unicef
for every child

REGIONAL BRIEF:
MIDDLE EAST AND NORTH 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, in 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 the Middle East and North Africa, this figure is 3.8 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, they 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.

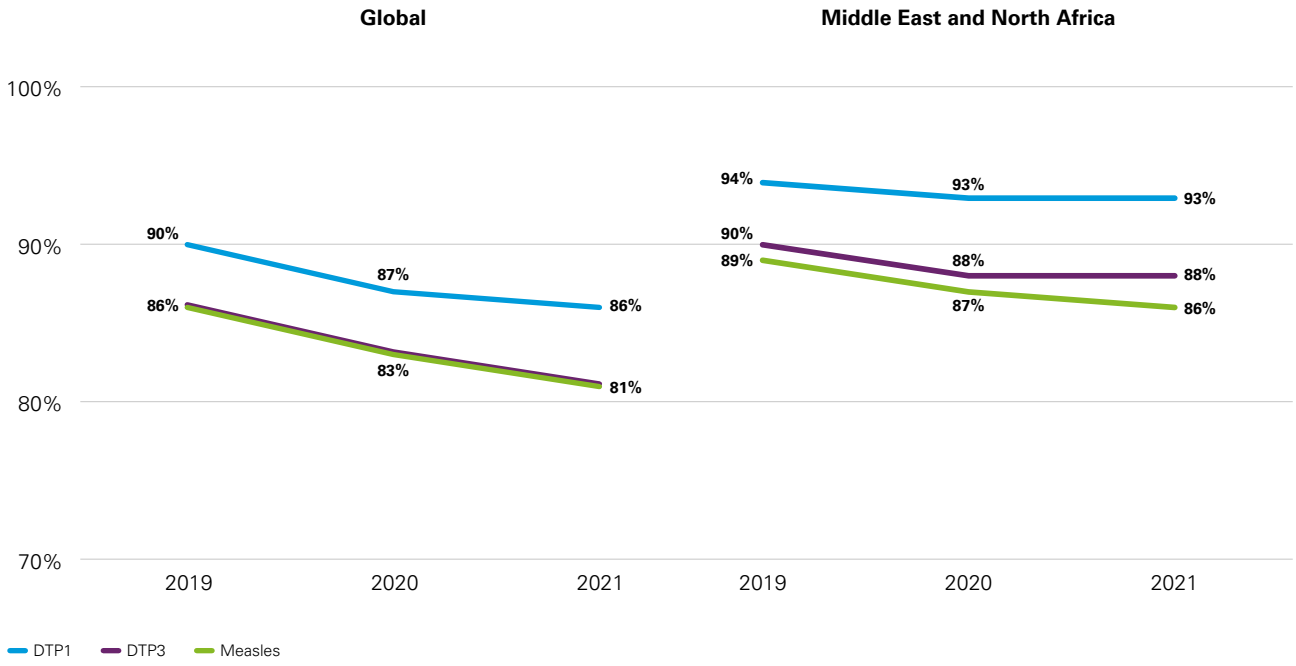
Now is a time for political will.

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

Immunization coverage in the Middle East and North Africa

The Middle East and North Africa has **one of the highest immunization coverage rates in the world.** But the COVID-19 pandemic set back immunization coverage. Between 2019 and 2021, the **coverage of diphtheria, tetanus and pertussis (DTP) and measles vaccines dropped**, which led to an increase in the prevalence of zero-dose and under-vaccinated children.

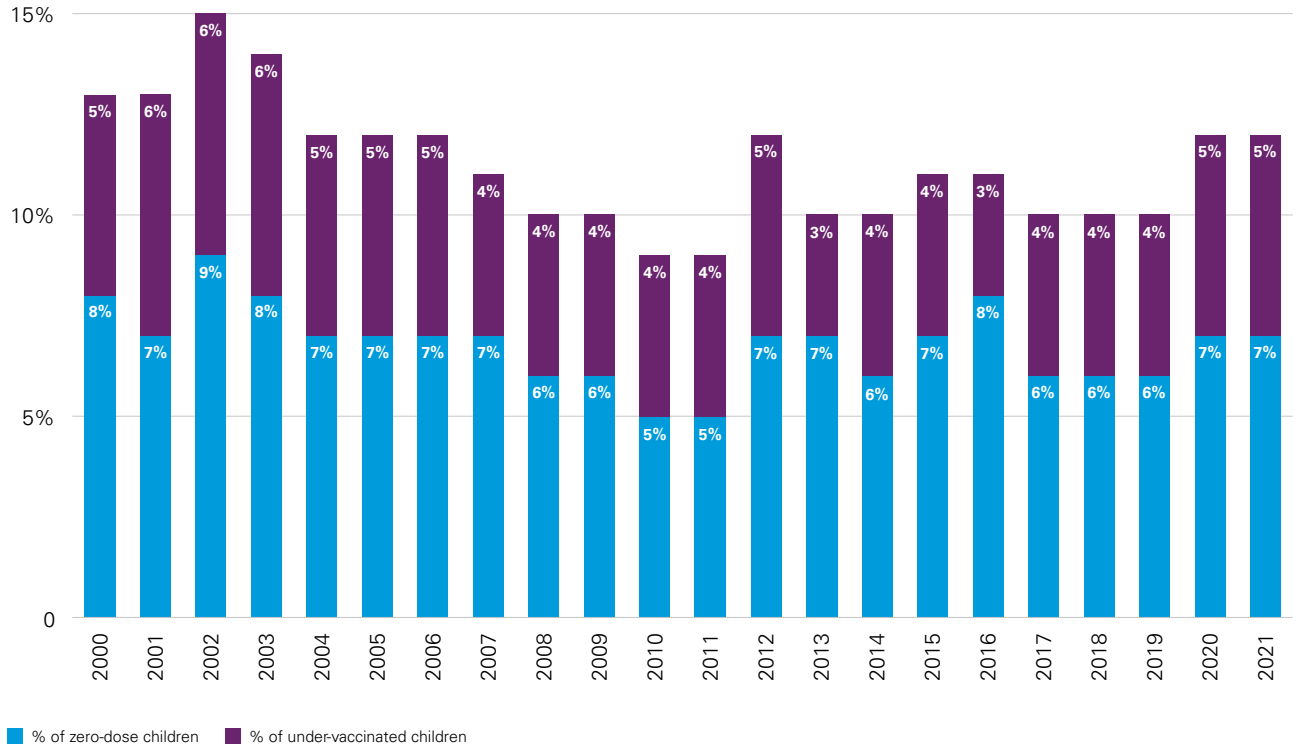
Figure 1. Prevalence of children in the Middle East and North Africa who received DTP1, DTP3 and measles vaccines, 2019–2021



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 the Middle East and North Africa

The prevalence of zero-dose and under-vaccinated children has remained steady over the past two decades, albeit with a **slight increase since the onset of the COVID-19 pandemic**.



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

Figure 3. Zero-dose and under-vaccinated children in the Middle East and North Africa in 2021

Across countries, there is significant variation in the prevalence of zero-dose and under-vaccinated children, except in a few countries such as Bahrain, Iraq and Qatar where the prevalence is similar. However, the burden in absolute numbers is still high in the region: **a total of 1.4 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
Yemen	174,613	18	97,008	10
Syrian Arab Republic	146,984	35	71,392	17
Iraq	128,760	11	128,759	11
Sudan	89,039	6	148,399	10
Egypt	72,910	3	24,303	1
Jordan	53,188	22	2,418	1
Algeria	37,403	4	46,755	5
Libya	30,966	26	1,191	1
Iran (Islamic Republic of)	23,858	2	0	0
Saudi Arabia	18,787	3	0	0
Lebanon	10,079	12	17,638	21
Djibouti	7,122	30	2,611	11
Morocco	6,417	1	0	0
United Arab Emirates	3,843	4	0	0
Tunisia	1,950	1	3,900	2
State of Palestine	1,433	1	5,731	4
Oman	828	1	0	0
Kuwait	441	1	2,206	5
Qatar	264	1	265	1
Bahrain	174	1	174	1
Regional	809,059	7	552,750	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.

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).

YEMEN

Women's work: Alleviating suffering motivates a vaccinator and midwife

For Ghada Ali Obaid, vaccinating children is not a job. It is a calling.

On an average day, Ghada dashes through the hallways of Dar Sa'ad Medical Compound counselling mothers about the benefits of immunization and vaccinating their children.

But few of Ghada's days are average.

As head of immunization at the health centre in the Dar Sa'ad district of Aden, Ghada also takes to the streets to reach out to children who might otherwise miss vaccines against preventable diseases. In June, for example, Ghada was part of a response to a measles outbreak in Yemen. The immunization campaign reached over 1.2 million children between ages 6 months and 10 years with vaccinations against measles and rubella.

"The essence of our work is saving people's lives and reducing the suffering of women and children," said Ghada. "Personally, this is the most significant indicator of success in my work and life."

In Yemen, Ghada is part of a corps of women whose life's work is to be the first line of defence against vaccine-preventable diseases. Indeed, women are the backbone of health care in Yemen, a country with more than 4,500 health-care facilities.

According to Saadia Farrukh, UNICEF Yemen Health Manager, all community midwives and health workers are women because it is culturally and socially acceptable for women to provide antenatal check-ups and midwifery services.

"The female community health workers are more accepted by communities and more able to access households to provide the life-saving primary health care services with a focus on children and their mothers, yet not excluding other populations at community level," Saadia said.

The work has challenges. The health centre lacks medical staff, especially midwives – an issue she attributes to the lack of job incentives, rewards or promotions. As trained medical staff leave, they are often replaced by volunteers who need training. When going from door to door, health workers must contend with the heat, unreliable electricity sources and distant locations.

"Over the past 11 years, a big part of my role has been helping Yemenis to understand that many diseases and epidemics could be eliminated, and the mortality and morbidity rates could be reduced," Ghada said. ■

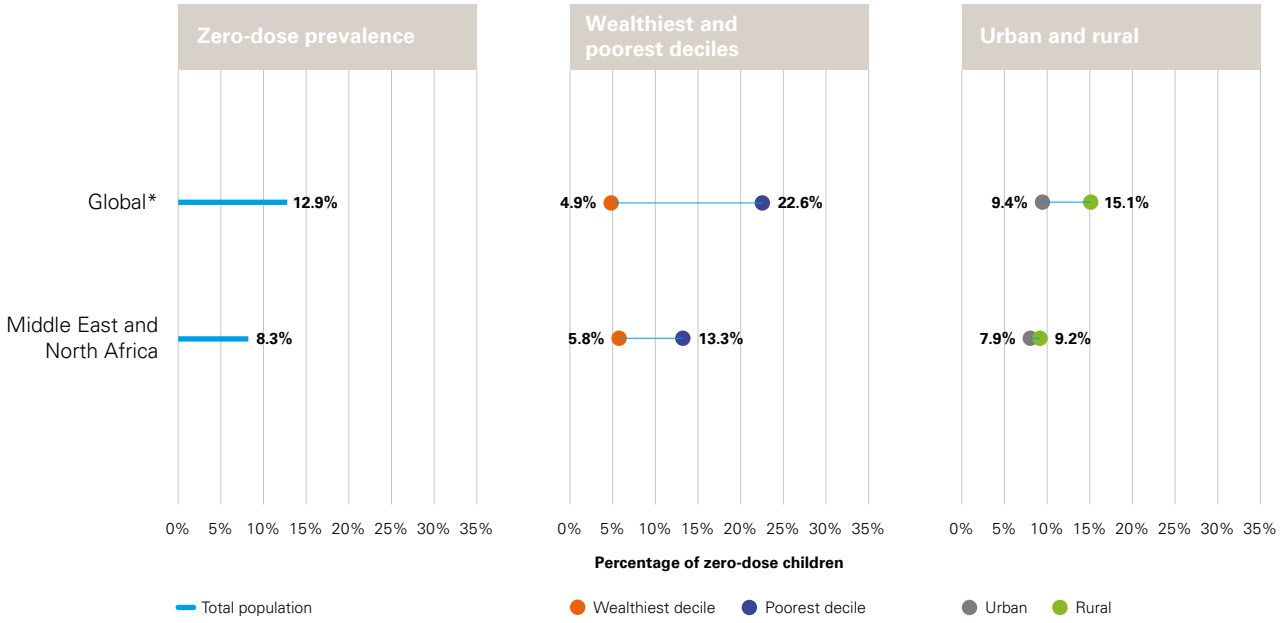
Providing vaccination to children in hard-to-reach communities requires extra effort on the part of Ghada Ali Obaid, a health worker in Yemen.

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. 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.

Figure 4. Prevalence of zero-dose children in the Middle East and North Africa by wealthiest and poorest deciles, and urban and rural

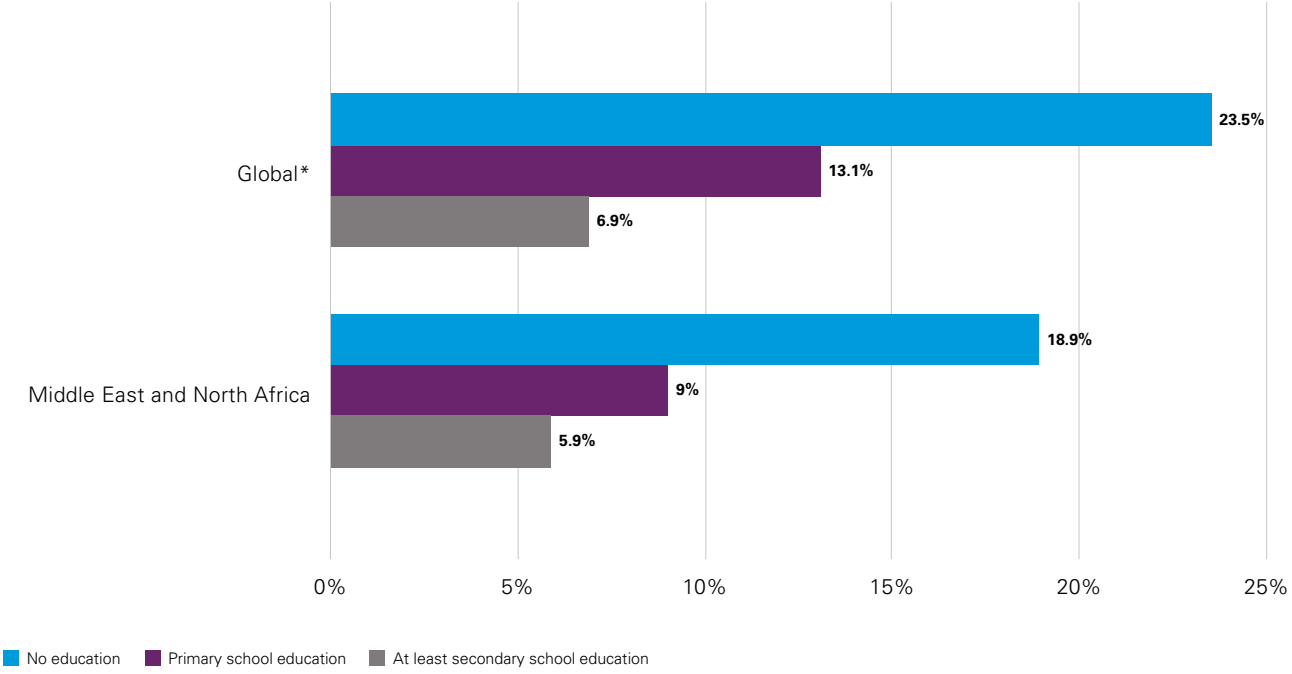
Children in the poorest households are **twice as likely to be zero-dose** than children in the wealthiest households.



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 5. 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 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.

Vaccinators Sadia Hassam Omer and Faiza Ahmed Adam during a door-to-door immunization campaign in Sudan.
© UNICEF/UN0822705/Hassan Nazmi Ahmed

Box 2

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). While most HPV infections can resolve themselves quickly and cause no symptoms, continued infection can cause cervical cancer. When detected early and managed effectively, it is also one of the most successfully treatable forms of cancer.

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**.

Currently, there are six licensed HPV vaccines – all are highly efficient in preventing infection. Despite availability of the vaccine, introduction of the HPV vaccine in routine immunization programmes in the Middle East and North Africa is rare.

More evidence on the HPV disease burden is needed to support countries to address this challenge. In addition, strong engagement with the communities will be crucial in understanding their attitudes towards vaccination, their experiences with health systems and the support they need in immunizing children, especially adolescent girls, against HPV.

Figure 6. Countries in the Middle East and North Africa that experienced outbreaks of measles, cholera and poliovirus in 2022

Six of the 20 countries in the Middle East and North Africa **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.

Rawda holds her son Ariam, 6 months old, as she waits in line to vaccinate him at the mobile clinic in Hasakeh city, in the northeast of the Syrian Arab Republic.
© UNICEF/UN0757751/Soulei

Box 3

Children in humanitarian and fragile settings: Those who are left behind

Instability, violence and disruption can wreak havoc on health systems and hinder children's opportunities to be immunized. Tragically, many children have no access to health care in a setting where there is a humanitarian crisis. They are left behind.

Conflict and crisis can displace health workers, halt financing, impair supply chains and cause damage to roads, electricity grids, and water and sanitation systems. In addition, crisis compounds economic hardships for families, communities and nations.

Conflict and crisis can displace children and families from their homes. Some migrate from their homes to camps for refugees or internally displaced persons; others land in informal settlements or communities. Displacement can make it difficult to find and estimate the numbers of children who need vaccinations. Sometimes, displaced populations are trying to remain hidden. But displacement can also result in a loss of belonging to a community. It can sever families from the people and services they depend on for health-care interventions, such as immunization.

Across the Middle East and North Africa, one in five children live in conflict or in countries affected by conflict.

To meet the challenges in emergency and fragile settings, investment in preparedness is needed to ensure that countries are equipped to respond, including by creating contingency stocks, building resilience and engaging civil society. Support is needed for children on the move, by ensuring that vaccines and health services are available and accessible. Investment in innovative solutions is needed, such as mobile money and digital systems, to pay health workers, and in vaccines with longer shelf-lives.

IRAQ

Dedicated: A long-time health worker is committed to immunization

At 66 years old and thinking about retirement, Zainab is in a position to reflect on a career dedicated to protecting the health of children in Iraq. From her experience, immunization is fundamental.

"The moment when we give them the vaccination card and administer the doses according to the child's age gives me a deep sense of satisfaction of having done my job," Zainab said.

Currently, Zainab is part of a mobile team of health workers in the Kalakn Health Centre in Sulaymaniyah, in the Kurdistan region of Iraq. Many of the children served by the mobile team are refugees from the war in the Syrian Arab Republic.

Her team vaccinates about 15 children a day, on average. But during the peak period, when children head back to school and need to produce vaccination records, that number can increase to 35. In addition to routine immunization, Zainab and her colleagues reach out to children who have never been vaccinated, the zero-dose children. The effort is part of Iraq's Intensifying Integrated Immunization (3iS) outreach strategy, which has been undertaken with funding and technical support from UNICEF since early 2022.

From 2021 to 2022, the number of zero-dose children in need of vaccination fell by over 130,000 – a sign that the outreach is making a difference for children.

"I think I have vaccinated all segments of the Iraqi people without exception," Zainab said. "And over the last year, I have also vaccinated many Syrian refugee children."

One of the key components of Zainab's work is dispelling misinformation about vaccination. She speaks with parents and caregivers about the benefits of vaccines, often helping to change their minds about whether they should immunize their children. Her desire to promote vaccination is the same, regardless of whether she is speaking to children, parents, peers or local authorities.

"My message to the decision makers everywhere is: Vaccinate your population!" she said. "This way you will save children's lives, protect public health and open the door to a long and healthy future." ■

Zainab, part of the mobile team of the Kalakn Primary Health Center, vaccinates 6-month-old Rusina, who sits in her mother Nisreen's lap. Her 5-year-old brother, Guevara, watches.

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. They 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.

unicef
for every child

This regional brief was produced by UNICEF Innocenti – Global Office of Research and Foresight

Cover photo: In Yemen, 11-year-old Amani Nasr holds her arm after receiving a vaccination.

To download the full report, please visit: www.unicef.org/reports/state-of-worlds-children