	29.7	10	46.9	4.8
Lesotho	8.8	7.7	14.4	6.3
Madagascar	23.3	13.5	38.3	12.5
Malawi	4.6	4.4	5.8	2.6
Mozambique	11.8	4.6	20.4	1.4
Rwanda	0.2	1.1	0	2.4
South Africa	7.6	9.6	10.2	-
Tanzania (United Republic of)	3.9	1	8.2	1.6
Uganda	5	5.4	4.8	6.8
Zambia	2.4	1.5	4.1	0.2
Zimbabwe	6.7	2.5	7.1	0
Region	16.4	7.3	23.7	4.1

**Source:** Victora, Cesar and Aluísio Barros, 'Within-country Inequalities in Zero-dose Prevalence: Background paper for The State of the World's Children 2023', the 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 in the world that were included in the study.



Students in Niassa province, Mozambique, display their immunization cards after receiving cholera vaccines in their school in the city of Lichinga.

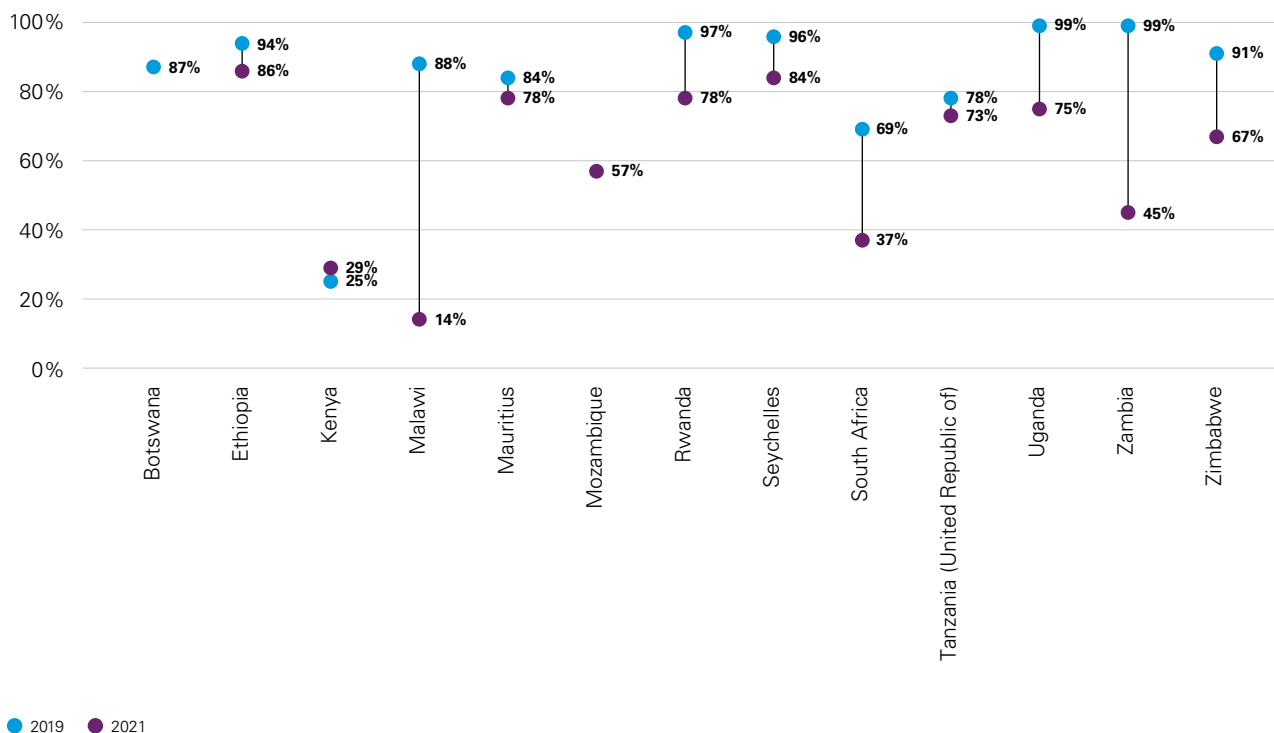
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# Adolescent girls' health: Focus on HPV

According to Gavi, the Vaccine Alliance, Eastern and Southern Africa is the region with the world's highest rates of cervical cancer. The Human Papillomavirus (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.

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

Across countries in Eastern and Southern Africa, **HPV vaccine coverage dropped** between 2019 and 2021.



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



In Uganda, a nurse administers oral vaccines to a baby during a community immunization outreach activity in a remote rural district.

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## Disease outbreak map

**Figure 9. Countries in Eastern and Southern Africa that experienced outbreaks of measles, cholera and poliovirus in 2022**

**Fourteen of the 23 countries** in Eastern and Southern Africa **experienced disease outbreaks in measles, cholera and 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.





Kowther Abdikadir, a 24-year-old clinical health worker in Somalia, vaccinates Muniish Cadan Ismail, who sits on the lap of her mother, Zeynab Mohamed Farah. Outreach is especially essential to reach mothers who are not able to attend a health centre.

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# 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

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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

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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

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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

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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.



At the Catambor Health Centre in Luanda, Angola, Wilson Abreu comforts his 2-month-old daughter Kailane after she received a vaccine to protect her from diphtheria, pertussis, tetanus, Hepatitis B and a form of influenza. It's a good start in life.

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Cover photo: In Malawi, Victoria, 3, shows off her purple  
finger, a sign that she has just been vaccinated against polio.  
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