R3 Playbook



Photo credit: Paul Joseph Brown

BACKGROUND

The **R3 Malawi Playbook** was developed as a **single operational resource** to support more coordinated and consistent management of CCE and RTM systems. Rather than introducing a new maintenance model, the Playbook documents, organizes and strengthens maintenance processes that already exist within the system. While the Playbook was developed specifically for Malawi's context, similar versions were also developed in Rwanda and Tanzania, each tailored to local maintenance systems and operating realities.

RATIONALE FOR THE PLAYBOOK

Stakeholder consultations revealed a lack of standardized documentation for key CCE maintenance processes, resulting in inconsistent implementation and limited visibility across the system. To address this, the Ministry of Health (MoH), VillageReach, Nexleaf and other stakeholders developed the R3 Malawi Playbook, a consolidated reference resource that brings together maintenance workflows, tools, guidance and escalation processes to support more consistent and coordinated CCE maintenance management.

Effective cold chain equipment (CCE) maintenance depends on more than availability of data and technical repair skills. It requires data use, clear processes, defined responsibilities and coordinated action across multiple levels of the system. This technical brief describes the Rapid Response and Repair (R3) Playbook developed and tested in Malawi to strengthen maintenance coordination and support more consistent management of CCE and remote temperature monitoring (RTM) systems. As the foundational prototype within the R3 initiative, the Playbook provides the operational guidance, workflows and tools that connect and support implementation of the broader package of maintenance interventions.

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APPROACH

How the Playbook Works

The Playbook maps the entire maintenance workflow, from issue identification through resolution and follow-up. It provides step-by-step guidance on the actions required at each stage and clearly defines who is responsible for carrying them out. It integrates guidance on preventive maintenance schedules, spare parts management, rapid repair processes, communication standards, RTM implementation, budgeting, supervision, technician development and maintenance monitoring.

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The Playbook guides users through five critical stages:

1. **Routine monitoring and detection:** *Spotting and reporting equipment issues early.*
2. **Escalation:** *Moving the issue up the chain of command quickly and correctly.*
3. **Repair and maintenance:** *Executing the necessary technical fixes.*
4. **Supervision:** *Overseeing the quality and timeliness of the response.*
5. **Performance review:** *Analyzing outcomes to improve system reliability.*

Importantly, the Playbook adopts a bottom-up orientation, beginning with facility-level detection and response before moving through district and national support functions. This differs from more centralized maintenance approaches by empowering facilities to identify and initiate action on maintenance issues, while providing clear escalation pathways for support when local resolution is not possible.



Photo credit: Innocent Mainjeni

Audience

The Playbook is intended for stakeholders involved in CCE maintenance, from facility staff and cold chain technicians to district and national EPI managers. Effective implementation depends on shared ownership across the system.

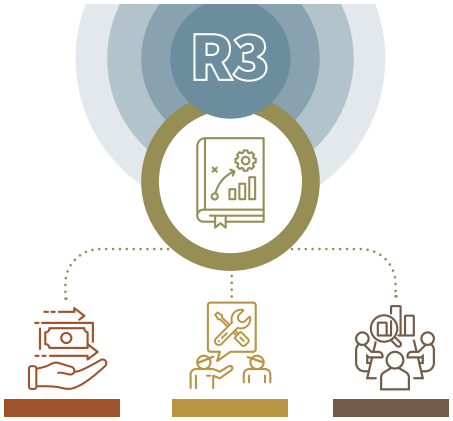
How It Can Be Used and Sustained

The Playbook is designed to inform routine maintenance activities rather than operate as a standalone intervention. It can be used during preventive maintenance visits, supportive supervision, repair activities, technician training, maintenance planning exercises and routine performance reviews. The pilot demonstrated strong stakeholder support for maintaining the Playbook as a reference document. Ongoing implementation will rely on continued refinement based on user feedback and incorporation of lessons emerging from

district implementation. The Malawi MoH has committed to continue using the Playbook as a reference resource for CCE maintenance and management, with future updates expected as maintenance policies, procedures and operational needs evolve.

Relationship to Other R3 Prototypes

The Playbook functions as the backbone of the R3 approach. It documents the workflows, tools and responsibilities that support implementation of the Rapid Response Fund (RRF), Cold Chain Technician Mentorship and Supportive Supervision and Data Review Meeting prototypes.



"The R3 playbook is a perfect one-stop reference that will standardize how best we can approach CCE maintenance and repair related challenges, as it provides clear, concise and well packaged technical knowledge that will ensure speedy detection, reporting, escalation and resolution of CCE issues."

- EPI Coordinator

EXPECTED OUTPUTS AND PROPOSED INDICATORS

Expected outputs of the Playbook include standardized maintenance procedures, escalation pathways, supervision tools, reporting templates, budgeting resources, RTM guidance and maintenance monitoring tools for facility, district and national stakeholders. These resources are intended to support more consistent planning, implementation, documentation and monitoring of maintenance activities. Over time, these resources are intended to support improved coordination, accountability and maintenance management across the health system.

IMPLEMENTATION TIMELINE

The R3 initiative was implemented in two phases. The pilot phase, from Nov. 2025 to Feb. 2026, involved desk research, key informant engagements, orientation to the R3 approach and development and testing of tools in 16 facilities across Mchinji and Mangochi districts. Continuous feedback from national, district and facility-level MoH staff informed multiple iterations of the prototypes and supporting tools. The scale-up phase (March 2026 to June 2026) expanded implementation to additional facilities in the two pilot districts and engaged 18 additional districts across Malawi. This phase provided an opportunity to validate lessons from the pilot, refine workflows and identify broader system-wide challenges affecting CCE maintenance and management.

Through implementation, several recurring challenges emerged, including limited routine use of CCE data, technical capacity gaps, lack of dedicated maintenance financing, administrative barriers to accessing available resources and inconsistent maintenance workflows. Lessons from implementation of the Rapid Response Fund, mentorship and supportive supervision model and Data Review meetings were incorporated into the final Playbook, helping ensure it reflected practical maintenance needs and operational realities identified during implementation.

By the end of the R3 project implementation in Malawi, over 120 MoH staff engaged with the R3 playbook (including national EPI cold chain managers, national EPI supply chain officers, national EPI monitoring and evaluation officers, zonal cold chain technical assistants, regional vaccine logistics officers, regional physical asset management officers, EPI coordinators, health management information system officers, district maintenance officers, district cold chain technicians and health facility EPI focal persons).

LESSONS FROM MALAWI

Implementation of the Playbook generated several lessons that may be useful for countries seeking to strengthen CCE maintenance systems or adapt similar approaches. These lessons reflect both the strengths and limitations observed during implementation and highlight considerations for future adaptation and scale.

KEY LESSON 1

Document existing practices before creating new guidance.

Development of the Playbook revealed that many maintenance processes already existed within the system but relied heavily on institutional knowledge rather than documented procedures. Capturing and standardizing these practices created a stronger foundation for consistency, onboarding and accountability. Countries developing similar resources should begin by documenting existing workflows and practices before introducing new guidance.

KEY LESSON 2

Adoption requires more than technical guidance.

Stakeholders strongly supported the idea of a consolidated maintenance reference document. However, implementation demonstrated that guidance created value only when it was accessible, practical and embedded into routine work. Orientation sessions, validation workshops and ongoing use during supervision activities were important for encouraging adoption and consistent application of the Playbook.

KEY LESSON 3

Workforce realities should shape system design.

The pilot reinforced the importance of understanding who is responsible for maintenance activities and the technical capacity within the system. In Malawi, many CCE maintenance responsibilities are carried out by Disease Control and Surveillance Assistants (DCSAs) who received on-the-job training rather than formal refrigeration engineering training. This influenced both the structure and level of detail included in the Playbook. Countries should ensure maintenance guidance reflects the knowledge and responsibilities of the workforce expected to use it.

KEY LESSON 4

Adaptation is more important than replication.

Implementation demonstrated that maintenance systems are highly context specific. Governance structures, reporting pathways, workforce composition and decision-making authority vary considerably across countries. While the Playbook provided a useful framework in Malawi, successful adaptation elsewhere will depend on tailoring content, workflows and responsibilities to local operational realities rather than directly replicating the Malawi model.

ASSOCIATED TOOLS AND TEMPLATES DEVELOPED FOR THE PLAYBOOK

The tools listed below were developed or adapted to support implementation in Malawi. While some are specific to the Malawi context, they illustrate the types of resources countries may consider when developing a similar playbook. Where appropriate, countries adapting this approach may choose to develop a similar consolidated maintenance resource tailored to their own operational context.

Tool	Purpose
Malawi EPI CCE maintenance and RRF Management Flow	Presents the structure of CCE maintenance from the national to the local level and the existing repair escalation pathways
Communication Flow and Timelines	Supports clear documentation of roles and responsibilities of CCE stakeholders in the ecosystem
Maintenance Monitoring and Forecasting Toolkit	Keeps track of past maintenance related information to support future estimation of CCE resource requirements
Monthly CCT Reporting Form	Documents key CCE technical areas for progress consideration
CCE Maintenance Log	A manual documented physically attached to each CCE, documenting when fixes occurred and any spare parts replaced
Resource Requisition Form	Documents maintenance resource requests
CCE Supervision and Mentorship Checklist	Detailed guidance of how CCTs approach CCE mentorship pre-visit, during visit and plans after visits
RTM Troubleshooting Guide	A collection of key RTM diagnostic issues and details on how to resolve them
Preventive Maintenance Checklists	Information on key issues that need to be considered routinely (from daily to quarterly) to ensure proactive assurance of CCE functionality

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