How Immunization Supply Chains (iSC) contribute to reaching zero-dose communities

TechNet-21
The Technical Network for Strengthening Immunization Services

The Supply Chain and Zero Dose COP webinar series

Webinar 1: **Supply chain guidance and strategies to reach under-served zero-dose communities**
9 February, 1.00-2.30 pm UTC

Webinar 2: **Immunization Supply Chain (iSC) interventions: lessons and best practices for reaching under-served zero-dose communities**
16 February, 1.00-2.30 pm UTC

Webinar 3: **Integrated supply chain approaches to reach under-served zero-dose communities with vaccination and PHC services**
23 February, 1.00-2.30 pm UTC

Supply chain guidance and strategies to reach under-served zero-dose communities

Karan Sagar
Michelle Seidel
Olamide Folorunso

Leveraging the Gavi Alliance Immunization Strategy (2021-2025) for identifying, targeting, and reaching zero dose populations

Karan Sagar

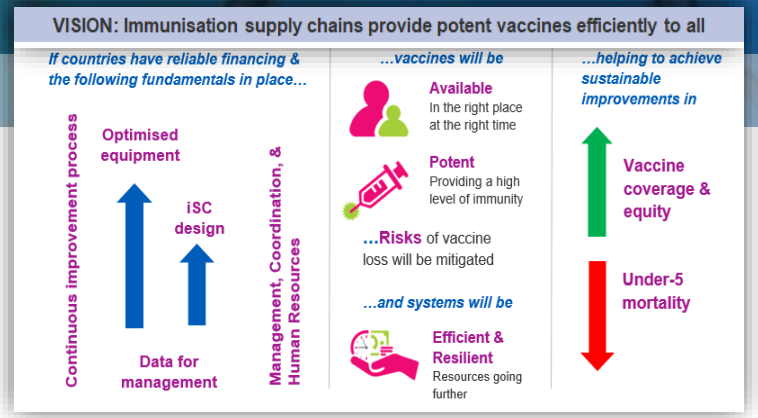
STRENGTHENING IMMUNISATION SUPPLY CHAINS

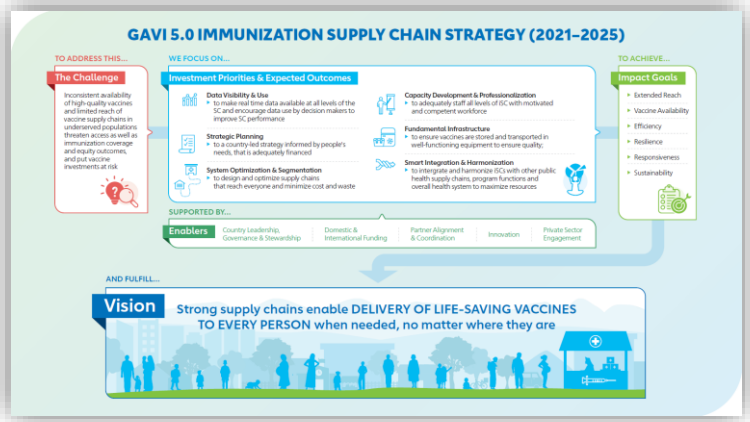
Gavi Immunization Supply Chain Strategy for 2021–2025

The shift from Gavi 4.0

The **2021 – 2025 Gavi Immunisation Supply Chain Strategy** is aligned with Gavi 5.0 and builds on the successes we've had to date.

- **Focuses on Gavi 5.0 – Leaving no-one behind and an emphasis on zero-dose and comprehensive vaccine management. Strong supply chains are key to achieving these goals**
- **Builds and expands on the five fundamentals in the previous strategy. The new investments priorities are:**
  - more holistic, incorporating key supply chain elements required to attain strategy goals, and
  - boost investments in areas that need the most attention.
- **Identifies stakeholders and assigns clear responsibilities, setting accountability at all levels and harmonises partner efforts**.
- **Takes a clear measurement approach to enable and monitor progress against the strategy.**





GAVI 5.0 IMMUNIZATION SUPPLY CHAIN STRATEGY (2021–2025)

TO ADDRESS THIS...

The Challenge

Inconsistent availability of high-quality vaccines and limited reach of vaccine supply chains in underserved populations threaten access as well as immunization coverage and equity outcomes, and put vaccine investments at risk

WE FOCUS ON...

Investment Priorities & Expected Outcomes

Data Visibility & Use
- to make real time data available at all levels of the SC and encourage data use by decision makers to improve SC performance

Strategic Planning
- to a country-led strategy informed by people's needs, that is adequately financed

System Optimization & Segmentation
- to design and optimize supply chains that reach everyone and minimize cost and waste

Capacity Development & Professionalization
- to adequately staff all levels of iSC with motivated and competent workforce

Fundamental Infrastructure
- to ensure vaccines are stored and transported in well-functioning equipment to ensure quality;

Smart Integration & Harmonization
- to intergrate and harmonize iSCs with other public health supply chains, program functions and overall health system to maximize resources

TO ACHIEVE...

Impact Goals

- Extended Reach
- Vaccine Availability
- Efficiency
- Resilience
- Responsiveness
- Sustainability

SUPPORTED BY...

Enablers

Country Leadership, Governance & Stewardship | Domestic & International Funding | Partner Alignment & Coordination | Innovation | Private Sector Engagement

AND FULFILL...

Vision

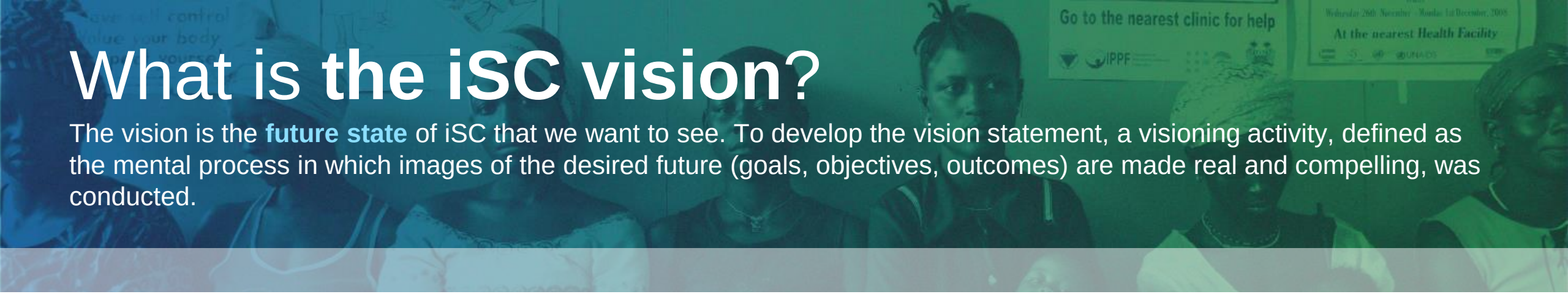
Strong supply chains enable DELIVERY OF LIFE-SAVING VACCINES TO EVERY PERSON when needed, no matter where they are

What are the types of **challenges this strategy addresses**?

- **Expanding immunization programs to include new vaccines and reach more people puts pressure on already constrained supply chains**
- **Significant progress in supply chain strengthening in 4.0 period in key areas (storage capacity), while others lag behind (information systems)**
- **Renewed focus under the 5.0 strategy will ensure:**
  - supply chains deliver safe and effective and reach the people who need them
  - we protect the investment in vaccines by reducing waste

The Challenge

Inconsistent availability of high-quality vaccines and limited reach of vaccine supply chains in underserved populations threaten access as well as immunization coverage and equity outcomes, and put vaccine investments at risk



What is **the iSC vision**?

The vision is the **future state** of iSC that we want to see. To develop the vision statement, a visioning activity, defined as the mental process in which images of the desired future (goals, objectives, outcomes) are made real and compelling, was conducted.

Meaning resilient, sustainable, efficient, adaptive

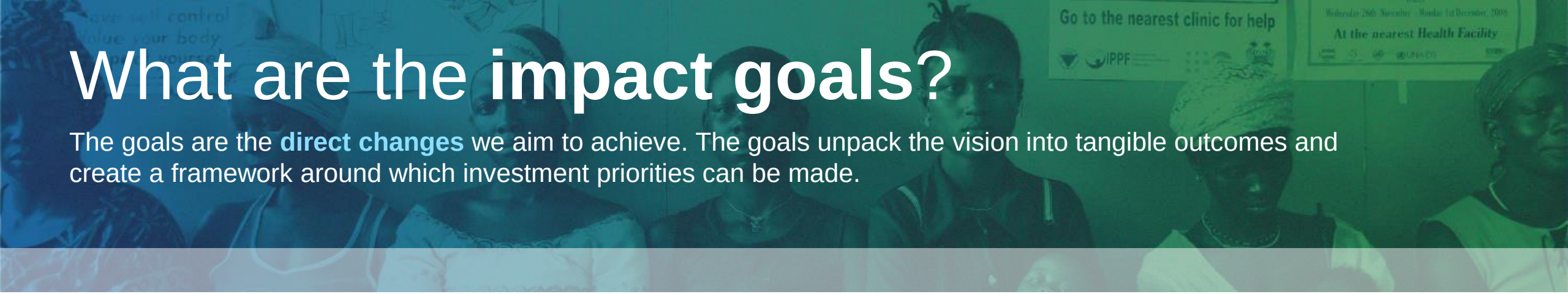
Meaning that supply chains and availability of vaccines and related supply are a critical component of ensuring the delivery of immunisation services

Strong supply chains enable delivery of potent life-saving vaccines to every person, when needed, no matter where they are.

Meaning that we focus on equitable access to immunisation services for each population segment

Meaning that sufficient vaccines are available *whenever* they are needed in a timely manner

Meaning that sufficient vaccines are available *whereever* they are needed in a timely manner



What are the **impact goals**?

The goals are the **direct changes** we aim to achieve. The goals unpack the vision into tangible outcomes and create a framework around which investment priorities can be made.

EXTENDED REACH

Equitable supply chains extend reach of vaccines to the last mile to serve underserved and zero-dose populations.

VACCINE AVAILABILITY

High-quality vaccines are available in adequate quantities, when and where they are needed.

SUPPLY CHAIN EFFICIENCY

Well-functioning supply chains minimise operational costs and product waste, with interconnected people, systems, and structures in place.

SUPPLY CHAIN SUSTAINABILITY

Government-led supply chains focus on activities that provide immediate benefit without compromising the needs of future generations financially, programmatically, or environmentally.

SUPPLY CHAIN RESILIENCE

Supply chains are agile and prepared to adapt to sudden changes including natural disasters and outbreaks of infectious disease.

SUPPLY CHAIN RESPONSIVENESS

People-centred supply chains respond to the needs and preferences of people throughout their life course.

What are the **investment priorities & intermediate outcomes**?

Through **targeted investments** in 6 priority areas and by supporting 5 **key enablers** we will achieve our impact goals

1. DATA VISIBILITY & USE
to make real time data available at all levels of the SC and encourage data use by decision makers to improve SC performance

2. STRATEGIC PLANNING
to a country-led strategy informed by people's needs, that is adequately financed

3. SYSTEM OPTIMIZATION & SEGMENTATION
to design and optimize supply chains that reach everyone and minimize cost and waste

4. CAPACITY DEVELOPMENT & PROFESSIONALIZATION
to adequately staff all levels of iSC with motivated and competent workforce

5. FUNDAMENTAL INFRASTRUCTURE
to ensure vaccines are stored and transported in well-functioning equipment to ensure quality

6. SMART HARMONIZATION
to integrate and harmonize iSCs with other public health supply chains, program functions and overall health system to maximize resources

What are **enablers**?

Enablers are critical elements that help the Vaccine Alliance, including countries, develop the chosen priorities. Just like the strategic priorities, they **contribute to reaching the final goals** and vision.

COUNTRY LEADERSHIP, GOVERNANCE, & STEWARDSHIP

Country governments are central stewards, providing oversight for the entire supply chain across sectors.

DOMESTIC & INTERNATIONAL FUNDING

Make the most of domestic and international resources with context-specific funding cycles considered.

PARTNER ALIGNMENT & COORDINATION

Coordinate partner support and investments to minimise duplication and achieve collective impact.

INNOVATION

New approaches, tools, and processes strengthen immunisation supply chains.

PRIVATE SECTOR ENGAGEMENT

Engage with and leverage the strength of the private sector as partners in iSC.

How can this strategy **be used?**

Potential scenarios for use

The iSC Strategy gives national and sub-national stakeholders a framework to plan and execute supply chain improvement strategies. It is meant to be adapted to country and programme contexts.

Programme Planning, Prioritisation, Design & Development

Informs decisions about which interventions to implement given constraints and resources, and guides the development of supply chain strengthening strategies or annual workplans.

Who: Programme and Supply Chain Managers

Assessment, Monitoring & Evaluation

Highlights opportunities for supply chain performance improvement, and provide indicators to evaluate performance

Who: Programme and Supply Chain Managers

Continuous Improvement

Informs the development and implementation of holistic continuous improvement plans informed by findings from routine monitoring and evaluation

Who: Supply chain managers

Advocacy, Learning, & Growth

Creates awareness and helps to advocate for funding for supply chain improvements. Helps prioritise areas for supply chain staff capacity building and development.

Who: National and sub-national stakeholders

Resource Mobilization

Used as a framework for prioritising iSC strengthening needs for domestic and external resource mobilisation.

Who: programme and supply chain managers, national and sub-national EPI and health programme leadership, and parliament members

Who is this strategy **relevant for?**

Successful implementation of the strategy requires **collective effort** guided by country leadership. The strategy provides a framework for the following actors to take some key actions:

Governments

- developing country-specific iSC improvement strategies
- ensure all actors and partners prioritize iSC strengthening as stewards of the supply chain

Alliance partners, donors and other funders

- defining the priorities, scale and scope of support
- articulating iSC work stream proposals to donors
- evaluating investment priorities and monitoring performance
- flexibly guiding investments according to need

Civil society & academia

- monitoring the quality and value of iSC services
- advocating and lobbying parliament for support

Private sector iSC service providers

- design and development of products and services
- standardization of services across service providers

What changes will we see and how will progress be measured?

CHANGE	MEASURE & TARGETS	METHOD
Increased availability of life-saving vaccines where and when they are needed.	**Full stock availability** *Average over all reporting countries of the percentage of districts that reported no stock-outs (with full stock availability) for the full year for DTPcv and MCV.* **2021 Baseline** 82.5% (92% MCV) → **2023 Mid-strategy** 85% (93% MCV) → **2025** 95% (95%* MCV)	• Measured monthly via LMIS data & DHIS2 • Reviewed by iSC2 bi-annually • Contributes to IA2030 and Gavi 5.0 strategy indicators • Reported by UNICEF & WHO
Improved performance of immunisation supply chains	**Composite EVM Scores** *Average composite EVM score across countries conducting an EVM assessment.* **2021 Baseline** 70.5% → **2023 Mid-strategy** 76% → **2025** 79%*	• Measured on an ongoing basis • Reviewed by iSC2 bi-annually and reported annually • Reported by WHO
	A.Q.E. EVM Scores *The percentage of countries with >=80% score in A-availability, Q-quality, and E-efficiency EVM indicator categories, for countries that undergone an EVM2.* **2021 Baseline** 12% → **2023 Mid-strategy** 20% → **2025** 25%	

**: subjected to revision after mid-strategy review 2023*

What changes will we see and how will progress be measured?

CHANGE	MEASURE & TARGETS	METHOD

Increased investments in iSCs in key priority areas

System Optimization & Segmentation

Number of priority countries that have completed a system design assessment and adopted recommendations, including for last mile delivery into national supply chain strengthening roadmaps

2021 Baseline	2023 Mid-strategy	2025
9 countries	15 countries	21 countries

Smart integration & Harmonization

% of countries that have a supply chain strategy / masterplan for the integration of immunization supply chain into the national health commodities supply chain with plans to reach zero-dose population.

2021 Baseline	2023 Mid-strategy	2025
35% (20 countries)	56% (32 countries)	80% (46 countries)

- Measured on an ongoing basis
- Reviewed by iSC2 bi-annually and reported annually
- Reported by UNICEF

Fundamental Infrastructure

*# of Gavi countries that will have a CCE functionality** rate of 90%*

2021 Baseline	2023 Mid-strategy	2025
3 countries	12 countries	25 countries

- Measured on an ongoing basis
- Reviewed by iSC2 bi-annually and reported annually
- Reported by Gavi monitoring and performance management

*** Definition of functional CCE: Operable cold chain equipment that protects vaccine potency by maintaining a safe storage temperature range in challenging environmental conditions as defined by WHO PQS specifications. Cold chain equipment will be considered functional unless any of the following criteria met: a. Refrigerator had 5 or more heat alarms of over 10-hour duration (above +8C), b. Refrigerator had 1 or more freeze alarms of over 1 hour duration (below -0.5C), c. Refrigerator had 1 or more heat alarms of 48-hour duration or longer (above +8C)*

Data Visibility & Data Use

# of Gavi countries that have a vLMIS solution and processes for data use

2021 Baseline	2023 Mid-strategy	2025
18 countries	30 countries	47 countries

- Measured on an ongoing basis
- Reviewed by iSC2 bi-annually and reported annually
- Reported by UNICEF

Capacity Development & Professionalization

% of countries that have conducted an EVM2 assessment have a score above 80% in the C4 category : "recruitment, training and knowledge of staff meet EVM standards"

2021 Baseline	2023 Mid-strategy	2025
54% (7 of 13 countries)	65%	70%

Strategic Planning

# of Gavi countries will have conducted an EVM2 and have a cIP – oversight by a functioning NLWG.

2021 Baseline	2023 Mid-strategy	2025
13 countries	30 countries	57 countries

- Measured on an ongoing basis
- Reviewed by iSC2 bi-annually and reported annually
- Reported by WHO

**: subjected to revision after mid-strategy review 2023*

What are **practical approaches** for the strategy to get implemented into action?

Investment Priorities & Areas of Opportunity within the Investment Priorities

Data visibility and use	Capacity development and professionalization	Fundamental infrastructure	Strategic planning	System optimization and segmentation	Smart integration and harmonization
Digitize and integrate information systems (eLMIS, Barcoding, Track & Trace)	Supply chain competencies and structures	Continue support to maintain adequate CCE capacity	Conduct comprehensive supply chain planning	Continuously review and optimise existing systems	Conduct analysis and identify opportunities for integration
Collect, analyse, and use data	Strengthen and apply skills	Integrate temperature and other SC data	Consider various financing approaches	Improve processes, from forecasting to waste management	Develop guidance and evidence for integration
Active vaccine & syringe stock management, including wastage tracking & mitigation	Identify effective incentives & motivators	Invest in appropriate SC resources, either building capacity or outsourcing	Strengthened national and subnational governance mechanisms	Apply approaches from other settings and sectors	Connect broad community of SC actors at national and sub-national levels
Establish a monitoring & accountability framework	Create healthy work environments			Strengthen data-driven forecasting and agile supply planning	

The comprehensive vaccine management approach supports attainment of the iSC 5.0 strategic vision, and emphasizes a few areas of focus for targeted strengthening within the investment priorities

Please Note: ***Practical actions for each of the investment priority areas are included in the longer version of this deck.***

The CVM approach pivots delivery of all investment areas for Gavi 5.0 and contributes to the achievement of Alliance strategic goals

CVM Approach Prioritization

- Distribution and network design
- Data-driven forecasting & supply planning
- End-to-end vaccines & dry commodities stock management
- Waste Management
- Strengthened iSC data quality, visibility & use systems
- Active vaccine wastage tracking, data use & mitigation of drivers of wastage
- Availability and functionality of national & subnational technical working groups*
- Optimal supply chain and health worker** number, capacity, skills and tools
- Supply chain professionalization
- Rational supply chain functions integration and harmonization
- Solarization
- Agile cold chain inventory and planning systems for current and future needs
- Preventive and corrective maintenance systems
- iSC planning, performance monitoring and management
- Adequate cold chain and dry storage capacity
- National EPI/PHC supply chain strategies and master plans

		Priorities	Potential contribution to availability, ZD reach	Potential contribution to vaccine quality	Potential contribution to supply chain efficiency
CVM Priority One		Priority One	High	High	High
CVM Priority Two		Priority Two	Medium	Medium	Medium
CVM Priority Three		Priority Trois	Low	Low	Low

Thank You

Click here for the Gavi Alliance iSC Strategy Landing Page

Supply Chain in the UNICEF 2030 Immunization Roadmap: a focus on under immunized and zero dose populations

Michelle Seidel

UNICEF

IMMUNIZATION ROADMAP TO 2030

unicef
for every child

Overview presentation

OVERVIEW PRESENTATION

Objectives

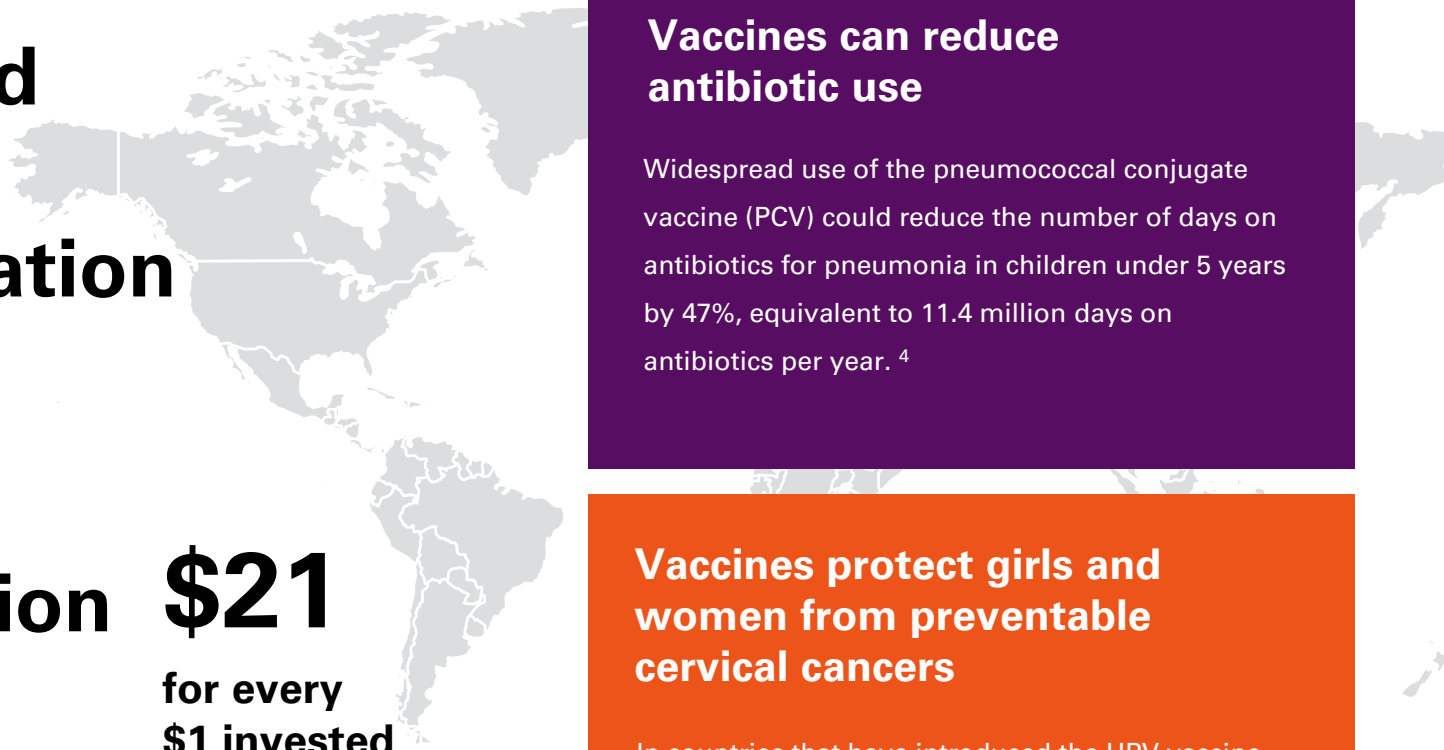
- Articulate UNICEF Immunization Roadmap's goals, objectives, and outputs to 2030
- Describe how UNICEF will work to achieve its goals through its change strategies and programming approach with a focus on iSC
- Describe how UNICEF's iSC approach to contributing to IA2030 and reducing zero dose populations

EVOLVING IMMUNIZATION CONTEXT

01

EVOLVING IMMUNIZATION CONTEXT

The human, social and financial returns from investing in immunization are far-reaching



67 million

deaths averted by 2030

Modelling estimates vaccination against just ten selected pathogens will have averted 67 million deaths between 2000 and 2030.[1]

24 million

people kept from poverty

Vaccines will help keep an estimated 24 million people from falling into poverty by 2030.[2]

$21

for every $1 invested

On average, for each US$1 invested against ten pathogens, it provides a return of US$21.[3]

Vaccines can reduce antibiotic use

Widespread use of the pneumococcal conjugate vaccine (PCV) could reduce the number of days on antibiotics for pneumonia in children under 5 years by 47%, equivalent to 11.4 million days on antibiotics per year. [4]

Vaccines protect girls and women from preventable cervical cancers

In countries that have introduced the HPV vaccine, after 5–8 years, the prevalence of precancerous lesions decreased by 51% among girls aged 15–19.[5]

1. Xiang Li, PhD et al. (2021). https://doi.org/10.1016/S0140-6736(20)32657-X
2. Chang AY, et al. DOI: 10.1377/hlthaff.2017.0861
3. https://www.gavi.org/vaccineswork/new-evidence-shows-investments-vaccination-produce-even-greater-returns-previously
4. Laxminarayan R, et al. DOI: 10.1016/S0140-6736(15)00474-2
5. Drolet M, Benard E, Perez N, Brisson M, DOI: 10.1016/S0140-6736(19)30298-3

EVOLVING IMMUNIZATION CONTEXT

Immunization programming context evolved significantly since the development of UNICEF Immunization Roadmap in 2018

COVID-19 pandemic

Impact on health systems, economies and demand for vaccination; new partnership dynamics; innovation and investment opportunities

Public health emergencies & outbreaks

Polio, Measles, Diphtheria, Monkey Pox, reversals in disease elimination status

Conflicts, humanitarian emergencies

and extreme weather events

Population dynamics

Population growth, urbanization, displacement, unprotected children in middle income countries

Updated global strategies & partnerships [IA2030, Gavi 5.0, DSIs]

Zero-dose, life-course approach, PHC integration, data driven management improvements, sustainability and innovation, complexity of immunization programmes

Challenging social, economic & political context

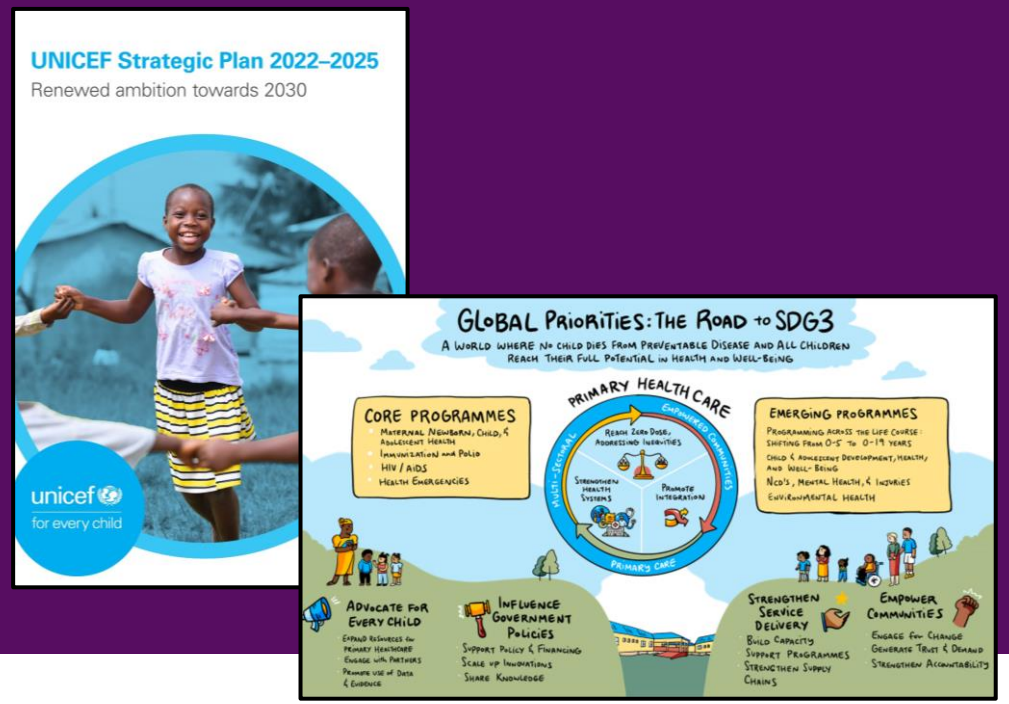
Unprecedented levels of uncertainty, growing poverty, nationalism and exclusion, populism and misinformation

IMMUNIZATION ROADMAP OVERVIEW

02

ROADMAP OVERVIEW

UNICEF's Immunization Roadmap supports the achievement of:



2022-2025 UNICEF's Strategic Plan

Goal Area 1 – output 2:

Children, including adolescents, and women have access to quality immunization services as part of primary health care, in development and humanitarian contexts.

UNICEF Strategy for Health 2016-2030

Goals:

1. Ending preventable maternal, newborn and child deaths
2. Promoting the health development of all children.

Approaches:

1. Address inequities
2. Strengthen health systems, including emergency preparedness, response and resilience
3. Promote integrated, multi-sectoral policies and programmes

Programmatic focus:

1. Equitable access to integrated primary health care services, including immunization
2. Public policies and supportive environments

ROADMAP OVERVIEW

UNICEF Immunization Roadmap to 2030 is being updated to respond to new context

The refresh emphasizes six areas:

UNICEF Immunization Roadmap Programming Framework

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CHANGE STRATEGIES

- Advocacy
- Partnerships
- Data
- Digital-transformation
- Gender-transformative
- Multi-sectoral
- Resiliency & preparedness

OUTPUTS

- » Improved generation and use of evidence
- » Strengthened leadership, management and coordination, and strategic planning
- » Enabled governments and immunization stakeholders to sustainably finance immunization services
- » Extended reach of immunization services, including new & under-utilized vaccines
- » Improved readiness to prevent and respond to VPD outbreaks and pandemics, while achieving eradication and elimination goals
- » Countries have uninterrupted access to affordable vaccines and immunization-related supplies
- » Improved availability of potent vaccines at service delivery points
- » Responsive and effective social behavior interventions designed and implemented with communities
- » Improved capacity of frontline health workers to build trust and confidence in vaccination and PHC services

OBJECTIVES

OBJECTIVE #1

Create an enabling environment for immunization and primary health care

OBJECTIVE #2

Enhance equitable access to quality immunization services provided through resilient primary health care

OBJECTIVE #3

Improve demand for quality immunization and primary health services

GOALS

1 **Catch up and recover**

Vaccinate children missed during the pandemic, restore disrupted immunization services, and accelerate to achieving Immunization Agenda 2030 goals.

2 **Leave no one behind**

Increase equitable access to and use of existing and new vaccines.

3 **Strengthen and sustain**

Strengthen immunization programmes to sustainably reach target populations with full vaccination and essential primary health care services

VISION

A world where every child, adolescent and woman fully and equally benefits from vaccinations for good health, well-being and full realization of their potential

PRINCIPLES

- IMPACT-DRIVEN
- INNOVATIVE
- PEOPLE-CENTERED
- EQUITABLE

PROGRAMMING APPROACHES

03

CHANGE STRATEGIES

UNICEF will use change strategies and enablers to meet its objectives

- Partnerships
- Data and evidence
- Gender-transformative programming
- Innovation
- Multi-sectoral approaches
- Immunization as a platform for PHC
- Multi-faceted approach to emergencies and pandemic preparedness

UNICEF's Roadmap will contribute to the achievement of global goals

IA2030 IMPACT GOALS

Preventing Disease

All countries achieve the endorsed disease control, elimination and eradication targets

Promoting Equity

50% reduction in the number of zero dose children

Building Strong Programmes

90% global coverage for DTP3, MCV2, PCV3, and HPV

Vaccine goal

300m children to be reached through routine immunization

Equity goal

25% reduction in zero dose children by 2025 and 50% reduction by 2030

Sustainability goal

Strengthening commitment, promoting domestic resources for immunization and PHC

Healthy markets goal

Supply sustainability, healthy demand and innovation

GAVI 5.0 STRATEGY

UNICEF Immunization Roadmap objectives and outputs are linked and contribute to the achievement of the IA2030 strategic priorities

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UNICEF IMMUNIZATION OBJECTIVES → **SUPPORT THE ACHIEVEMENT OF** → **IA2030 STRATEGIC PRIORITIES**

1. Create an enabling environment for immunization and primary health care

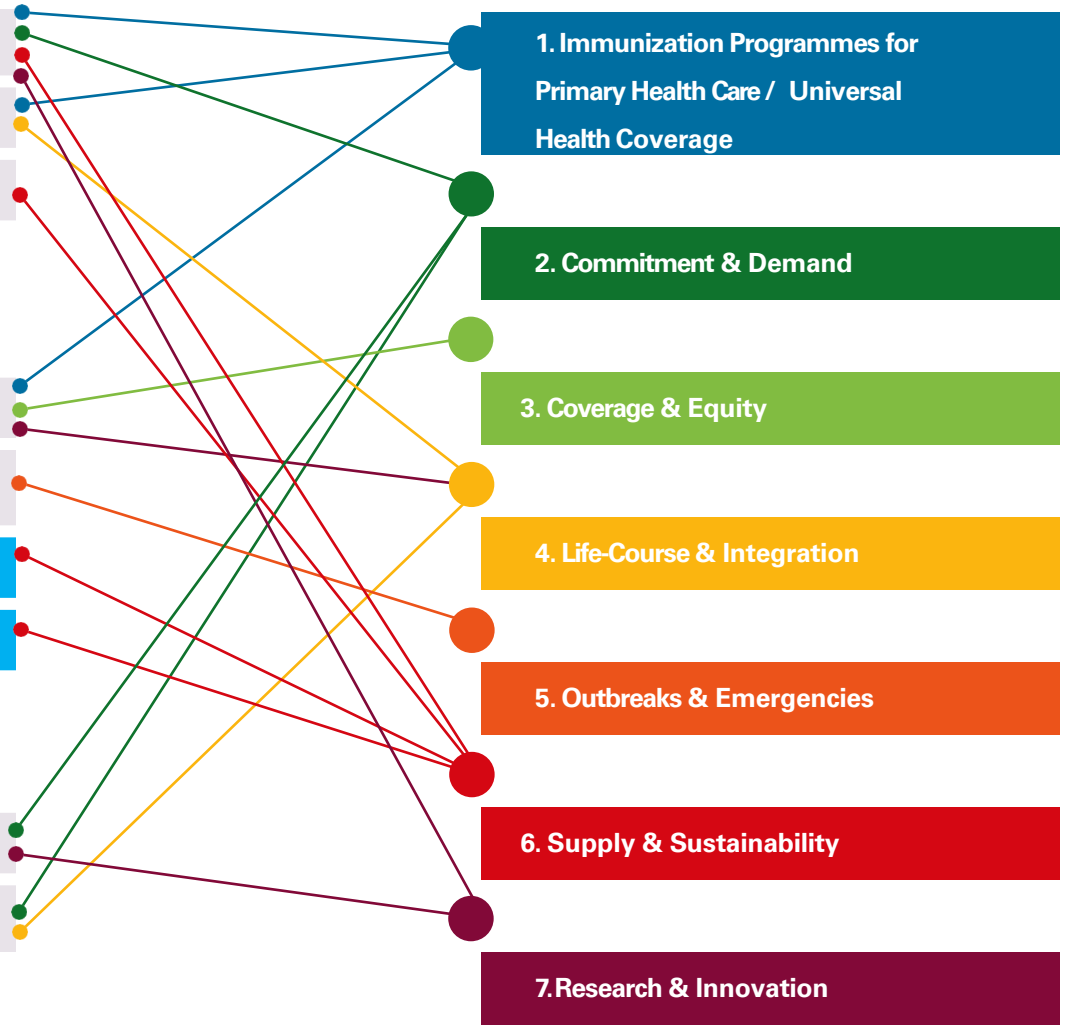
+ Improved generation and use of evidence
+ Strengthened leadership, management and coordination
+ Governments and immunization stakeholders enabled to sustainably finance immunization services

2. Enhance equitable access to quality immunization services provided through resilient primary health care

+ Extended reach of immunization services, including new & under-utilized vaccines
+ Improved readiness to prevent and respond toVPD outbreaks, while achieving eradication and elimination goals
+ Countries have uninterrupted access to affordable vaccines and immunization-related supplies
+ Improved availability of potent vaccines at service delivery points

3. Improve demand for quality immunization and primary health services

+ Responsive and effective social behavior interventions designed and implemented with communities
+ Improved capacity of frontline health workers to build trust and confidence in vaccination and PHC services



CONSULTATION WITH PARNTERS

IMMUNIZATION SUPPLY CHAIN

4

Improved availability of potent vaccines at service delivery points

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01

Last Mile Integrated PHC Commodities - DRIVE

Develop and support innovative approaches and partnerships for last-mile delivery of vaccine and other essential commodities.

02

Sustainable & environment friendly iSCL

- Improved access to PHC services through solarization of health facilities, leveraging our core expertise in cold chain and water, sanitation and hygiene.
- Support strategic partnerships and/or in-house distribution and waste management systems for vaccines and PHC commodities across the supply chain.

03

Evidence-based planning and decision making

Strengthen S/NLWG capacity to manage stocks and CCE to respond to over-/understocks in real time using existing systems and tools linking to operational systems at SD through Thrive360 and ViVa and strengthen national information systems to respond to NLWG SC response.

04

Improved immunization supply chains

Strengthen Government capacity to benchmark supply chain incl. Effective Vaccine Management Assessments and maturity models, develop comprehensive Improvement Plans (cIPs) and track implementation of cIPs and its linkages to broader strategic initiatives and budget cycles.

The DRIVE Initiative

Overview

- The Initiative will prioritize supply chain interventions in initial 20 countries at the intersection of high un- and under-immunized populations and low supply chain performance

- Working closely with government, in-country partners, iSC2 partners, private sector and other organizations, UNICEF will implement last mile supply chain direct delivery interventions

- This will contribute to reduction in number of unvaccinated and under-vaccinated children (and low access to other public health commodities) in different contexts

The DRIVE Initiative- *Approach*

Typical last mile distribution	DRIVE Initiative
Healthcare workers (HCWs) responsible for last mile distribution	Young people and other stakeholders responsible for last mile distribution
Pick up from district stores/equipped HFs	Delivered to health workers from district stores/equipped HFs by young people/others
Default-prone hidden costs for vaccine distribution, often borne by HCWs	Dedicated vaccine distribution financing, assuring availability and optimizing cost
Potency risks laden multiple HCWs vaccine pick-ups and distribution	Reduced vaccine handling and mitigated potency risks
HCWs pick ups a missed stock management opportunities e.g., counts.	Leveraged opportunity for additional stock monitoring and management
Limited or no multi-stakeholder engagements in vaccine management	Multi-stakeholder engagements in vaccine management and increased ownership

Climate-resilient and environmentally sustainable Health Care Facilities:

Strengthening primary health care infrastructure

SOLARIZATION

Using the 41,000 SDDs installed using cold chain deployments (CCEOP) and global LTAs, electrify PHC facilities at the last mile [zero

WASH

Since 2014, more than 21,000 HCFs in 85 countries have received WASH improvements through direct UNICEF support

WASTE

Comprehensive WM plans through expert TA support, contextual technology solutions for

WORKFORCE

Integrated capacity development plan (guidance, webinars) for UNICEF CO and health workers on:

- Planning the integrated solutions
- Managing commissioning , operations and maintenance
- Monitoring & Impact Assessment
- Infection, prevention and control
- Climate resilience

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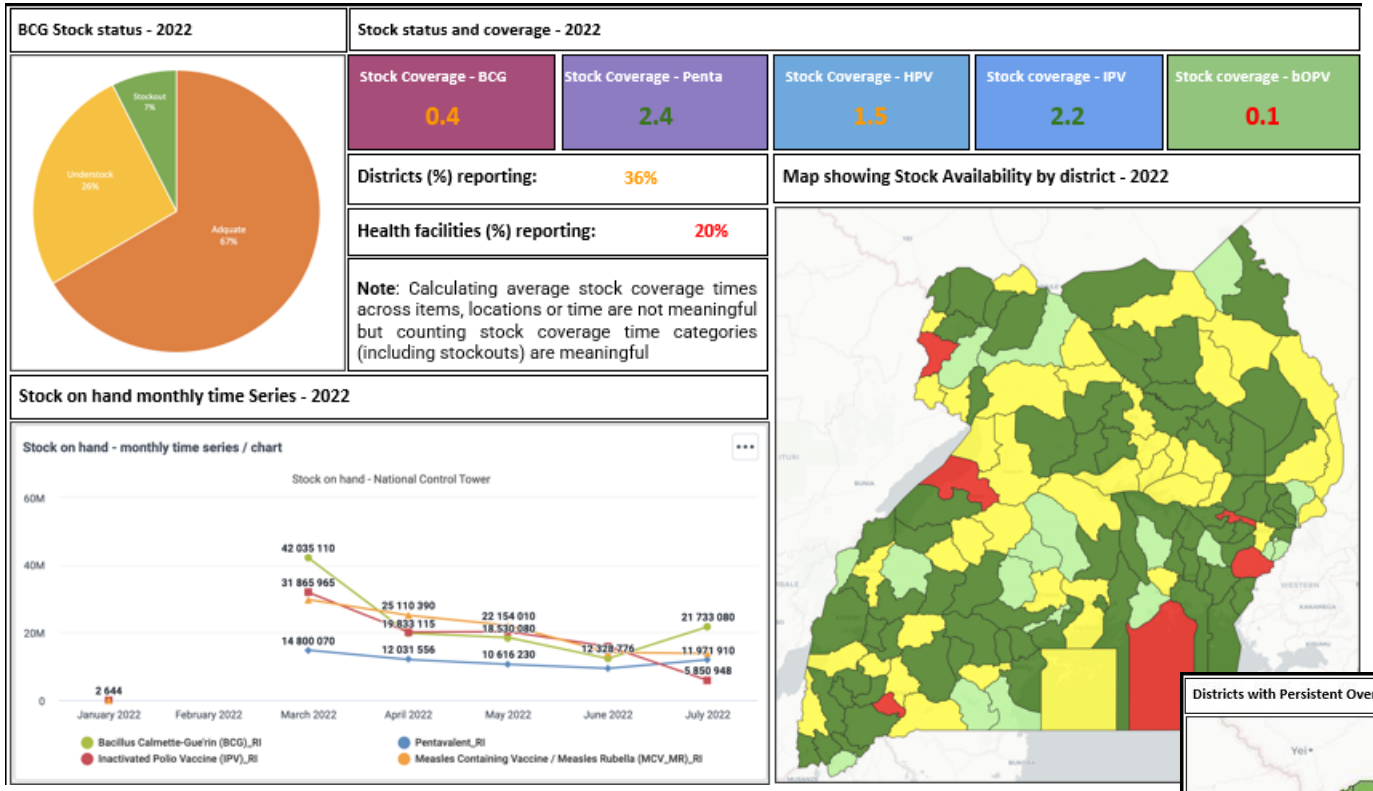


End to end Stock Monitoring at Health Facility / Service delivery points

- Forecasts, allocations, doses received, doses consumed and wastage.
- Projected shortfalls/surpluses

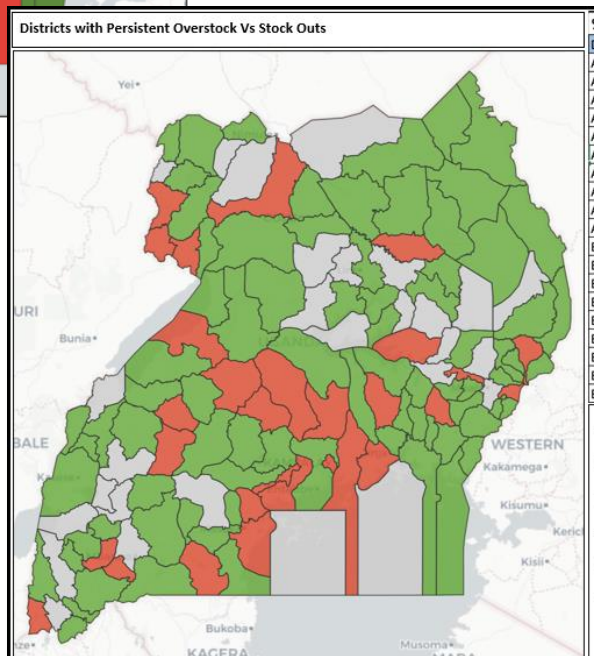
- Projected stockouts, overstock
- Contribute to distribution planning

- Side-by-side comparison with coverage rates, zero-doses numbers and monitoring findings

Persistent stockouts

- Tracking frequency and duration of stockouts at district levels

- Leverage relevant existing analytics from other DHIS2 interventions



% of HFs that had a Persistent Stock Out by District

Districts	Jan	Feb	Mar	April	May	June	Jul	Aug
Adjumani District	41	63	72	34	75	56	47	5
Agago District	88	3	88	8	91	98	71	72
Alebtong District	9	99	94	74	75	69	17	76
Amolatar District	98	63	21	86	92	75	86	2
Amudat District	81	48	1	55	12	55	56	29
Amuria District	9	86	14	61	58	57	8	40
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Arua District	41	31	20	28	37	19	66	29
Budaka District	92	25	27	23	49	93	73	56
Bududa District	86	30	51	40	63	63	76	62
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Bugweri District	56	1	75	60	39	64	49	40
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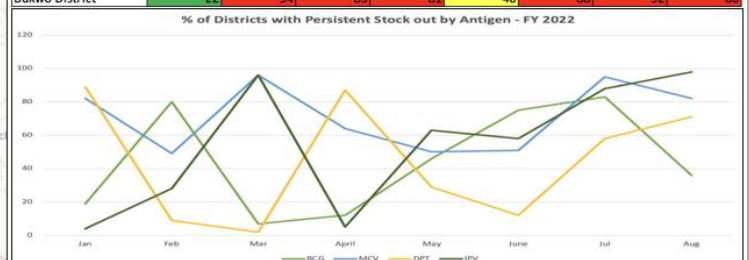
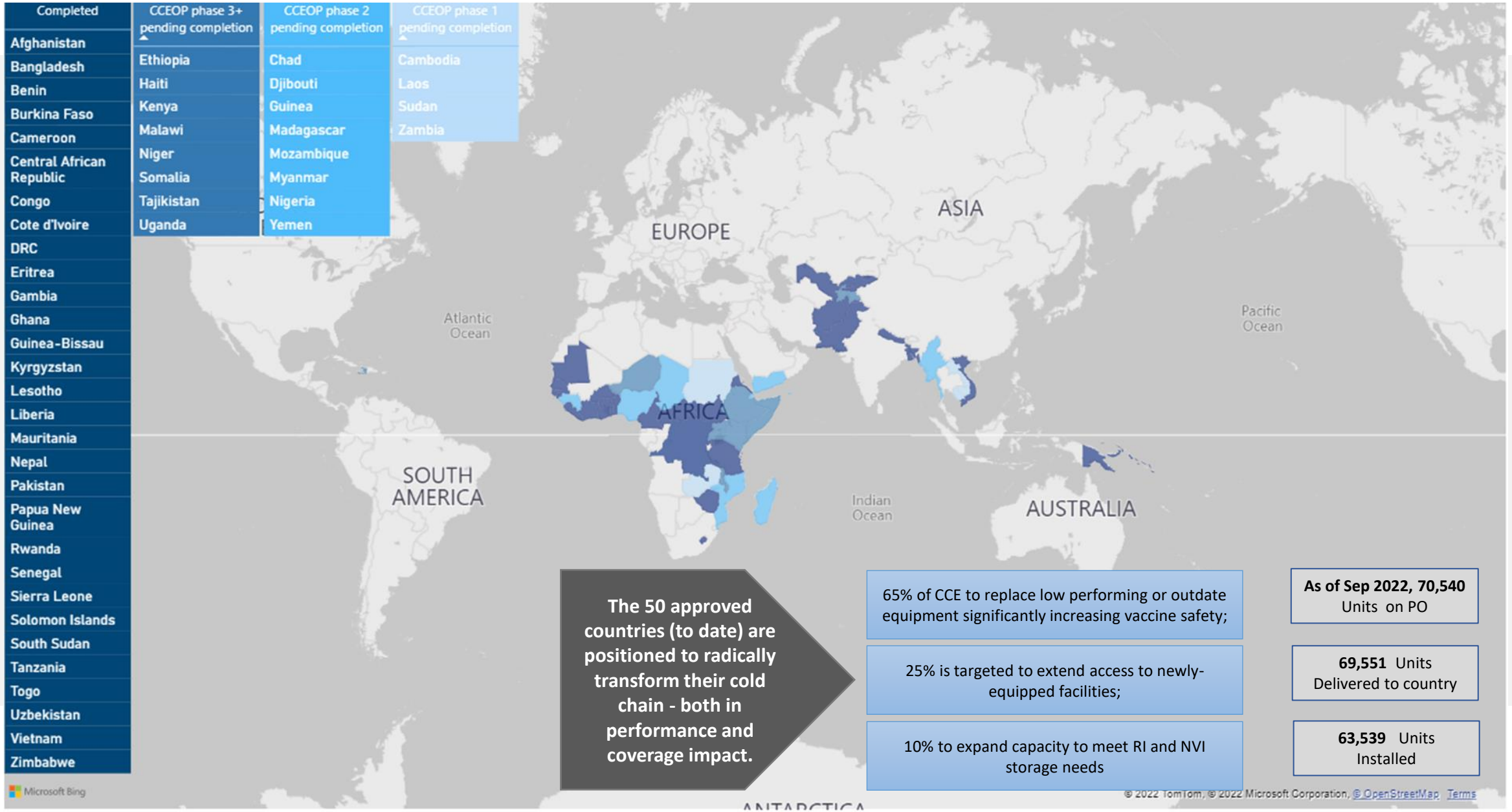
Bukomansimbi District	38	77	81	27	50	28	28	23
Bukwo District	22	94	83	81	40	88	92	86



THE COLD CHAIN EQUIPMENT OPTIMIZATION PROGRAMME (CCEOP) WAS LAUNCHED IN 2017 AND IS ADDRESSING CRITICAL COLD CHAIN GAPS GLOBALLY, WITH EXPECTED TARGET PROCUREMENT OF 75K UNITS BEFORE END 2022

Completed	CCEOP phase 3+ pending completion	CCEOP phase 2 pending completion	CCEOP phase 1 pending completion
Afghanistan	Ethiopia	Chad	Cambodia
Bangladesh	Haiti	Djibouti	Laos
Benin	Kenya	Guinea	Sudan
Burkina Faso	Malawi	Madagascar	Zambia
Cameroon	Niger	Mozambique	
Central African Republic	Somalia	Myanmar	
Congo	Tajikistan	Nigeria	
Cote d'Ivoire	Uganda	Yemen	
DRC			
Eritrea			
Gambia			
Ghana			
Guinea-Bissau			
Kyrgyzstan			
Lesotho			
Liberia			
Mauritania			
Nepal			
Pakistan			
Papua New Guinea			
Rwanda			
Senegal			
Sierra Leone			
Solomon Islands			
South Sudan			
Tanzania			
Togo			
Uzbekistan			
Vietnam			
Zimbabwe			



The 50 approved countries (to date) are positioned to radically transform their cold chain - both in performance and coverage impact.

65% of CCE to replace low performing or outdate equipment significantly increasing vaccine safety;

25% is targeted to extend access to newly-equipped facilities;

10% to expand capacity to meet RI and NVI storage needs

As of Sep 2022, 70,540 Units on PO

69,551 Units Delivered to country

63,539 Units Installed

Driving supply chain improvements through the EVM-Continuous Improvement Plans Framework

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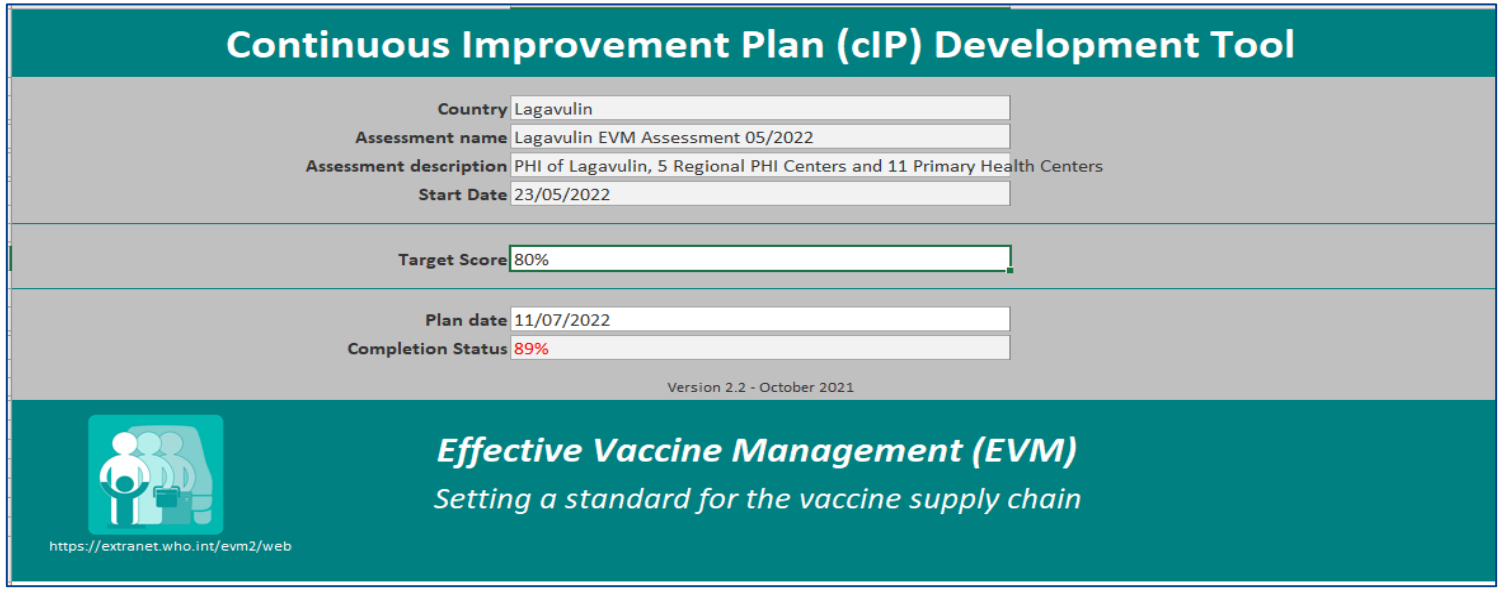
Post-assessment continuous improvement plans (cIPs)

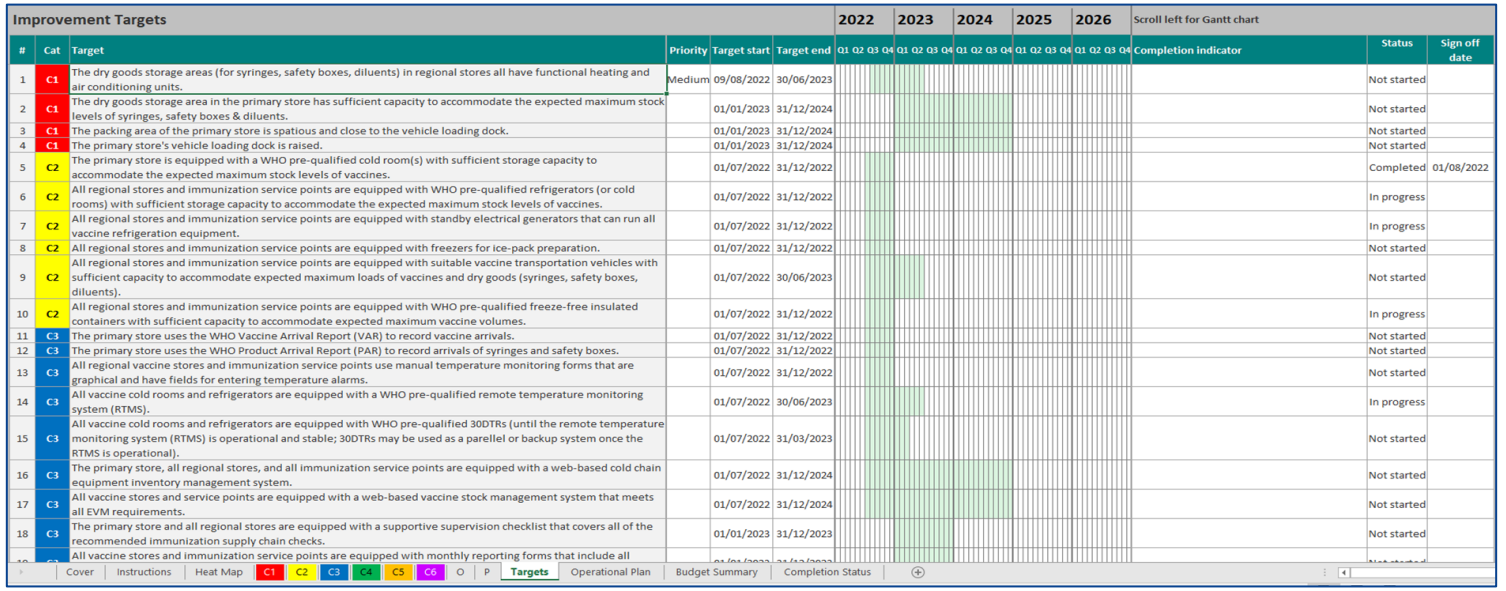
40 *cIPs since launch of EVM2 framework*

+

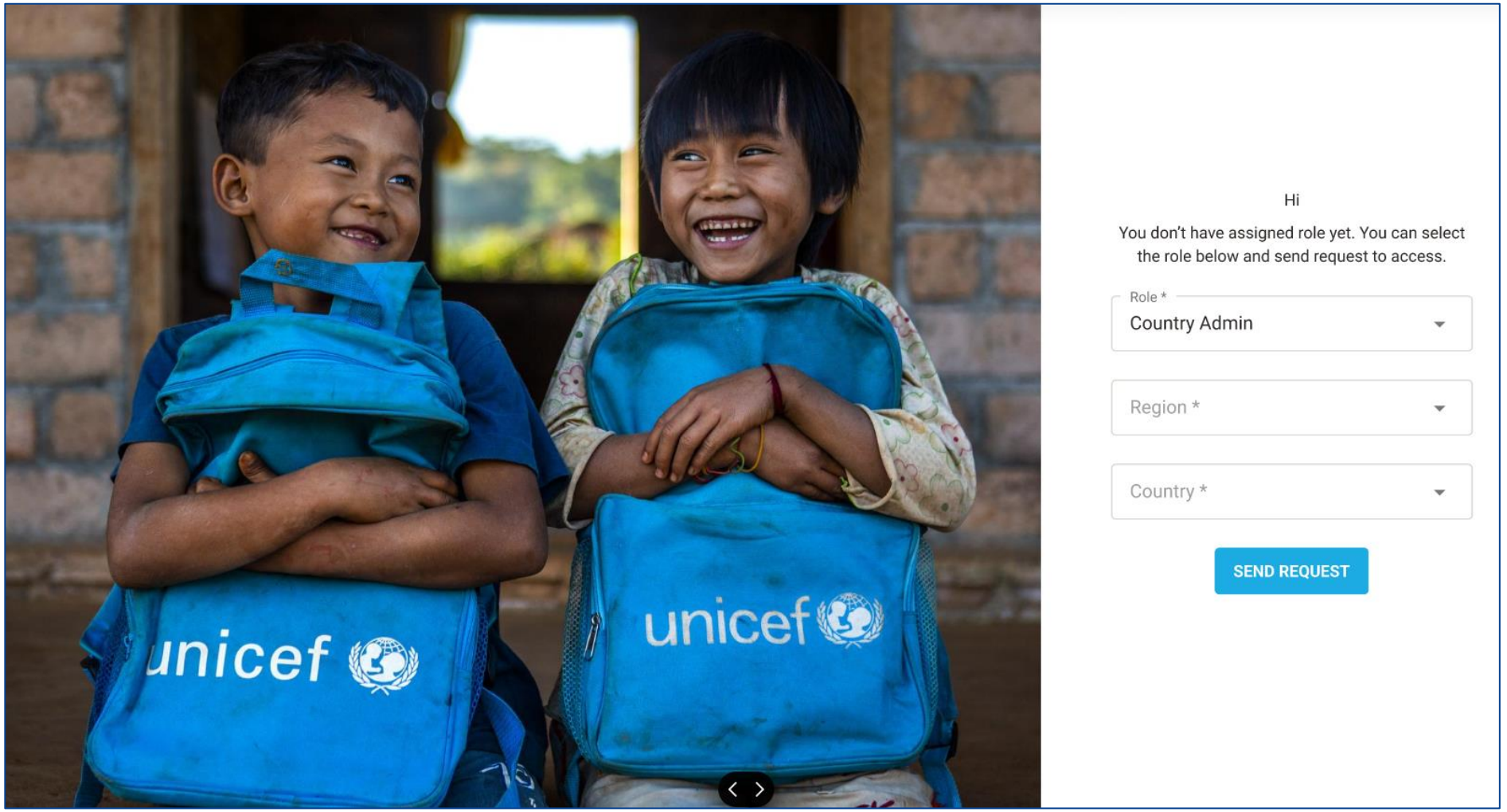
10 *cIPs from previous EVM framework*

2019	2020	2021	2022
Iraq	Cambodia	Bangladesh	Comoros
Maldives	Cameroon	Burundi	Gambia
Pakistan	Djibouti	Côte d'Ivoire	Guinea
	Indonesia	Eritrea	India
	Kenya	Ghana	Jordan
	Madagascar	Lebanon	Kyrgyzstan
	Nepal	Malawi	Liberia
	Niger	Mongolia	Mauritania
	Sudan	Nigeria	Qatar
	Uganda	Sri Lanka	Sao Tome and Principe
	Viet Nam	Tanzania	Sierra Leone
		Togo	Tajikistan
		Zambia	Tunisia
			Uzbekistan





Supply chain Continuous Improvement Plans Implementation Tool (SCIP)



Globally tracking cIP Development and implementation

Systematic EVM Process Monitoring

(S)NLWGs presence and functionality mapping

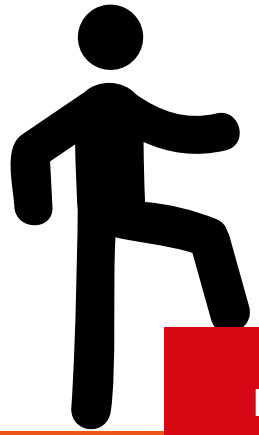
IN SUMMARY

UNICEF's Immunization Roadmap has been refreshed to align with new global documents and adjust to the current context

The context in which UNICEF's immunization Programme operates has changed significantly in recent years:

- New areas of emphasis reflected in IA203O and Gavi 5.0
- COVID-19 pandemic
- Increased importance of MICs

UNICEF has refreshed its Immunization Roadmap to respond to this new context



Maintaining its traditional target population, with possibility of expanding if necessary

Capitalizing on its comparative advantages

Doubling down on traditional areas of focus: advocacy, supply, SBC

Supporting new areas of global focus (e.g., zero-dose agenda, PHC…)

Increasing support to MICs

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THANK YOU!

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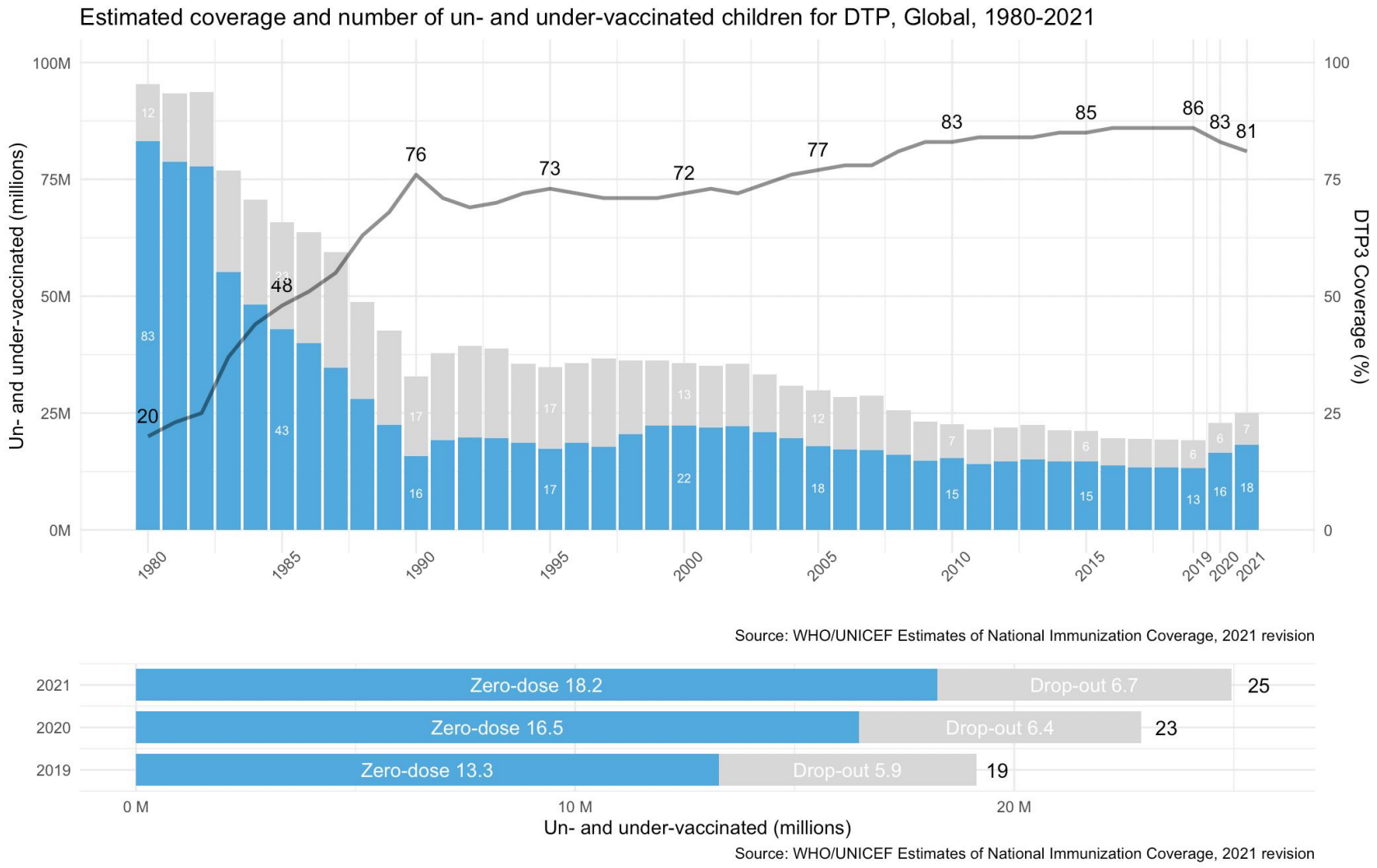
Considerations and equity interventions to identify, target and reach underserved and zero dose populations

Olamide Folorunso

Innovative supply chain interventions are needed at scale to address zero dose and under-immunization gaps

25 million children were un-or under-vaccinated in 2021, 2 and 6 million more than in 2020 and 2019, respectively



Coverage of the third dose of diphtheria, tetanus, and pertussis vaccine (DTP-3) dropped a further 2% compared 2020, to 81% in 2021, leaving 25 million children vulnerable to vaccine-preventable diseases

The Immunization Agenda 2030 is to make vaccination available to everyone, everywhere, by 2030. The Covid-19 pandemic, associated disruptions, and Covid-19 vaccination efforts have strained health systems in 2020 and 2021, resulting in 25 million children missing out on vaccination, 6 million more than in 2019 and the highest number **since 2008**. The number of children missing out on any vaccination - "zero-dose children" – increased by 5 million, from 13 to 18 million.

In this analysis, zero-dose children are those who lack any dose of DTP. Under-vaccinated are those who received one dose, but not a third protective dose.

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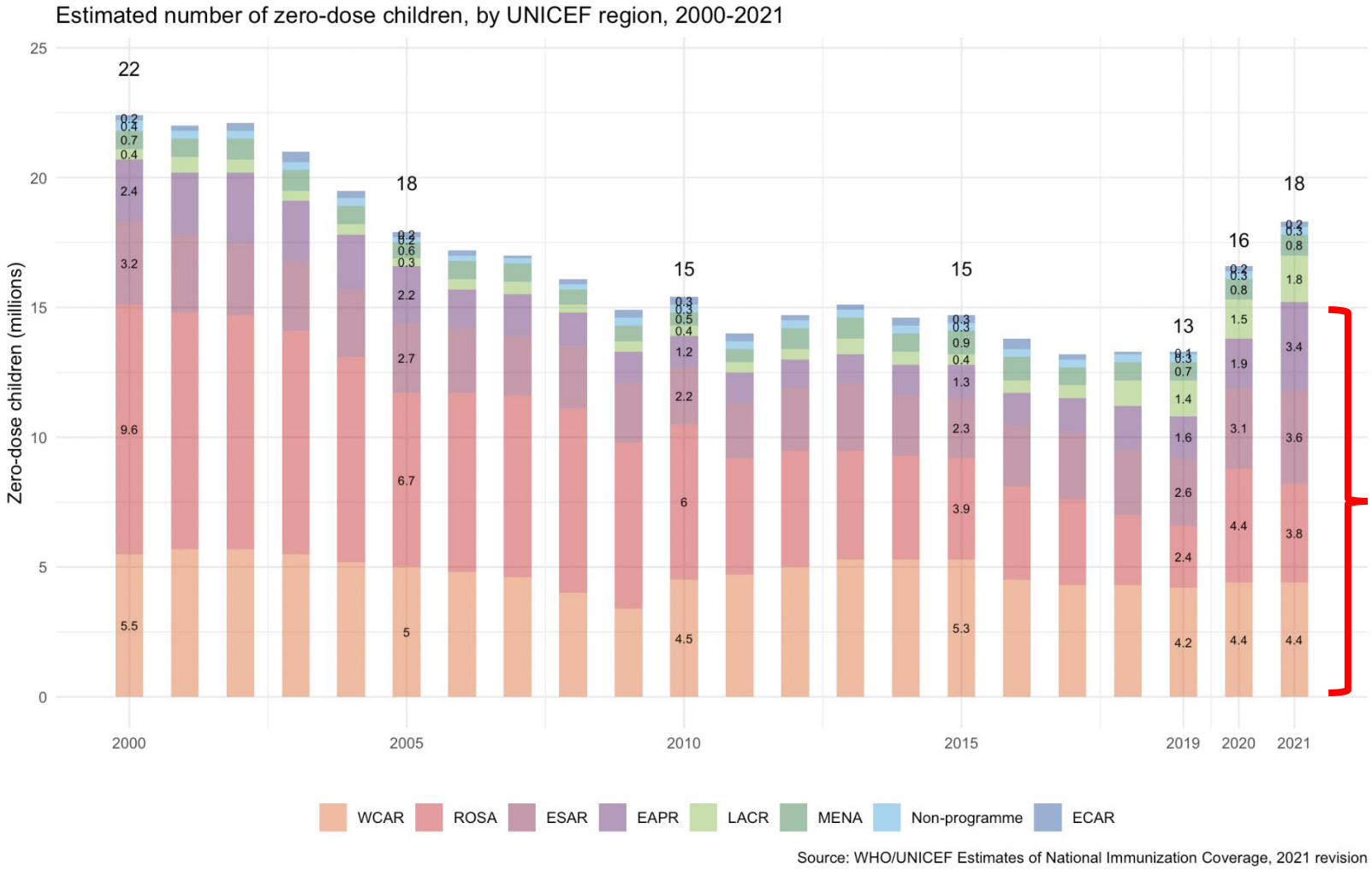
WCAR, ROSA, ESAR and EAPR region countries contributed to almost 75% of global zero-dose children in 2021

The number of zero-dose children increased sharply during the 2020-2021 pandemic years

An additional 5m zero-dose children from 2019



74% contri-butions by ***WCAR, ROSA, ESAR and EAPRO countries***

The number of zero-dose children – those never vaccinated with a first dose of DTP-containing vaccine, increased by 37%, from 13 to 18 million between 2019-2021.

18 million children were left out by immunization services in 2021**, a number not seen since 2005**. Almost all zero-dose children live in low- and middle-income countries, with global share of zero-dose children distributed as such:

WCAR 24% (4.4m)
ROSA 21% (3.8m)
ESAR 20% (3.6m)
EAPR 19% (3.4m)
LACR 10% (1.8m)
MENA 4% (0.8m)
ECAR 1% (0.2m)

In this analysis, zero-dose children are those who lack any dose of DTP. Under-vaccinated are those who received one dose, but not a third protective dose.

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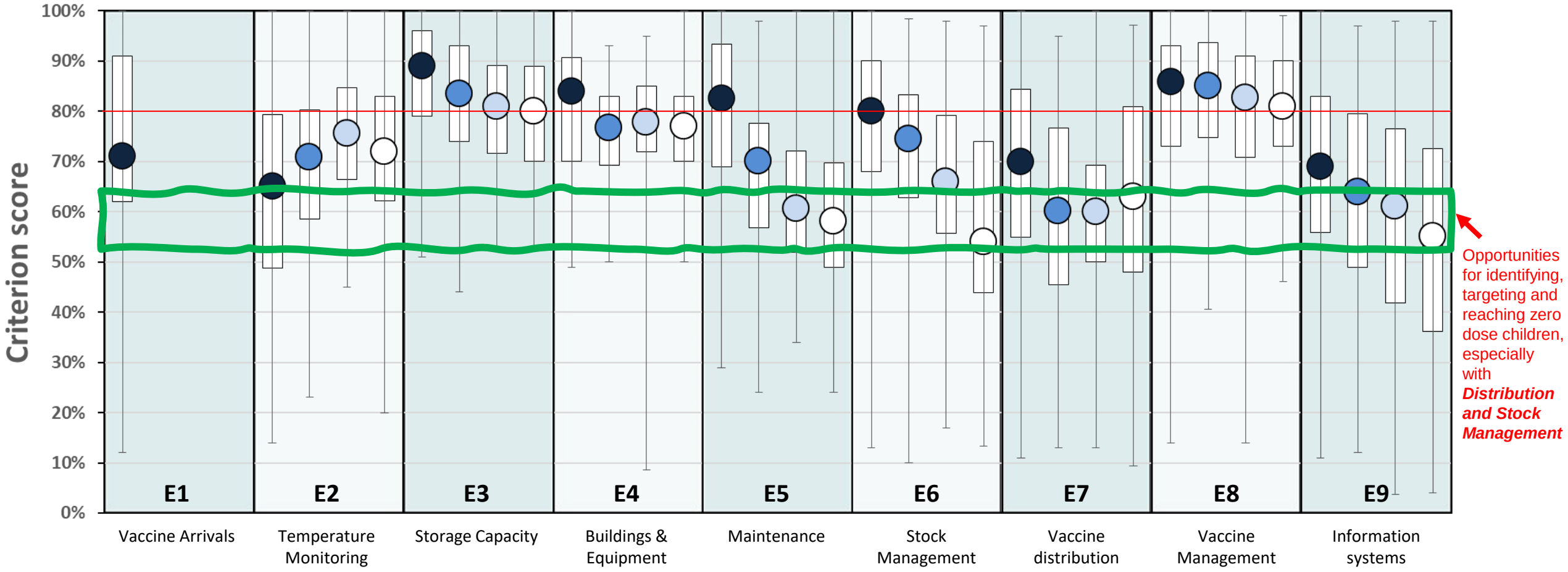
WUENIC 2022

EVM 1: 2009-2020 Global Criteria scores across supply chain levels

Stock management, vaccine distribution, maintenance typically reflect lowest supply chain performance with opportunities for designing interventions to identify, target and reach zero dose children

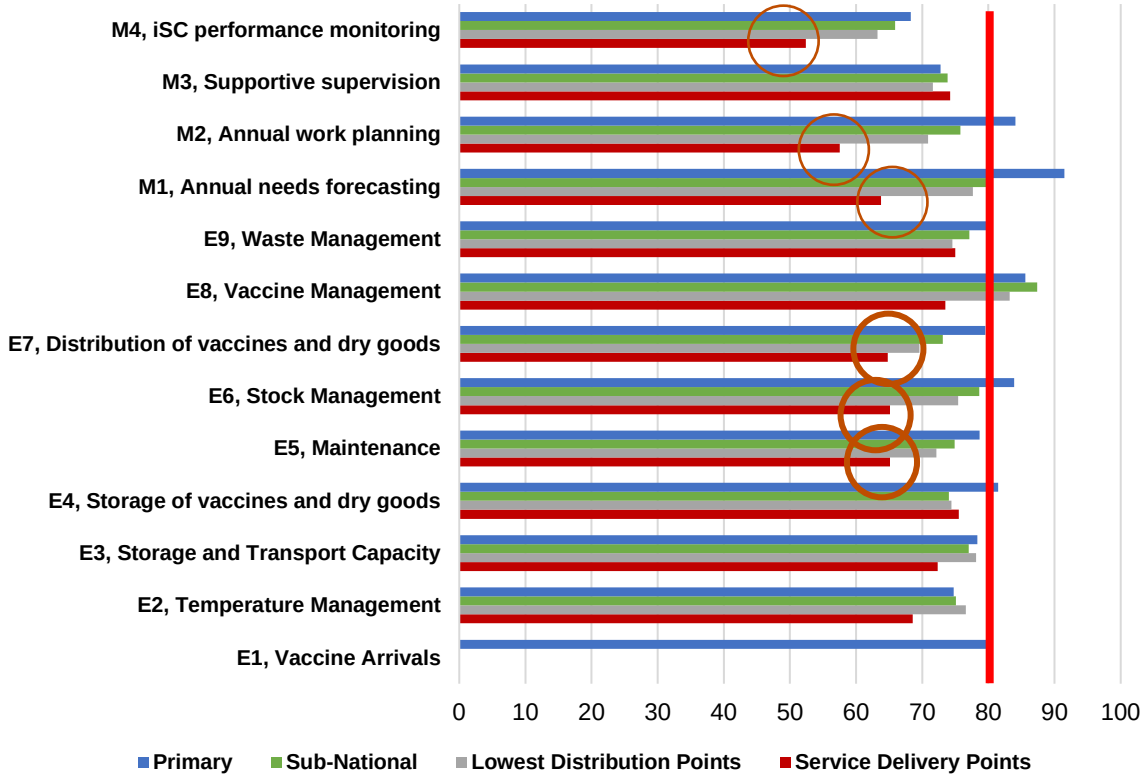


- ❑ The median scores decrease from PR to SP for all criteria except E2, where the opposite happens.
- ❑ The strongest criteria are E3 and E8 for which the median scores are above 80% at all levels of the supply chain.
- ❑ The weakest criteria are E2, E7 and E9 for which the median scores are below 80% at all levels of the supply chain.

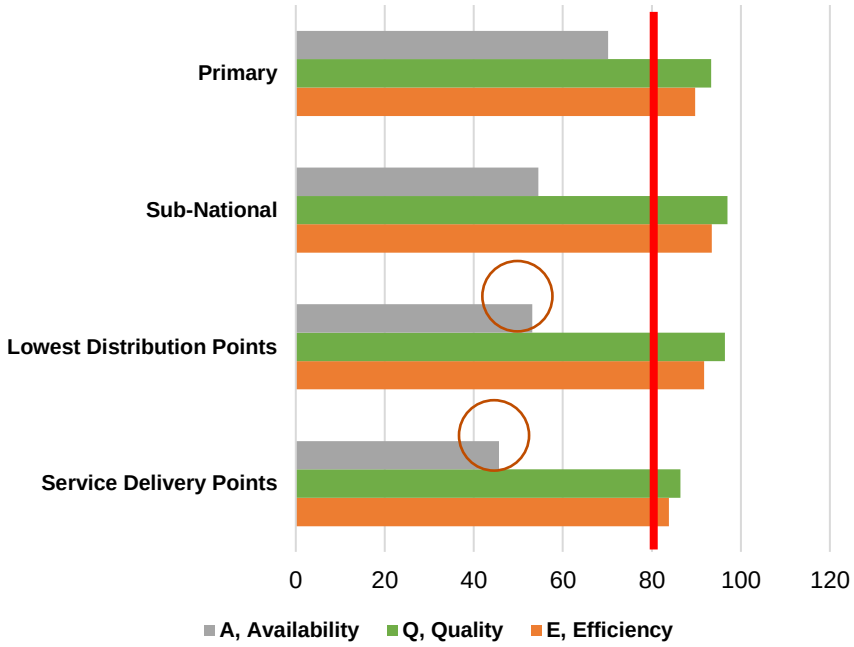
iSC performance (40 countries), EVM2 Assessments- *opportunities for developing interventions to identify, target and reach zero dose communities*

Sub-national and service delivery points levels lower performing, across supply chain criteria
Distribution and stock management weakest at lower supply chain levels and biggest levers for identifying, targeting, and reaching zero dose communities
Availability is the weakest performance metric, and lowest at service delivery points and sub-national levels
Facilities management criteria (M1-M4) poorer at lower supply chain levels

Supply Chain Performance, EVM2 *(n=40 countries)*



AQE Metrics, EVM2 *(n= 40 countries)*



Supply Chain Performance, EVM2 Heat Map *(n=40)*

	E1, Vaccine Arrivals	E2, Temperature Management	E3, Storage and Transport Capacity	E4, Storage of vaccines and dry goods	E5, Maintenance	E6, Stock Management	E7, Distribution of vaccines and dry goods	E8, Vaccine Management	E9, Waste Management	M1, Annual needs forecasting	M2, Annual work planning	M3, Supportive supervision	M4, iSC performance monitoring
Primary	80	75	78	81	79	84	80	86	80	91	84	73	68
Sub-National		75	77	74	75	79	73	87	77	80	76	74	66
Lowest Distribution Points		77	78	74	72	75	70	83	75	78	71	72	63
Service Delivery Points		69	72	76	65	65	65	74	75	64	58	74	52

Four priority areas for supply chain actions to contribute to reaching the unreached

REMOTE RURAL

URBAN

AFFECTED BY CONFLICT

GENDER BARRIERS

Root cause analysis of barriers (especially at the last mile) can contribute to designing differentiated supply chain strategies across four priority groups and facilitate access

REMOTE RURAL

- **Cost barriers to reach populations** due to their low density
- **Physical distance and remoteness** adds more complexities with ensuring timely availability of potent vaccines
- **Out of pocket financing of distribution/pick-up limit regular replenishments** and reduce staff motivation and retention
- **Incomplete data** and information on populations
- **Migrant and changing population dynamics** impact targeted supply chain programming

URBAN

- **Lack of accurate, disaggregated data** limits populations identification and tracking
- **Social distance, cultural barriers and discrimination** presents additional supply chain barriers
- **Limited prioritization of service delivery points, impacting access** (including for disenfranchised and informal settings)
- **Sub-optimal engagement with informal private sector providers**, limiting reach
- **Dynamic population** impact supply chain programming, especially in slums

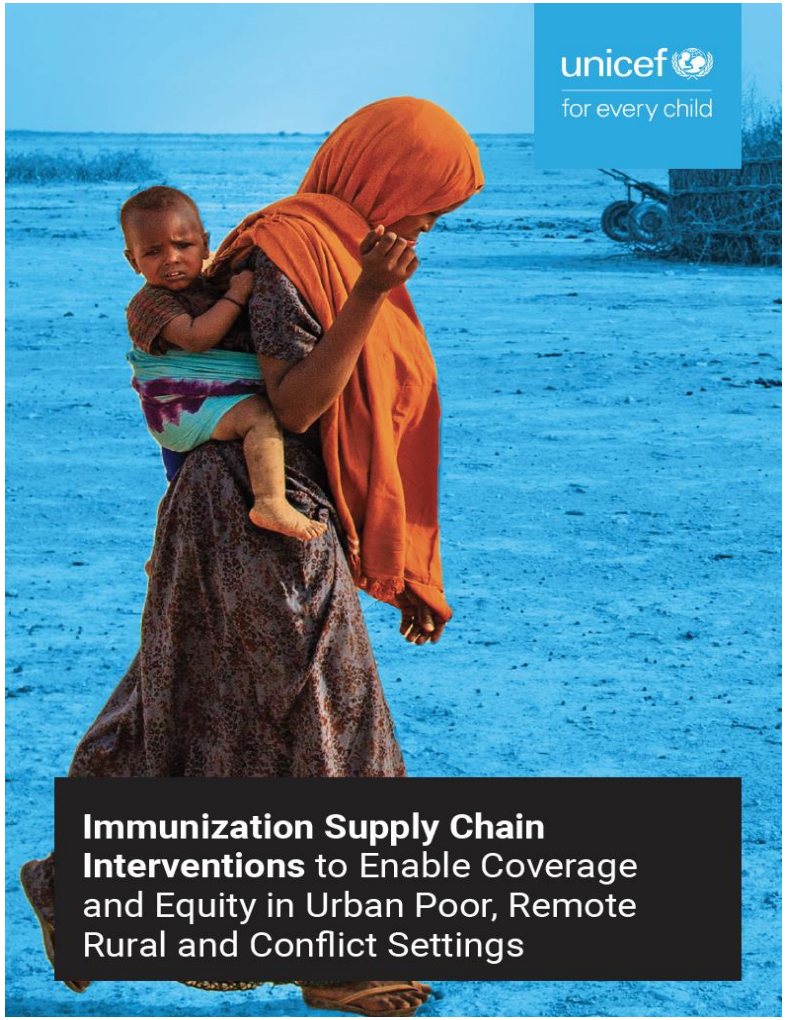
AFFECTED BY CONFLICT

- **Supply chain interruptions** due to damaged infrastructure or uncertainties
- **Poor motivation of health workers and retention**
- **Limited room for robust supply chain planning, forecasting** and demand aggregation
- **Mistrust distance between communities, clients and authorities**, creating additional supply chain barriers
- **Lack of accurate population data due to demographic flux**, displacements and migrations

GENDER BARRIERS

- **High distance between residential and healthcare service point**s present additional opportunity costs to mothers and care givers
- **Availability, acceptance and cultural factors** associated with female health providers create supply chain burdens
- **Reach of female health workers or supply chain staff may be limited** in rural/conflict/urban poor settings
- **Multiplicity of immunization sessions and missed opportunities for integration** limits young adolescent females and mothers to access care

Adaptable supply chain interventions to address zero dose communities' barriers



Urban poor

- Measures for **accurate, disaggregated data to identify and track** key populations and service deliveries.
- Engage **diverse stakeholders in direct vaccine delivery**.
- Ensure **integrated approaches** with demand generation, community ownership etc.
- Prioritized **budgets for key populations** to meet unique requirements

- Implications of **targeted strategies to mitigate cultural differences and discrimination**.
- Agile **strategies (including estimates) for disenfranchised/'informal' populations**.

Remote Rural

- Implications of optimized **strategies to mitigate geographic and access bottlenecks**.
- **Stock variations** on account of geographic peculiarities.

Conflict

- Implications of **potential damage to infrastructure and supply chain**.
- Implications of **strategies to mitigate access bottlenecks/ensure service continuity**.

Supply Chain Equity Strategies in Action
Immunization Supply Chain Interventions to Enable Coverage and Equity in Urban Poor, Remote Rural and Conflict Settings
Pro-Equity Immunization Strategies

The DRIVE Initiative

Overview

- The Initiative will prioritize supply chain interventions in countries with high underserved and unreached (with primary healthcare commodities) populations

- Working closely with governments, private sector, young people, NGOs and other stakeholders, DRIVE initiative will implement last mile supply chain delivery interventions at scale

- This will contribute to increasing supply chain efficiencies (including timely and integrated deliveries, reverse logistics etc.), higher PHC commodities availability and reduction in number of unreached and underserved populations in different contexts

The DRIVE Initiative- *Activities*

Core Activities

Direct last mile delivery related

+

Companion Activities

Reinforce implementation or performance of last mile delivery activities

+

Innovative Activities

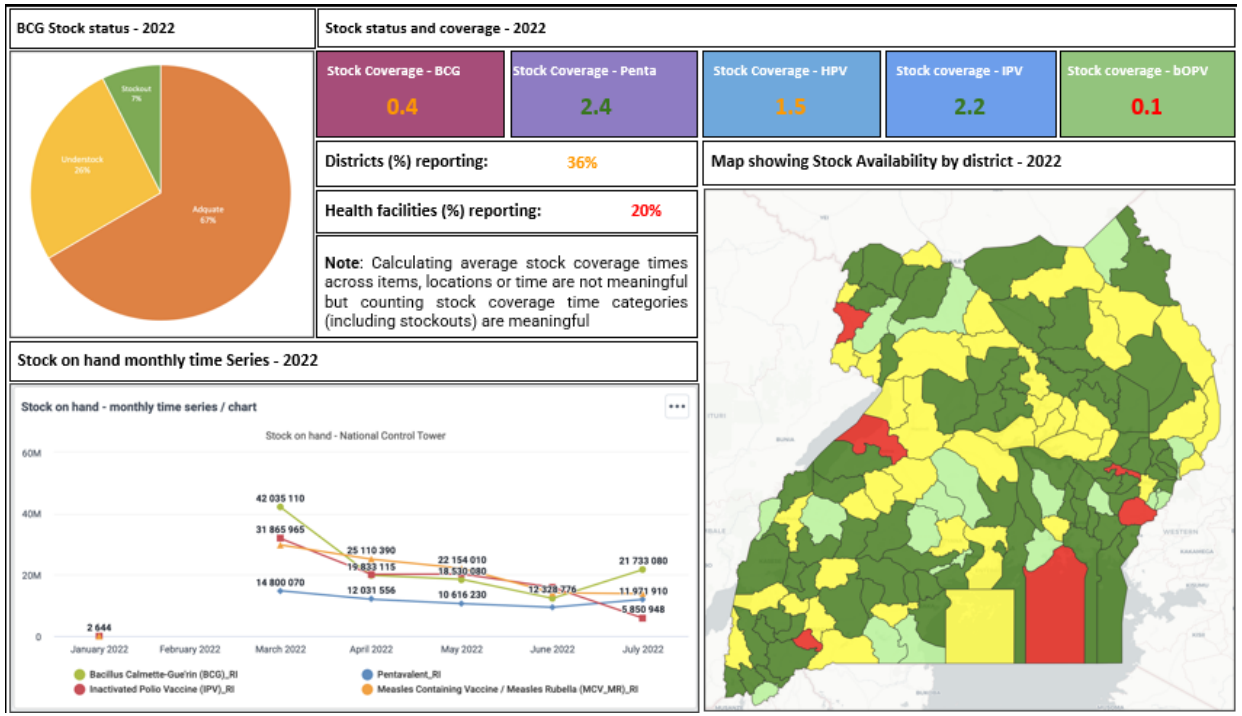
Innovative ways of implementing core and/or companion activities

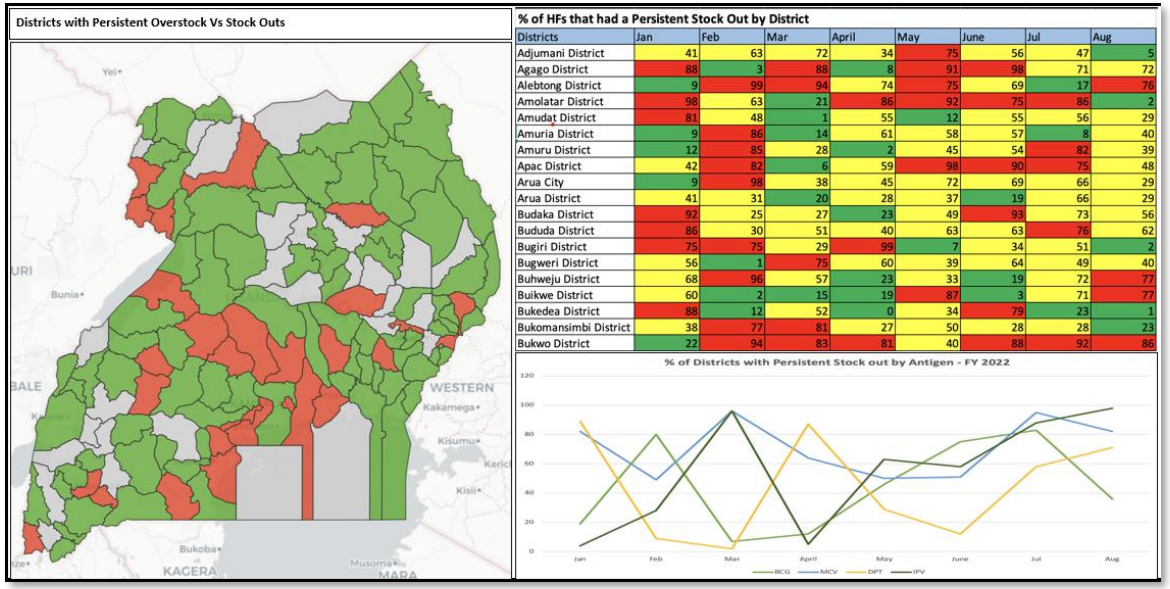
Technology Platform *facilitate multi-partner interactions*

The DRIVE Initiative- *Approach*

Typical PHC commodities last mile distribution	DRIVE Initiative
Healthcare workers (HCWs) responsible for last mile distribution	Young people and other stakeholders responsible for last mile distribution
Pick up from district stores/equipped HFs	Delivered to health workers from district stores/equipped HFs by young people/others
Default-prone hidden costs for PHC commodities distribution, often borne by HCWs	Dedicated PHC commodities distribution financing- optimizing availability and cost
Risk-laden multiple HCWs PHC commodities pick-ups and distribution	Reduced PHC commodities handling and mitigated risks
HCWs pick ups are missed stock management opportunities e.g., counts.	Leveraged opportunity for additional stock monitoring and management
Limited stakeholder engagements in PHC commodities supply chain management	Multi-stakeholder engagements and increased ownership

Thrive 360- Catalyzing end to end in-country stock management





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End to end Stock Monitoring at Health Facility / Service delivery points

- Forecasts, allocations, doses received, doses consumed and wastage.
- Projected shortfalls/surpluses

- Projected stockouts, overstock
- Contribute to distribution planning

- Side-by-side comparison with coverage rates, zero-doses numbers and monitoring findings

Persistent stockouts

- Tracking frequency and duration of stockouts at district levels

- Leverage relevant existing analytics from other DHIS2 interventions

How Immunization Supply Chains (iSC) contribute to reaching zero-dose communities

TechNet-21
The Technical Network for Strengthening Immunization Services

The Supply Chain and Zero Dose COP webinar series

Webinar 1: **Supply chain guidance and strategies to reach under-served zero-dose communities**
9 February, 1.00-2.30 pm UTC

Webinar 2: **Immunization Supply Chain (iSC) interventions: lessons and best practices for reaching under-served zero-dose communities**
16 February, 1.00-2.30 pm UTC

Webinar 3: **Integrated supply chain approaches to reach under-served zero-dose communities with vaccination and PHC services**
23 February, 1.00-2.30 pm UTC