

WHO/UNICEF JOINT STATEMENT

# Achieving immunization targets with the comprehensive effective vaccine management (EVM) framework

## WHO and UNICEF joint statement on the comprehensive EVM framework and the vital role of immunization supply chains in achieving targets set by the Global Vaccine Action Plan (GVAP).

The World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) are intensifying and coordinating efforts to catalyse immunization supply chain improvements and performance in countries through the comprehensive EVM framework – a four-step strategy for continuous immunization supply chain improvement, quality management, optimization and innovation.

The comprehensive EVM framework builds on the success of the EVM initiative launched in 2010 to help countries evaluate the performance of their immunization supply chains, and benchmark this performance against best-practice standards.

In five years, the EVM initiative has helped to uncover important shortcomings in the performance of many countries' immunization supply chains. Addressing these has required a comprehensive rethink of

how WHO and UNICEF, together with the global immunization community, can more effectively catalyse immunization supply chain improvements in countries.

To that end, this joint statement:

- 1. Reiterates** the vital role of immunization supply chains in achieving vaccination coverage and equity targets set by the GVAP;
- 2. Summarizes** the evidence indicating that vaccines are not always available when needed; that weak cold chain systems are putting vaccines at risk and delaying new vaccine introduction; and that vaccines are wasted as a result of poor supply chain management;
- 3. Describes** the comprehensive EVM framework and how WHO and UNICEF will work together to promote its use to achieve health and immunization outcomes in countries.

## THE IMPORTANCE OF IMMUNIZATION SUPPLY CHAINS FOR EFFECTIVE VACCINATION

Without an adequate supply of vaccines at service delivery levels, children cannot be vaccinated against life-threatening diseases. It is no surprise, therefore, that much of the success of the Expanded Programme on Immunization (EPI) over the past 40 years can be attributed to immunization supply chain and logistics systems and the professionals who run them. Their role is to guarantee as efficiently as possible the

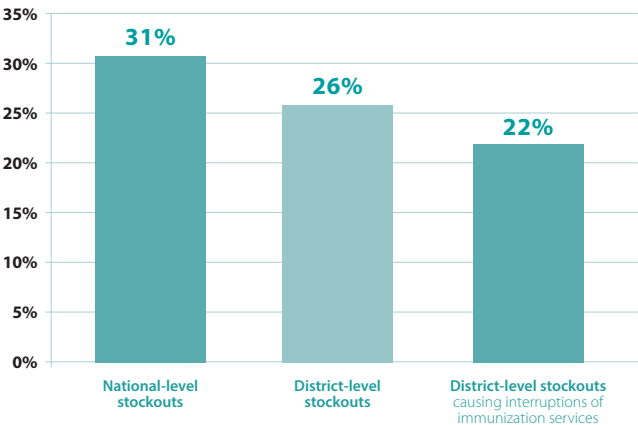
uninterrupted availability of vaccines all the way to service delivery levels, safeguarding vaccine potency from damaging heat and freezing temperatures in a cold chain system.

Ensuring that international supply chain standards are met guarantees that national immunization programmes worldwide can achieve their goals of coverage and equitable access to life-saving vaccines. But what do we know about the performance of immunization supply chains in low- and lower-middle-income countries?

**VACCINES ARE NOT ALWAYS AVAILABLE WHEN NEEDED**

Many countries continue to experience regular vaccine stockouts at both national and district level. In 2014, 31% of low- and lower-middle-income countries reported stockouts at the national level, with 26% also reporting stockouts at the district level (Figure 1). In 22% of these countries, district-level stockouts caused interruptions of immunization services leading to missed opportunities to vaccinate children.<sup>1</sup>

Figure 1 - Percentage of low- and lower-middle-income countries experiencing stockouts in 2014 (n=73)<sup>1</sup>

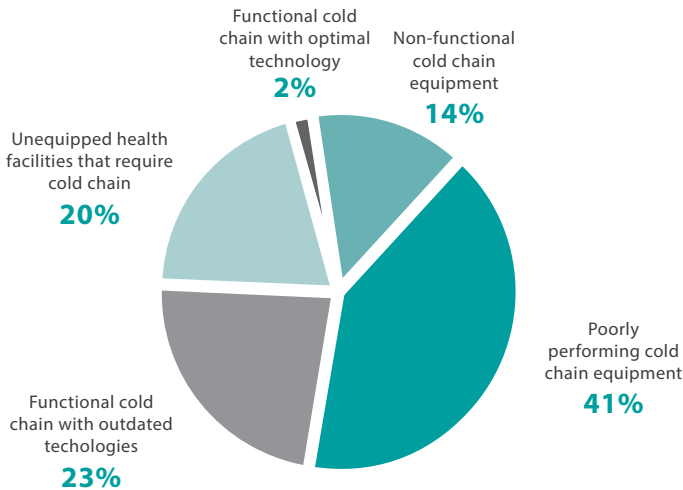


**WEAK COLD CHAIN SYSTEMS ARE PUTTING VACCINES AT RISK AND DELAYING NEW VACCINE INTRODUCTION**

Vaccines are biological products that are sensitive to both heat and freezing, which requires them to be stored within strict temperature ranges in a cold chain system. Their potency cannot be restored if they have been exposed to excessive temperature.

In 2014, 20% of health facilities in low- and lower-middle-income countries did not have any cold chain equipment to store vaccines and protect them against heat damage. Of the equipped health facilities, only 2% had a functional cold chain that used optimal cold chain technologies. The remaining 78% of facilities were equipped with cold chain equipment that was either not functional or that used obsolete technology, putting vaccines at risk of temperature damage (Figure 2).

Figure 2 – Cold chain equipment status in low- and lower-middle-income countries in 2014 (n=57)<sup>2</sup>



Benchmarked against WHO standards, only 14% of low- and lower-middle-income countries met the criteria for temperate control in the cold chain (Figure 3). This suggests that the equipment in these countries is unable to keep vaccines at the recommended temperatures and therefore safeguard them from damaging heat or freezing.

Compounding the issue is the lack of cold chain storage space. In 2014, sufficient storage capacity for existing vaccines was available in just 43% of low- and lower-middle-income countries (Figure 3). This lack of storage space is a key reason for delaying the introduction of new vaccines in these countries.

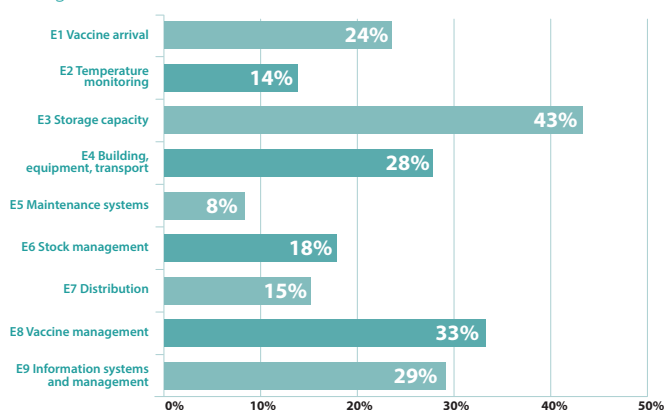
New vaccines unpacked and stored in a shipping container due to the lack of cold chain storage space at national level.. Photo: Dereje Haile (UNICEF).



## VACCINES ARE WASTED AS A RESULT OF POOR SUPPLY CHAIN MANAGEMENT

Years of neglect and under-investments have meant that skills, know-how and adherence to basic vaccine handling policies, standards, and quality management practices have gradually deteriorated.<sup>3</sup> In 2014, compliance with WHO recommended vaccine management policies was achieved in just 33% of low- and lower-middle-income countries. In addition, recommended practice for effective vaccine distribution down the supply chain was attained in only 15% of these countries (Figure 3).

Figure 3 – Percentage of low- and lower-middle-income countries achieving the minimum WHO recommended standard in vaccine management from 2010 to 2014 (n=70)<sup>4</sup>



Such inefficiencies are costly to the health system and can lead to expensive vaccine wastage.

The evidence that immunization supply chain systems are stretched speaks for itself. If the trend is not reversed, the goals of the GVAP (2011–2020) are at serious risk. Without a radical shift in the way immunization supply chain systems are designed, managed, resourced and supported, they will remain an obstacle towards reaching every child, and improving vaccination coverage and equity goals in countries.

## BUT THERE IS STILL HOPE FOR CHANGE

Four key factors can offer hope.

**First**, new funding opportunities have arisen to support the development of countries' immunization supply chain systems.<sup>5</sup>

**Second**, new technology and game-changing solutions have the potential to address many of the supply chain challenges faced by countries.

**Third**, countries that have embraced the comprehensive EVM framework and implemented supply chain improvement plans have shown encouraging progress.

**Fourth**, the global immunization community has developed calls to action, visions and international strategies for immunization supply chain improvements as a pillar for strengthening immunization and health systems. In particular, the Call-to-Action endorsed by the Strategic Advisory Group of Experts (SAGE) on Immunization in April 2013 underlines the need for investment in immunization supply chain strengthening.<sup>6,7</sup>

Given this favourable context, a comprehensive rethink has taken place of how WHO and UNICEF, together with the global immunization community, can more effectively catalyse immunization supply chain improvements in countries.

### BOX 1: THE EVM INITIATIVE (2010–2014)

In 2010, WHO and UNICEF launched the EVM initiative to help countries evaluate the performance of their immunization supply chains, and benchmark this performance against best-practice standards. To this end, an EVM assessment tool was developed and set standards in nine areas of vaccine management (see Figure 3) based on well-established principles and norms of quality management. The EVM initiative helped countries to respond to the vaccine management shortcomings identified in EVM assessments, through EVM improvement plans.

By 2014, the EVM initiative was hailed by the global immunization community as an important success story for WHO and UNICEF. Over 70 low- and lower-middle-income countries had assessed the strengths and weaknesses of their immunization supply chains, and technical assistance from WHO and UNICEF was provided to countries to develop improvement plans. In addition, the EVM initiative was an opportunity to refresh health workers' knowledge of vaccine management best practices.

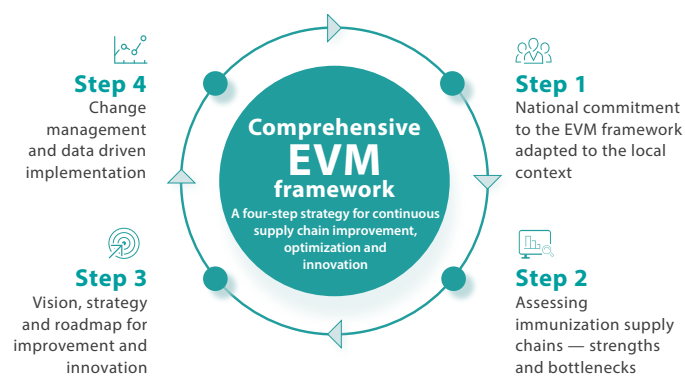
Unfortunately, due to a lack of resources to implement improvement plans, limited improvement occurred in countries. Many of these challenges still exist and prevent the EVM initiative from reaching its full potential to strengthen national immunization supply chains worldwide; to support capacity building in supply chain management; and to be leveraged as a knowledge exchange platform among countries, as initially envisaged by its designers.

## A COMPREHENSIVE FRAMEWORK FOR CHANGE

Convinced by the need to continue building on the successes of the EVM initiative (see Box 1), the Bill and Melinda Gates Foundation and Gavi, the Vaccine Alliance, have made available important financial resources to enable WHO and UNICEF to scale up their efforts to support low- and lower-middle-income countries. To that effect, WHO and UNICEF have joined forces under the umbrella of the Immunization Supply Chain and Logistics Hub to catalyse evidence-based change in countries.<sup>8</sup>

In 2015, the WHO and UNICEF Immunization Supply Chain and Logistics Hub developed the comprehensive EVM framework, a four-step strategy for continuous immunization supply chain improvements, quality management, optimization and innovation.

Figure 4 – The four steps of the comprehensive EVM framework



### Step 1: Enabling country ownership and commitment to the comprehensive EVM framework

The first step is to unite national stakeholders, influencers, and decision-makers to rally behind a shared vision for the country's immunization supply chain, in alignment with national immunization health system strengthening priorities. This country ownership will enable the comprehensive EVM framework to be adapted to the local context. WHO and UNICEF will support countries, through their convening power both at the global and country level, in creating the momentum, commitment and collaborative atmosphere required to enable country-led change. WHO and UNICEF will also support the establishment or strengthening of multi-stakeholder national logistics working groups within existing immunization/health sector advisory or interagency coordination committees. These groups, chaired by the health ministry, will oversee the implementation of the entire comprehensive EVM framework.

### Step 2: Assessing immunization supply chains

The second step is to assess the performance of a country's immunization supply chain by conducting comprehensive situational and bottleneck analyses. Generating the right evidence on strengths, weaknesses, bottlenecks and root causes in a national immunization supply chain is the foundation upon which an evidence-based strategy and supply chain improvement plan can be formulated. To achieve this, WHO and UNICEF are developing the next generation of EVM assessment. The new EVM assessment package will allow for a deeper review of supply chain fundamentals, and will enable countries to more easily formulate a comprehensive supply chain improvement plan based on these insights. The assessment package will enable countries to:

- Review supply chain readiness for new vaccines;
- Identify how to expand, rehabilitate and optimize the cold chain system;
- Improve temperature management and control to safeguard vaccines;
- Design more efficient supply chain networks and distribution models;
- Enhance the skills and competencies of human resources for logistics and improve overall supply chain management.

### Step 3: Developing a vision, strategy and roadmap for improvements and innovation

The third step combines the political momentum supportive of change (Step 1) and the findings from baseline assessments (Step 2) to develop a multi-year strategy with a vision and a detailed operational plan that is aligned with key objectives of the national immunization programme.

This visionary and yet pragmatic plan will set achievable strategic objectives, and be based on an in-depth analysis of bottleneck root causes to provide solutions at the right level for sustainable improvements. The supply chain strategies set the overall orientation and national priorities for the following five years and outline linkages with comprehensive multi-year plans (cMYPs) and health system strengthening strategies. The operational plan will detail the prioritized game-changing interventions, milestones, activities, responsibilities, funding requirements and timeline to address current and future supply chain bottlenecks. The improvement strategy and plan will include a monitoring and evaluation framework to measure progress towards immunization supply chain targets and goals against baseline assessment indicators (from Step 2).



## Step 4: Managing implementation and change

The fourth step is to implement the operational improvement plan, review and report progress against planned activities on an annual basis, and monitor implementation outputs and outcomes defined in the monitoring and evaluation framework. Linked to Step 1, WHO and UNICEF will support the establishment or strengthening of a national logistics working group to oversee and monitor the implementation of the operational plan and coordinate technical assistance.

WHO and UNICEF are developing new guidance materials and offering technical assistance on how to establish a functional national logistics working group, how to monitor and evaluate the implementation of the improvement plan, and how to establish a data dashboard for data-driven management and improvement. In addition, WHO and UNICEF are also supporting innovative peer-to-peer mentoring platforms and workshops to facilitate the exchange of experiences, promising practices and lessons learnt among countries.

### BOX 2: THE VALUE PROPOSITION OF THE COMPREHENSIVE EVM (2015–2020)

Through the comprehensive EVM framework, the continuous cycle of EVM improvement, supply chain optimization and innovation will ultimately lead to immunization supply chains that are:

- Designed to maximize efficiency, effectiveness, agility and responsiveness to the needs of today's and tomorrow's immunization programmes;
- Robust enough to continually adapt to and comply with WHO/UNICEF recommended practices, minimum standards and policies;
- Adopting known cost-effective technological and systems solutions that support coverage and equity improvement objectives;
- Operated by skilled health care workers managing the supply chain with key performance indicators;
- Adequately funded using health system strengthening resources.

A nurse handles vaccines from a brand new solar fridge in a newly opened health centre in the village of Mbankana, some 150km from Kinshasa, in the Democratic Republic of the Congo.. Photo: UNICEF



## WHO/UNICEF COMMITMENTS

WHO and UNICEF encourage all countries and global public health partners to adopt the comprehensive EVM framework and four-step strategy for continuous immunization supply chain improvement, quality management, optimization and innovation.

Leveraging their partnership with key global health partners, WHO and UNICEF:

- Reiterate the need to intensify efforts and increase investment to build the next generation of immunization supply chains;
- Call on countries and partners to comprehensively assess, plan, fund and implement change to national immunization supply chain systems in a manner that is aligned with national immunization and health programme priorities and strategies;
- Advocate for immunization supply chain strengthening both at global and regional level by promoting the WHO and UNICEF commitments outlined in this document;
- Convene partners and build evidence for advancing the adoption of innovative cold chain and temperature monitoring technologies, as well as collecting evidence and curating global knowledge about immunization supply chain performance.

## FOCAL PERSONS

Patrick Lydon, WHO, Geneva

Benjamin Schreiber, UNICEF, New York

Ann Hasselbalch, UNICEF, Copenhagen

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**EVM**  
Setting a standard for the  
vaccine supply chain

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### World Health Organization

Expanded Programme on Immunization  
20 Avenue Appia, 1121 Geneva 27  
Switzerland  
[vaccines@who.int](mailto:vaccines@who.int)  
[www.who.int](http://www.who.int)

### United Nations Children's Fund

3 United Nations Plaza  
New York, NY 10017  
USA  
[immunization@unicef.org](mailto:immunization@unicef.org)  
[www.unicef.org](http://www.unicef.org)