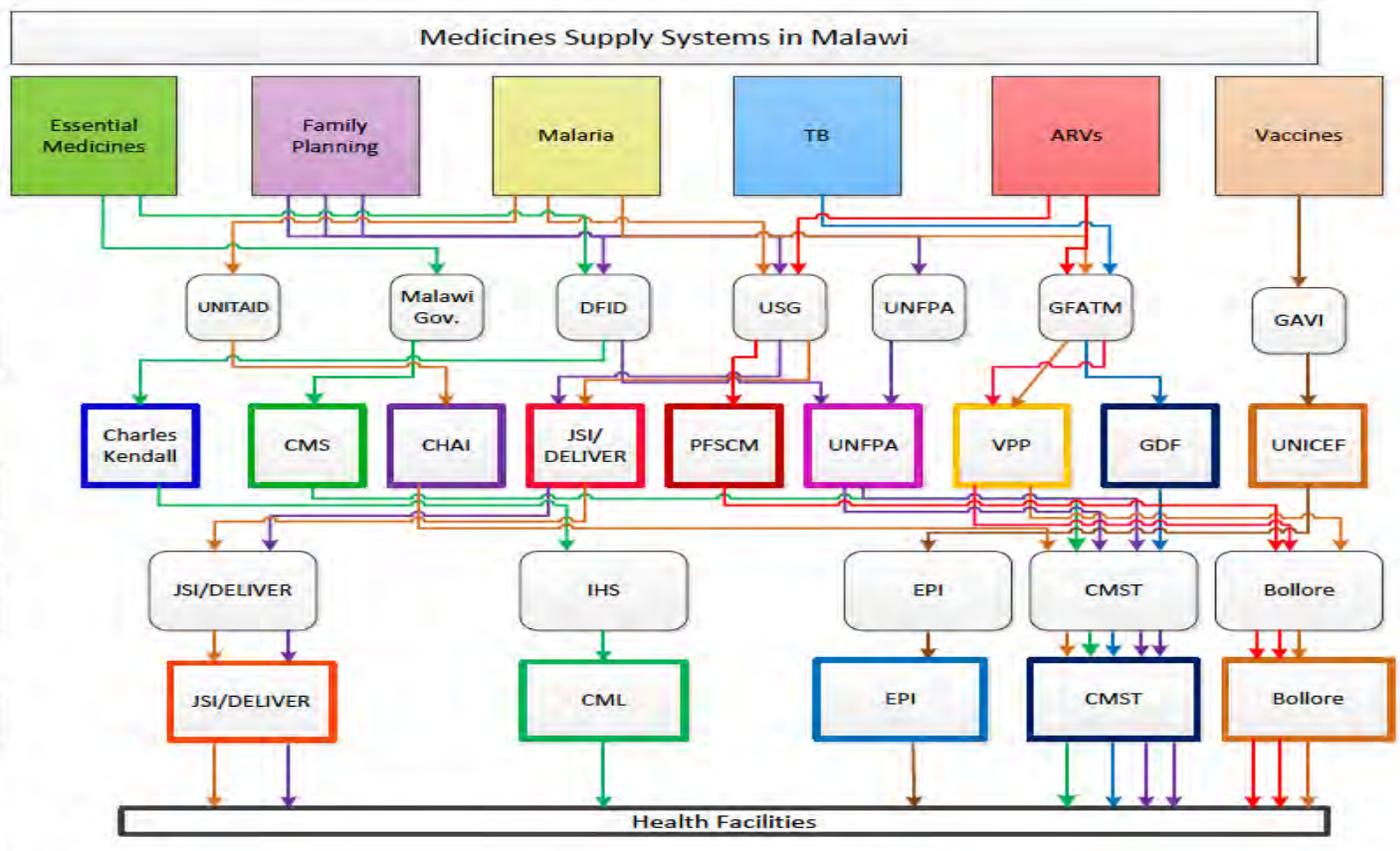




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## EVALUATION REPORT

# Implementation of the 2012 Joint Strategy for Supply Chain Integration in Malawi

**March 2016**

This publication was produced at the request of the United States Agency for International Development and United Kingdom Department for International Development. It was prepared independently by William Mfuko and Innocent Dube for GH Pro and Options Consultancy respectively.



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# ACRONYMS

3PL	Third-party logistics provider
ACCPAC	Accounting/Inventory Management Software/ERP
ACT	Artemisinin combination therapy
AEDES	European Agency for Development and Health
AGM	Annual general meeting
B#	Benchmark number
CCTV	Closed-circuit television (CCTV)/video surveillance
CEO	Chief executive officer
CHAI	Clinton Health Access Initiative
CHAM	Christian Health Association of Malawi
CML	Cargo Management Logistics (Malawi) Limited
CMS	Central Medical Stores
CMST	Central Medical Stores Trust
COC	Code of conduct
COI	Conflict of interest
CRMTF	CMST Reform Monitoring Task Force
DFID	Department for International Development
DHMT	District Health Management Team
DHO	District Health Office
DMS-TWG	Drugs and Medical Supplies Technical Working Group
EDP	Essential Drugs Program
ERP	Enterprise resource planning
FP	Family planning
GF	Global Fund
GMP	Good manufacturing practices
GSP	Good storage practices
GOM	Government of Malawi
GPS	Global Positioning System
HDG	Health donor group
HEART	Health & Education, Advice & Resource Team
HF	Health facility
HTSS-P	Health Technical Support & Services—Pharmaceuticals

IHS	Imperial Health Sciences
IPC	Internal procurement committee
JSI	John Snow Inc.
KEMSA	Kenya Medical Supplies Authority
Kfw	Kreditanstalt für Wiederaufbau/a German development bank
KII	Key informant interview
KPI	Key performance indicator
KPMG	A global network of professional firms providing audit, advisory and tax services
LMD	Last-mile delivery
LMIS	Logistics management information system
LTWG	Lead technical working group
MHL	Must-have list (CMST medicines list)
MOH	Ministry of Health
MSD	Medical Stores Department
MSL	Medical Stores Limited
NAC	National AIDS Commission
NCMSF	National Central Medical Supplies Fund
NLGFC	National Local Government Finance Committee
NMS	National Medical Stores
ODPP	Office of Director of Public Procurement
PHC	Primary Health Care
PIMS	Personnel Information Management System
PMPB	Pharmacy, Medicines & Poison Board
POA	Procurement oversight agent
PPA	Public Procurement Act
PSC	Parallel supply chain
PwC	PricewaterhouseCoopers
RDT	Rapid diagnostic test
RFP	Request for proposal
RFQ	Request for quotation
RMS	Regional Medical Stores
RMNCH	Reproductive, Maternal, Newborn and Child Health
S#	Serial number
SCM	Supply chain manager

SDP	Service delivery point
SMART	Specific, measurable, attainable, reproducible and time bound
SOP	Standard operating procedure
SOW	Statement of work
SS	System strengthening
TA	Technical Assistance
TB/NTP	Tuberculosis
TWG	Technical working group
UNFPA	United Nations Population's Fund
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
USG	United States Government
WHO	World Health Organization
WIP	Work in progress
WMS	Warehouse management system



# EXECUTIVE SUMMARY

## PURPOSE

This report presents findings and recommendations on the assessment of the implementation of the 2012 Joint strategy benchmarks for the Integration of parallel supply chains (PSCs) in Malawi. The objectives of the assessment were to: (1) Assess Central Medical Store Trust’s (CMST) performance on each of the 36 benchmarks outlined in the integration strategy; (2) Assess the implementation of the integration strategy recommendations; and (3) recommend actions that will enhance the implementation of the supply chain integration strategy.

## METHODOLOGY

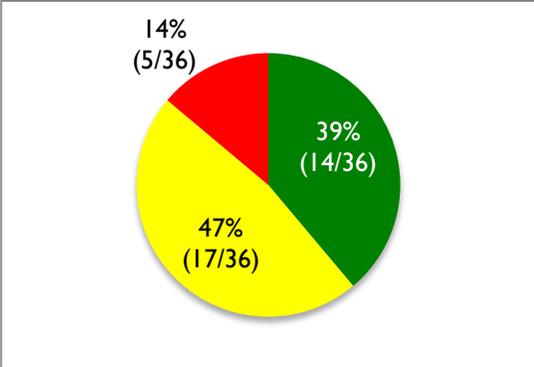
In order to meet the assignment objectives, the consultants employed a number of elicitation techniques and methods, which included document analysis, document review, focus group discussions, and key informant interviews (KIIs) with relevant stakeholders. Field visits to CMST Regional branches, district health offices (DHOs) and health facilities (hospitals, health centers, and clinics) were conducted to further triangulate the findings. Semi-structured questionnaires were developed and administered to collect data and information required to inform the assessment. Information and data gathered from these tools were analyzed and preliminary findings and recommendations shared with the CMST Reform Monitoring Task Force (CRMTF) and a wider stakeholders’ audience on February 16, 2016.

## FINDINGS

### Extent of Benchmark Implementation

The overall findings indicate that CMST conclusively achieved 14 of the 36 benchmarks across all phases, representing a 39% success rate on the set benchmarks. Results showed that 17 of the 36 benchmarks were works in progress (WIPs), while little or no progress was made on five benchmarks. Overall performance in all phases was 66 percent, implying that benchmark implementation for all phases continue to be WIPs.” The chart illustrates the overall findings and the extent to which CMST has met their performance benchmarks through a traffic light rating system.

The findings expressed in the chart and the detailed assessments conducted show that CMST’s highest performance was in Phase II, where they successfully expanded the essential drug supply chain to all service delivery points (SDPs) in Malawi. CMST achieved this primarily by its strategy of outsourcing some of its distribution functions to the private sector. CMST has also made good progress on Phase I benchmarks, particularly in establishing sound governance structures, human resource management systems, distribution planning and financial management. Phase III and IV recorded the lowest achievement levels scoring 39 percent and 54 percent respectively. In these phases, CMST significantly lagged behind in the integration of procurement functions and other PSCs into a



**Figure ESI. Overall Implementation of the 36 Supply Chain Integration Benchmarks**

single unified system. A traffic light performance-rating scheme was adopted to depict the performance and extent of benchmark implementation and Joint Strategy Systems Strengthening recommendations. Green indicates that greater than 80 percent of a particular benchmark was achieved; yellow indicates that the benchmark was a WIP with the level of achievement ranging between 31–79 percent; while red indicated minimal or no progress in attaining the benchmark standard and ranged between 0–30 percent.

### **Extent of Implementation: Joint Strategy System Strengthening Recommendations**

The Systems Strengthening (SS) recommendations cover the nine areas of supply chain management: quantification and product selection, procurement, inventory management and storage, distribution, financial management, human resources, information, quality assurance and governance. The government agencies mandated with implementing the systems strengthening recommendations include CMST; Ministry of Health (MOH); Pharmacy, Medicines & Poison Board (PMPB); and National Local Government Finance Committee (NLGFC).

These government agencies did not manage to fully implement the SS recommendations across the supply chain functions and achieved performance scores ranging from 33–72 percent, with quantification being the lowest and information systems being the highest. Quantification, financial management and governance averaged 35 percent achievement, while procurement, distribution and quality assurance averaged 50 percent achievement. Information, inventory and human resources were the highest with an average of 65 percent achievement. Based on the traffic light scale performance is at 47 percent overall (WIP) with notable and encouraging results on inventory management and storage, human resources and information.

### **Conclusions**

This assessment concludes that there were too many assumptions and expectations of CMST to pursue a linear progression toward achieving the 36 benchmarks set out in the integration strategy. Due to the blurred divisions between phases caused by the overlapping and interrelated nature of supply chain functions, it would be difficult for any entity to move linearly from one phase to the next under these circumstances. The findings of this assessment attest to this, as pockets of success have been achieved across all phases. This suggests that a different approach to implementation of these benchmarks would be essential.

Overall performance across all phases is 66 percent, implying that benchmark implementation for all phases continue to be “a WIP.” Sustained efforts from CMST and its stakeholders is required in order to drive partially implemented benchmarks to their conclusion. Even greater effort is required to address benchmarks where little or nothing has been done toward their implementation. Sustaining achievements and further strengthening implementation of the benchmarks that were achieved would be imperative for improving the overall performance of CMST across the four phases.

This assessment also concludes that the integration of supply chains in Malawi has already started, albeit tacitly. This has been evidenced by the collaborative operation of CMST’s supply chain with IHS and Bollore, which go as far as sharing logistics infrastructure and other distribution services.

## KEY RECOMMENDATIONS

### Recommendations to Enhance Implementation of the Benchmarks (the Way Forward)

In broad terms, given the large number of benchmarks and to ensure undivided focused attention by CMST, we recommend that:

1. CMST review and rationalize the benchmarks to address those achieved and/or outdated.
2. CMST consider embedding the remaining benchmarks into their corporate strategy to help create a natural progression in achieving them.
3. CMST should produce a detailed business case for the third-party logistics provider (3PL) outsourcing model outlining CMST's capacity shortfalls, additional capacity requirements and risk assessment.
4. CMST should secure technical assistance (TA) to build internal capacity for managing 3PLs.
5. CMST should closely and regularly monitor actual operational expenditures against projected costs to establish true reliable costs of CMST operations.
6. CMST should review its current agreements with the 3PLs it deals with to ensure that true costs of services are determined, appropriately recovered, and charged.
7. CMST should develop a SMART supply chain integration plan detailing the phases and timelines for integrating PSCs into its own system based on capability maturity.
8. CMST should conduct a business requirements analysis to determine if ACCPAC is the right solution for its current and future operations.
9. CMST should consider investing in a warehouse management system (WMS) to manage the movement of its inventory, ensuring accuracy and verifying location.
10. CMST should consider restructuring the organization in line with its national mandate, considering that it is a supply chain organization with significant resources and national accountability for the procurement, storage and distribution of medicines and medical supplies; the roles of **logistics** and **procurement** should have distinct directorates.
11. CMST should strengthen engagement with MOHLMIS Unit and national vertical programs to improve data quality and reporting rates.
12. CMST should continue strengthening its procurement planning through the process of regular (quarterly) reviews to ensure that quantities of each procured product arrive in the country on a timely basis.
13. CMST should engage with MOH, HTSS-Pharmaceuticals (HTSS-P) to obtain and use health facilities' consumption data to inform its quantification and procurement plans.
14. CMST should continue to use zonal DHO quarterly meetings, attended by CMST RMS branch managers or their representatives, to obtain health facilities' consumption data often presented at

these forums,<sup>1</sup> and to ensure that consumption data management is a priority activity for the CMST. This should be part of the functions of its CMST Lead Technical Working Group (LTWG).<sup>2</sup>

15. CMST should strengthen efforts to expand the membership of the Internal Procurement Committee (IPC) to include external members as recommended by the 2012 joint strategy and in accordance with the Public Procurement Act (PPA) and regulations.
16. CMST should undertake an in-depth review of its IT needs (business requirements analysis) and accordingly standardize to a single system capable of managing multiple functions (e.g., financial, inventory, personnel and WMS).
17. CMST should develop performance-based contracts with the appointed 3PL for the distribution to the last mile.

## **Key Recommendations to Enhance Implementation of the SS Recommendations**

### ***MOH should:***

1. Continue to seek support in driving the storage facility improvement agenda to enhance health facility storage capacity and conditions throughout the country.
2. Put in place and strongly enforce significant measures to ensure health facility reporting deadlines are met and that DHOs submit requisitions to CMST on time for health supplies replenishment.
3. MOH/HTSS, with the support of relevant key stakeholders, should take bold steps towards upgrading the current logistics management information system (LMIS) to an automated version for better data visibility, on-time ordering and reporting.
4. Performance agreements should be established between GOM/MOH, CMST and donors to enable CMST and development partners to progress in the same direction while complementing each other's efforts.

## **Key Recommendations to Development Partners/Donors**

1. Development partners should consider evaluating CMST's performance by their achievement of key performance indicators (KPIs) and supply chain integration benchmarks set out in the CMST corporate strategy and/business plan.
2. Developing partners should consider aligning their funding and support to KPIs set out in CMST's business plan and establish performance-based funding models tied in with corporate- and sector-wide objectives.
3. Development partners should consider specifying their roles and commitment to supporting CMST in implementing its corporate strategy and business plan throughout its lifecycle.

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<sup>1</sup> Often RMS branch managers or pharmacists attend zonal DHO quarterly meetings. Health-related issues are discussed at these meetings. CMST uses these forums to disseminate relevant information and data on its operations and performance. Similarly, DHOs present consolidated health facilities' consumption data, among other issues, providing a good opportunity for CMST to obtain such information.

<sup>2</sup> CMST LTWG is comprised of RMS managers and CMST/central management. It meets monthly to review CMST operations. Decisions and/or recommendations of the LTWG, as necessary, are forwarded to the CMST steering committee (comprised of CMST management and health partners funding specific components of CMST operations). Given the importance of the steering committee, it is recommended that membership be extended to include relevant participation from MOH, among other GOM ministries, agencies and health partners.

# I. INTRODUCTION

## A. BACKGROUND

Malawi is a landlocked country, about the size of Pennsylvania. It is located in southeastern Africa, and is defined by its topography of highlands split by the Great Rift Valley and enormous Lake Malawi on the eastern border. The country shares borders with Mozambique, Zambia and Tanzania. It has a population of about 16.70 million (2014).<sup>3</sup> Eighty percent of its population lives in rural areas. Malawi consists of three political regions: North, Central and South. The capital city is Lilongwe (see map).

The public health system in Malawi consists of primary care, secondary care and tertiary care made up of health centers, district hospitals and central hospitals, respectively. Key private sector health providers include the Christian Health Association of Malawi (CHAM), which consists of individual private clinics mostly located in urban areas.

Malawi recognizes the importance of providing quality health services. However, there are factors that hinder the provision of quality health services, including poor infrastructure, lack of equipment, lack of qualified human resources and weak management. Some of these issues—including sparse availability of essential health supplies—are already being addressed.<sup>4</sup>

In general, communities equate the quality of health care with the availability of medicines and other essential supplies.<sup>5</sup> Understandably, they perceive health services to be poor when essential supplies are not available and they have to buy them from private medical outlets.<sup>6</sup> Clinicians primarily



Figure 1. Map of Malawi

<sup>3</sup> World Bank at <http://data.worldbank.org/country/malawi> (accessed Feb. 6, 2016).

<sup>4</sup> For more details, see [http://www.who.int/profiles\\_information/index.php/Malawi:Analytical\\_summary\\_-\\_Service\\_delivery](http://www.who.int/profiles_information/index.php/Malawi:Analytical_summary_-_Service_delivery) (accessed on Feb. 6, 2016).

<sup>5</sup> Nabbuye-Sekandi, J., Makumbi, F.E., Kasangaki, A., Kizza, I.B., Tugumisirize, J., Nshimye, E., Mbabali, S., Peters, D.H. 2011. Patient satisfaction with services in outpatient clinics at Mulago hospital, Uganda. *Int J Qual Health Care* 23, 516–523.

<sup>6</sup> Hanson, K., McPake, B., Nakamba, P., Archard, L., 2005. Preferences for hospital quality in Zambia: results from a discrete choice experiment. *Health Econ* 14, 687–701. Mugisha, F., Bocar, K., Dong, H., Chepng'eno, G., 2004. The two faces of enhancing utilization of health-care services: determinants of patient initiation and retention in rural Burkina Faso. *Bulletin of the World Health Organization* 82, 572–579.

depend, among other inputs, on the availability of essential medicines and supplies to provide adequate health care.

Availability of medicines and other essential health commodities in most public health facilities in Malawi is problematic. Most patients receiving medical consultation at public health facilities are forced to purchase their medication from private pharmacies/health shops, often at high prices. The main causes of medicine shortages at these facilities, among other reasons, has been their unavailability at CMST, an insufficient budget from the central government to meet national requirements and the inefficient management of the end-to-end supply chain. The lack of robust electronic information systems has limited the full visibility of the supply chain, and contributed to the challenge of medicines availability at the health center level. As CMST is the mandated sole supplier for public health facilities in the country, its performance directly impacts service delivery at all levels of the public health delivery system.

Prior to 2010, all public sector supply chain logistics functions, management and controls were vested with Central Medical Stores (CMS), which has been in existence since 1968. Since that time, CMS had undergone numerous reform and technical assistance (TA) programs, which have seen its management changing hands back and forth between private organizations and GOM staff.<sup>7</sup> Current evidence suggests that these reforms have not yielded the intended results as CMS failed to fully deliver on its mandate of ensuring access to medicines for all Malawians. In recent years, reform pressures have focused on strengthening the CMS. One of the key targets for the reform was to establish CMS as an autonomous entity independent of the MOH and central government. These reform initiatives resulted in CMS being designated as a public trust in 2008 and subsequently transitioning from CMS to CMST. The trust agreement was established in 2009 and saw the registration of CMST in August 2011, with the full board of trustees appointed in November 2010 and executive management confirmed in 2012.

In spite of all these reforms, the Malawi public health commodity supply chain continues to exist as a group of parallel fragmented supply chains with separate procurement, warehousing and distribution systems managed individually and through contracted 3PL providers (warehousing and distribution agents). These vertical systems primarily arose as a direct result of CMS under performance, particularly the discovery of theft and leakage of Global Fund- (GF) United States Government (USG)-funded health commodities from CMS warehouses in 2010. These events led to a dearth of donor confidence in CMS and saw the withdrawal of both GF- and USG-procured malaria commodities as well as USG-procured family planning (FP) commodities from CMS. CMS later managed these commodities separately through parallel vertical programs. These programs were established not only to improve the security of donated products but also to address the continuing challenge of national product stock outs by circumventing the regional warehouse networks and distributing products to hospitals and health facilities directly.

The parallel supply chain (PSC) systems currently in place are able to undertake monthly nationwide distributions reaching every health facility in the country. These PSCs were initially funded by USAID and the GF, and managed by the MOH and USAID. The PSCs were further expanded in 2012 to support the procurement and distribution of essential drug kits for a period of 18 months under an emergency project funded by German development bank KfW, the Government of Norway and the U.K. Department for International Development (DFID). This intervention was designed to create breathing

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<sup>7</sup> Previous reform attempts were made with the support of AEDES (European Agency for Development and Health) and Glcoms.

space for the GOM and CMST to undertake a comprehensive procurement and institute a series of reforms intended to strengthen CMST over the longer term.

To this effect, USAID led a multi-donor team to develop the first Joint Strategy for Supply Chain Integration in Malawi. The broad objective was to strengthen the national supply chain system and ensure that both CMST and district-level supply chains were capable of assuring that essential medicines—including donor-procured malaria, FP, TB, and HIV commodities—reach end users.<sup>8</sup> The *2012 Joint Strategy for Supply Chain Integration in Malawi* (hereafter referred to as “the joint strategy”) defines, in a phased approach, a competency framework (of activities, standards, benchmarks and indicators) that CMST must achieve in order to demonstrate its readiness and capability to undertake logistics and supply chain functions currently being performed by PSC systems.

In January 2015, MOH formalized the establishment a CMST-Reform Monitoring Task Force (CRMTF), which met for the first time on January 9, 2015.<sup>9</sup> MOH chairs meetings of the task force. Members of the task force consist of representatives drawn from CMST, key MOH programs and departments and development partners.<sup>10</sup> It was planned that the Task Force would meet regularly (every one to two months) to review CMST periodic performance reports, plans, activities and operations; provide strategic and policy recommendations; and identify issues and bottlenecks to be raised with the CMST board or to MOH senior management. CMST periodic performance reports on the status of CMST reforms were also to be shared with the Drugs and Medical Supplies Technical Working Group (DMS-TWG) as well as directly to MOH senior management.

In essence, the strategy, in the last three years, served and continues to serve as a roadmap for integrating multiple vertical supply chain systems into the national system; it also continues to act as a catalyst toward achieving operational efficiency and cost savings for CMST. USAID, along with other development partners, continues to work alongside the MOH, CMST and other health partners in providing TA, encouragement and support toward the full implementation of the strategy.

By implementing the 2012 joint strategy and strengthening the public supply system, Malawi’s public health system is expected to be in a better position to plan against and respond to chronic medicine stock out situations and progressively build a more sustainable national supply delivery system.

CMST, with support from various health partners, has been implementing the strategy since 2013. Three years into implementation the MOH, through an independent assessment, now wishes to ascertain CMST’s performance against the 36 PSC integration benchmarks as defined in the Strategy. This assessment provides an opportunity to take stock of what CMST has achieved, to highlight key areas of vulnerability for CMST and its development partners and to provide an opportunity to fine-tune the benchmarks and transition process as necessary.

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<sup>8</sup><https://www.usaid.gov/malawi/fact-sheets/usaid-malawi-supply-chain-fact-sheet-2012-13> (as accessed on 26 October 2015)

<sup>9</sup> In total, the TF met four times since its launch on Jan. 09, 2015. It met for the second time on June 9, 2015; Jan. 30, 2016 and on Jan. 29, 2016.

<sup>10</sup> The task force has 11 members: MOH/SH (Chair), HTSS Deputy Director-Pharmaceuticals, CMST CEO, representative of CCM, representative of HDG, representative of the Ministry of Finance, representative of health programs (head of HIV, TB, Malaria, RH and EPI programs). The committee may invite relevant technical experts to attend CRMTF meetings when necessary, to contribute to the deliberations of the task force.

## **B. PURPOSE**

The purpose of this report is to present findings, conclusions and recommendations of the independent assessment of CMST's performance on supply chain integration benchmarks for Malawi, conducted in January 2016. The findings of this report were precisely drawn and guided by the 36 performance benchmarks and health system strengthening recommendations agreed to by all stakeholders in the 2012 strategy document. The findings presented herein aim to provide insights on the performance of CMST on meeting the needs and requirements of its core clients and the ability to ensure product availability at SDPs. Ultimately, based on the scope of work (SOW) of this assignment (Annex I), the broad objective of this report is to support the decision-making process around the integration of PSCs in the Malawi public health sector.

## **C. OBJECTIVES**

The objectives of this assignment were:

1. To assess CMST performance on each of the 36 benchmarks outlined in the integration strategy.
2. To assess the implementation of the integration strategy SS recommendations.
3. To recommend actions that will enhance the implementation of the supply chain integration strategy.

## **D. ASSESSMENT QUESTIONS**

Consequent to the above, this report seeks to answer the following questions:

1. To what extent have the integration strategy recommendations been implemented and achieved?
2. How has CMST performed on each of the 36 benchmarks outlined in the integration strategy?
3. What were the enabling factors and barriers that may have impacted the effective implementation of the integration strategy?
4. Based on the findings of the above, what recommendations should be given to further enhance the achievement of the set benchmark standards and implementation of the supply chain integration strategy?

## II. METHODOLOGY

The approach to this assessment was primarily anchored on CMST's achievement of the set benchmark standards and targets. The consultants followed the format detailed in the integration strategy document, which spelled out the specific indicators, targets and basis for verification. To ensure a balanced measurement, the consultants evaluated CMST's performance on each of the KPIs and targets as defined in the project's strategy, in addition to other industry-standard supply chain performance benchmarks.

In order to answer the assessment questions, the consultants conducted a literature review on CMS organizations in sub-Saharan Africa and deployed a number of elicitation methods:

- Document analysis
- Key informant interviews (KIIs)
- Focus group discussions
- Observation

The methodology to answer these questions included the following:

- A literature review
- In-country KII and field visits

A work plan that guided the execution of this assessment is found in Annex 2.

### A. LITERATURE REVIEW

The literature review was conducted to document best practices from other countries considered to have effective and efficient CMS or national supply chain systems in low-income countries, with a focus on sub-Saharan Africa. To determine existing practices, the consultants used both primary sources (such as original documents and reports from countries) as well as secondary sources of information (analysis, inferences and interpretation already made by other parties in published material and studies).

This literature review was particularly focused on countries that had an integrated supply chain where the logistics (procurement and supply management functions, storage and distribution of vertical program health commodities) were channeled through a single nationally led supply chain and integrated into the core functions of the central medical store. Examples include **Sudan** (North), National Central Medical Supplies Fund (NCMSF); **Kenya**, KEMSA (Kenya Medical Supplies Authority); **Zambia**, Medical Stores Limited (MSL); **Tanzania**, Medical Stores Department (MSD); **Uganda**, National Medical Stores (NMS); **Botswana**, Medical Stores; and **Namibia**, Central Medical Stores (CMS). A separate report on this review is available and includes a list of best practices drawn from the medical stores of these countries, which informed some aspects of the findings and recommendations in this report.

### B. IN-COUNTRY KEY INFORMANT INTERVIEWS AND FIELD VISITS

- I. Consultants reviewed documents to gather evidence on the extent of integration based on the agreed 36 benchmarks as per the *2012 Joint Strategy for Supply Chain Integration in Malawi*. This

review examined (a) CMST records, (b) minutes of technical working group (TWG) and supply chain technical meetings, (c) MOH annual review meeting reports, (d) other relevant information from stakeholders and (e) observation. Annex 6 provides a list of documents reviewed and references used to inform the assessment.

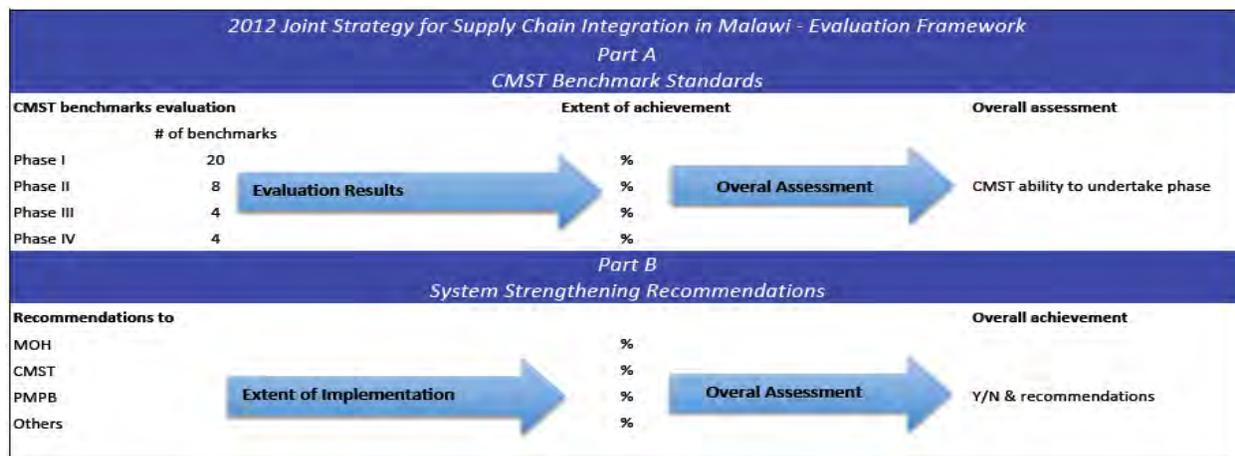
2. KIIs were conducted with relevant stakeholders (CMST; GOM entities, including MOH, and NLGFC; health supply chain donors, including DFID, USAID, UNFPA, CHAI and UNICEF; and health facility staff and PSC operators such as JSI, IHS, CML and Bollore Logistics) to seek their perspectives on the implementation of the integration benchmarks as it relates to their activities. A list of persons met is found in Annex 5.
3. Field visits, as an extension of the KIIs, were conducted at selected facilities in three regions of Malawi (North, Central and South). The visits involved interviews with relevant staff and observation on the extent of integration. Annex 3 lists the health facilities visited and summarizes observations and findings.

# III. EVALUATION FRAMEWORK

## A. EVALUATION FRAMEWORK

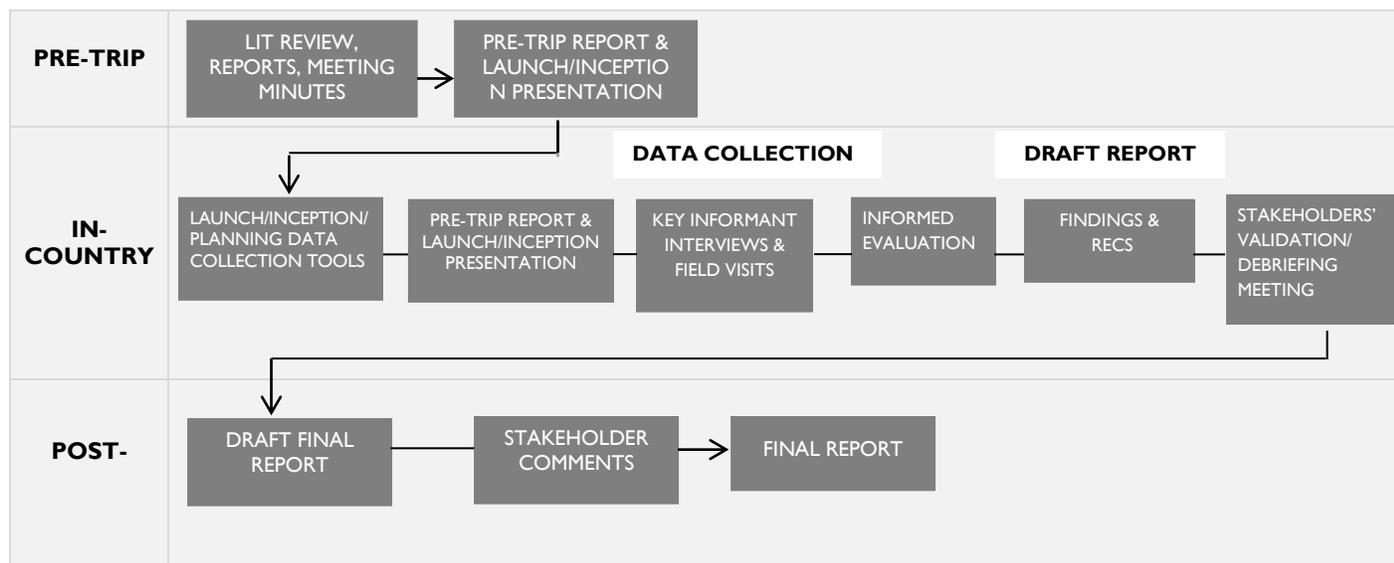
Figure 2 provides an evaluation framework (defining boundaries, scope and process) for the implementation of the 2012 Joint Strategy for Supply Chain Integration in Malawi.

**Figure 2. Evaluation Framework**



The process map below illustrates the high-level activities conducted and delivered during the life of the assessment and clearly shows the logical process that was undertaken from entry to close out.

**Table 1. Evaluation (a Linear) Process Presentation**



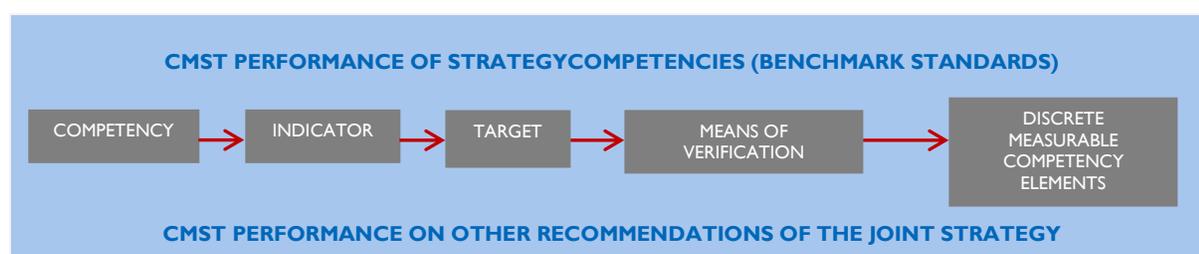
The team leader conducted the first cycle of information gathering (review of relevant literature based on the SOW, minutes of meetings and reports) and prepared the inception report for the facilitation of the first stakeholders' planning/inception meeting held on Jan. 21, 2016. The second information gathering exercise (in-country) was conducted from Jan.18 to Feb.16, 2016, and mainly focused on

evaluating benchmarks with the relevant CMST key staff. This was followed by KIIs with relevant stakeholders and field visits conducted from Feb. 1–9, 2016. This process allowed an informed evaluation of the implementation of the *2012 Joint Strategy for Supply Chain Integration in Malawi* and specifically focused on assessing CMST extent of acquisition of the prescribed competencies and the other recommendations in the strategy (See joint strategy Annexes 1 and 2). The following sections present additional detail on the evaluation approach.

### Extent of Implementation of CMST Benchmarks

Evaluation of the benchmarks was made possible through the use of discrete measurable elements arising from the relationships, interactions and linkages of the benchmark standards, its indicator, and target and means of verification, as captured in Figure 3.

**Figure 3. Benchmark Discrete Measurable Elements**



The benchmarks and targets for integration in the 2012 joint strategy outline (on p. 14) the professional activities assessed in this evaluation. Included among those activities is the collection of evidence that CMST gained particular skills and attributes in the course of implementing the strategy.<sup>11</sup>

Each benchmark in the strategy describes a particular professional activity to be completed. However, because benchmarks were considered too large to be practicably assessed, they were broken down into discrete elements. A set of elements details a benchmark’s range of activities or tasks, which CMST was tasked to provide as evidence of having achieved the benchmark or not. These elements aim to integrate the knowledge, skills, attitudes and other important attributes of professional performance by CMST’s workforce. To facilitate measurement, elements are expressed in active form. This allows the benchmarks and targets to serve as expectations against which actual CMST performance can be assessed. The example in Table 2 demonstrates this evaluation approach.

**Table 2. Example of discrete measurable elements for assessing the extent of implementation of a benchmark**

<b>Competency</b>	Ability to deliver essential commodities to SDPs nationwide on a monthly basis, either using a 3PL, in-house fleet or a combination of both
<b>Indicator</b>	% of SDPs receiving monthly deliveries
<b>Target</b>	100%
<b>Means of verification</b>	External review and self-reporting

<sup>11</sup> Adopted from *The National Competency Standards Framework for Pharmacists in Australia, 2010*

<b>Discrete measurable elements</b>		Y/N
	Availability of external review reports indicating CMST delivery reach to SDPs	Y
	Availability of CMST internal reports indicating monthly (or annual) CMST delivery reach to SDPs (coverage 2012-2015)	Y
	Availability of distribution schedule indicating deliveries to SDPs (for the period 2012-2015)	Y
	Results: % of SDPs receiving monthly deliveries from CMST (at 100%)	Y

A score of “Yes” for all the discrete elements affirms that the benchmark has been acquired. A negative result—e.g. a “No”—in any one of the above suggests that the competency has not been fully acquired.

The two measures—acquiring the competency or not acquiring it—provide the opportunity to learn about enablers/factors and recommend ways to further strengthen an acquired competency, or provide the opportunity to learn about barriers/factors and recommend measures to overcome them and achieve a competency. A detailed description of this framework is provided in this report in Section C.

### Extent of Implementation of System Strengthening Recommendations

The 2012 joint strategy (pg. 22) provides recommendations for system strengthening (SS). The recommendations, which cut across nine areas, identify CMST, CMS Board of Trustees, MOH and PMPB as the entities responsible for their implementation. A draft scheme/tool for evaluating the status of implementation of these recommendations was developed and used.

Each recommendation identifies the relevant potential respondent(s) and has been broken into smaller parts or elements to ease evaluation. Standard score points assigned to each of the elements enable evaluators to ascertain the extent of their implementation. The example (Table 3) below highlights how each of the recommendations were evaluated.

**Table 3. Example: Schema for the Evaluation of the Extent of Implementation of SS Recommendations**

Area:	Quantification
Recommendation:	(MOH to) <b>Designate a national TWG charged with year-round coordination of quantification, forecasting and supply planning jointly with CMST</b>
Potential respondent:	Identified
Has this been implemented? Y/N	(Scored accordingly): Yes=1; No=0; N/A=0
If yes, Operational: Y/N; N/A	(Scored accordingly): Yes=1; No=0; N/A=0
If yes, what is the evidence? Y/N; N/A. Describe the evidence.	(Scored accordingly): Yes=1; No=0; N/A=0; and description of the evidence provided
Comments/background notes to recommendation:	Provide context and background on the recommendation

The SS recommendations were categorized in the following nine areas: (1) quantification/forecasting and product selection, (2) procurement, (3) inventory management and storage, (4) distribution, (5)

financial/fiscal management, (6) human resources, (7) information, (8) quality assurance and (9) governance.

A separate score sheet provided the complete schema/tool for data collection and evaluation of the extent of implementation of the SS recommendations.

## **B. DATA CAPTURE AND SOURCES**

### **Data Sources**

Data sources and evidence provided included reports, records, minutes of meetings, responses to key informant interviews, Internet/web search references, etc.

### **Data Capture/Evaluation Tools**

Separate sheets were used to capture data that enabled the evaluation of the benchmarks and the SS recommendations. Semi-structured questionnaires with primary questions aimed at initiating dialogues were also used to capture information from the relevant stakeholders.

## **C. ANALYTICS/DATA EVALUATION AND LIMITATIONS**

### **Analytics/CMST Benchmarks**

Results from a separately maintained benchmark scoring sheet/evaluation tool provided details on the overall impression of CMST performance for each phase. The performance of individual benchmarks as calculated from the referred scoring sheet is provided, identifying the specific achievements and gaps. The means of verification, after being broken down to measurable elements, were used to determine the extent of implementation and achievement on each benchmark. Each element of a benchmark was scored (on a scale of Y=1; N=0; WIP<1 but not=0). The sum of the scores of each element was then compared with the sum of the standard score. This enabled evaluators to determine the extent (in percent) to which a benchmark had been achieved or implemented.

Example: CMST Benchmark I

#### **Phase I: CMST recapitalization and reform and successful management of current products**

**Area:** *Distribution*

**Sub-area:** *Distribution planning*

**I. Benchmark:** CMST ability to execute distributions of donated commodities (TB and FP) on time

- **Indicator:** Distributions conducted according to predetermined timeline for all SDPs
- **Target:** 100 percent
- **Means of verification:** CMST quarterly reporting

Table 4 illustrates the scoring.

**Table 4. Example of Benchmark Scoring**

<b>Phase I: CMST recapitalization and reform and successful management of current products</b>					
<i>Area: Distribution; Sub-area: Distribution planning</i>					
<i>Benchmark: CMST ability to execute distributions of donated commodities (TB and FP) on time</i>					
	<b>Standard Score</b>		<b>Actual Score</b>		
Availability of CMST quarterly delivery reports—2012	Y	I	Y	I	
2013	Y	I	Y	I	
2014	Y	I	Y	I	
2015	Y	I	Y	I	
Availability of copies of distribution list (TB and FP commodities) 2012	Y	I	Y	I	
2013	Y	I	Y	I	
2014	Y	I	Y	I	
2015	Y	I	Y	I	
Delivery performance will be ascertained (is target=100%)?	Y	I	Y	I	
N=the total number of planned deliveries - delivered on time					
D=the total number of instructed/planned deliveries schedules for the period 2012-2015					
Availability of delivery notes – as proof delivery	Y	I	Y	I	
Confirmation through field visits on delivery timeliness (through interview with receiving staff) – response? Y/N	Y	I	Y	I	
Copies of receiving and inspection reports and/or signed DN at SDP – seen and evaluated as evidence? Y/N	Y	I	Y	I	
Any issues and challenges related to deliveries by CMST?	Narrative/description of the issues and challenges				
Any issues and challenges related to received deliveries by health facilities/SDPs—will be enumerated?	Narrative/description of the issues and challenges				
<b>Total scores</b>	Y	I3	Y	I3	100%

This exemplifies how CMST—by matching standard and actual scores with the noted issues and challenges notwithstanding—was able to execute the distribution of donated commodities (TB and FP) on a timely basis. Accordingly, enablers and barriers to this achievement are documented and recommendations of the review indicated.

On the other hand, in case of variance between standard and actual score due to “No” scores, we would rightly indicate that CMST does not yet have the ability and capacity to execute the distribution of donated commodities on time. Appropriately, barriers to this outcome would be indicated.

Total scores (standard vs. actual) for a single phase and across the four phases have been determined in the same way.

As indicated earlier, each of the relevant elements above are either scored Yes=1 if in affirmation, No=0 if in negation, WIP or N/A=not applicable if irrelevant. This procedure was repeated for each benchmark, and the results were captured in separately developed and maintained analytics tool.

The traffic lights grading system (Table 5) was used to illustrate the level of implementation performance for each benchmark (and their respective phases).

**Table 5. Traffic Light Coding System**

(Green)	Complied	>80%
(Yellow)	WIP	31%-79%
(Red)	Little done and/or lack of written evidence	Up to 30%

### **Analytics/System Strengthening Recommendations**

We used the data below (Table 6) to illustrate evaluation of the extent of implementation of the SS recommendations.

**Table 6. General Extent of Implementation by Supply Chain Areas – Defined in the 2012 Strategy**

#	Supply Chain Area	Actual Scores	Std Scores	%
1	Quantification	2	6	33%
2	Procurement	3	6	50%
3	Storage and inventory management	2	4	63%
4	Distribution	0.5	1	50%
5	Financial management	1.5	4	38%
6	Human resources	1.85	3	62%
7	Information	2.25	3	72%
8	Quality assurance	2	4	50%
9	Governance	1.4	4	35%
<b>Total</b>		16.5	35	47%

- Each area of the supply chain, as identified in the 2012 joint strategy, consisted of several SS recommendations. Actual scores were assigned to each recommendation on the basis of the scale: Yes=1; No=0; WIP=(<1 but not=0).
- The sum of the actual scores (as the numerator) for each area was divided by the sum of “Yes” standard scores (as the denominator), yielding the extent of implementation of each area of the supply chain. Implementation performance was pegged on the traffic light color-coding illustrated earlier.

## **Limitations**

### ***Time Constraints***

The large volume of documents to be reviewed made the assessment difficult to complete within the assigned timeframe. Poor documentation compounded the challenge. If the consultants had reviewed every document and/or waited for certain documents to be provided as evidence, the assignment would have required a longer implementation timeframe. However, we believe that the documents that were available for review permitted evaluators to make fair and reasonable conclusions about program performance, as well as the extent of implementation of the CMST benchmarks and joint strategy SS recommendations. Information gathered through KIIs and field visits further contributed to sharpening our conclusions.

### ***Benchmark Importance***

Although each of the 36 benchmarks have its own importance (weight), this evaluation does not take this into consideration and instead assigns the same weight to each benchmark. This method was elected to simplify the process for determining benchmark achievement (i.e., distinguishing those that have been achieved against those that have not been achieved). However, after making this distinction, the approach looks at each benchmark and its importance with regard to the factors that allowed CMST to achieve it. Benchmarks that were not achieved are also reviewed in greater detail to identify and document barriers that hindered CMST from achieving them. Consequently, this approach of simply distinguishing achieved and not achieved benchmarks still served the useful purpose of obtaining fairly accurate conclusions. The clear measurement of achievement level for each benchmark permitted the articulation of sound recommendations to strengthen CMST toward achieving all the benchmarks.



## IV. FINDINGS

### A. PART A: BENCHMARKS IMPLEMENTATION

#### Extent of Implementation on Each of the 36 Benchmarks, Enablers and Barriers

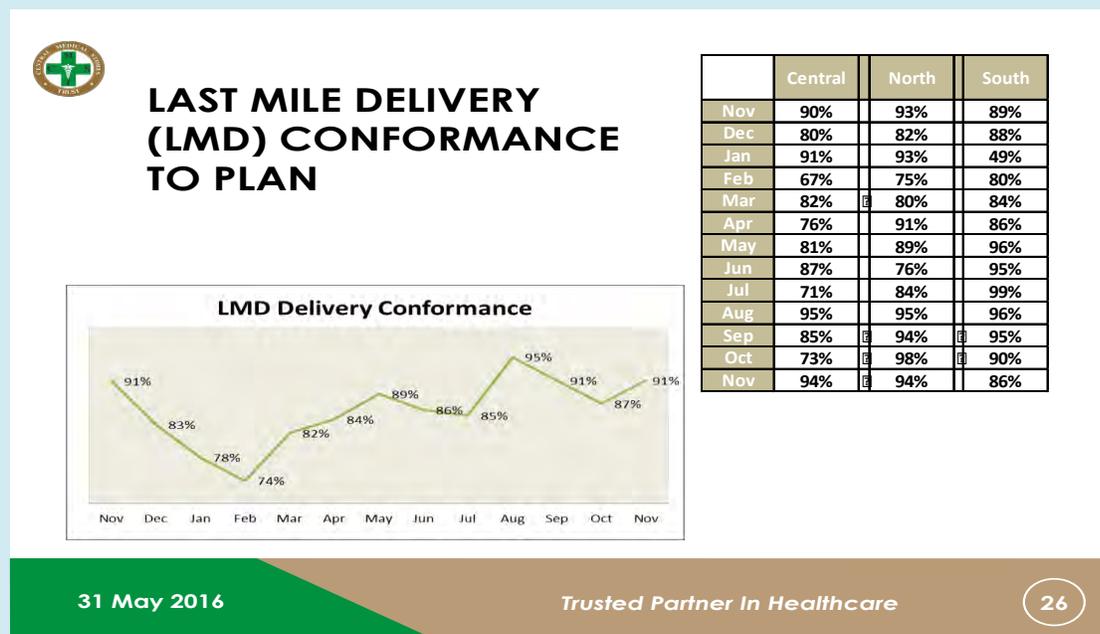
A separate benchmark score sheet, providing detailed evaluation of each of the benchmarks and the basis for individual benchmark scores, has been maintained. A summary of findings pegged on scores representing the extent of implementation on each of the 36 benchmarks, extracted from the score sheet, is presented below. This includes enablers of and barriers to benchmark implementation.

#### Phase I: CMST recapitalization and reform, and successful management of current donated products (GF-procured TB products and UNFPA-procured FP products)

B #	Benchmark description	Area Sub-area	Extent %	Target %
I	Ability to execute distribution of donated commodities (TB and FP) on-time	Distribution/ distribution planning	91%	100%

Based on recent 13-month data (November 2014-November 2015) last-mile-delivery (LMD) conformance was 91 percent (see Figure 4). This level of performance represented 86 percent of all orders delivered to MOH health facilities and is found to be satisfactory at a score of 91 percent (1-digit standard score=100%; 91% performance level=0.91 digit earned). **Enablers:** 3PL capacity. **Barriers:** weather and road conditions.

Figure 4. Last-mile Delivery Compliance



Source: CMST

2 <i>Transparent, cost-effective insurance policy and claims process in place and functional to mitigate losses (due to theft or damage) of products covering both storage and distribution</i>	<b>Area</b>	<b>Extent %</b>	<b>Target</b>
	<b>Sub-area</b>		
	Financial/fiscal management	50%	N/A
	Risk mitigation for losses		

Insurance policies are in place and cover stock on storage and distribution through NICO Insurance Company (AON Insurance as the broker). Insurance was not sourced competitively. The specific company providing service was inherited from the former CMS administration. It was indicated that the company was chosen among several alternatives based on their ability to handle greater risks, but the evidence to support this was not provided. There was no evidence provided to indicate that the premiums negotiated are competitive. Evidence was provided to testify that losses incurred were compensated, in cases where such losses were deemed substantial. **Barriers:** sourced and managed by HR team with no procurement expertise. **Enablers:** Existence of inherited insurance policies.

3 <i>Revised CMST business plan adopted by board of trustees based on stakeholder feedback</i>	<b>Area</b>	<b>Extent %</b>	<b>Target</b>
	<b>Sub-area</b>		
	Financial management/business plan	100%	N/A

CMST's corporate strategy and business plan 2015-2020, approved by CMST's board, were provided as evidence. There was evidence that both were shared with a wider audience at a workshop, prior to their approval by CMST's board. The Clinton Health Access Initiative (CHAI) is mentioned as one of the key stakeholders that assisted and coordinated the finalization of CMST's corporate strategy. **Enablers:** TA with skills and experience in preparation of corporate plans, staff enthusiasm to accomplish these documents for the purpose of guiding their day-to-day operations. **Barriers:** non-integration of integration benchmarks, lengthy internal processes.

4 <i>Detailed information on CMST actual operating costs available</i>	<b>Area</b>	<b>Extent %</b>	<b>Target</b>
	<b>Sub-area</b>		
	Financial management	80%	N/A
	Business plan		

Costed CMST corporate strategy is in place, providing details on the costing of each activity by each of the corporate objectives. Costing is reflected in the business plan in the form of a summary of projected income (from core CMST business and other activities) and other categorized expenses, indicating gross margins/profits per year over a span of five years. Gross margins/surplus as a percent of sales are provided, indicating a business growth rate of about 40 percent over a span of five years of operations. However, CMST does not know the cost of storing, handling and moving products at unit level (e.g., cost per pallet, cost per cubic meter, cost per kilogram, cost per kilometer). **Enablers:** TA with skills and experience in preparation of corporate strategy, staff enthusiasm to accomplish these documents for the purpose of guiding their day-to-day operations. **Barriers:** non-integration of integration benchmarks, lengthy internal processes.

<p><b>5 Annual financial audits completed in line with international accounting standards and results made available to stakeholders in a timely manner</b></p> <p>CMST's 2010-2011 audit is available and was signed off by PriceWaterhouseCoopers (PwC) on Jan. 29, 2014. The 2011-2012 audit is available, signed off by PwC on May 27, 2015. The 2012-2013 audit is available, signed off by PwC on Sept.28, 2015.</p> <p>These audits were shared with stakeholders at the first CMST annual general meeting (AGM) held on June 4, 2014, in the Mbizi Room at the Bingu International Conference Centre. Some stakeholders confirmed that CMST, through its various update meetings with donors, is gradually becoming more and more transparent. Audits from 2013-2014 and 2015 are pending; they are still with auditors (KPMG). They will be shared at the next CMST AGM in May 2016. <b>Enablers:</b> elevated status to a trust with its own board and autonomy, appointment of professional audit firms.</p>	<p><b>Area</b></p> <p><b>Sub-area</b></p>	<p><b>Extent</b></p> <p>%</p>	<p><b>Target</b></p>
	Financial management	88%	N/A
	Transparency		
<p><b>6 Routine financial reporting covering all revenues, expenditures, debts, assets, and profit and loss accounts provided to stakeholders</b></p> <p>Quarterly and annual financial reports documenting all revenues, expenditures, debts, assets, and profit and loss accounts are available.</p> <p>Notes: Quarterly and annual financial reports documenting all revenues, expenditures, debts, assets, and profit and loss accounts are available. The CMST AGM convened and deliberated on annual financial reports. Reports are normally shared during AGM with a wider audience, including donors and other GOM agencies. CMST has enlisted the services of a reputable external auditor (PwC previously and KPMG currently) – this testifies to CMST's commitment to transparency and good reporting standards. <b>Enablers:</b> appointment of professional accounting firm, AGMs, CMST board.</p>	<p><b>Area</b></p> <p><b>Sub-area</b></p>	<p><b>Extent</b></p> <p>%</p>	<p><b>Target</b></p>
	Financial management	100%	N/A
	Transparency		
<p><b>7 Effective management and oversight procedures for any 3PL developed and implemented</b></p> <p>Two contracts for 3PL contractors managed by CMST are in place: Cargo Management Logistics (Malawi) Limited (CML) and Imperial Health Sciences (IHS).</p> <p>A series of standard operating procedures (SOPs) are available. 3PL oversight SOPs include the IHS CMST operational handover process, IHS CMST proof-of-delivery document control and handover process, CMST DFID parcel dispatch process, CMST DFID document flow process, CMST delivery discrepancy form and CMST inventory upliftment form. A 3PL oversight structure is in place. It includes weekly lead working group and monthly steering committee meetings with relevant donors (minutes of meetings of the weekly lead group and monthly steering committee are available). CMST's contract with CML has only been in place since January 2016; therefore, CMST has not yet gained significant experience in the management of 3PL contractors. <b>Barriers:</b> limited capability to effectively procure and manage 3PLs. <b>Enablers:</b> stakeholders lead oversight, oversight lead working group, and oversight steering committee.</p>	<p><b>Area</b></p> <p><b>Sub-area</b></p>	<p><b>Extent</b></p> <p>%</p>	<p><b>Target</b></p>
	Governance	60%	N/A
	Contract management		

<p><b>8 Existence of a code of ethical conduct for the CMST Board of Trustees and all staff</b></p> <p>"CMST Code of Conduct for Employees" is available, but all in one document. It specifies code of conduct (COC) and conflict of interest (COI) requirements for all CMST trustees and staff.</p> <p>CMST board members and staff are subjected to adherence of the "Corruption &amp; Fraud Prevention Policy". CMST trustees and staff have not signed the COC and COI declaration form. Signed forms were not available as evidence, due to the practice being new. Board of trustees and IPC members do not sign any kind of form to declare them free of conflicts of interest, as the practice is said to be new. There are no procedures in place to ensure that CMST officers' COC statuses and COIs are monitored and updated. <b>Enablers:</b> coexistence of COC and COI document. <b>Barriers:</b> new practice, internal approvals.</p>	<p><b>Area</b></p> <p><b>Sub-area</b></p>	<p><b>Extent</b></p> <p>%</p>	<p><b>Target</b></p>
	Governance	30%	N/A
	Policy environment		
<p><b>9 Transparent reporting of ethics violations and disciplinary measures taken</b></p> <p>Records/reports documenting details of cases of ethics violations committed by CMST officers or staff (i.e., theft, embezzlement, forgery) are available (four cases are on file).</p> <p>Such cases have not been reported to stakeholders (within 15 days of their occurrences), but they are reported to the CMST board; there is no evidence of sharing such reports with donors. There are no updates provided to stakeholders on disciplinary actions taken on monthly basis until such cases are resolved (updates given to CMST board only). Each theft case is measured in terms of both quantities and value. <b>Enablers:</b> coexistence of COC and COI documents. <b>Barriers:</b> internal approval processes.</p>	<p><b>Area</b></p> <p><b>Sub-area</b></p>	<p><b>Extent</b></p> <p>%</p>	<p><b>Target</b></p>
	Governance	40%	N/A
	Policy environment		
<p><b>10 Human resources policies to support recruitment, retention and performance</b></p> <p>HR policy and detailed CMST terms and condition of service are in pl.</p> <p>Notes: Electronic (structured, semi-automated, Excel based) Personnel Indicator Management System (PIMS) that tracks staff performance semiannually is in place.</p>	<p><b>Area</b></p> <p><b>Sub-area</b></p>	<p><b>Extent</b></p> <p>%</p>	<p><b>Target</b></p>
	Governance	100%	
	Policy environment		
<p><b>11 Key positions at CMST central and regional level filled based on organizational chart</b></p> <p>Total number of key staff establishment approved = 13.</p> <p>There was one vacant position as of October 2015 and January 2016 (branch manager at Central Stores, Lilongwe). This yields a vacancy rate of 8 percent (against target &lt;10%). New staff recruitment is foreseen through KPMG, and CMST has no influence on the recruitment of senior-level staff.</p>	<p><b>Area</b></p> <p><b>Sub-area</b></p>	<p><b>Extent</b></p> <p>%</p>	<p><b>Target</b></p>
	Human resources	100%	< 10%
	HR needs at CMST		

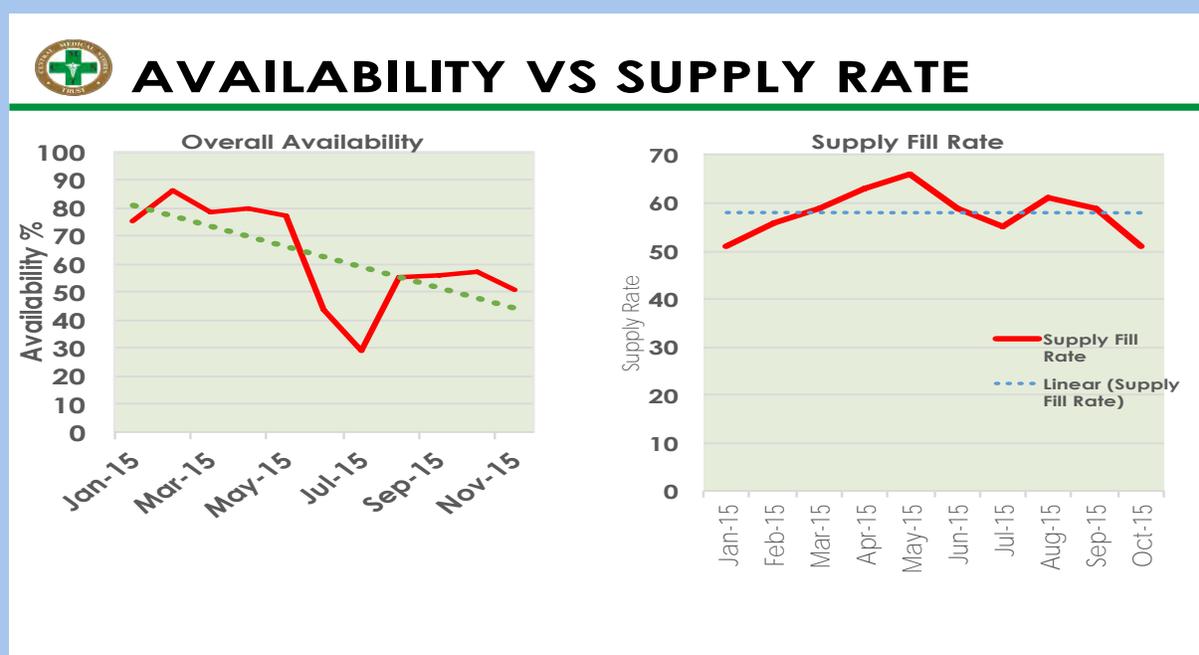
**12 Tracking of commodity availability through use of key tracer products in CMST**

The concept of tracer items is not well understood and not known to CMST and health facilities.

Area Sub-area	Extent %	Target
Inventory management and storage	100%	N/A
Inventory management		

CMST has developed a must-have list (MHL) in close consultation with stakeholders (in February and November 2015). This list is used to trace commodities availability within CMST warehouses. The MHL consists of 974 items, the majority of which are medical supplies and lab reagents. Over the last 10 months in 2015, availability of the MHL declined from around 75 percent (in January 2015) to a 50-percent mark (in November 2015) (see Figure 5 below).

Figure 5. Medicines Availability at CM



Source: CMST Data (2015)

**13 Visibility of TB and FP products in real-time within CMST facilities**

Stock status reports are shared on regular basis (national TB, FP and other stakeholders). Stakeholders confirm receiving monthly stock status reports.

Area Sub-area	Extent %	Target
Inventory management and storage	50%	N/A
Inventory management		

However, programs indicate that such reports are shared only when demanded and not on a regular basis as indicated by CMST. Also, the accuracy of these reports is of concern to programs. The week of February 16, 2016 for example, FP will be conducting stock verification in all CMST warehouses as the result of this. As far as TB and FP products are concerned, CMST asserts it is only responsible for storage and distribution per instructions from the relevant programs. **Enablers:** ACCPAC ERP. **Barriers:** competing priorities and disregard for the nature of FP and TB products (considered unimportant).

<b>14 National TB program reporting requirements met</b>	<b>Area Sub-area</b>	<b>Extent %</b>	<b>Target</b>
Special reports (e.g., on expiry dates) are provided to NTP as needed.	Inventory management and storage	60%	N/A
However, there are delays in providing these reports when requested.	Inventory management		
<p>Accuracy of available stock is of concern to the program.</p> <p><b>Enablers:</b> ACCPAC ERP. <b>Barriers:</b> competing priorities and disregard for TB products (CMST feels its role ends with storage and distribution).</p>			
<b>15 Inventory management and control procedures for CMST warehouses brought in line with international standards</b>	<b>Area Sub-area</b>	<b>Extent %</b>	<b>Target</b>
Inventory management and storage SOPs are available but in draft and therefore unapproved.	Inventory management and storage	50%	N/A
Accordingly, there is no staff training on these SOPs, although CMST asserts that the current process of establishing an SOP is an exercise that captures the actual processes and procedures, which are currently implemented – in line with national regulatory requirements and international standards.	Inventory management		
<p>Min-max inventory levels not yet been fixed for CMST stock. All five CMST warehouses are, however, provisionally PMPB certified/licensed. <b>Barriers:</b> unapproved SOPs, lacking min-max levels, poor lead time.</p>			
<b>16 Stock outs of TB products eliminated</b>	<b>Area Sub-area</b>	<b>Extent %</b>	<b>Target</b>
Data not available at the CMST. CMST indicates that collection of such data is the responsibility of TB program and that CMST's only mandate is to report on the inventory levels to the TB program. <b>Barriers:</b> limited engagement with program managers and development partners, responsibility for managing inventory of TB products rests with program managers.	Inventory management and storage	30%	0%
	Inventory management		

<b>17 Accuracy of inventory record keeping</b>  Spot check reports providing information on the accuracy of inventory records (stock on hand vs. records) was not availed for all Regional Medical Stores (RMS). <b>Barriers:</b> lack of process to conduct perpetual inventory control, limited ownership of process. <b>Enablers:</b> ACCPAC ERP systems.	<b>Area</b>	<b>Extent</b>	<b>Target</b>
	<b>Sub-area</b>	<b>%</b>	
	Inventory Management & Storage	59%	> 95%
Inventory management			

Only limited data was provided (from Mzuzu RMS, quarterly spot checks for 2015). Table 7 below presents the results (also assumed to reflect stock/inventory accuracy in the other CMST stores).

Table 7. Inventory Accuracy

Location	Month	Results	Target	Comments	% Performance Vs Target
Mzuzu	Jan-15	(8-5)/(8) 100	38% > 95%	Below target	0%
Mzuzu	Mar-15	(23-3)/(23) 100	87% > 95%	Below target	92%
Mzuzu	May-15	(12-1)/(12) 100	92% > 95%	Nearly target	97%
Mzuzu	Oct-15	(20-19)/(20) *100	5% > 95%	Very below target	5%
Average			56%		59%

Source: CMST Data (2015)

<b>18 Adequate physical security at CMST-operated warehouses managing donated commodities</b>  The security policy is part of the overall warehouse improvement plan.	<b>Area</b>	<b>Extent</b>	<b>Target</b>
	<b>Sub-area</b>	<b>%</b>	
	Inventory management and storage	100%	N/A
security			

The objective of the policy is to ensure that CMST has a disciplined, systematic and continuous process for managing security risks at all levels of the organization. The policy includes a set of SOPs cutting across the supply chain processes. (A copy of the security management policy, CMST's overall improvement plan, SOPs, etc. are in place.) Implementation includes installation of security perimeter electric fence around all warehouses and closed-circuit television/video surveillance (CCTV) systems with intrusion alarms monitoring all critical areas of the warehouses, including administrative blocks. Two studies were done to evaluate and document the security situation at CMST.

<b>19 Systems in place to quantify and report on lost TB, FP and other donated products due to expiry, theft or damage</b>  Data/evidence not provided, although CMST indicated that it is available. <b>Barriers:</b> control of program products rests with program managers.	<b>Area</b>	<b>Extent</b>	<b>Target</b>
	<b>Sub-area</b>	<b>%</b>	
	Inventory management and storage	30%	< 1%
Security			

<b>20 Procurement audits conducted for CMST procurements</b>  CMST procurement audits conducted by the Office of the Director of Public Procurement (ODPP).	<b>Area</b> <b>Sub-area</b>	<b>Extent</b> %	<b>Target</b>
	Procurement	100%	
	Transparency		

Evidence of CMST submission of all procurement orders to ODPP and POA for a “no objection” approval is in place; The ODPP has conducted a procurement audit for the financial year 2013-2014, which was available as evidence (see Ref. No. ODPP/03/298); and *POA 3rd Annual Report: September 2014 to September 2015*, Charles Kendall & Partners, October 2015 is in place detailing CMST compliance with public procurement regulations

**Phase II: CMST successfully expands essential drugs supply chain to all SDPs**

<b>21 Ability to deliver essential commodities to SDPs nationwide on a monthly basis, either using a 3PL, in-house fleet or a combination of both</b>  The capacity to deliver to SDP, using a 3PL, has been estimated at 87 percent.	<b>Area</b> <b>Sub-area</b>	<b>Extent</b> %	<b>Target</b>
	Distribution (transport management)	60%	
	Distribution planning		

Reasons for not achieving 100 percent include the weather impacting road conditions, stock take (June and December), and missed deadlines due to delayed handover. While delivery rates are reported to be at 87 percent, they do not reflect the actual service level to clients. CMST is not delivering monthly to each health facility, as some facilities have reported deliveries being made once in two or more months.

**Enablers:** 3PL capability. **Barriers:** unclear performance measures.

<b>22 SOPs including accountability measures (e.g., supervisor spot checks, documentation of vehicle use) available and implemented to ensure appropriate and proper use of transportation fleet</b>  Draft SOPs are WIPs and do not include management of 3PLs, a capability which CMST does not have. There are currently no regular or spot checks on utilization of logbooks documenting vehicle movement and usage.	<b>Area</b> <b>Sub-area</b>	<b>Extent</b> %	<b>Target</b>
	Distribution (transport management)	48%	N/A
	Distribution planning		

Only 5 out of 32 vehicles have been fitted with GPS. There are no regular spot checks on vehicles not fitted with GPS (27 out of 32)—management has reported this to be difficult. Vehicle utilization and performance measures are being implemented by 3PLs conducting last-mile delivery, but there is no evidence of volume utilization statistics per load. **Enablers:** GPS. **Barriers:** manual fleet management.

<p><b>23 Adequate transport safety and security to ensure the security of commodities throughout distribution</b></p> <p>Quarterly reports indicating losses and/or damages of commodities (quantity and value) during distribution are in place, and CMST's in-house fleet for trucking operations uses tamper-proof locks to secure products in transit.</p>	<b>Area</b>	<b>Extent</b>	<b>Target</b>
	<b>Sub-area</b>	%	
	Distribution (transport management)	100%	N/A
	Transport security		

For the last mile, the distribution clerk accompanies the vehicle and is responsible for the security of the consignment in transit. Discrepancy reports are being produced monthly by 3PLs for last-mile delivery, and those recorded stand at 0.2 percent. **Enablers:** 3PL capability and technology, SOPs, GPS, good security measures. **Barriers:** GPS does not include all of CMST fleet.

<p><b>24 Stock availability for essential drugs and medicines</b></p> <p>Consolidated national stock status reports are available through the ACCPAC system and published on the CMST website at <a href="http://www.cmst.mw/local/extract/items_on_stock.php">http://www.cmst.mw/local/extract/items_on_stock.php</a>.</p>	<b>Area</b>	<b>Extent</b>	<b>Target</b>
	<b>Sub-area</b>	%	
	Inventory management and storage	30%	< 10%
	Inventory management		

CMST's stock availability averaged 56 percent, giving a general stock-out rate of 44 percent (December 2015) (see **Figure 5 page 19**); Spot checks during field visits (a limited number of health facilities) indicate an average availability of 79 percent (equivalent to 21 percent stock-out rates) (see Table 8 below). **Barriers:** inadequate financing for drug procurement from central government, long procurement process, late reporting and requisitioning by DHOs and health facilities. **Enablers:** ACCPAC solution, 3PLs capability.

**Table 8. Medicines Availability (Spot Checks) during Field Visits (February 2016) (HSSP Tracer Items)**

SOUTH REGION						CENTRAL			NORTH					
# of facilities						# of facilities			# of facilities					
1	2	3	4	5	6	1	2	3	1	2	3	4	5	6
62	81	95	95	79	95	89	68	50	85	76	68	90	86	90
%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
<b>85%</b>						<b>69%</b>			<b>83%</b>					

<p><b>25 Visibility of inventory throughout CMST system to CMST clients and stakeholders</b></p> <p>Stock status reports made available to the review team covered the period 2014-2015. Stock status reports for the previous years were not available. CMST's stock status report is generated through the ACCPAC system, which automatically updates stock positions according to transit stock, stock on pick and transfers between regions.</p>	<b>Area</b>	<b>Extent</b>	<b>Target</b>
	<b>Sub-area</b>	%	
	Inventory management and storage	88%	N/A
	Inventory management		

CMST regions have full visibility through the online stock status report (virtual private network over Internet/cloud). Access to stock status is open to all via a link on the CMST website. Online facility is neither well disseminated nor well accepted by potential clients due to its unreliability (e. g., Mzuzu spot checks demonstrate stock status differences between ACCPAC and physical spot checks); Pipeline stock in transit from local and international suppliers not visible, and stock held by 3PLs has good visibility and real-time stock locations in warehouse. **Enablers:** ACCPAC, 3PL technologies. **Barriers:** Internet uptime, limited dissemination of online facility, not all users have Internet access and inaccurate online stock statuses.

<p><b>26 Adequate physical security at all CMST-operated warehouses to ensure protection of commodities</b></p> <p>Security is adequate on CMST-owned and CMST-leased warehouses. Security measures implemented include perimeter wall and electric fence, CCTV monitored internally and through third-party security company, 24-hr. armed police guards, 24-hr. security company, dogs, biometric entry/exit system and remote monitoring capability.</p>	<p><b>Area</b></p> <p><b>Sub-area</b></p>	<p><b>Extent</b></p> <p>%</p>	<p><b>Target</b></p>
	Inventory management and storage	100%	N/A
	Security		

Warehouse improvement plans have been developed and include further security improvements. SOPs are still in draft form and have not yet been implemented. All CMST warehouses visited in the northern and southern regions meet the security standards required, and all warehouses owned and leased by CMST meet the minimum security standards. **Enablers:** CMST warehouse improvement plan. **Barriers:** leased warehouses (cannot fully invest in) and inadequate financing to complete projects.

<p><b>27 Systems in place to quantify lost products due to expiry, theft or damage for all products</b></p> <p>CMST has in place manual systems to track product loss/damage within the warehouse; ACCPAC does not have the capability to automatically write down stock or restrict selection of expired product.</p>	<p><b>Area</b></p> <p><b>Sub-area</b></p>	<p><b>Extent</b></p> <p>%</p>	<p><b>Target</b></p>
	Inventory management and storage	30%	< 1%
	Security		

The process of identifying impending expiries is conducted manually by the respective class owners and branch managers. No quarterly reports on losses/damages have been developed in the regions. All reports are incident based. There is no data on stock losses for trunking or on last-mile distribution operations. Neither is there data available to calculate the percent of products lost. **Barriers:** ACCPAC does not have full functionality to track expiries.

<p><b>28 Good storage practices (GSP) adhered to in all CMST-operated (owned and leased) warehouses to ensure quality and integrity of products</b></p> <p>GSP guidelines are being observed in all the warehouses. SOPs have been developed but are still going through approval process. Provision licenses have been issued by PMPB for individual warehouses, and all warehouses have been maintained at the correct temperature ranges.</p>	<p><b>Area</b></p> <p><b>Sub-area</b></p>	<p><b>Extent</b></p> <p>%</p>	<p><b>Target</b></p>
	Inventory management and storage	100%	N/A
	Storage within CMST		

**Enablers:** CMST warehouse improvement program. **Barriers:** unapproved SOPs.

**Phase III: Integration of additional PSC warehousing and distribution functions in a phased manner based on capacity**

<p><b>29 Ability and capacity to cost-effectively warehouse additional commodities currently handled by PSC (either in-house or through a 3PL provider)</b></p> <p>Currently there is no evidence of a detailed study conducted by CMST to determine its current and planned in-house warehousing capacity in relation to taking on additional volumes of commodities from the PSCs.</p> <p>There is no evidence of CMST's own specific business case with timelines and costs for phasing in of PSC program or acquiring additional warehouse space. Current capacity=9,950 cubic meters; current throughput=unknown; future capacity requirements=not determined; and capacity surplus/shortfall=not determined. <b>Enablers:</b> development partners' support. <b>Barriers:</b> lack of integration plan for PSC and limited capacity planning.</p>	<p><b>Area Sub-area</b></p>	<p><b>Extent %</b></p>	<p><b>Target</b></p>
	Inventory management and storage	30%	N/A
	Storage capacity		
<p><b>30 Ability to cost-effectively distribute additional commodities currently handled by PSC (either in-house or through a 3PL provider)</b></p> <p>There is currently no evidence of a detailed study conducted by CMST to determine its current and planned in-house distribution capacity in relation to taking on additional volumes of commodities from the PSC. Distribution options analysis was conducted by external consultants (HEART).</p> <p>The study adequately captures the cost-effectiveness of alternative distribution models/options. However, there is no evidence of CMST's own detailed specific business case with timelines and costs for phasing in a PSC programme or adopting an alternative distribution model. <b>Enablers:</b> readily available support from development partners. <b>Barriers:</b> limited contract management capacity, lack of SOPs for contract management, lack of capacity/integration planning.</p>	<p><b>Area Sub-area</b></p>	<p><b>Extent %</b></p>	<p><b>Target</b></p>
	Distribution (transport management)	50%	
	Distribution capacity		
<p><b>31 Effective management and oversight procedures for 3PLs implemented</b></p> <p>CMST has a 3PL contract in place with Cargo Management Logistics Limited (CML). Its contract with IHS is still outstanding/pending to end of June 2016 (warehousing capacity building).</p> <p>CMST does have experience managing 3PLs: it has been managing IHS through the monthly steering committee meetings. This capability needs to be further strengthened to enhance KPIs to cover costs/load factors/realistic delivery times; also, there were no SOPs for contract management. <b>Enablers:</b> experience managing IHS contract. <b>Barriers:</b> limited contract management capacity, lack of SOPs for contract management.</p>	<p><b>Area Sub-area</b></p>	<p><b>Extent %</b></p>	<p><b>Target</b></p>
	Distribution	46%	N/A
	Planning routes		

## Phase IV: Integration of procurement functions

<p><b>32 National procurement law and standards of practice adhered to by CMST</b></p> <p>All procurement in CMST is regulated by the national procurement law. Most routine procurements obtain OPDD/POA approval.</p>	<p><b>Area</b></p> <p><b>Sub-area</b></p>	<p><b>Extent</b></p> <p>%</p>	<p><b>Target</b></p>
	Procurement	50%	N/A
	Procurement management		

Record keeping and filing is a cause for concern, as some files had key documents missing, making it difficult to audit and confirm compliance with regulations. There is concern over the disaggregation of procurements and the high number of procurements going through the request-for-quotation (RFQ) route. There is evidence of procurement oversight on international procurement by the procurement oversight agent Charles Kendall. **Enablers:** POA TA, ODPP oversight. **Barriers:** inadequate specialist procurement technical capacity, inadequate procurement staff, delays in updating standard documents and procurement guidelines, review of PPA underway and not yet completed, ODPP has no power to reprimand procuring entities.

<p><b>33 Procurement process ensures efficiency and value for money</b></p> <p>CMST has not had an effective plan to guide its procurement processes (draft procurement plan is not considered a living document and therefore is not regularly updated to capture operation/procurement realities over time).</p>	<p><b>Area</b></p> <p><b>Sub-area</b></p>	<p><b>Extent</b></p> <p>%</p>	<p><b>Target</b></p>
	Procurement	50%	N/A
	Management		

Procurements are not properly scheduled and aligned with funding sources/methods. Indeed, the procurement audit for the financial year 2013-2014 uncovered significant inconsistencies and failings in CMST's procurement processes. Files have a considerable number of documents missing, and limited use of ICB has restricted attainment of value for money; The large number of RFQs and emergency procurements also indicate lack of value for money. Moreover, the procurement cycle is too long—up to six months from request for proposal (RFP) to award of contract. Out of the 11 submissions, 5 were co-approved by the POA, representing a compliance rate of 45 percent for the period 2014-2015. **Enablers:** POA TA. **Barriers:** inadequate procurement technical capacity and delays in updating standard documents and procurement guidelines.

<p><b>34 Publicly advertised requests for bids/request for quotes solicited; bids advertised with sufficient time to attract adequate competition; international good-tendering practices adhered to</b></p> <p>CMST has desk instructions/procurement manual, which provide sufficient guidance on the execution of public procurement.</p>	<p><b>Area</b></p> <p><b>Sub-area</b></p>	<p><b>Extent</b></p> <p>%</p>	<p><b>Target</b></p>
	Procurement	40%	
	Transparency		

CMST also refers to the PPA and procurement guidelines to aid the execution of procurement. The evaluation criteria are not consistent, and in some cases, evaluation criteria are introduced at the evaluation stage though they were not specified in the bid data sheet. CMST has done very little international competitive tendering and has mostly conducted RFQs and national competitive bidding. The products, unit and packaging specifications are in some cases inadequate, which often makes it difficult for suppliers to quote. **Enablers:** standard bidding document in place, POA TA and other TA. **Barriers:** limited technical capability, new procurement law not finalized, and inadequate procurement team.

<p><b>35 Transparent prequalification process publicly available, and prequalified list of products and manufacturers which adhere to GMP</b></p> <p>A prequalification policy is in place and is embedded in the standard bidding documents for prequalification.</p> <p>There are no standard bidding documents for supplier prequalification. Prequalification of pharmaceutical suppliers and manufacturers requires good manufacturing practices (GMP) certification in line with the World Health Organization (WHO) certification scheme on pharmaceuticals. A list of prequalified suppliers for pharmaceutical and medical supplies is in place. <b>Barriers:</b> no standard bidding documents for prequalification. <b>Enablers:</b> support from POA and ODPP.</p>	<p><b>Area</b></p> <p><b>Sub-area</b></p>	<p><b>Extent</b></p> <p>%</p>	<p><b>Target</b></p>
	Quality assurance	85%	
	Procurement		
<p><b>36 Procurement processes ensure quality products are procured</b></p> <p>CMST's procurement process for pharmaceuticals requires that suppliers and manufacturers comply with WHO guidelines and PMPB registrations requirements;</p> <p>Product and packaging specifications are not up to the required standard, and SOPs are still in unapproved draft form. <b>Barriers:</b> small procurement team with limited technical capacity.</p>	<p><b>Area</b></p> <p><b>Sub-area</b></p>	<p><b>Extent</b></p> <p>%</p>	<p><b>Target</b></p>
	Quality assurance	50%	N/A
	Product quality		

## B. INTERPRETATION OF FINDINGS

This section provides interpretation of the above findings and the related scores earned in each phase and by the respective benchmarks.

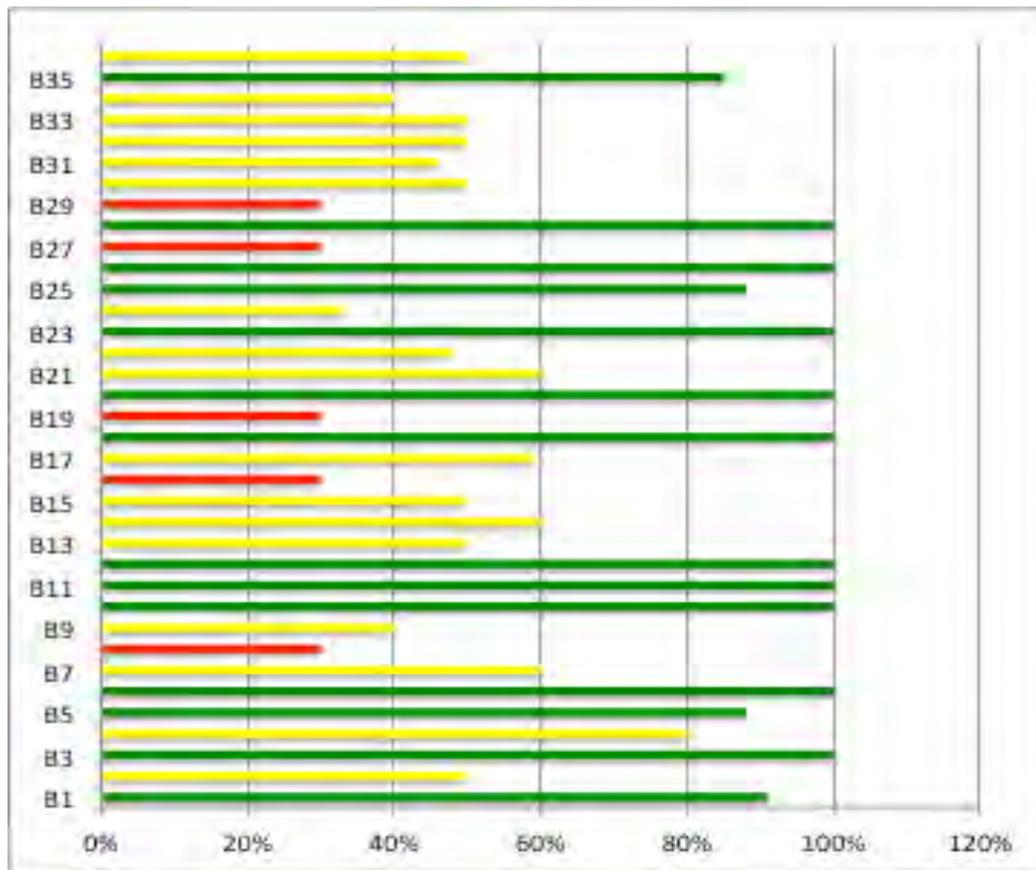
### Overall Phases Implementation by CMST

Using the data/findings on the extent of implementation of each of the benchmarks above, Figures 6A and 6B provide an overall picture of the extent of implementation of the joint strategy benchmarks by CMST. The chart should be read and interpreted based on the traffic light performance grading described earlier.

<p><b><u>Phases I-IV Overall Performance (36 Benchmarks)</u></b></p>	<p><b><u>Extent of Implementation</u></b></p>
	<p><b>66%</b></p>

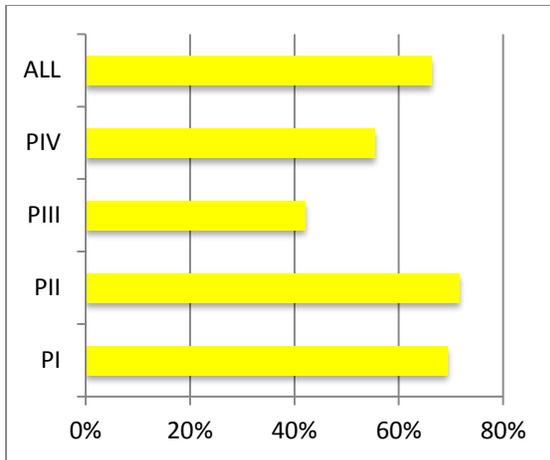
**Figure 6A. Overall Benchmarks Implementation All Phases**

ALL PHASES (I-IV)

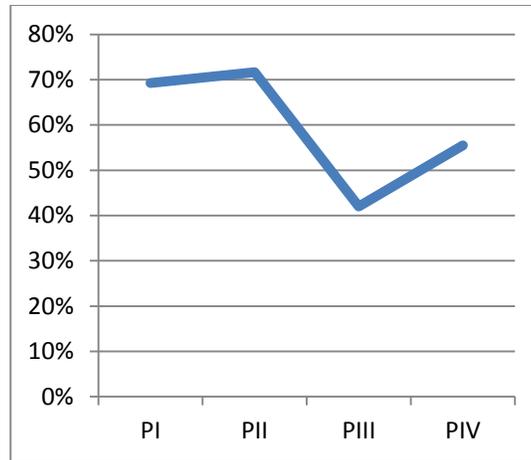


ACHIEVEMENT  
(EXTENT OF IMPLEMENTATION)

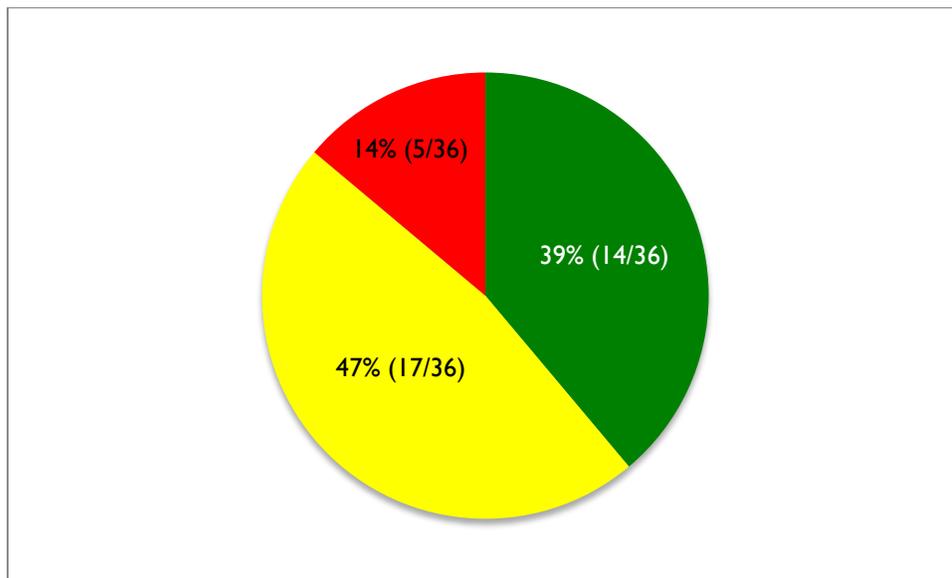
Overall performance (all phases) is 66 percent (79.57/120). This implies that benchmark implementation (for all and across the phases) continues to be a WIP. More action from CMST is required on the benchmarks marked in yellow (17) and even more for those marked in red (5). Sustaining achievements and further strengthening implementation of the benchmarks complied with (marked green, 14) would be critical for improving overall CMST performance across the four phases. Three figures below (5, 6 and 7) further demonstrate the overall performance of the benchmarks as a WIP dotted by spreads of achievements here and there.



**Figure 6B. Overall Implementation All Phases (=WIP)**



**Figure 7. Overall Implementation All Phases (Peaks)**



**Figure 8. Overall implementation All Phases by Distribution Levels of Achievement**

- 14 benchmarks (or 39 percent) represent achievement across all phases.
- 17 benchmarks (or 47 percent) constitute WIPs.
- 5 benchmarks (or 14 percent) reflect little has been done or indicate lack of evidence.

The above performance level, expressed in terms of functional areas, yields the following overall picture (shown in Table 9 next page).

**Table 9. General Extent of Implementation by Supply Chain Areas—Defined in 2012 Joint Strategy**

Serial Number (S#)	Area	Benchmark Number (B#)	Average Score	Color Code
<i>Phase I: CMST recapitalization and reform, and successful management of current donated products (GF-procured TB products and UNFPA-procured FP products)</i>				
	Distribution/planning	1	91%	Achieved
	Financial (management, risk mitigation, business planning and costing, transparency)	2, 3, 4, 5, 6	84%	Achieved
	Governance (contract management and policy environment)	7, 8, 9, 10	58%	WIP
	Human resources	11	100%	Achieved
	Inventory management and storage – donated products (inventory management and security)	12, 13, 14, 15, 16, 17, 18, 19	60%	WIP
	Procurement (transparency/external audits implementation in place)	20	100%	Achieved
<i>Phase II: Successful CMST expansion of essential drugs supply chain to all SDPs</i>				
	Distribution (transport management/distribution planning, transport security)	21, 22, 23	69%	WIP
	Inventory management and storage (inventory management of donated products, warehouse and transport/distribution security, storage within CMST)	24, 23, 24, 25	70%	WIP
<i>Phase III: Integration of additional PSC warehousing and distribution functions in a phased manner based on capacity</i>				
	Inventory management and storage (storage capacity)	29	30%	Little capacity
	Distribution/transport management (distribution capacity, planning routes)	30, 31	48%	WIP
<i>Phase IV: Integration of procurement functions</i>				
	Procurement and quality assurance (procurement management, transparency, QA: process and product quality)	32, 33, 34, 35, 36	59%	WIP

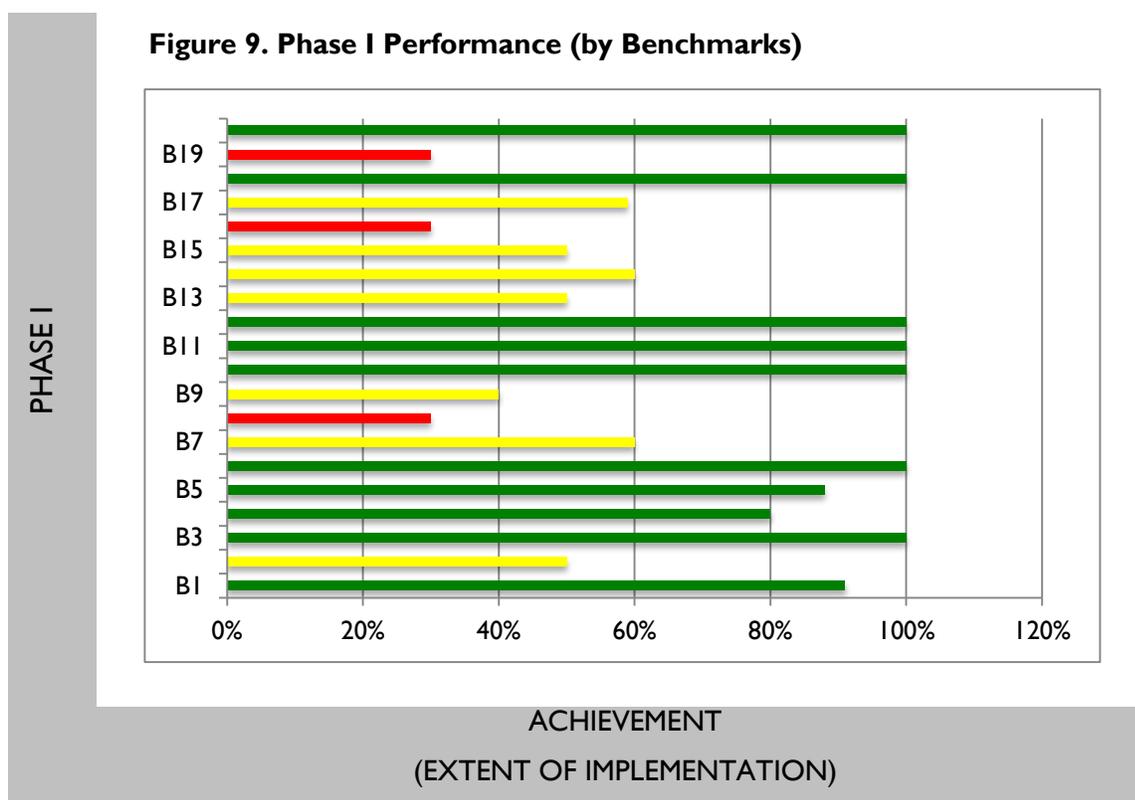
Apart from distribution planning, financial (management, risk mitigation, business planning and costing transparency), human resource and procurement (transparency/external audits implementation), Phase I can be considered on the average to have been achieved. All other areas in this governance phase (contract management and policy environment), inventory management and storage, and donated

products (inventory management and security), as well as all areas in Phases II-IV, are considered to be WIPs, with Phase III (inventory management and storage—distribution capacity and routes planning) being the least achieved and therefore requiring more action from CMST.

### Performance of Each of the 36 Benchmarks by Phase

Findings of this review in respect to the extent of implementation of each phase of the 2012 Joint Strategy benchmarks by CMST are summarized below.

<b>Phase I Performance (20 Benchmarks)</b>	<b>Extent of Implementation</b>
<b>CMST recapitalization and reform, and successful management of current donated products (GF-procured TB products and UNFPA-procured FP products)</b>	<b>69%</b>



Phase I overall performance is 69 percent (47.78/69), implying that Phase I is a WIP, which requires further action from CMST on benchmarks marked in yellow (seven of them: 2, 7, 9, 13, 14, 15 and 17) and even more so on those marked in red (three of them: 8, 16 and 19). Sustaining achievement and further strengthening the implementation of those benchmarks that have been achieved would be vital for improving the overall performance of this phase. The extent of performance distribution is presented in Figure 10 next page.

**Figure 10. Phase I Extent of Implementation (Performance/Achievement Distribution) ~**

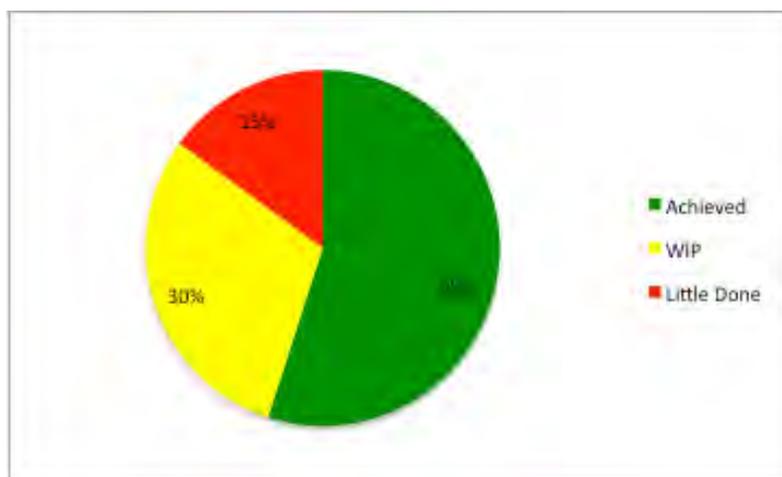


Figure 10 further confirms that CMST should focus on maintaining achieved gains (green areas of the pie chart) but at the same time put more effort into shrinking the yellow and the red segments of the chart.

This phase, with 20 benchmarks, was intended to capture the internal reform process currently ongoing at CMST, as well as efforts to improve the management of donated products currently

managed by the CMST. These include GF-procured TB commodities and UNFPA-procured FP commodities. The indicators and benchmarks for this phase include inventory management, selected governance, human resources and financial indicators, including completion of an agreed-upon business plan, transparent and routine financial reporting and audits, and availability of sufficient human resources.<sup>12</sup> Improving the management and security of commodities currently handled by CMST was also intended to be one of the key features of this phase, and the benchmarks of this phase explicitly address the need to improve both the storage and distribution of TB and FP products. Table 10 below presents the performance in this phase by supply chain functions.

**Table 10. Phase I Performance by Supply Chain Function functional areas**

S#	Area	B#	Average Score	Color Code
<i>Phase I: CMST recapitalization and reform, and successful management of current donated products (GF-procured TB products and UNFPA-procured FP products)</i>				
	Distribution/planning	1	91%	Achieved
	<b>Financial</b> (management, risk mitigation, business planning and costing, transparency)	2, 3, 4, 5, 6	84%	Achieved
	<b>Governance</b> (contract management and policy environment)	7, 8, 9, 10	58%	WIP
	<b>Human resources</b>	11	100%	Achieved

<sup>12</sup>The 2012 Joint Strategy notes that financial stability and solvency of CMST/capitalization is also a key concern to be addressed. It has not been benchmarked, as this will likely entail contributions and support from a variety of stakeholders, including the GOM and development partners.

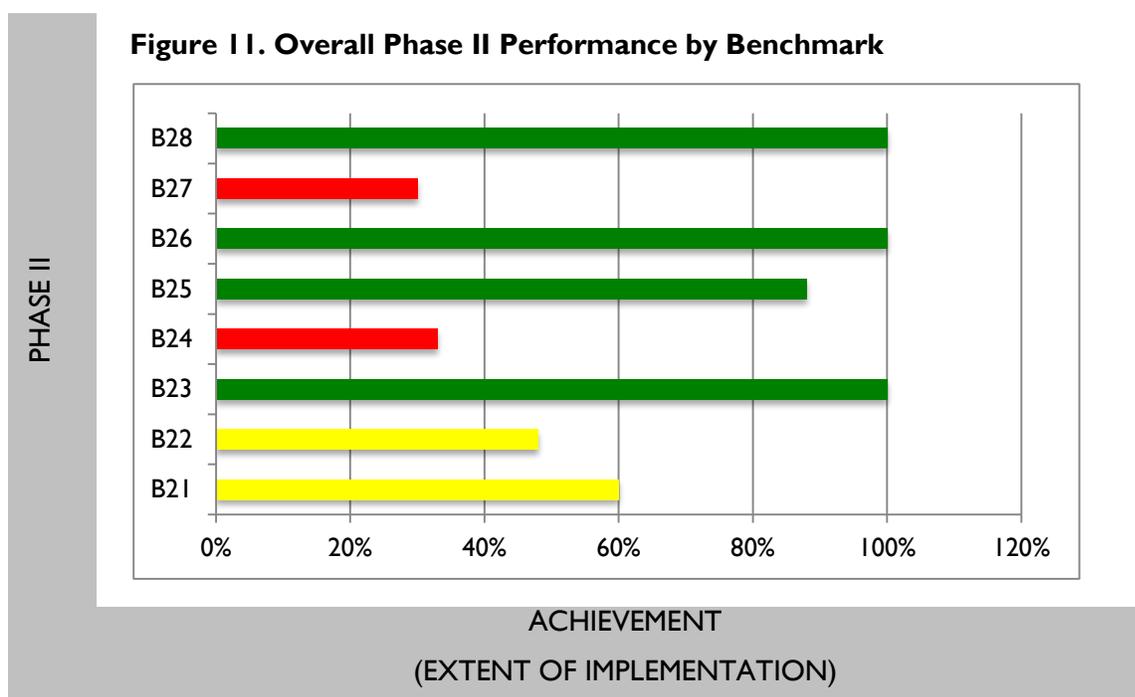
	<b>Inventory</b> management and storage—donated products (inventory management and security)	12, 13, 14, 15, 16, 17, 18, 19	60%	WIP
	<b>Procurement</b> (transparency/external audits implementation in place)	20	100%	Achieved

On average:

- Distribution planning, financial (management, risk mitigation, business planning and costing, transparency), human resources and procurement (transparency/ implementation of external audits) are considered achieved.
- Governance (contract management and policy environment) and inventory management and storage (inventory management and security) are WIPs. These include the red-flagged benchmarks 8, 16 and 19.

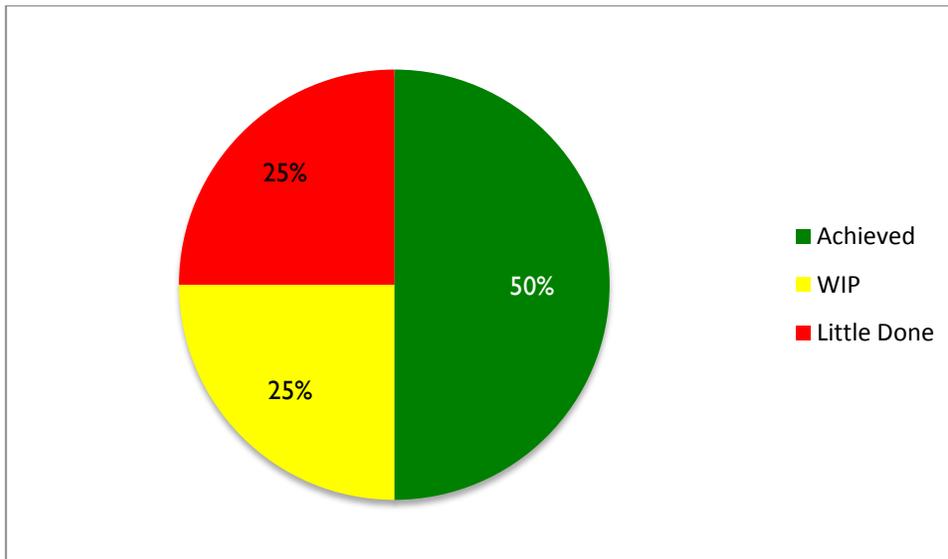
<u>Phase II performance (8 benchmarks)</u>	<u>Extent of Implementation</u>
<b>CMST successfully expands essential drugs supply chain to all SDPs</b>	<b>72%</b>

Figure 11 shows the overall performance of this phase by benchmark.



Phase II performance is also 72 percent (21.49/30), implying that it is also a WIP and requires more action from CMST on benchmarks marked in yellow (21 and 22) and in red (24 and 27). Sustaining achievement and further strengthening implementation of the achieved benchmarks (23, 25, 26 and 28) would be important for improving the overall performance of CMST supply chain functions. The extent of performance distribution (achievements) in this phase is presented in Figure 12 below.

**Figure 12. Phase II—Performance Distribution (Achieved, WIP, Little Done)**



The chart above further confirms that CMST’s focus should be on maintaining achieved gains (green areas of the pie chart) while simultaneously putting more effort into shrinking the yellow and the red areas of the chart.

This phase (with eight benchmarks) was intended to be the transition phase marked by the timing of the end of the donor-operated Essential Drugs Program (EDP, the kit system), when CMST (after six months of extension) resumed the distribution of essential medicines to all SDPs, including health centers, in January 2014. Ensuring the viability and security of the essential drugs supply chain was earmarked as the most critical and urgent goal of the CMST reform process, as the EDP was explicitly designed to allow CMST the time and resources to restart full essential drugs provision. Though CMST held primary responsibility for preparing for the end of the EDP, it was expected to require TA and support to successfully strengthen the essential medicines supply chain to the point of reaching the benchmarks outlined in this phase.<sup>13</sup> The current assessment was planned during this phase to document the experience to date as well as CMST’s accomplishments and outstanding challenges. As expected, the current assessment provides an opportunity to take stock of what has been achieved, recognize key areas of vulnerability for CMST and the development partners and—given the changing operational landscape—fine-tune the benchmarks and transition process as necessary. Table 11 (next page) presents the performance in this phase by supply chain functional areas identified in the 2012 joint strategy.

<sup>13</sup> CMST secured support for internal operations (funded by the GF) and for procurement (funded by DFID).

**Table 11. Phase II Performance by Supply Chain Functional Areas**

S#	Area	B#	Average Score	Color Code
<i>Phase II: CMST successfully expands essential drugs supply chain to all SDPs</i>				
	Distribution (transport management/distribution planning, transport security)	21, 22, 23	69%	WIP
	Inventory management and storage (inventory management of donated products, warehouse and transport/distribution security, storage within CMST)	24, 23, 24, 25, 27	70%	WIP

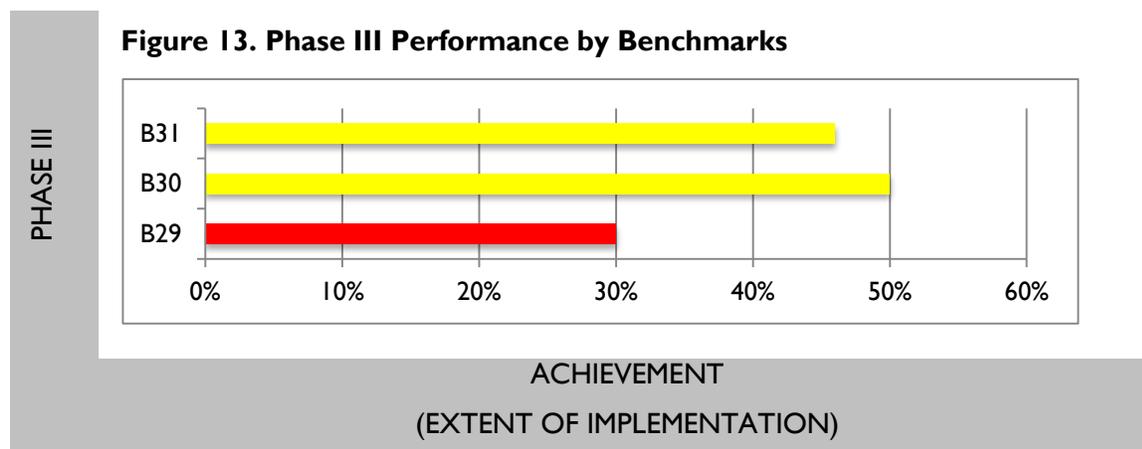
On average, this phase functionally is a WIP, represented by

- distribution planning (transport management/distribution planning and transport security) – need more action by CMST, as well as
- inventory management and storage (donated products, warehouse and transport/distribution security, storage within CMST)

The transition into Phase III would only occur program-by-program based on client needs and CMST capacity. For example, to assume responsibility for warehousing and distribution of artemisinin combination therapies (ACTs) and rapid diagnostic tests (RDTs) currently handled by the PSC, CMST must have adequate secure storage space. The security of ACTs and RDTs depends on fulfillment of Phase I-II benchmarks, as well as CMST’s ability to handle the additional volumes and frequency of distribution required by the malaria program. For HIV products, for instance, CMST would be required to work jointly with the National AIDS Commission (NAC) to develop a plan and business case for integrating storage of HIV commodities, as well as other functions related to the HIV supply chain, into CMST.

<b><u>Phase III Performance (Three Benchmarks)</u></b>	<b><u>Extent of Implementation</u></b>
<b>Integration of additional PSC warehousing and distribution functions in a phased manner based on capacity</b>	<b>42%</b>

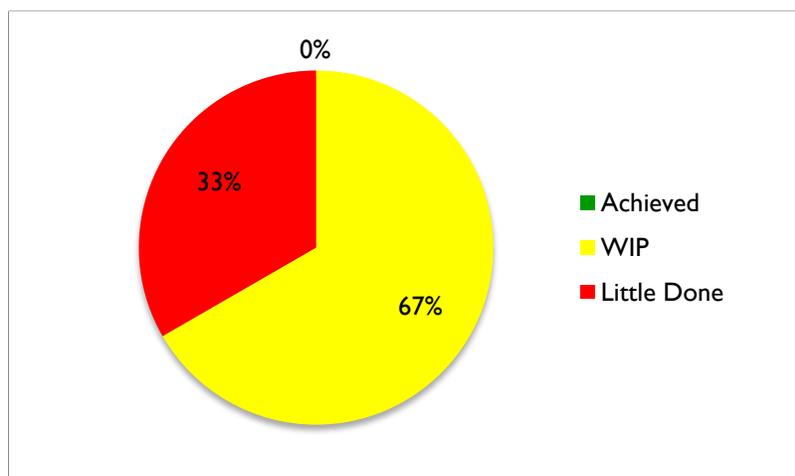
Figure 13 below shows the performance of this phase by benchmarks.



Phase III is the most troubled phase, with a performance rating of only 42 percent (4.2/10). Two bars of yellow signify WIPs, and one red bar indicates little achievement/no written evidence of implementation. This level of performance requires that CMST put more action and effort into this phase.

The extent of performance distribution in this phase is presented in Figure 14.

**Figure 14. Phase III—Performance Distribution (Achieved, WIP, Little Done)**



This phase was meant to mark the critical point for CMST in this transition plan—its initiation would indicate that CMST has the physical and operational capacity to store and distribute additional commodities currently managed by the PSC systems (including GF-procured HIV and malaria commodities, and USG-procured malaria and FP commodities). In addition to meeting the specified benchmarks for Phases I-II, it

was expected that CMST would consult with the relevant MOH program areas and development partners on key supply chain functions to be integrated into CMST’s operations, and would develop a business case and integration plan detailing CMST’s costs and management mechanism (whether through in-house warehousing and distribution or subcontracting to a third party), as well as how the specific service requirements of the client (including the relevant MOH program and recipient SDPs) would be met.

The contract with a 3PL, IHS, for warehousing and distribution, ended on Dec. 31, 2015. IHS is currently implementing a six-month extension (January 2016-June 2016) to provide additional TA to CMST in warehousing operations. In addition, since January 2016, CMST has been implementing an outsourced distribution to the last mile implemented by CML and funded by DFID. CMST is currently organizing to

conduct an open tender for the recruitment of a 3PL to undertake the distribution for a longer period of three years. The distribution study supported the cost-effective option to outsource the distribution by CMST to the last mile. The current assessment is providing recommendations on the management of this process and on the capacity needed by CMST to manage such a 3PL. These developments should be viewed in the context of the outcome of this assessment for this phase as presented below (Table 12).

**Table 12. Phase III Performance by Supply Chain Functional Area**

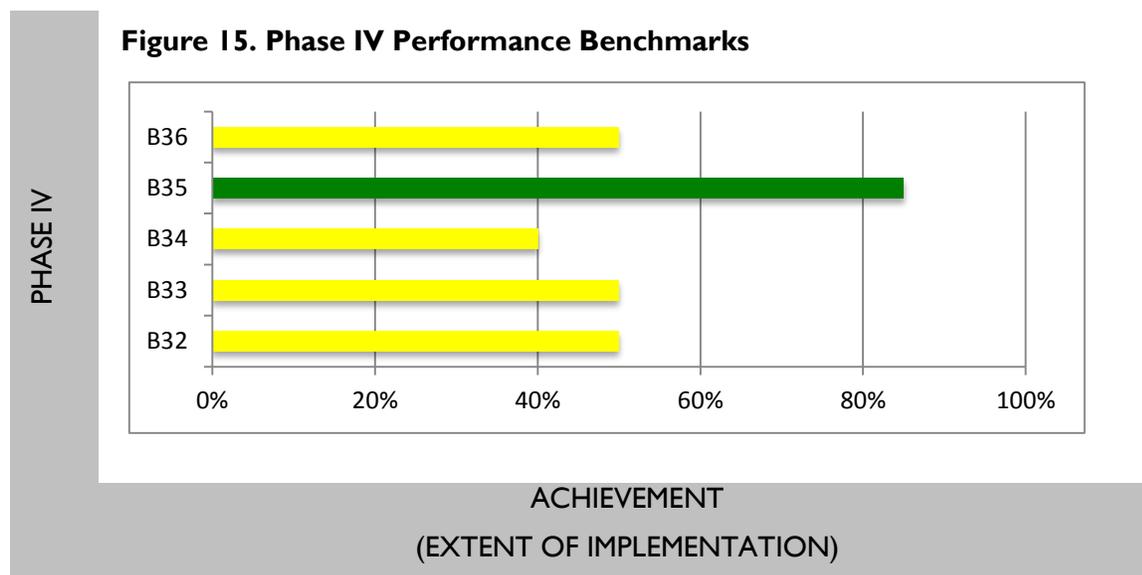
S#	Area	B#	Average Score	Color Code
<i>Phase III: Integration of additional PSC warehousing and distribution functions in a phased manner based on capacity</i>				
	Inventory management and storage (storage capacity)	29	30%	Little capacity
	Distribution/transport management (distribution capacity, planning routes)	30, 31	48%	WIP

While inventory management and storage (storage capacity) represents minimum achievement, distribution/transport management (distribution capacity, planning routes) denotes a WIP; both areas need action and effort from CMST.

The transition process needs to consider the uniqueness of the various programs serviced from the PSC, as well as their programmatic needs for inventory management and storage, and distribution. A key consideration in this phase is whether CMST has the capacity to fully absorb the PSC operation into its system or should continue to outsource some of the services required. The benchmarks are neutral on whether the current PSC functions are absorbed in-house or outsourced but managed by CMST, so long as product availability at all health facilities is not compromised. This, the 2012 joint strategy indicates, is an operational decision for CMST to make in close consultation with the relevant stakeholders.

<b>Phase IV Performance (Five Benchmarks)</b>	<b>Extent of Implementation</b>
<b>Integration of procurement functions</b>	<b>55%</b>

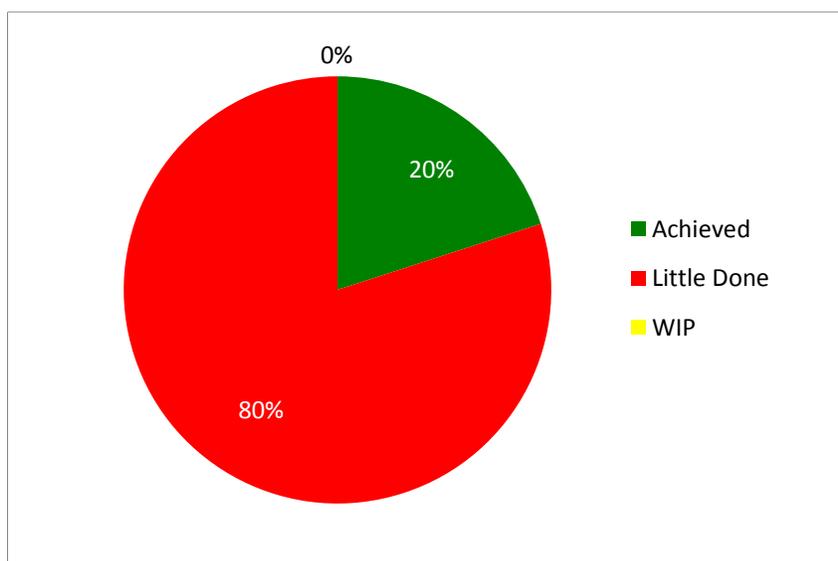
Figure 15 shows the performance of this phase by benchmarks.



Phase IV performance is 55 percent (6.1/11), implying that Phase IV remains a WIP and requires more action from CMST on benchmarks marked in yellow (32, 33, 34 and 36). Sustaining achievement and further strengthening implementation of the one achieved benchmark (35) is essential to improving the overall performance of CMST supply chain functions.

The extent of performance distribution in this phase is offered in Figure 16.

**Figure 16. Phase IV—Performance Distribution (Achieved, WIP, Little Done)**



As indicated in the 2012 joint strategy, the fulfillment of benchmarks for Phases I-III (which has not been the case), in addition to those outlined for Phase IV, would qualify CMST to assume responsibility for procurement functions currently outsourced to external agents. To do this, CMST is expected to have demonstrated solid financial management and timely procurement of all medicines funded through its system. CMST, in close consultation

with relevant programs and development partners is expected to initiate negotiations to assume these functions after establishing the requisite business case to secure approvals. The performance of this phase by functional areas is presented on the next page (Table 13).

**Table I3. Phase IV Performance by Supply Chain Functional Areas**

S#	Area	B#	Average Score	Color Code
<i>Phase IV: Integration of procurement functions</i>				
	Procurement and quality assurance (procurement management, transparency, process and product quality assurance)	32, 33, 34, 35, 36	59%	WIP

Given the low scores earned by four out of five benchmarks, this phase is a WIP. It is therefore unlikely that CMST would be in a position to start negotiations to assume procurement functions currently being undertaken by PSC.

### **C. PART B: IMPLEMENTATION OF SYSTEM STRENGTHENING RECOMMENDATIONS**

#### **Summary of Findings and Scores**

SS recommendations can be found from pages 22 to 40 of the 2012 joint strategy. The recommendations cover nine areas of supply chain management: (1) quantification/forecasting and product selection, (2) procurement, (3) inventory management and storage, (4) distribution, (5) financial/fiscal management, (6) human resources, (7) information, (8) quality assurance and (9) governance.

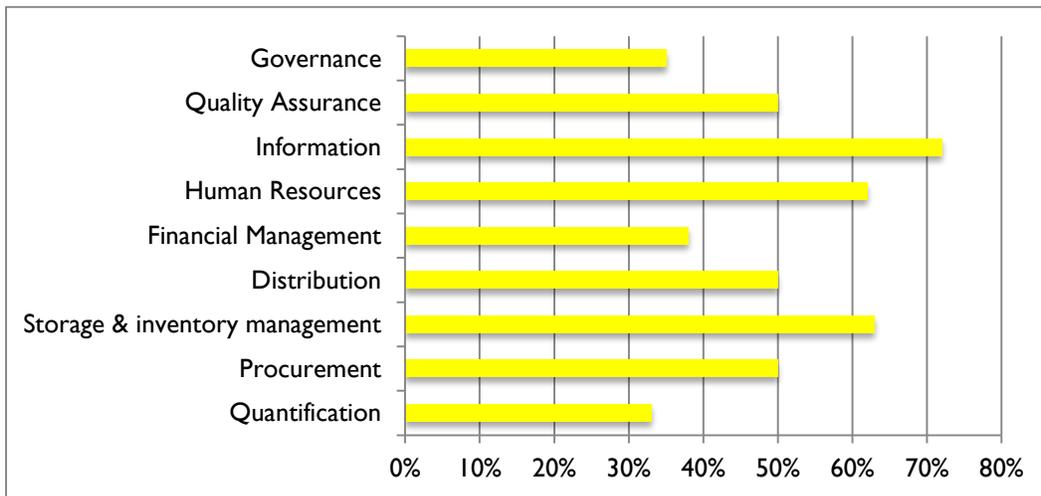
Table 14 provides a summary of results of the implementation of the SS recommendations across the relevant GOM entities (CMST, MOH, PMPB and NLGFC).

**Table 14. Summary Results: Extent of implementation of 2012 Joint Strategy SS Recommendations**

#	Supply Chain Area	Actual Scores	Std Scores	%
1	Quantification	2	6	33%
2	Procurement	3	6	50%
3	Storage and inventory management	2	4	63%
4	Distribution	0.5	1	50%
5	Financial management	1.5	4	38%
6	Human resources	1.85	3	62%
7	Information	2.25	3	72%
8	Quality assurance	2	4	50%
9	Governance	1.4	4	35%
<b>Total</b>		<b>16.5</b>	<b>35</b>	<b>47%</b>

Figure 17 represents graphically the extent of implementation by supply chain areas.

**Figure 17. Extent of Implementation of 2012 Joint Strategy SS Recommendations**



Based on the traffic light scale/code, the overall performance on the recommendations averages around 47 percent (WIP), with notable and encouraging results in storage and inventory management, human resources and information.

# V. CONCLUSIONS AND RECOMMENDATIONS

## A. CONCLUSIONS

Phase I (at 69 percent (47.78/69) performance rate) and Phase II (at 72 percent (21.49/30) performed much better than Phase III (at 42 percent (4.2/10)) and Phase IV 58 percent (4.60/8), but all phases continue to be works in progress.

Overall performance (all phases) averages 66 percent (79.57/120), implying that benchmark implementation (across all phases) continues to be a WIP. Sustained effort from CMST is required on benchmarks marked in yellow (17), and more so for those marked in red (5). Sustaining achievements and further strengthening implementation on those benchmarks marked in green (14) would be critical for improving the overall CMST performance across the four phases. Therefore, more actions and effort would be required to achieve 100 percent performance levels and to maintain the achievements gained.

This assessment concludes that many assumptions were made and expectations that CMST would pursue a linear progression toward achieving these benchmarks were unrealistic. The blurred division between phases, caused by the overlapping and interrelated nature of supply chain functions, make it difficult for any entity to move linearly from one phase to the next. The findings of this assessment attest to this. Pockets of success are noted across all phases, suggesting that a different approach to implementation would be beneficial. One possibility would be CMST implementing those benchmarks that are within its reach and control first.

Outside these benchmarks, we have noted (through field visits) that CMST is making efforts toward outsourcing some of its logistics functions. It is currently managing 3PLs for the distribution to the last mile. This started in January 2016 and will continue to the end of June 2016.

Currently CMST is processing an open tender for the engagement of a 3PL for distribution to the last mile for a longer period (three years). Cost-effectiveness of the outsourcing of the distribution function has been informed by a distribution study (HEART) concluded last year.

This is an encouraging situation, and we hope that other stakeholders managing and operating 3PLs will consider integrating their respective distributions into the single 3PL to be appointed. Stakeholder-focused oversight would be required to make integration at this level a success.

This assessment also concludes that the integration of public health supply chains in Malawi has already started, albeit tacitly. Examples of the emerging integration include CMST's provision of warehousing services (space and personnel) at one of their facilities in Manobec to a PSC contractor (Bollore) who manages GF-financed commodities. We have also observed PSC commodities such the DFID-funded essential medicines managed by IHS transiting at CMST/RMS (about 48 hours) prior to consolidation with CMST commodities for delivery to the last mile by CML. This is encouraging.

To further enhance the implementation of the supply chain integration with regard to the joint strategy benchmarks, we propose the following key recommendations:

## B. KEY RECOMMENDATIONS

In broad terms, given the large number of benchmarks and to ensure CMST's undivided focused attention, we recommend the following:

1. CMST, with the support of relevant stakeholder TA, should review and rationalize (remove, merge or revise) the benchmarks to address those that are currently considered to have been achieved or are outdated. Examples of these are appended (Annex 4).
2. CMST should consider embedding the remaining benchmarks into their corporate strategy. This would help create a natural progression in achieving them. This could happen at the time when CMST reviews its corporate strategy/business plan to align it with a changing operating environment. This could be achieved through collaboration with the relevant stakeholder TA. We propose in Annex 4 how this embedding could be implemented.
3. After inserting the benchmarks into the appropriate location in the CMST corporate strategy, CMST performance should not be evaluated by the 2012 joint strategy benchmarks but by KPIs thus contained and added to CMST corporate strategy/business plan.

Further:

1. We recommend that the integration of PSC begin with products and programs that have organically been integrated with CMST's supply chain, and this may begin with GF products that CMST is already managing on behalf of Bollore. We also recommend that rather than take a linear logical approach to integration, CMST integrate PSCs/processes based on maturity of their capability and technologies. However, this should be informed by a thorough and proper assessment and should be on priority basis.
2. Performance agreements between GOM/MOH and CMST and donors and CMST utilizing the services of CMST need to be established. This should be the norm for working with CMST.
3. With the support of TA, CMST should produce a business case for taking the 3PL/outsourcing model. The case would outline CMST capacity shortfalls, additional capacity requirements and risk assessment. A business case would help CMST determine the following: current and forecasted distribution volumes by sector (trunking and last mile) in line with uptake of additional commodities and integration plan for PSCs, estimated additional capacity to be bought in from 3PLs, estimated costs of 3PL services in line with phased integration (HEART study), procurement strategy to acquire 3PL services, risk register/management and business continuity planning and what to do with extra truck capacity from internal fleet.
4. CMST should secure TA to build internal capacity to manage 3PLs and contracts, including development of bidding documents and service-level agreements with 3PLs that have clear SMART performance measures (KPIs) and robust incentive and penalty clauses, establishment of mechanisms that ensure that payments to 3PLs are based on accurate workload/volumes of health commodities distributed, development of performance management and monitoring tools, and contract management capability within CMST.
5. 3PL performance measures should be centered on the client, with both CMST and the 3PL sharing performance risk. While a 3PL contract is currently in place, it was facilitated by DFID and single sourced. CMST has not undertaken the procurement of 3PL services on its own. It is therefore essential that CMST consider utilization of TA for this exercise. This TA should include a thorough risk assessment with mitigation measures.

6. Based on lessons from KEMSA,<sup>14</sup>CMST should fully implement an institutional risk management policy framework. The policy framework would require CMST to have customer focus orientation to ensure that its clients and stakeholders are served well and provided with effective services. In implementing this policy framework, CMST would be required to carefully examine the environment in which it operates to identify any possible obstacles to its growth and find ways to mitigate them. Development of this policy framework would further require CMST to understand not only its current corporate strategy and business plan but also the need to promote steady growth of the organization, both internally (through mitigation of obstacles that hinder proper teamwork and efficient coordination operations and communication) and externally (with the national government and all other CMST partners). To implement the recommended risk mitigation policy framework, each unit of CMST should maintain a risk register from which overall risks to CMST could be ascertained. A risk management advisory committee, comprised of all heads of CMST units, could be formed and its roles, among others, would include identifying and assessing risks that would impact the overall performance of CMST. Risks registered by each unit should be shared on a quarterly basis.
7. CMST should closely and regularly monitor actual expenditures against projected costs to establish, in the long run, reliable costs for its operations. Accordingly, CMST should determine the cost of storing, handling and moving products at the unit level (e.g., cost per pallet, cost per cubic meter, cost per kilogram, and cost per kilometer) and should develop costing templates.
8. CMST should then review its current agreements with the 3PL. For example, CMST's agreement with Bollore is based on space and not on warehouse operations. CMST should develop charging mechanisms that quantify the cost of handling, storage and transport per unit (ton, kilogram, pallet, etc.).
9. CMST should develop a supply chain integration plan detailing the phases and timelines for integrating PSCs into its own system. This integration must be SMART.
10. CMST should evaluate whether ACCPAC is the right solution for its current and future operations and conduct a requirements analysis. This will include a determination of whether ACCPAC would cope with increased product volumes and transactions in line with integration.
11. CMST should invest in a WMS to manage movement of stock and ensure accurate physical location. The WMS should be integrated to the inventory management system.
12. CMST should consider restructuring the organization in line with its national mandate: it is a supply chain organization with significant resources and national accountability, thus the roles of **logistics** and **procurement** should have distinct directorates. This and other measures should strengthen procurement by leveraging current TA from the procurement oversight agent (POA) and recruiting additional staff to strengthen procurement functions.

## Key Recommendations to Enhance Implementation of the Systems Strengthening Recommendations

MOH should:

1. Continue to seek support to push forward the facility storage improvement agenda/plan so that health facility storage capacities and conditions are improved throughout the country. The purchase and installation of the 115 prefabricated storage units is a step toward this overarching goal.

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<sup>14</sup><http://www.kemsa.co.ke/newsletters/2015/KEMSA-newsletter-issue1.pdf>.

2. We echo the same recommendation given by the 2012 joint strategy, which dictates that the MOH/HTSS, with the support of relevant key stakeholders, should take bold steps to upgrade the current LMIS to an eLMIS version for better data visibility, on-time ordering and reporting.
3. Implement the recommendations as stated in the 2012 joint strategy for the integration of PSCs in Malawi. For example, MOH should designate a national technical working group (TWG) charged with year-round coordination of quantification, forecasting and supply planning jointly with CMST.

A one-off annual workshop does not confer the level of participation and accountability that would have prevailed if a standing committee on national quantifications were established or if such a role, as suggested by the joint strategy, were to be entrusted to an existing TWG (e.g., the DMS-TWG).

Clearly defined terms of reference for the group, as suggested, would confer greater accountability in overseeing effective utilization of the national quantification exercise toward guiding procurement plans through planned joint and period reviews with CMST active participation, along with the relevant MOH program units.

CMST should:

1. Make consumption data management a priority activity, as earlier recommended by the 2012 joint strategy and as currently recognized by CMST. This should be part and parcel of the functions of its CMST LTWG.<sup>15</sup>
2. Assume a more active role in liaising with MOH/LMIS rather than creating parallel systems for the collection of consumption data. MOH/LMIS currently coordinates and collects sufficient monthly consumption data and generates printed volumes of annual consumption data collected from health facilities through DHOs because actual orders from customers would not provide accurate consumption data. The overarching goal for CMST, in close collaboration with MOH and national vertical programs, should be to improve data quality and reporting rates and to attain the collection of real-time electronic consumption data that uses dispensed-to-user data.

This review concurs with the recommendation of the joint strategy and wishes to accentuate further that it is urgent that CMST begin taking an active role in joint forecasting and supply planning with the relevant national vertical programs.

Further, CMST should:

1. Continue strengthening its procurement planning through the process of regular (quarterly) reviews to ensure that quantities of each product planned for procurement arrive in the country on a timely basis to avoid unnecessary stock outs at all levels of the supply chain. Actual health facilities' consumption and/or dispensed-to-users' data should be used as much as possible to inform quantification and procurement plans.
2. Link up with MOH/HTSS-P to obtain and use health facilities' consumption data to inform its quantification and procurement plans.

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<sup>15</sup> CMST LTWG is comprised of RMS managers + CMST/central management. It sits monthly to review CMST operations. Decisions and/or recommendations of the WG, as necessary, are forwarded to CMST steering committee (comprised of CMST management and health partners funding specific components of CMST operations). Given the importance of the steering committee it is recommended that membership be extended to include relevant participation from MOH, other GOM ministries, and agencies and health partners.

3. Continue to use zonal DHO quarterly meetings, attended by CMST RMS branch managers or their representatives, to obtain health facilities' consumption data often presented at these forums.<sup>16</sup>
  4. Make efforts to expand the membership of the IPC to include external members, as recommended by the 2012 joint strategy and in accordance with the PPA and regulation. This membership expansion will improve the transparency and credibility of the committee.
  5. Undertake a serious review of IT needs and accordingly standardize to a single ERP system capable of managing multiple functions (e.g., financial, inventory, personnel and WMSs). This, however, should be informed with a thorough user/business specification study prior to purchasing off-the-shelf software.
  6. Develop performance-based contracts entered into with the appointed 3PL for the distribution to the last mile. With TA from key stakeholders, CMST should develop and implement an effective performance rating (scorecard) system with appropriate indicators to monitor the performance of the 3PLs for the distribution to the last mile.
  7. Review and streamline the priority MHL of health commodities and use this list at every relevant forum to lobby for increased funding allocations for the purchase of the priority medicines.
  8. Ardently use the approved corporate strategy and business plan to guide day-to-day operations, and use the costing information as evidence to engage the GOM and/or development partners to cover any identified gaps with external resources or in-kind assistance (to fund the procurement of essential medicines from the MHL and/or continue to use the costing information to build additional business cases around insourcing versus outsourcing options for some of the core CMST functions (distribution, warehousing, security, etc.).
  9. Consolidate systems to provide reliable data in order to increase transactional efficiency and transparency. This review therefore echoes the recommendation of the 2012 joint strategy that CMST should consolidate and refine its financial systems to ensure more reliable financial and product management information to both internal and external stakeholders. This should make CMST more accountable to its stakeholders, the GOM and donors. Replacement of the current ACCPAC system should be informed by a detailed analysis.
  10. Engage more with HTSS to make the best use of LMIS information gathered and reports prepared by HTSS to inform its procurement and other related supply chain issues.
- 11.** Develop a performance framework (scorecard) to monitor and quantify the progress made on the implementation of its corporate strategy and business plan, and report regularly to MOH and stakeholders on progress achieved and barriers hindering implementation.

## **C. BENCHMARKS IMPLEMENTATION**

CMST should:

- I. Ensure, upon the expiration of existing insurance policies, that the next set of insurance policies/covers is acquired competitively. Where there is a single credible supplier in the market, CMST should provide sufficient justification in accordance with the PPA on single sourcing a particular supplier.

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<sup>16</sup>Often RMS branch managers or pharmacist in charge attend zonal DHO meeting held on a quarterly basis. Health-related issues are discussed at these meeting. CMST uses these forums to disseminate relevant information and data on its operations and performance. Similarly, DHOs present consolidated health facilities consumption data, providing a good opportunity for CMST to obtain such data.

2. Continue reviewing its corporate strategy and business plan to align with the changing operating environment and consider embedding the benchmarks into its corporate objectives/business plan. This would help a natural progression and achievement of the benchmark standards.
3. Review its internal processes to ensure activities are done on timely basis.
4. Establish, with the approval of the CMST board, mechanisms for the regular sharing of routine financial reports with relevant donors and other stakeholders.
5. Ensure, in close consultation with the CMST board, that all board and staff members have on record signed COC and COI declaration forms, that all IPC members on a standing basis and upon attending committee meetings convened to adjudicate on tenders sign COI declaration forms, and that mechanisms for tracking and updating statuses of COC and COI by board and staff members are established.
6. Discuss and agree, in consultation with the board, on suitable mechanisms for sharing with relevant donors details of and updates on cases of ethics violation (theft, embezzlement, forgery) committed by CMST officers or staff in line with the prevailing legislation in the country.
7. Liaise regularly with the TB and FP programs to explore ways to improve on the accuracy of stock data and the availability of both TB and FP medicines.
8. Consider sharing access to the parallel inventory control systems with Bollore (3PL) to provide for full visibility of the products in stock at CMST warehouse (in Manobec). Both organizations are running parallel inventory control systems and do not share full visibility.
9. Establish min-max stock levels to trigger timely ordering and avoid the inadvertent use of buffer stocks.
10. Ensure that RMS conducts regular stock verification/spot checks and documents findings of such audits.
11. Revise performance measures to focus on service levels around the client. The 91 percent (November 2015) on-time delivery rate does not take into account the date the client placed an order. 3PLs are measuring this rate on the basis of receiving assigned orders to deliver from CMST, resulting in some facilities going for long periods without deliveries.
12. Accelerate approval of SOPs and deliver training to staff.
13. Develop static/fixed and predictable delivery schedules to clients/health facilities.
14. Enforce strict reporting and requisitioning deadlines for DHOs and health facilities.
15. Start including shipments in transit from suppliers on the stock status report and provide estimates of arrival and availability to customers in order to give complete visibility/pipeline of stock status. Planned procurements should also be included. This should cover all shipments in transit on surface and air transport.
16. Conduct stakeholder analysis to define, and determine monthly stock status mailing list.
17. Continually update the warehouse improvement program to keep up with new technologies in the sector, and implement the updated warehouse improvement program.
18. Complete and approve SOPs and conduct training in the short term.
19. Develop capacity within CMST to produce annual procurement plans, which are adhered to and regularly updated.

20. Undertake capacity building of procurement units.
21. Develop standard template documents for prequalification.
22. Seek TA by specialist experts in pharmaceutical procurement in the public sector.

### **Other Recommendations to Enhance Implementation of System Strengthening Recommendations**

1. CMST should widely publicize its website link ([http://www.cmst.mw/local/extract/items\\_on\\_stock.php](http://www.cmst.mw/local/extract/items_on_stock.php)), which provides information on its procurement plans and stock status data. CMST should strive to make data provided at the link accurate and reliable.
2. CMST should seek approval of all procurement SOPs currently completed in draft form and accordingly train staff on their implementation. A strong auditing internal component as illustrated in these SOPs should be implemented to ensure compliance with the SOPs. In doing so, CMST will elevate its compliance with the PPA as well as other external procurement oversight entities.
3. CMST should rerack the central warehouse, currently under construction (nearing completion) to reduce the lanes between racks to acceptable standards. This would increase the warehouse space significantly.
4. CMST, in close collaboration with NLGFC, should find a suitable mechanism to inform DHOs of funds available to them for the purchase of their monthly requirements.
5. MOH/HTSS should continue to tackle the issue of late or nonexistent LMIS reporting by some health facilities, as well as addressing the quality of data being reported.
6. CMST, in close consultation with the CMST board, should ensure that all board and staff members have on record signed COC and COI declaration forms, that all IPC members on standing basis and upon attending committee meetings convened to adjudicate on tenders sign COI declaration forms, and that mechanisms for tracking and updating statuses of COCs and COIs by board and staff members are instituted.
7. As a first step toward empowering DHOs and DHMTs to play a stronger role in supply chain manager (SCM) decision-making, as part of a broader plan to strengthen district supply chain management, MOH should consider including pharmacy technicians and/or other pharmaceutical cadres in the District Health Management Team (DHMT).

### **Recommendations for Development Partners**

1. Development partners should consider evaluating CMST's performance by their achievement of KPIs and supply chain integration benchmarks set out in the CMST corporate strategy and business plan.
2. Development partners should consider aligning their funding and support to KPIs set out in CMST's business plan and establishing performance/results-based funding models tied in with corporate and sector-wide objectives.
3. Development partners should consider specifying their roles and commitment to supporting CMST in implementing its corporate strategy and business plan throughout its lifecycle.



# ANNEX I: TOR/SOW

## OBJECTIVES:

1. Assess the implementation of the integration strategy recommendations.
2. Assess CMST performance on each of the 36 benchmarks outlined in the integration strategy
3. Recommend actions that will enhance the implementation of the supply chain integration strategy.

## SCOPE:

1. Review the 2012 Joint Strategy for Supply Chain Integration in Malawi.
2. Conduct a detailed review of CMST's performance on each benchmarks stipulated in the strategy. Scores will be based on verifiable evidence at CMST records, minutes of technical working group and supply chain technical meetings, MoH annual review meeting reports and other information from stakeholders
3. Identify enabling factors and barriers that impact on effective implementation of the integration strategy

## TASKS:

- 1 Pre-trip:
  - 1.1 Conduct literature review of best practices from countries with effective and efficient central medical stores or national supply chain system in low-income countries especially sub-Saharan Africa.
  - 1.2 Prepare detailed work plan for the assessment, with clear timeline, evaluation framework, proposed analytics, assessment tools, draft template for the final report and estimated budget for assessment (including travel and logistics cost for the assessment).
- 2 In-Country
  - 2.1 In-brief with CMST Reform Monitoring Task Force (CRMTF) and other stakeholders to discuss scope and itinerary for the exercise
  - 2.2 Consultative meetings (in-person, phone or Skype) with Stakeholders: CMST, GoM entities like MoH, National Local Government and Finance Committee, health supply chain donors, DfID, USAID, GF, UNFPA, CHAI, KfW, UNICEF, Norway etc., partners, health facility staff and parallel supply chain operators (JSI, IHS, Cargo Management Logistics and Bollore Logistics)
  - 2.3 Field visits to CMST corporate headquarters and warehouses- receipt stores, North, Central and South regional warehouses
  - 2.4 Field visit to selected facilities in three regions of Malawi, north, central and south
  - 2.5 Meeting with CRMTF to share draft report
  - 2.6 Dissemination meeting with stakeholders to present preliminary findings

### 3 Post trip

3.1 Draft final report

3.2 Final technical report

### 4 Timelines

	<b>Deliverable</b>	<b>Timelines &amp; Deadlines</b>
1	PowerPoint presentation outlining key findings and recommendations – to be presented at dissemination meeting with stakeholders	<b>Jan 17, 2015</b>
2	A detailed report of CMST's performance on each of the integration benchmarks, including achievements, gaps, challenges and recommendations	<b>Feb 15, 2016</b>
3	Printed copies of final report (quantity to be determined)	<b>Mar 29, 2016</b>

## ANNEX 2: ASSESSMENT WORK PLAN

#	Activity/Stakeholder	# of days	Comments
1	CMST	6	Starting from 19 <sup>th</sup> or 20 <sup>th</sup> - 27 <sup>th</sup> Jan
2	MOH relevant officials, TW & programs	2	28 <sup>th</sup> & 29 <sup>th</sup> Jan
3	Donor top priorities	2	1 <sup>st</sup> & 2 <sup>nd</sup> February
4	PSC contractors	2	3 <sup>rd</sup> & 4 <sup>th</sup> February
5	CMST Store in Lilongwe	1	5 <sup>th</sup> February
6	CMST RMS away from Lilongwe	2	8 <sup>th</sup> & 9 <sup>th</sup> February
7	Health Facilities selected (to be specified)	2	10 <sup>th</sup> & 11 <sup>th</sup> February
8	Draft findings and recommendations/PowerPoint Presentation	1	12 <sup>th</sup> February (& weekends)
9	De-briefing/Stakeholders meeting (draft findings & recommendations)	1	16 <sup>th</sup> February
	Draft Report shared with stakeholders		In March
10	Final Report		By end of April



# ANNEX 3: FIELD VISITS

## PROGRAM EXECUTED

Date	Time	Activity
01 Feb	08:00	Depart for Blantyre
1 Feb	10:00am-12:00 hrs	Assessment of CMST/RMS Blantyre (South Region)
1 Feb	13: 30hrs – 15:30hrs	Visit Blantyre DHO
1 Feb	16:00 hrs– 17:00hrs	Visit to Queen Elizabeth Central Hospital, Blantyre
2 Feb	9:00am - 12:30am	Mlambe (CHAM Catholic) Hospital and Ndirande Health Centre, Kadidi Clinic/dispensary
2 Feb	15:00 hrs	Depart for Lilongwe
3 Feb	8:00 am	Depart for Mzuzu
3 Feb	14:00- 16:00 hrs	Assessment of CMST/RMS Mzuzu (North Region)
3 Feb	16:00 -17:00hrs	Visit to Mzuzu Central Hospital
4 Feb	8:00 am – 9:30 am	St John's Hospital Mzuzu
4 Feb	9:45 am- 10:45am	Zimba North DHO & Health Center
	11:30am – 11:45	Mpamba Rural Health Centre (met the only staff with load of patients to attend)
4 Feb	12:00 hrs– 14:00 hrs	Nhkata Bay DHO &Nkhata Bay District Hospital
4Feb	14:00hrs	Depart for Lilongwe
5 Feb	08: 30 – 10:00hrs	Kamuzu Central Hospital
5 Feb	10:30am – 11:45	Mitundu Community Hospital
5 Feb	13:45 – 14:00	Bwala District Hospital (staff out for lunch; not met)
5 Feb	14:30 – 16:00	Bollore Africa Logistics, HIV/AIDS Kanengo Warehouse
5 Feb	16:30 – 17:30	CMST Receipt Warehouse, Kanengo
8 Feb	8:30am – 9:30am	Bollore/CMST Warehouse, Manobec
8 Feb	9:50 – 11:15am	Pharmacy, Medicines and Poison Board (PMPB)
8Feb	11:30 – 12:00	CHAI (William)
9 Feb	9:30am – 10:15	FP/Reproductive Health
9 Feb	10: 00 am -12: 00 hrs	IHS/DFID/JSI-USAID Warehouse, Kanengo (Innocent)

## SUMMARY OF FINDINGS FROM THE FIELD

(Districts & health facilities)

### General

Key health facilities staffs, including some key CMST staffs are not aware of the original of the benchmarks standards they are implementing as well as the 2012 Joint Strategy for Integration of PSC in Malawi itself

## CMST

- ACCPAC handles both financial matters (invoicing) and inventory management; it server based; inventory status can be viewed from any location with CMST and in all the warehouses; CMST stock status are online and updates on real-time basis; link to stock status available but not known to many stakeholders; can export reports to Excel (for customization as needed);
- GF has approved funding for renovations of the RMS (all three) and is contributing to racking and key installations in the new central warehouse
- Although stakeholders (with Internet) can access stock status reports – CMST sends these reports to its clients/hospitals and DHOs. CMST headquarters shares these reports monthly with the MOH and relevant stakeholders. It also does so, when requested at some MOH/TWG.
- RMS currently delivers to central hospitals only – this has resulted to enormous transport capacity remaining idle in all the three RMS
- 3PL stock from IHS and JSI warehouses could be found in transit at RMS; a kind of trust on CMST and/or evidence of integration for DFID funded health commodities
- CMS stock allocation to RMS is based on formula: C/N/S = 45%/20%/35%
- CMST claims every product batch, by the law, must be sampled and tested by PMPB

## 3PL

- Since January 2016, 3PL, in particular picks from RMS (CMS portion of supplies consolidated with stuff from IHS and JSI warehouses
- 3PL picks from RMS and DHOs to deliver to the last mile
- Charges to CMST by 3PL undertaking distribution from CMST RMS and DHOs to the last mile are based on MK x/cubic meter/km travelled; the danger however is the CMST ability to accurately verify what is being carried to the last mile based on this cubic meter measurements

## DHO, Hospitals & Health Centers

- DHOs coordinates reporting of consumption and have in place computerized software (SC Manager) to enter consumption data; central hospitals also host SC Manager and use it to report consumption and stock levels to MOH/HTSS
- Consumption reports received from HFs triggers: monthly reporting to MOH/HTSS and consolidated orders to CMST
- HFs reporting submission deadline by 5<sup>th</sup> of every month; DHOs enter health facilities consumption and stock level data into SC Manager and submits reports (electronically) to MOH/TSS and orders to CMST by 10<sup>th</sup> of every month
- Reports generated by DHOs from SC Manager are not saved/archives for future reference at DHOs; apparently DHOs are unable to open these report files because they are in Access format
- SC Manager is an Access based database – which has its own disadvantages, e.g. getting bulkier and slower with more data it takes; although a comprehensive study has been done to migrate to eLMIS, the conversion is stalled due to lack of funding

- Apparently, CMST does not have fixed delivery deadlines known and/or agreed with HFs and/or DHOs; CMST delivers to their convenience; this has resulted to complaints from DHOs and health facilities (hospital and health centers)
- CMS claims to have achieved 87% on-time delivery performance, but it is not clear how is this is measured when CMST does not have fixed and agreed delivery schedule with its clients. It could be assumed, however, that given the deadline to submitting orders to CMST is by the 10<sup>th</sup> of every month; then CMST, respective RMS warehouses have to deliver to their clients (by CMST and/or their 3PL providers) by end of the month i.e. in 3 weeks upon receipts of orders. This is however is not the case as confirmed by HFs; erratic delivery of their orders is the norm
- There has been stock out for TB medicines in most recent months
- Availability of medicines from CMST in recent years has been problematic



## ANNEX 4: BENCHMARKS TO BE RATIONALIZED

CMST, with the support of relevant stakeholder TA, should review and rationalize (remove, merge or revise) the benchmarks to address those that are currently considered to having been achieved and/or outdated. Examples of these (to be removed, merged or revised) are indicated below.

### Benchmarks to be removed (for indicated reasons)

S#	B#	Benchmark description	Reasons
1	3	Revised CMST business plan adopted by Board of Trustees based on stakeholder feedback	CMST as a corporate entity as a standard requirement will continue to develop business plans with support of the relevant stakeholders
2	5	Annual financial audits completed in line with international accounting standards and results made available to stakeholders in a timely manner	Audits are currently undertaken by reputable international firms (e.g. KPMG, PwC) and are normally shared with stakeholders at AGMs. On approval of the Board would be shared with stakeholders
3	6	Routine financial reporting covering all revenues, expenditures, debts, assets, and profit and loss accounts provided to stakeholders	On the approval of CMST Board such financial reports would be shared with stakeholders
5	10	Human resources policies to support recruitment, retention and performance	CMST is doing well in this area
6	11	Key positions at CMST central and regional level filled based on organizational chart	CMST is doing well in this area
7	18	Adequate physical security at CMST-operated warehouses managing donated commodities	CMST is doing well in this area and continues to be guided by their Security Improvement Plan
8	23	Adequate transport safety and security to ensure the security of commodities throughout distribution	CMST is doing well in this area and continues to implement – Security Improvement Plan
9	26	Adequate physical security at all CMST operated warehouses to ensure protection of commodities	CMST is doing in this are—and continues to be guided by their Security Improvement Plan

### Benchmarks to be merged (for indicated reasons)

S#	B#	Benchmark description	Reasons
1	13	Visibility of TB and FP products in real-time within CMST facilities	All should be taken and considered as essential medicines (visibility for all, quantification for all, stock availability for all, inventory visibility for all) and in particular in respect of CMST MHL items
2	19	Systems in place to quantify and report on lost TB, FP and other donated products due to expiry, theft, or damage	
3	24	Stock availability for essential drugs and medicines	
4	25	Visibility of inventory throughout CMST system to CMST clients and stakeholders	

### Benchmarks to be revised (for indicated reasons)

S#	B#	Benchmark description	Reasons
1	9	Transparent reporting of ethics violations and disciplinary measures taken	A mechanism to share updates with stakeholders needs to be developed and approved by the Board
2	12	Tracking of commodity availability through use of key tracer products in CMST	Tracer list should be specific, well defined and communicated to all stakeholders.

CMST should then consider embedding the remaining benchmarks into their Corporate Strategy. This would help create a natural progression in achieving them. This could happen at the time when CMST reviews its CS/BP to align it with a changing operating environment. This could be achieved through collaboration with the relevant stakeholder TA. We propose below how this imbedding could be implemented.

### Proposed insertion of benchmarks into CMST CS/BP

#	Corporate Strategy Description	Benchmark distribution
1	Ensure organizational financial controls, planning, cost-effectiveness and sustainability	Finance, Admin & Staff 2, 3, 4, 5, 6, 9, 10, 11
2	Build and implement customer-focused organizational systems to become the preferred national health commodity supplier	Medicines availability 12, 13, 16, 24
3	Execute procurement planning and operations to efficiently and effectively anticipate and fulfill customer demands	Procurement 20, 31, 32, 33, 34, 35, 36
4	Establish and utilize information systems to build an organizational culture of planning, responsiveness, accountability and business unit integration	IT/Storage & Inventory Management/Security 14, 15, 17, 18, 19, 25, 26, 27, 28, 29
5	Continuously improve operational and management systems	Distribution/Logistics 1, 7, 21, 22, 23, 27, 30
6	Engage stakeholders to address current and emerging national public health challenges in Malawi	Stakeholders engagement

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