17th TechNet Conference

Panama City, Panama | October 16-19, 2023

Immunization Programmes That Leave No One Behind

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Reflections from the CCEOP and COVAX

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19 October 2023

Session Description: This session will explore the achievements, challenges and lessons learned from programmatic implementation, procurement and market shaping efforts of the Gavi Alliance's Cold Chain Equipment Optimisation Platform (CCEOP) and COVAX. Launched in 2016, the platform has aimed to equip countries with high functioning CCE, particularly at the health facility level, and is now including an increased focus on CCE temperature / performance monitoring/ Maintenance and use of data for decision making. This session will also take a broader look at system strengthening efforts including from inventory tracking to decommissioning – looking at what is working, where data can be leveraged, and where additional improvements are still needed, and will also reflect on how stakeholders can collectively improve the sustainability of the full CCE ecosystem.

Session Agenda

- Introductions of speakers + session overview
- CCEOP & COVAX: Achievements, challenges, lessons learned to date
- CCEOP in 5.0: Increased focus on equipment performance monitoring and use of data for decision-making
- Q&A

CCEOP & COVAX: Achievements, Challenges & Lessons learned

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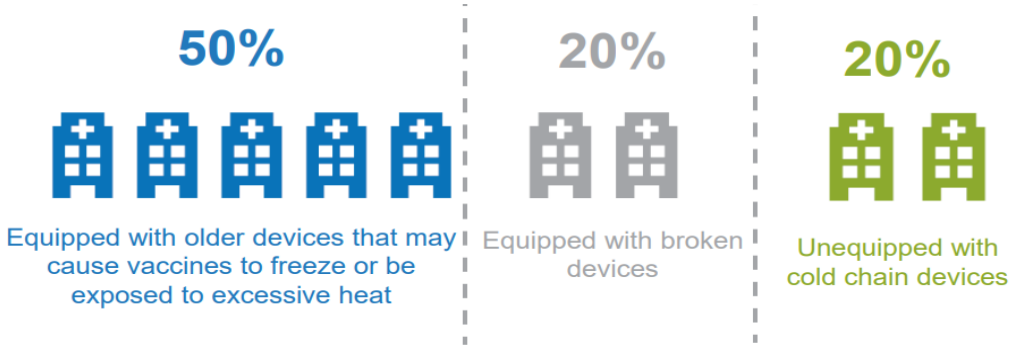
The Cold Chain Equipment Optimisation Platform (CCEOP) was established in 2015 to address the lack of widespread functional CCE available to support immunization services

Before the CCEOP was launched, up to **90%** of health facilities in 55 Gavi countries either **relied on outdated technologies** for vaccine storage or **lacked CCE**



Investing in new cold chain equipment is key to improving:

- Sustainable, equitable, immunisation coverage (by extending equipment availability into remote areas and better enabling outreach activities)
- Reliability, device up-time and overall device lifespan
- Vaccine safety and effectiveness through better temperature control

CCEOP Primary Objectives

Coverage & Equity

- Ensure CCE is available wherever it is needed to support coverage and equity and protect vaccines

Accelerate Uptake

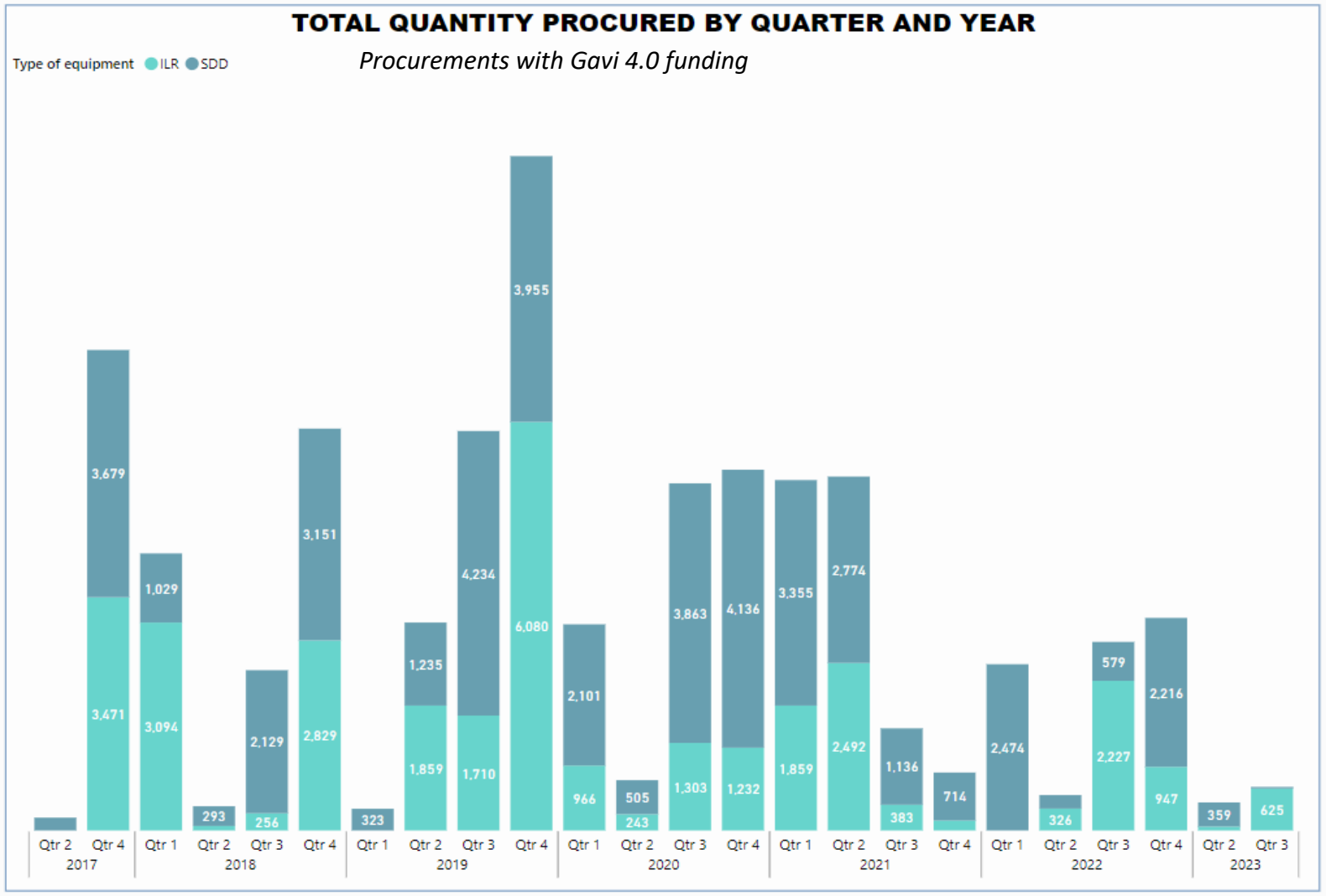
- Help countries introduce new, climate-friendly technologies, better suited to their needs

Market Shaping

- Shape the market to help accelerate innovation, improve supply and reduce price

- **57 countries were eligible to apply between 2016-2020**
- **54 countries now eligible to apply 2021-2025**
- **$400M cumulative funding committed between 2016-2025 + country joint investment**

Through the CCEOP to date, >77k units of ILRs/SDDs have been procured for 50+ countries to address their gaps



Source: UNICEF SD Q3 2023 procurement figures

ALSO:

>76k units delivered (99%)

>67k units installed (88%)

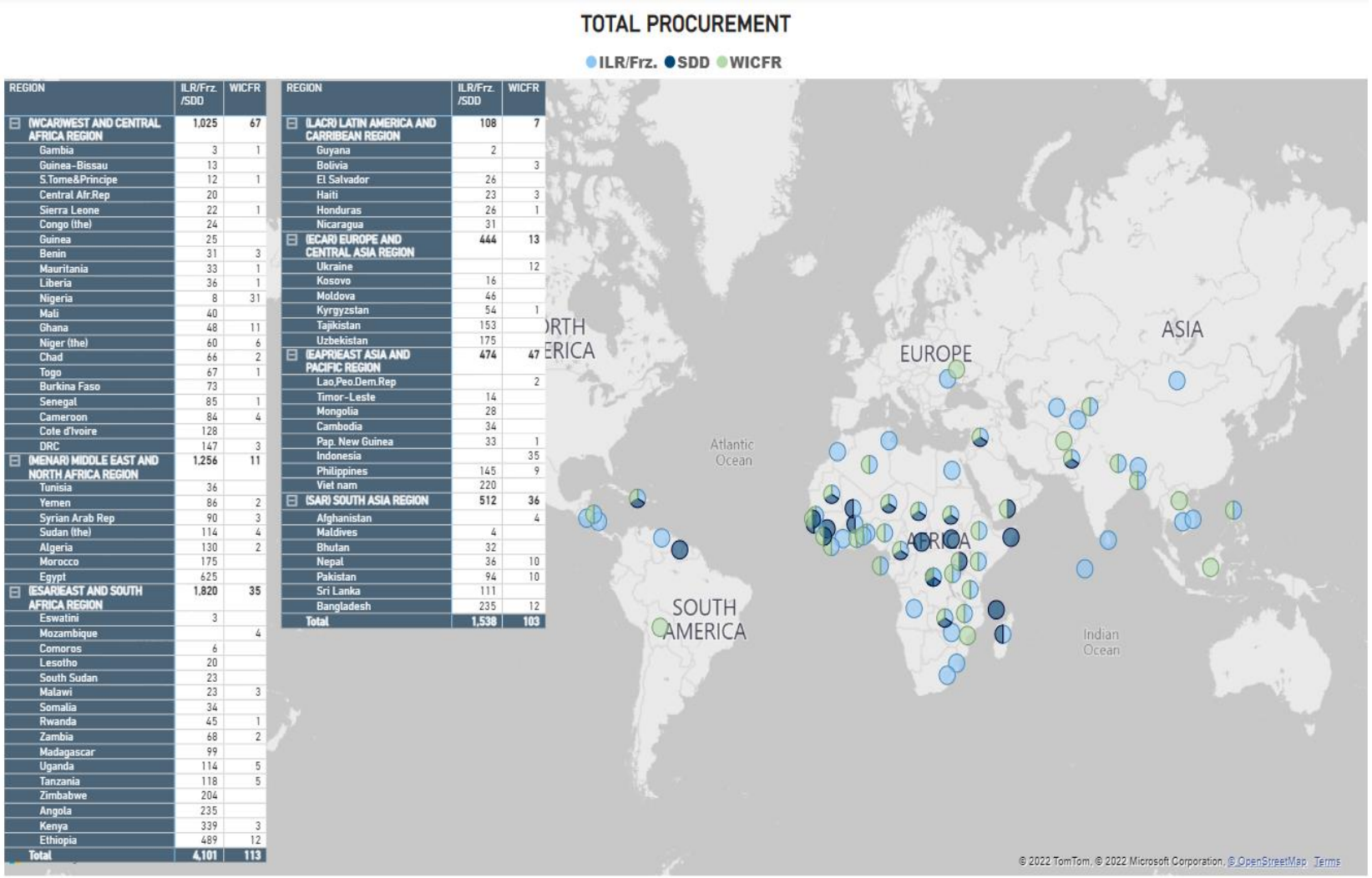
~37% of equipment deployed in 34 countries assessed in 2023 has equipped new facilities to offer immunization services more reliably

Over 40% of CCEOP deployments in 4.0 have RTMDs (integrated or standalone)

COVAX support for CCE ($50M) helped bridge gaps at the higher levels of the supply chain in 71 countries, complementing existing CCEOP support

REGION	ILR/Frz. /SDD	WICFR
(WCAR)WEST AND CENTRAL AFRICA REGION	1,025	67
Gambia	3	1
Guinea-Bissau	13	
S.Tome&Principe	12	1
Central Afr.Rep	20	
Sierra Leone	22	1
Congo (the)	24	
Guinea	25	
Benin	31	3
Mauritania	33	1
Liberia	36	1
Nigeria	8	31
Mali	40	
Ghana	48	11
Niger (the)	60	6
Chad	66	2
Togo	67	1
Burkina Faso	73	
Senegal	85	1
Cameroon	84	4
Cote d'Ivoire	128	
DRC	147	3
(MENAR) MIDDLE EAST AND NORTH AFRICA REGION	1,256	11
Tunisia	36	
Yemen	86	2
Syrian Arab Rep	90	3
Sudan (the)	114	4
Algeria	130	2
Morocco	175	
Egypt	625	
(ESAR)EAST AND SOUTH AFRICA REGION	1,820	35
Eswatini	3	
Mozambique		4
Comoros	6	
Lesotho	20	
South Sudan	23	
Malawi	23	3
Somalia	34	
Rwanda	45	1
Zambia	68	2
Madagascar	99	
Uganda	114	5
Tanzania	118	5
Zimbabwe	204	
Angola	235	
Kenya	339	3
Ethiopia	489	12
Total	4,101	113

REGION	ILR/Frz. /SDD	WICFR
(LACR) LATIN AMERICA AND CARRIBEAN REGION	108	7
Guyana	2	
Bolivia		3
El Salvador	26	
Haiti	23	3
Honduras	26	1
Nicaragua	31	
(ECAR) EUROPE AND CENTRAL ASIA REGION	444	13
Ukraine		12
Kosovo	16	
Moldova	46	
Kyrgyzstan	54	1
Tajikistan	153	
Uzbekistan	175	
(EAPR)EAST ASIA AND PACIFIC REGION	474	47
Lao,Peo.Dem.Rep		2
Timor-Leste	14	
Mongolia	28	
Cambodia	34	
Pap. New Guinea	33	1
Indonesia		35
Philippines	145	9
Viet nam	220	
(SAR) SOUTH ASIA REGION	512	36
Afghanistan		4
Maldives	4	
Bhutan	32	
Nepal	36	10
Pakistan	94	10
Sri Lanka	111	
Bangladesh	235	12
Total	1,538	103



- **100%** delivered & **~88%** of units installed
- Key **learnings:**
  - **Timely site readiness is a pre-requisite** for rapid **installation of cold rooms** and countries need guidance notes on what is required
  - Pandemic response requires a **nimble application and approval process** compared to core support like CCEOP
  - **Customs clearance funds** in Gavi grants **are a pre-requisite during the pandemic response** where speed is critical

Source: UNICEF SD procurement figures

CCEOP lessons learned and accomplishments contributing to strengthening immunization programmes & supply chains

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Programmatic impact

- Immunisation service offerings increased across all countries & increased trust / motivation from HCWs to open vials / hold sessions
- Increased storage capacity, fewer stock outs reported, and reduced AEFIs
- Growth of country CCE planning capacity; PMTs in place for 3 evaluated countries
- Reports that some CCE maintenance activities continued even during the pandemic

Application and coordination of CCEOP

- Proper preparation for CCEOP deployment requires significant investment in time and budget
- Country preferences solidified at application stage – 3-preference model developed
- Application and procurement processes (and tools) are being optimized, though delays and bottlenecks persist

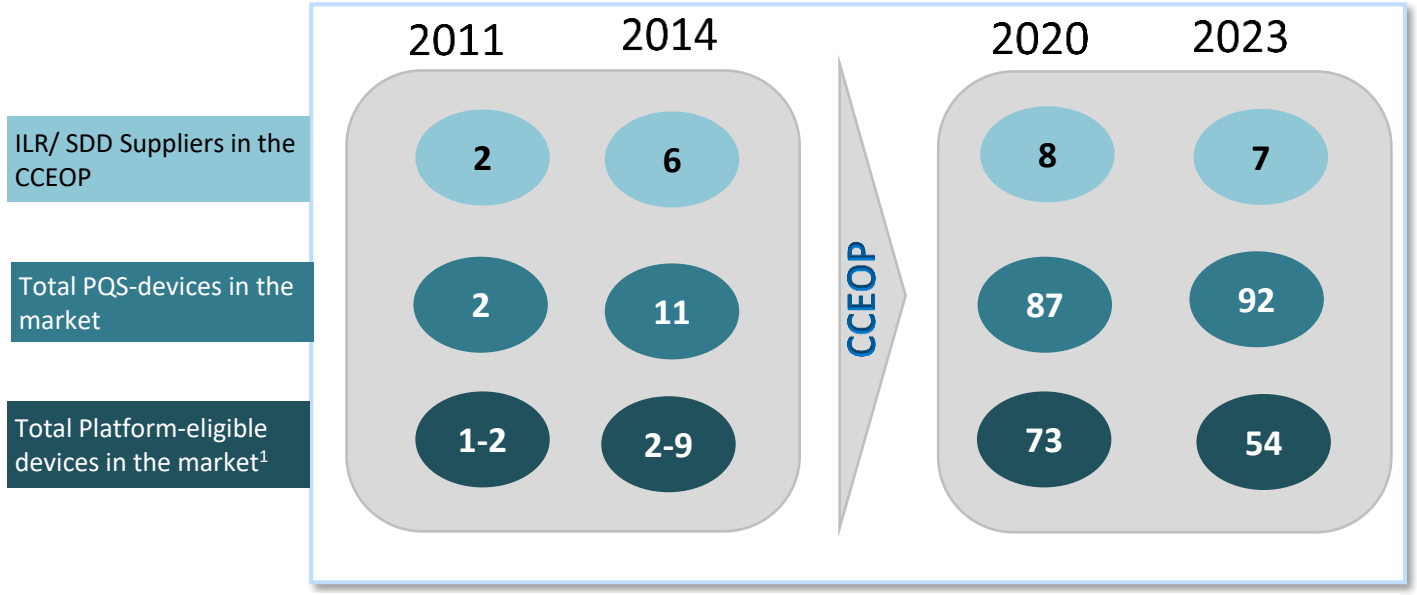
Deployment / Service Bundle

- Achieved goals of timely installations (but some cost concerns), with effective monitoring systems for deployment and allowed for minor deviations
- Model works – expanded to dozens of other deployments (HSS & other donor projects) including during the pandemic
- Trainings by SBPs needed improvement and clarifications on topics to be covered – addressed in Gavi 5.0

Sources: UNICEF PD impact analysis in 10 countries in 2019, JSI CCEOP evaluation mid-line (2019) and end-line (2021) reports

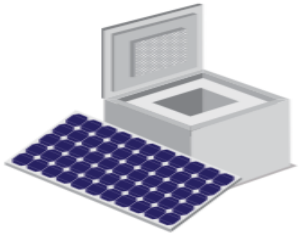
The CCEOP has both incentivized new ILR/SDD product offerings and innovation in other CCE product categories

The number of suppliers and ice-lined refrigerators (ILRs) and solar direct drive (SDD) refrigerators and freezers has increased as a direct result of the launch of the CCEOP



- Great success in increasing product offerings and mainstreaming Grade A protection
- But <50% of products were seeing demand and an intentional decision was taken by Alliance market shaping partners in 2022 to reduce the number of products eligible in the CCEOP
- The volume (liter) bands were also consolidated from 5 bands to 3 bands, with one product per supplier per band
- This was in response to feedback that the number of product choices were too many for both countries to meaningfully choose among, and for suppliers to be prepared to manufacture

ILR (25)

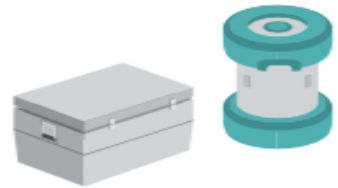


SDD (29)

Freeze-preventive cold boxes, vaccine carriers (7, 2)

RTMD (6+2, 3)

Voltage Stabilizers (2)



Long-term passive devices (1)

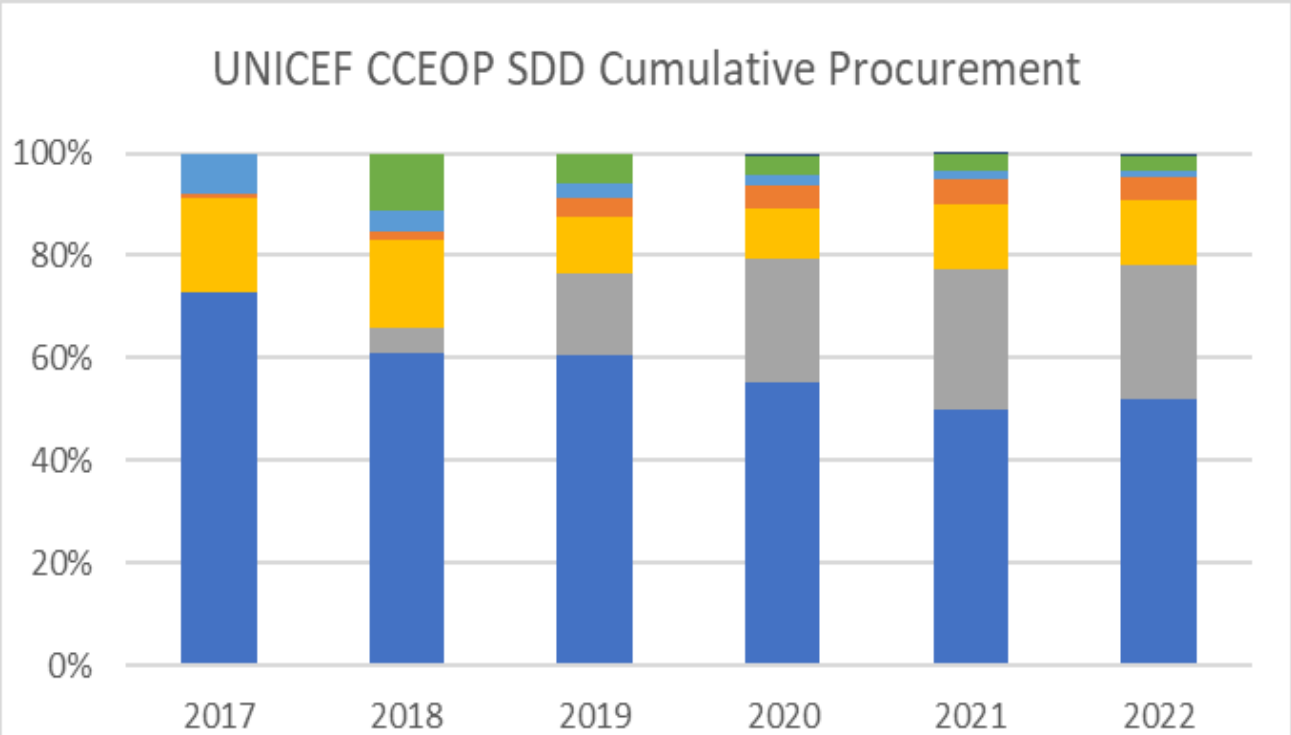
30-DTR (3)

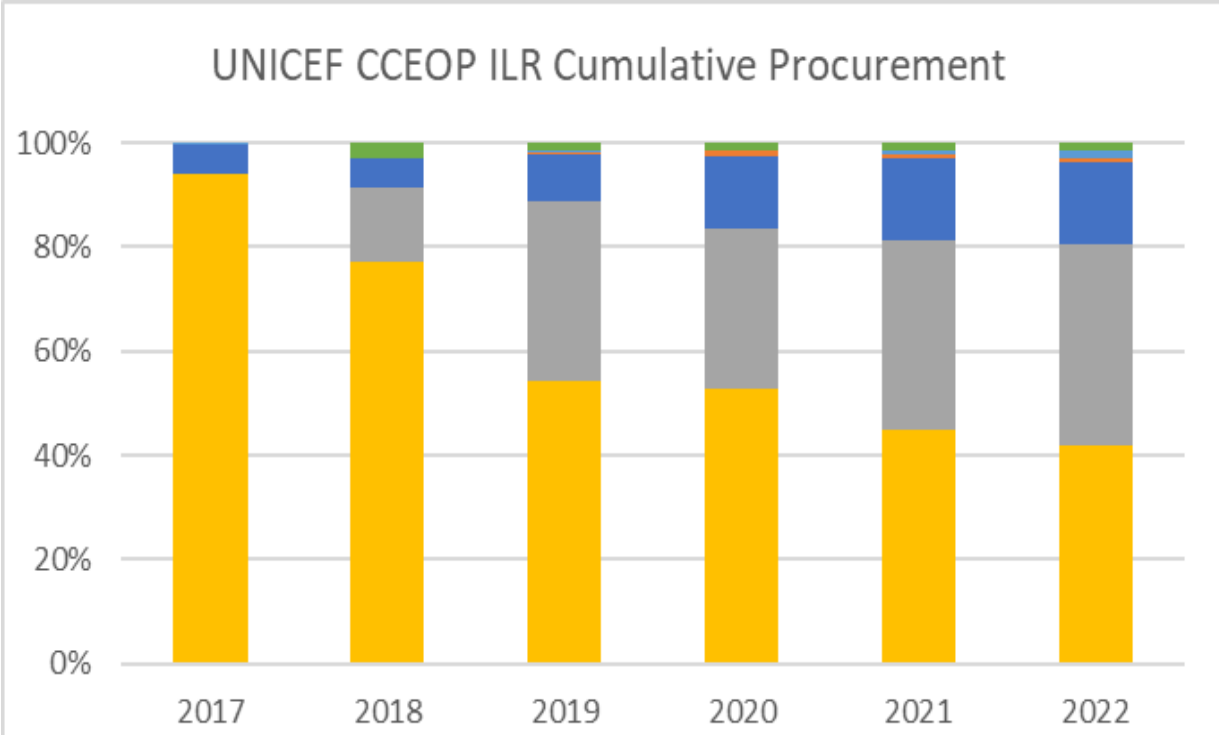
Standalone Trainings

The Service Bundle modality for equipment delivery – piloted at scale – is a key innovation, and major success of the CCEOP

Source: WHO PQS website (June 2020 + Sept 2023), CCEOP Budget template (June 2020) and Tech Guide (Sept 2023)

Initially, the CCEOP market for ILRs/SDDs was less healthy, but through Alliance market shaping interventions, the situation is improving and stabilizing





Market Shaping interventions, including product diversification, selection guides, and more intense interventions (e.g., 25% Allocation Approach) have helped improve market health. In Gavi 5.0, new interventions including the 3-preferences approach and the forthcoming Device Selection Tool, aim to help carry forward and sustain the healthy market gains.

While significant gains have been made, critical challenges remain that are priorities to address in Gavi 5.0

CCEOP estimated to fill much of remaining gaps

Significant gaps in cold chain capacity (fridge/freezer) estimated to remain for the CCEOP countries, which may hinder availability at the last mile.

However, CCE inventories that are driving estimates are not updated regularly / backlogged post-pandemic

CCEOP 5.0 funding likely to result in procurement of ~30k units of ILR/SDD, contributing to closing gaps

Delays in demand materialization

Delays in materialisation of the demand forecast due to lingering pandemic-related delays, security situations, and competing priorities, which have impacted timelines for submission of CCEOP applications

Implementation of CCEOP 5.0 support will now extend into 2027 to address this

Sustaining CCE investments

CCE maintenance (preventive and reactive) as well as decommissioning are a challenge in many countries

Widespread use of temperature monitoring data for decision making (maintenance, procurement, decommissioning) is non-optimal.

CCE and RTM systems need to be integrated into countries' digital ecosystems rather than managed in parallel

CCEOP in 5.0: Increased focus on equipment performance monitoring and use of data for decision-making

Digitalization, Advocacy and Financing, key to functional CCI and decommissioning systems

Findings from global CCE inventories, maintenance, decommissioning and performance monitoring survey (n=73 countries)

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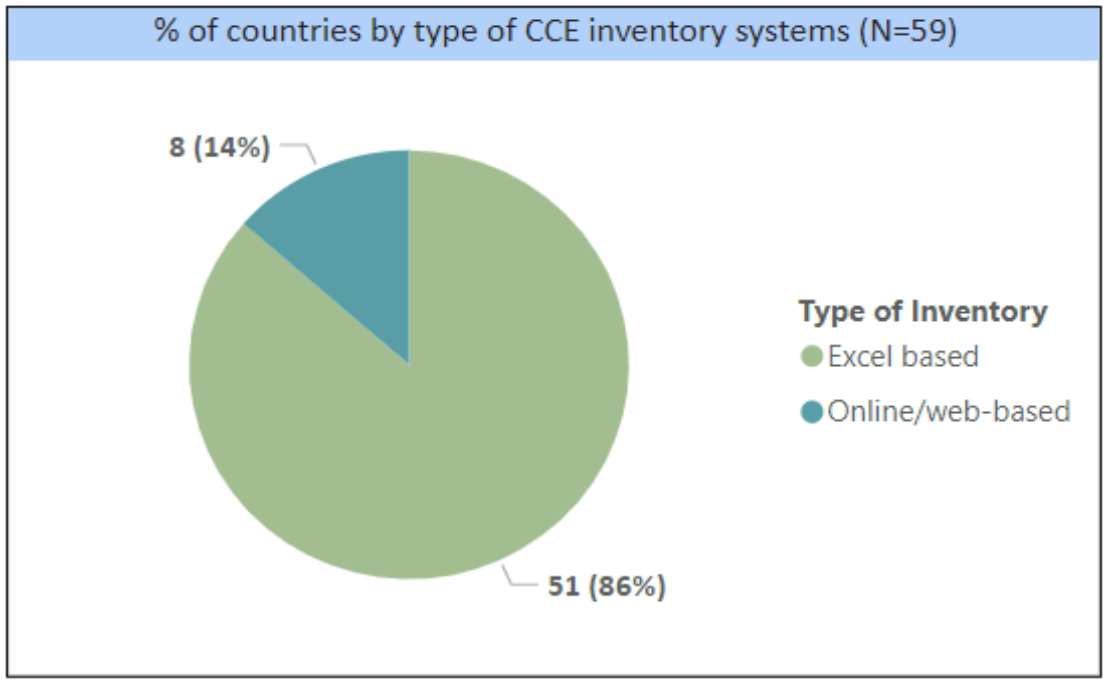
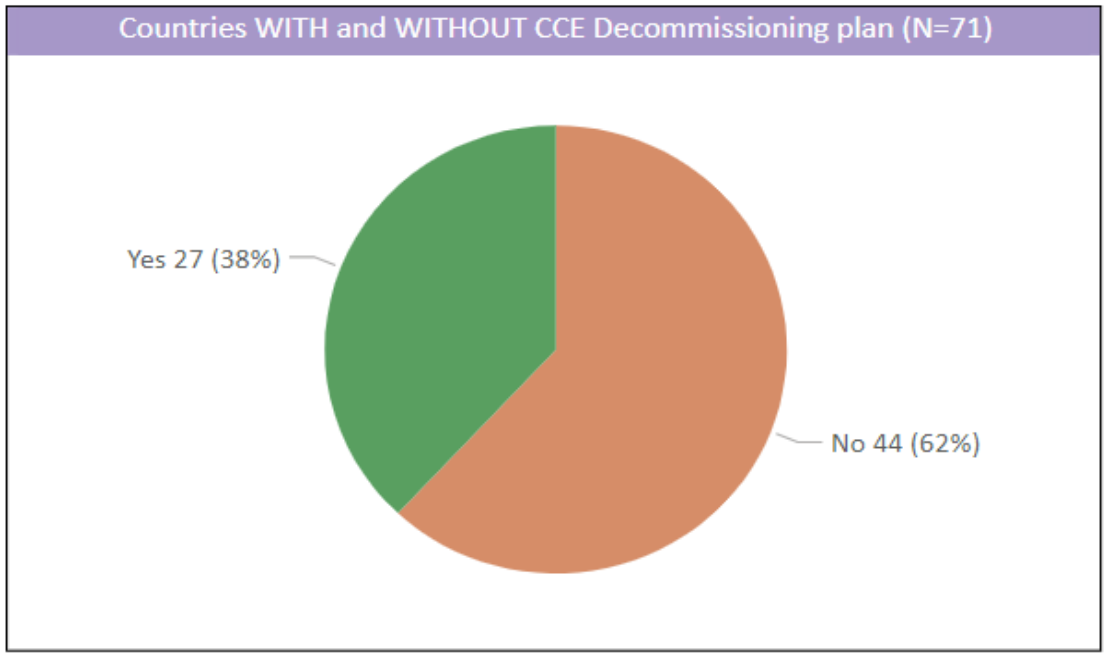
CCE inventories



- *80% of countries have 'functional' CCI*
  - *85% are Excel based*
  - *60% only updated on yearly basis*
  - *% of functionality reduce at lower supply chain levels*

Key recommendation: Introduce and scale online/live CCI, which are interoperable with eLMIS systems and linked to maintenance

CCE Decommissioning



- *Only 35% of countries have an approved CCE decommissioning & safe disposal policy*
- *Only 45% have an authorized CCE decommissioning committee in place*

Key recommendation: Advocacy for prioritization, appropriate budgeting and implementation of decommissioning plans.

Advocacy and Governance mechanisms, key to functional temperature monitoring and maintenance systems

Findings from global CCE inventories, maintenance, decommissioning and performance monitoring survey (n=73 countries)

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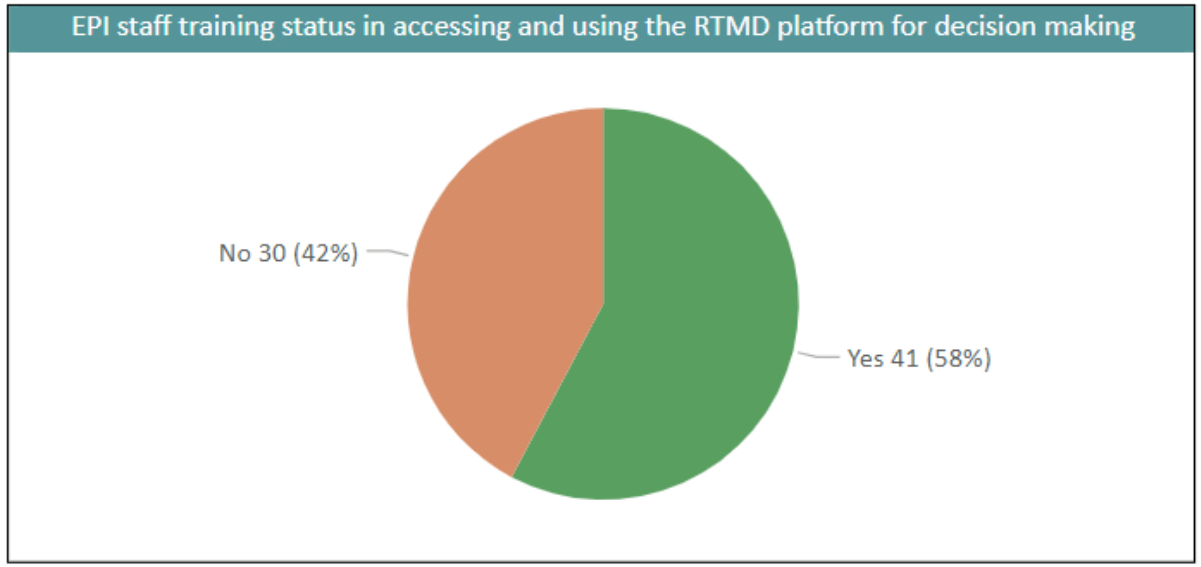
Remote Temperature Monitoring

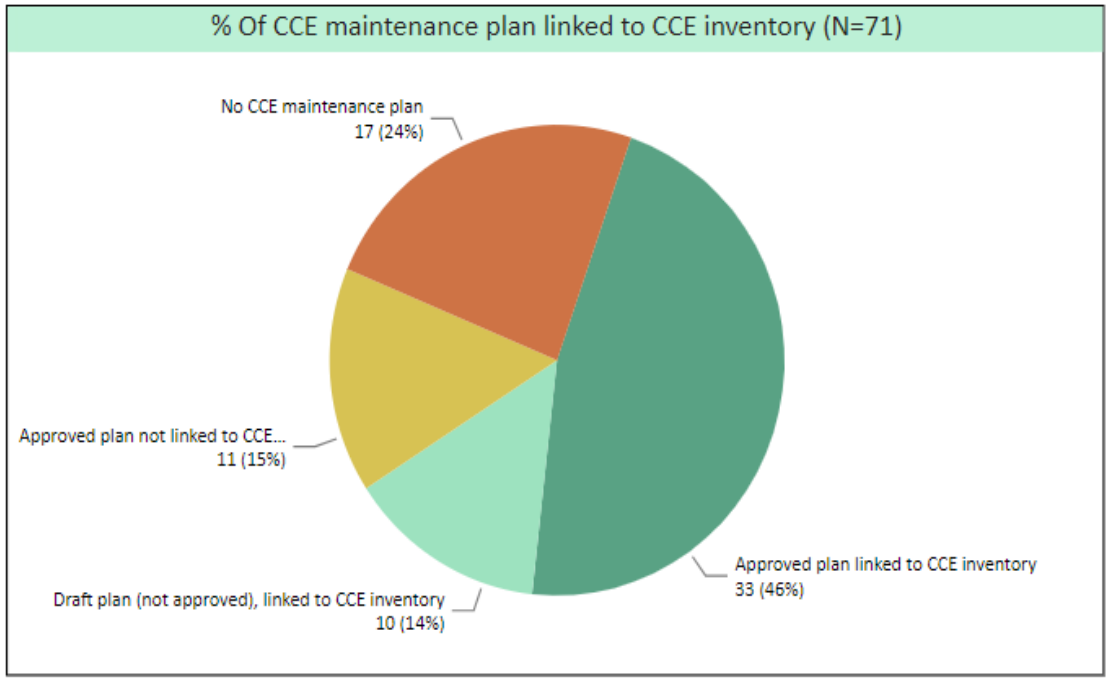


- *70% of countries are accessing RTMD data*
  - *60% of these review and utilize the data within NLWG or TWG*
- *In 30% non-use, key reasons include RTMDs not yet installed, lack of access to dashboards, and limited prioritization*

Key recommendations:

- ***Full dashboards access engagement with manufacturers***
- ***Advocacy for equipment monitoring financing and integration with eLMIS***
- ***Strengthened guidance and governance for data usage to inform real-time response and maintenance.***

CCE Maintenance



- *60% of countries have approved CCE maintenance plan*
  - *60% of these have linked the plans to their CCI*
- *70% of countries have some record (often not updated) of preventive and corrective maintenance*

Key recommendation: Advocacy and support for maintenance agenda, securing earmarked budget lines, and linkage to CCI.

CCE Performance information is critical to CCE management

Alliance partners will implement a new strategy through Gavi 5.0

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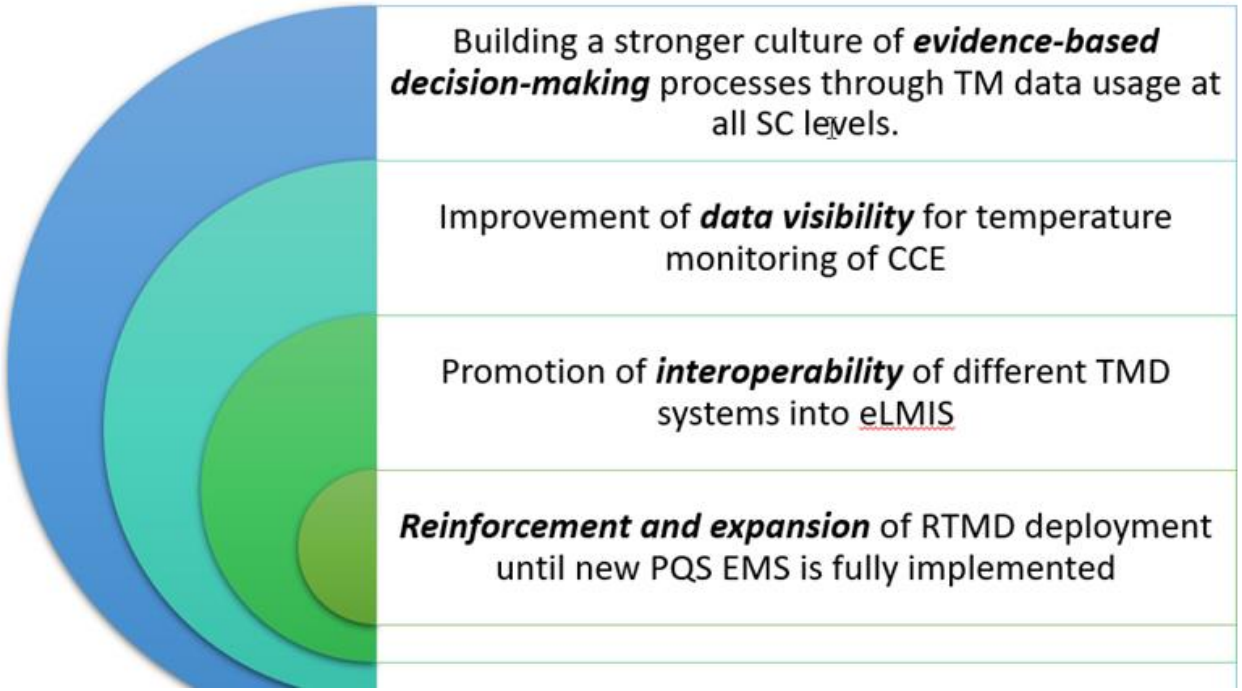
Gavi 5.0: New CCE Performance Strategy

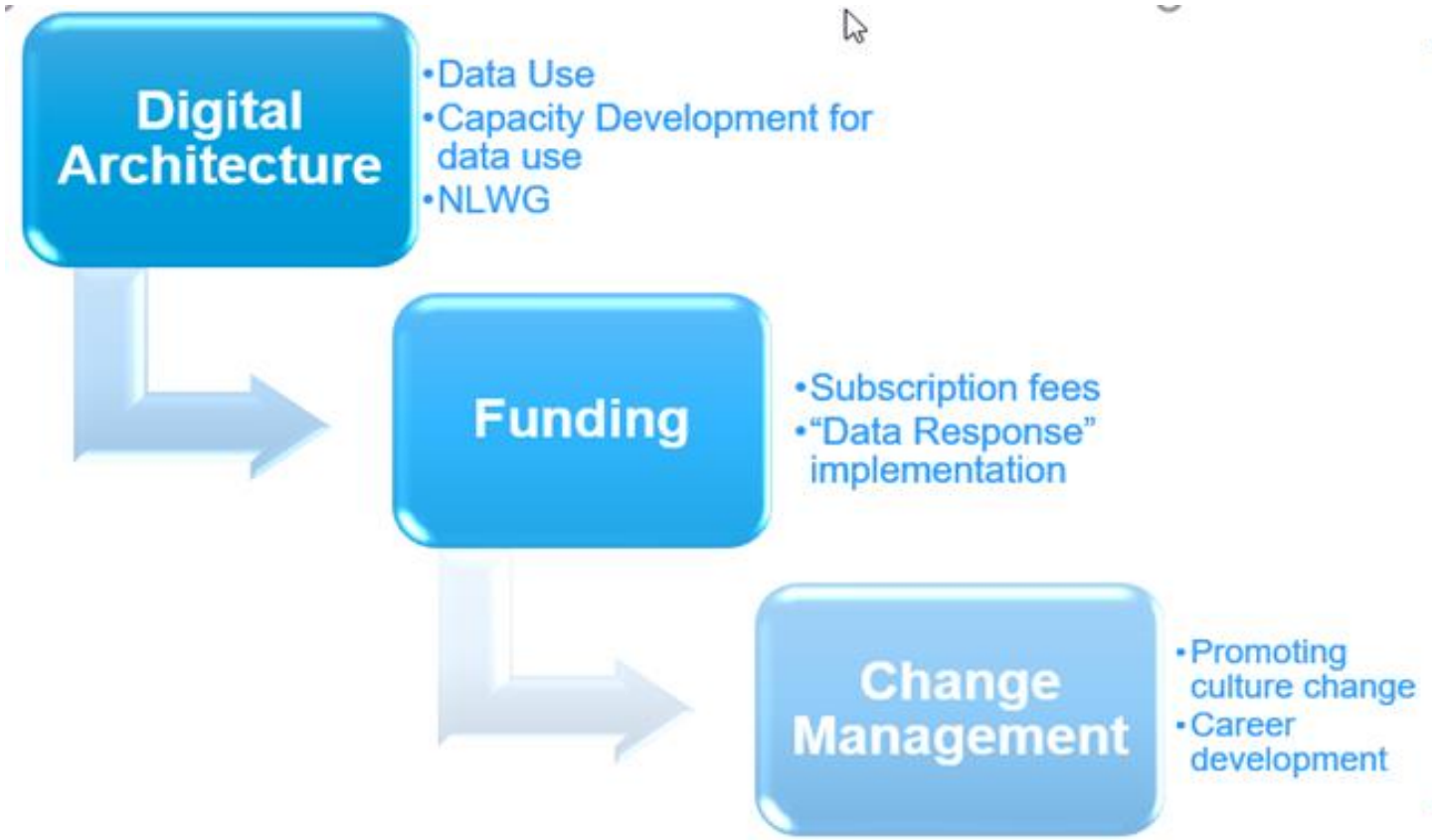


Working with countries, Alliance partners will catalyse:

- **Needs assessment and improvement design**
- Prioritization of **CCE performance data use for equipment management**
- Development and implementation of an **Alliance market shaping roadmap for CCE performance monitoring devices**
- Development of **programmatic vision and action plan to catalyze use of CCE performance data**.

New CCE Performance Monitoring Strategy leveraging CCEOP

Focusing on **RTMD data usage** and premised on **country maturity defined through maturity level assessments** (MLAs), three fundamentals will drive strengthening of temperature monitoring and consistent data usage

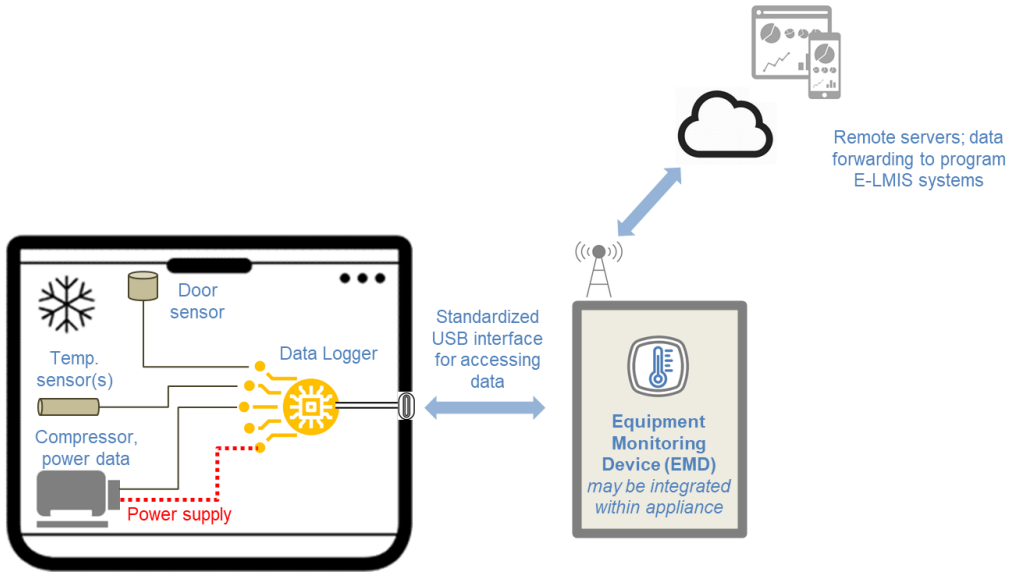


New Strategy's three fundamentals for strengthening temperature monitoring and data usage

CCE Performance Monitoring: Transitioning to EMS

- PQS has developed a new equipment specification entitled **'Equipment Monitoring Systems' (EMS),** a next generation performance monitoring technology that combines the best of 30-DTR and RTMD
- Key aspects include **enhanced monitoring** of different facets **of fridge performance**
- **Data standardization**, allowing for integration of data from multiple sources (e.g., fridge brands) into the platform of a country's choice
- Both **local and remote data access** possible
- Very advanced product pipeline
- Becomes a widespread **PQS requirement as of January 2026**
- A **market shaping roadmap for the Performance Monitoring Device (PMD) products** (e.g., 30-DTR, RTMD, EMS) is being developed to outline the Alliance's goals in achieving / maintaining healthy markets in all three categories as EMS rolls out and is scaled up

- Gavi anticipates **EMS Level 2 will be the minimum requirement for Gavi-funded** ILRs/SDDs from Jan 2026 onwards, with **Level 3 required in some settings**
- Both **integrated and standalone options eligible**
- Alliance partners are beginning planning for the implementation of EMS, given the big implications for CCE management and maintenance



Solar mobilization to enhance CCEOP & COVAX experiences

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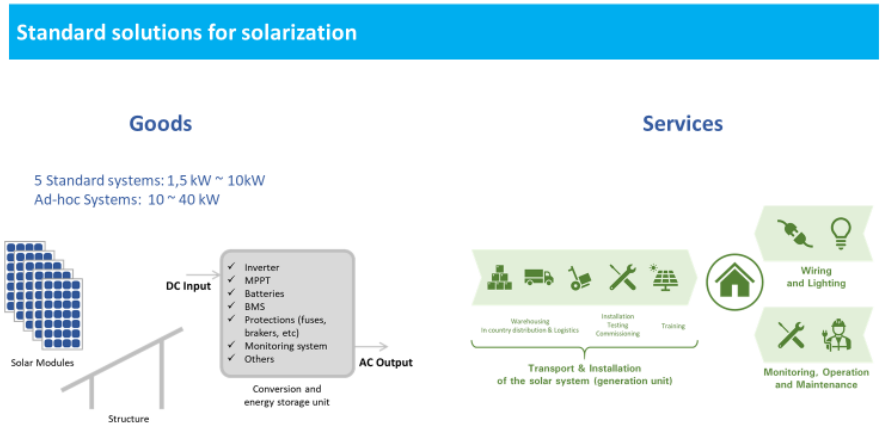
CCEOP Solar pilot is building upon critical experiences linked to:

- Comprehensive Solar Direct Drive implementation (+90K supplied since 2017)
- Service Bundle contracting (SB contracting in +80 countries)
- RTMD (remote monitoring of equipment performance)
- Operational Deployment Planning and PMT facilitation

Targets in close collaboration with relevant programme groups:

- 1,000 sites in four pilot countries by 2024-2025
- Phase in of Health Facility solar options as part of CCEOP 3.0



CCE Sustainability considerations

CCEOP has played a key role in scaling up innovation, including:

- Grade A introduction
- Service bundle delivery
- Scale up of the introduction of remote temperature monitoring devices

In parallel, extended programme and procurement focus on sustainability objectives in recent years, including those related to:

- Carbon footprint
- Total Cost of Ownership
- Opportunities for local production
- Extended solar solutions

Q&A

Thank You!

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