Mid-Term Review (MTR) of the Health Sector Strategic Plan V (HSSP V)

Health Products Management Report

Submitted to The Ministry of Health,
Dodoma – Tanzania

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Table of Contents

Acronyms/Glossary

AMA African Medicines Agency

AMR Antimicrobial Resistance

AMRH African Medicines Regulatory Harmonization

eLMIS Electronic Logistics Management Information System

HSSP Health Sector Strategic Plan

MES Managed Equipment Services

MoHCDEC Ministry of Health, Community Development, Gender, Elderly and Children

MSD Medical Stores Department

M&E Monitoring and Evaluation

NEHCIP National Essential Health care Intervention package

NIMR National Institute for Medical Research

NPAP National Pharmaceutical Action Plan

PPP Public Private Partnership

TMDA Tanzania Medicines and Devices Authority

Executive Summary

The mid-term evaluation of the health products management component of Tanzania's Health Sector Strategic Plan (HSSP V) highlights significant progress and critical challenges in addressing the availability of health products and improving their management across the supply chain.

Methods

The midterm review employed a mixed-methods approach that combined quantitative and qualitative data collection techniques. This review utilized facility assessments, in-depth interviews with key stakeholders, and a comprehensive desk review of critical documents, such as health sector reports and strategic plans. A survey of 47 health facilities and 5 zonal warehouses from eight Tanzanian regions, encompassing both rural and urban areas, was also conducted.

Key Findings

Progress in Improving Access to Diagnosis and Technologies

Diagnostic readiness dipped slightly from 72% in 2020 to 68% in 2023. However, tracer diagnostic item availability at MSD improved from 31% to 41%. Investments in medical device maintenance and trained biomedical personnel are promising. AI-based forecasting tools are being explored to enhance supply planning. Despite these efforts, rural areas face significant challenges, highlighting the need for targeted interventions.

Progress in Availability of Medicines, Equipment, and Health Technologies

The Medicine and health technology availability (based on the 290 priority list) is strong in regional and tertiary hospitals (95% and 93% respectively). However, primary health facilities lag behind with 72% availability, falling short of the 95% target. While wastage at the Medical Stores Department (MSD) is low (below 1%), 12% of surveyed health facilities reported expired medicines. The eLMIS, currently implemented in 50% of facilities, improves supply chain management, but wider adoption is crucial

Progress in Strengthening Pharmaceutical Manufacturing, Quality Control, and Regulation

Pharmaceutical manufacturing has grown, with local manufacturers increasing from four to thirteen since 2021, supported by public-private partnerships. Expansion of the MSD mandate to local production of health commodities has resulted into the expansion of the **Idofi manufacturing plant** and the establishment of **MSD mask production facilities**, which produce **surgical and N95 masks.**

Regulatory reforms have reduced medicine registration timelines from 24 months to 10-12 months. The expiration of the National Pharmaceutical Action Plan (NPAP) in 2022 has created a gap that needs to be addressed to sustain this progress. The National Pharmaceutical policy that was formulated in 1991 is outdated and does not reflect advancements in pharmaceuticals, emerging health challenges, or new global health frameworks

Progress in Integration of Evidence-Based Traditional and Alternative Medicine in Health Services

Efforts to integrate traditional and alternative medicine into health services include pilot projects in seven regional hospitals, yet high production costs, regulatory barriers, and low public awareness limit expansion.

Recommendations

To address these challenges, the evaluation recommends improving demand forecasting, fully integrating eLMIS into all health facilities, expanding local pharmaceutical production and increasing funding for procurement as well as robust scientific research to validate the efficacy of traditional medicines. Additionally, updating the National Pharmaceutical Policy, the National Pharmaceutical Action Plan and strengthening regulatory frameworks for traditional medicine are critical to sustaining progress and ensuring equitable access to health products.

1 Introduction

The midterm review of Tanzania's Health Sector Strategic Plan V (HSSP V) provides a critical assessment of the progress, challenges, and impact of interventions in health products management. Implemented over a five-year period (2021–2026), HSSP V aims to strengthen supply chain systems, ensure the consistent availability of essential medicines and medical supplies, and enhance regulatory frameworks to support healthcare delivery at all levels.

Key objectives of health products management in HSSP V include improving access to essential medicines, strengthening supply chain systems to minimize stockouts, and implementing effective quality assurance mechanisms to ensure patient safety and better treatment outcomes. Additionally, the plan promotes local production of health commodities to reduce reliance on imports, lower costs, and improve the availability of essential medicines. Another significant focus is on capacity building for staff involved in health products management. This includes providing training, improving infrastructure, and allocating adequate resources to enhance their skills and capabilities. Efficient inventory management systems are also prioritized to reduce wastage, track stock levels accurately, and optimize procurement processes. Incorporation of traditional medicines into the health care system is also emphasized.

The midterm review explored critical questions to determine the effectiveness of these strategies. It provided assessment of whether policies, strategic plans, and regional frameworks governing health products management are current and aligned with evolving needs. It also evaluated whether the strategies implemented under HSSP V have led to improved availability of medicines, equipment, and health technologies and contributed to better health products management across all levels of the healthcare system.

By integrating these objectives and evaluation questions into the midterm review framework, the review aimed to provide actionable insights into the progress made and the gaps that remain in achieving the targets outlined in HSSP V.

The review employed a mixed-methods approach, utilizing data from surveys, facility assessments, interviews, and document reviews to gain both quantitative and qualitative insights. It assessed the progress made by key stakeholders, such as the Medical Stores Department (MSD), National Institute of Medical Research (NIMR) and the Tanzania Medicines and Medical Devices Authority (TMDA), and examined systemic issues hindering supply chain efficiency and resource allocation.

This comprehensive approach ensured that health products management interventions were aligned with the evolving needs of Tanzania's health sector and addressed persistent challenges to strengthen the system.

2 Context: relevance of the theory of change

2.1.1.1 Context and Theory of Change

Tanzania's healthcare system faces supply chain inefficiencies, stockouts, and limited pharmaceutical production. HSSP V tackles these through supply chain strengthening, adoption of digital tools, local production, regulation strengthening, and capacity building. The success of HSSP V depends on collaboration, adequate funding, political commitment, and partnerships

2.1.1.2 Changes in Planned Interventions

- **Supply Chain Optimization:** Progress has been made in adopting a unified quantification approach, but challenges remain, including inconsistent data quality from facilities and procurement delays. Recent changes include strengthening zonal warehouses and piloting rail-based transportation for cost-efficient distribution. Implementation of the Prime Vendor system allows the health facilities to procure products from private sector certified wholesalers
- **Local Pharmaceutical Manufacturing:** While there has been progress in incentivizing local manufacturers, the challenges of high production costs and limited investment have persisted.
- **Emergency Preparedness:** The COVID-19 pandemic prompted flexible stockpile systems and integrating emergency response into routine supply chain management. This has led to revisions in procurement strategies for emergency health commodities.

2.1.1.3 Influence of Unplanned Interventions

- **COVID-19 Response:** Rapid systems for emergency stockpiles and real-time tracking of pandemic-related supplies were implemented, improving emergency readiness.
- **Expanded Immunization:** HPV vaccine rollout strengthened cold chains and integrated vaccine logistics into supply chains.
- **Regional Collaboration:** Participation in AMRH and EAC-MRH streamlined regulatory systems and approval processes for medicines and medical devices, reducing delays in market access.

2.1.1.4 Insufficiencies in the Theory of Change

- **Monitoring and Evaluation (M&E):** Lack of a unified M&E framework specific to health products management.
- **Local Production Gaps:** While HSSP V highlights the importance of promoting domestic pharmaceutical production, there is limited detail on the mechanisms to achieve this goal.
- **Digital Tools:** Inconsistent eLMIS implementation, particularly in remote areas, due to connectivity and funding challenges.
- **Health Information Systems:** While HSSP V recognizes the importance of improving health information management, fragmented systems limit effective tracking of product availability.
- **Demand-Side Management:** HSSP V prioritizes the supply-side aspects of health products, such as procurement and distribution but falls short in addressing crucial demand-side factors such as inadequate focus on forecasting (Knowledge gaps at lower facilities), combating irrational medicine use, and addressing rural affordability and access challenges.

3 Methodology

A mixed-methods approach was employed to gather data from diverse sources. The review involved utilized facility assessments, in-depth interviews with key stakeholders, and a comprehensive desk review of critical documents, such as health sector reports and strategic plans. It also included a survey of 47 health facilities and 5 zonal warehouses from eight Tanzania regions, encompassing both rural and urban areas
Additionally, contextual factors were examined that either facilitate or impede progress toward achieving these desired changes. Guides for data extraction of secondary sources and individual in-depth interviews were developed and utilized.

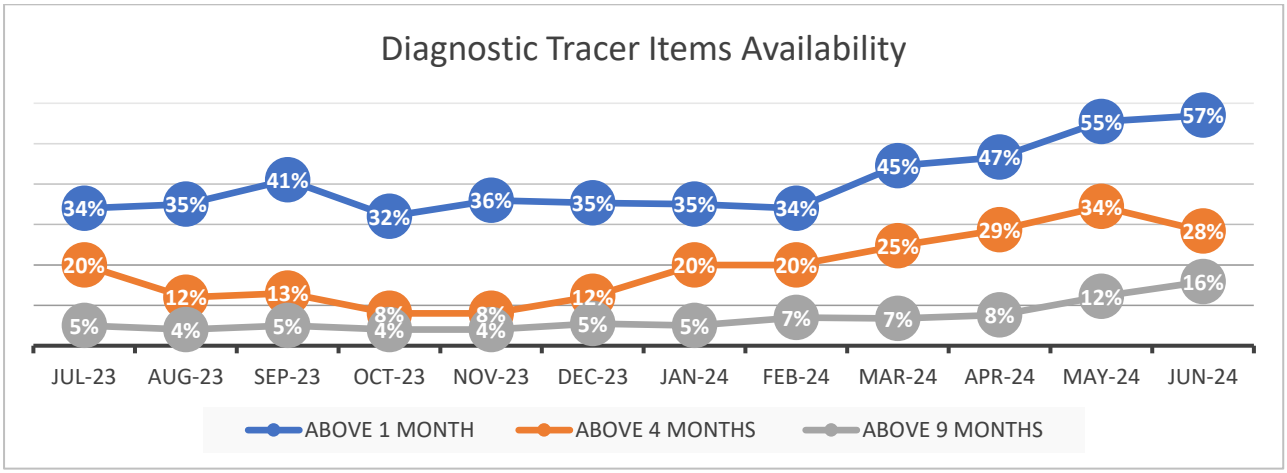
A four-day boot camp workshop (November 12–15, 2024) with stakeholders facilitated the collection, discussion, and validation of the gathered information. Additionally, the workshop identified key action points and formulated recommendations to support the achievement of the targeted objectives for the next two years of HSSP V.

4 Result 1: Improve Access to Diagnosis and Technologies

4.1 Progress toward the targets

Target 2026	Baseline 2020/21	Achievement 2023/24	Comments
Regional warehouses for diagnostic and medical equipment storage	9 zonal warehouses	9 zonal warehouses 7 community outlets	
Procurement systems enhanced to ensure availability of diagnostic tools at health facilities	31% Average availability of diagnostic tracer items at MSD (2022/23) 72% average diagnosis Readiness at health facilities	41% Average availability of diagnostic tracer items at MSD 68% average diagnosis Readiness at health facilities	4 percentage point reduction in Diagnostic readiness
Percentage of facilities with 100% availability of 8 essential diagnostic items	25%	24%	
Percentage availability of basic equipment for general service readiness	85%	87%	
Consistent maintenance of medical and diagnostic equipment	10 medical device maintenance workshops at zonal, district and regional level	Over 20 medical device maintenance workshops at zonal, district and regional level -National Centre for Calibration and Training	
Technical personnel for regular equipment servicing	76 biomedical engineers and technicians employed	367 permanently employed biomedical engineers and technicians	
Percentage of health facilities with fully integrated eLMIS for real-time inventory management of diagnostic kits and technologies	30%	50%	
Deployment of AI-based forecasting tools for diagnostics and laboratory commodities	-none	On-going testing of AI-based tools for forecasting	

Improve Stocking levels: At MSD, the percentage of diagnostic tracer products with stock levels between the recommended minimum and maximum stock levels of 4 and 9 months respectively is less than 40%. The low stock levels could have a cascading effect on order fulfillment for health facilities and eventual stock outs. This highlights ongoing challenges in achieving optimal stock levels.



Source: (Ministry of Health, Supply chain KPI Performance reports)

Improve availability of basic Diagnostic items at health facilities: Overall 100% availability of 8 basic diagnosis items is low (24%) with wide variation across the different levels of care i.e. 15% dispensaries, 57% of health centers, 64% of district hospitals and 84% of referral hospitals.

	Hemoglobin	Blood glucose	Malaria diagnostic capacity	Urine dipstick-protein	Urine dipstick-glucose	HIV diagnostic capacity	Syphilis rapid test	Urine test for pregnancy	Percent of facilities with all items	Mean availability of tracer items
Facility type										
Referral Hospital	92	92	100	84	84	100	84	92	84	91
Hospital	99	90	99	86	87	98	83	97	64	92
Health Center	86	75	99	90	89	98	81	89	57	88
Dispensary	58	35	97	48	46	91	58	69	15	63
Managing authority										
Government/public	58	35	98	49	46	97	57	68	18	63
NGO/not-for-profit	100	52	100	97	86	88	91	100	48	89
Private-for-profit	72	69	96	66	68	67	76	79	32	74
Mission/faith based	92	66	99	90	90	94	83	94	51	89
Urban/Rural										
Urban	61	38	98	52	49	93	60	70	19	65
Rural	77	62	95	69	71	87	72	82	40	77

Source: SARA Report 2023

4.2 Interventions

The implementation of the **Managed Equipment Services (MES)** model that was launched in 2015 to enhance the procurement, installation, and maintenance of medical equipment across healthcare facilities.

Additional district and regional maintenance and repair workshops were constructed to bolster the infrastructure for medical equipment services management systems.

A **National Centre for Calibration and Training** was established to ensure the correct functioning of medical devices.

Employment of Biomedical Engineers and technicians has enhanced the capacity for medical equipment maintenance and management.

Training and Capacity Building Initiatives: Institutions such as the University of Dares Salaam offer courses aimed at building capacity in biomedical equipment repair and maintenance. These programs are designed to enhance the skills of technicians and engineers in the healthcare sector.

Implementation of Electronic Medical Device Management System that provides health facilities and the Ministry of Health with data on the operational status of medical devices and the need for repairs and spare parts.

Regulatory Strengthening by The Tanzania Medicines & Medical Devices Authority (TMDA) through adoption and regular revision of guidelines on medical devices.

Not planned intervention:

Cold chain expansion: The rollout of the HPV vaccine led to significant investments in improving vaccine logistics and cold chain systems. This intervention has strengthened the storage and distribution of temperature-sensitive commodities, particularly vaccines.

4.3 Quality of intervention

People-Centeredness: Forecasting tools like Bottom-Up Quantification (BUQ) ensure that local health workers are involved in the decision-making process, allowing for a more people-centered approach.

Equity: The Managed Equipment Services (MES) initiative aims to improve the access of diagnostic tools in all regions of Tanzania, not just in urban areas. For example, the installation of diagnostic equipment such as X-ray machines in underserved areas such as Mtwara and Shinyanga. However, disparities between urban and rural areas remain a significant barrier e.g. advanced diagnostic tools like MRI machines and CT scanners tend to be concentrated in larger cities like Dares Salaam and there is limited availability of biomedical engineers in rural districts.

Effectiveness: The introduction of Forecasting tools like Bottom-Up Quantification (BUQ) and eLMIS has improved the forecasting of essential diagnostic supplies. For example, in Tanzania's Southern Highlands, these systems helped to predict shortages in malaria diagnostic kits, allowing replenishment of stocks in time for peak malaria season. However, challenges in data quality or integration with existing infrastructure lead to inaccuracies in the predictions

Efficiency: Efforts to streamline processes through the eLMIS and decentralize equipment maintenance services have improved efficiency by reducing the time it takes to repair diagnostic tools, ensuring that equipment is quickly returned to service. Nonetheless, financial constraints reduce the overall efficiency of interventions, leading to prolonged equipment downtime.

Gender: Despite measures to address gender equality for instance active enrolment of women in training at Mvumi Training Center where about 25% of the graduates in biomedical engineering have been women, there is still a gap in gender-specific data for diagnostics, particularly for women's health

Ethics: The TMDA upholds ethical standards for medical equipment procurement and maintenance. The National Calibration Centre operates in line with ethical standards to ensure that diagnostic equipment works accurately, and maintains quality assurance across various health facilities.

4.4 Challenges and unfinished agenda

Workforce Shortage: Despite the current workforce, there is a significant shortage, with an estimated need for 7,000 biomedical engineers to adequately manage and maintain medical equipment nationwide.

Training Resources: While training programs exist, there is a need for expansion and enhancement to meet the growing demand for skilled technicians and engineers. Training is still somewhat insufficient, especially in rural areas.

Quality control: Challenges in implementing quality control measures, particularly in diagnostic radiography due to lack of standardized quality control test tools.

Inadequate Expansion of Managed Equipment Services (MES): The MES program, designed to ensure that medical equipment is consistently available and well-maintained at health facilities, has not been fully rolled out due to budget limitations and logistical constraints in rural and remote areas.

Recommendations

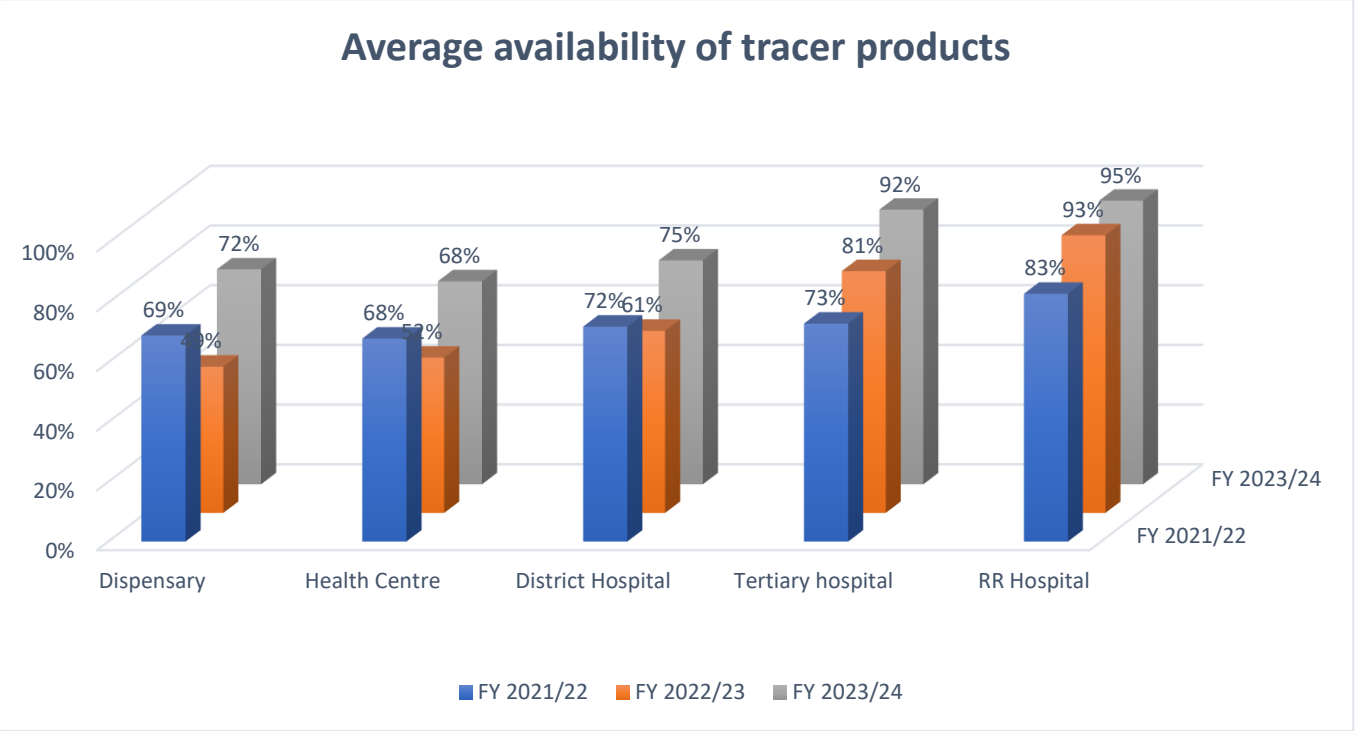
- Standardize data collection and quality assurance across all health facilities through regular audits and training programs for health workers on proper data entry and system use
- Increase capacity of medical device maintenance through targeted training programs, particularly in regions where maintenance workshops are scarce. For example, expanding programs like Mvumi Training Center
- Investment in mobile diagnostic units to bring diagnostic services to remote areas where access is limited
- Adopt low-cost, innovative diagnostic technologies such as point-of-care devices that are affordable, easy to maintain and designed for tropical diseases or other health conditions prevalent in the region
- Strengthen monitoring and evaluation systems that track not only the availability of diagnostics but also ensure that they reach the most vulnerable populations
- Support the establishment of local manufacturing for diagnostic tools and medical equipment to reduce reliance on imports and ensure consistent availability of supplies.

5 Result 2: Availability of medicines, equipment, and health technologies

5.1 Progress toward the targets

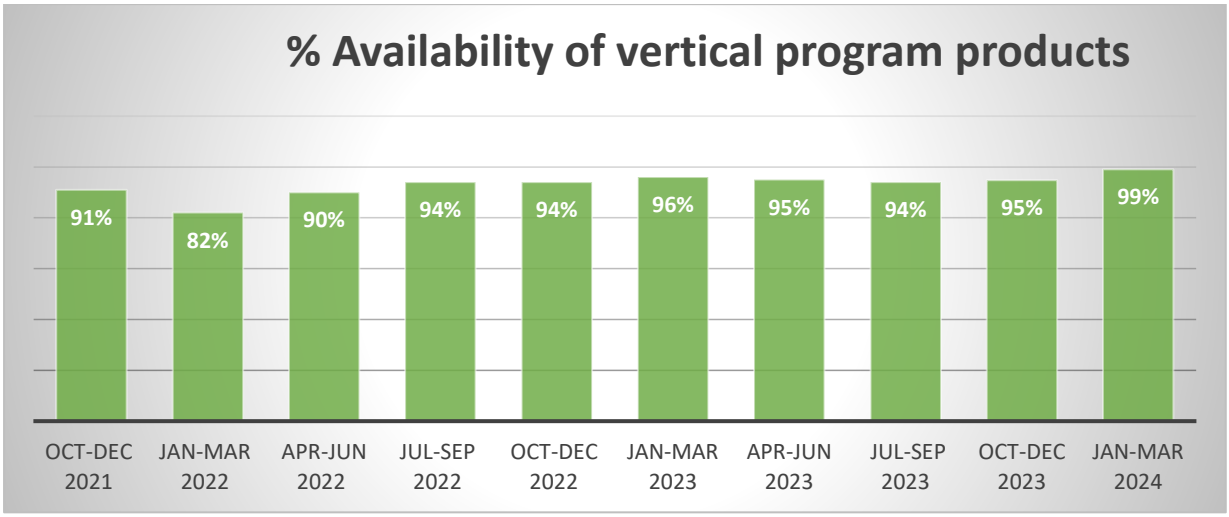
Target 2026	Baseline 2020/21	Achievement 2023/24	Comments
95% Average availability (tracer items) in Regional referral hospitals	78%	95%	
95% Average availability (tracer items) in tertiary hospitals	76%	92%	
95% Average availability (tracer items) in primary health care facilities	73%	72%	Below HSSP V target of 95%
90% Average availability of Pharmaceuticals (1 month) at MSD	52%	75%	Below MSD target of 90%
90% Average availability of Medical Supplies (1month) at MSD	57%	65%	Below MSD target of 90%
90% of health facilities reporting stock levels accurately aligned with demand forecasts, reducing stockouts to less than 5%	Not available	75%	
Percentage wastage reduced to below 1% at MSD	0.096%	0.3%	
Cold chain systems and vaccine logistics	92% Refrigerator availability 54% adequate refrigerator temperature Vaccine availability of 54% for infant, 50% for adolescents and adults, 53% birth doses	88% Refrigerator availability 56% adequate refrigerator temperature Vaccine availability of 68% for infant, 67% for adolescents and adults, 62% birth doses	
100% of health facilities now operate with eLMIS for real-time stock tracking and procurement forecasting.	30%	50%	
Number of trained health workers in inventory and supply chain practices	Not available	2,587 in 1,195 facilities	

Optimize Procurement and Distribution Systems: Overall availability of tracer products in health facilities has increased over the years across the different health facilities but there are disparities across the different levels of care. This highlights ongoing challenges in achieving optimal stock levels of essential medicines and supplies



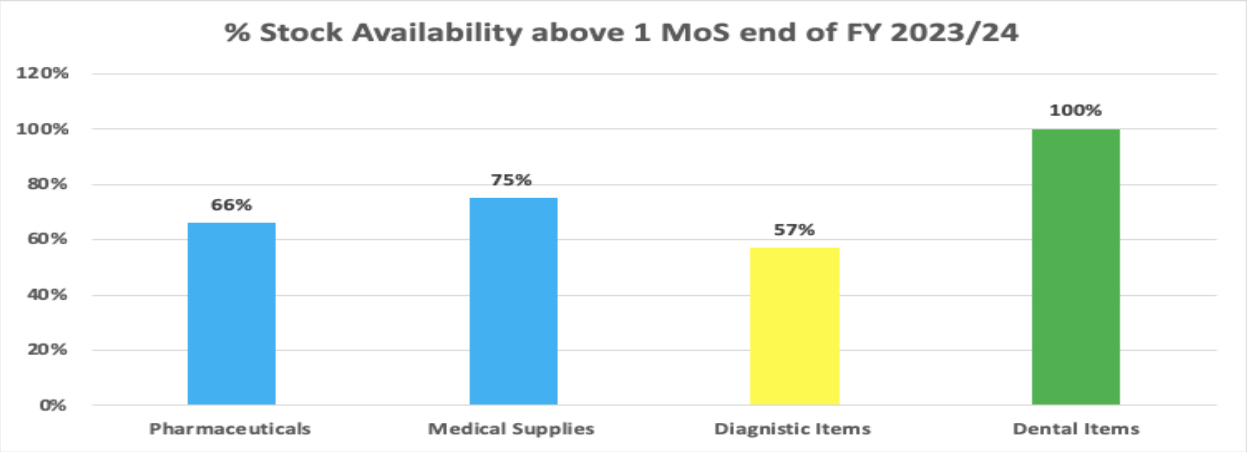
Source: (Ministry of Health, Supply chain KPI Performance reports)

The availability of the vertical products, since the implementation of HSSP V in 2021, has consistently been above 90% save for the Jan-Mar 2022 quarter.

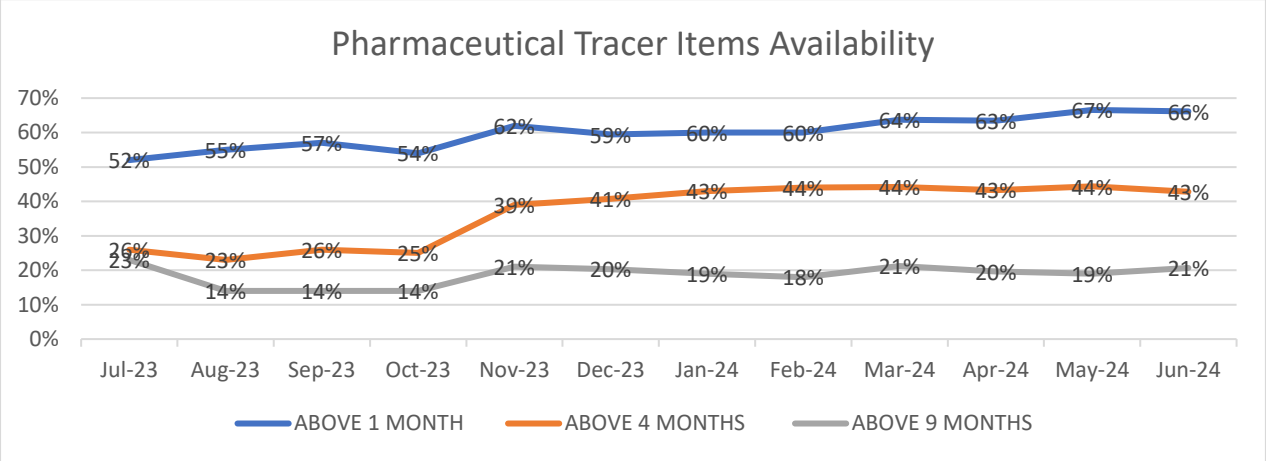


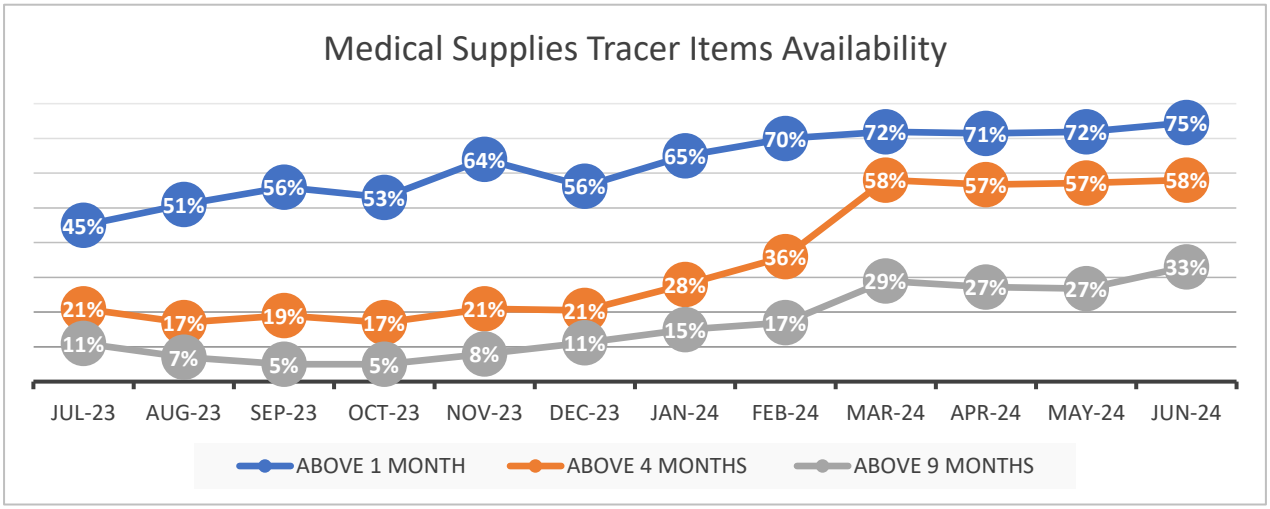
Source: (Ministry of Health, Supply chain KPI Performance reports)

Despite improvement in availability of Tracer Items (382) at MSD, it still falls short of the 90% target set by MSD, save for Dental tracer items



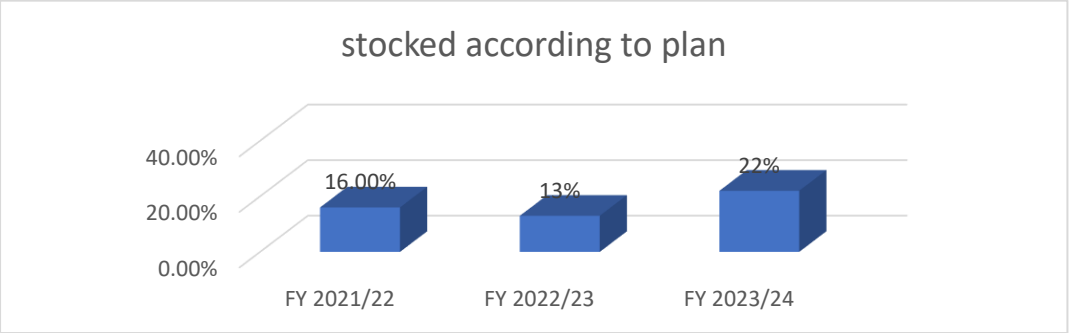
Detailed Each Month Performance on stock availability Group wise:





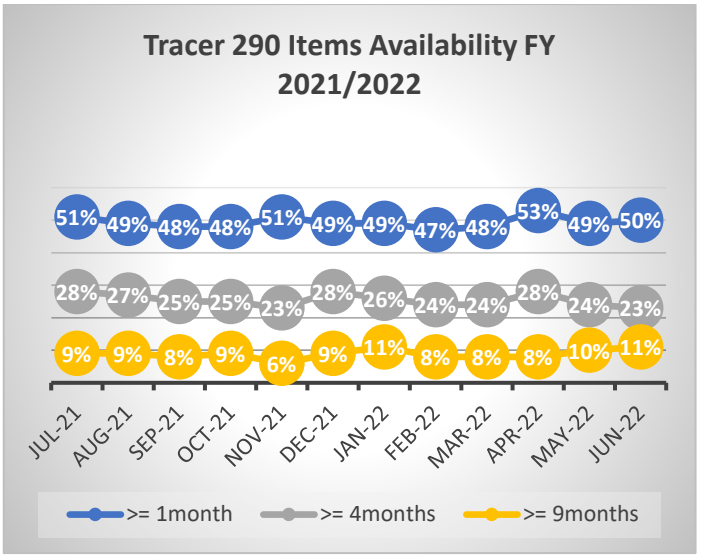
Address Wastage, Inefficiency, and Stock-Outs:

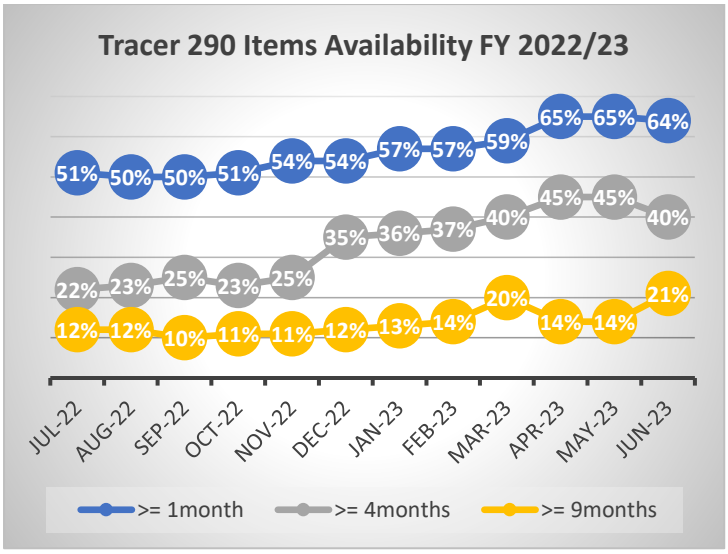
Stocking levels: Whereas there is improvement in the incident availability of tracer products, the products are not adequately stocked. Despite the improvement in the FY 2023/24, the stocking does not meet the basic expectations of 30%. This raises a potential risk of stock out.



Source: (Ministry of Health, Supply chain KPI Performance reports)

At MSD, the percentage of tracer products with stock levels between the recommended minimum and maximum stock levels of 4 and 9 months respectively is less than 45%. The low stock levels could have a cascading effect on order fulfillment for health facilities and eventual stock outs.





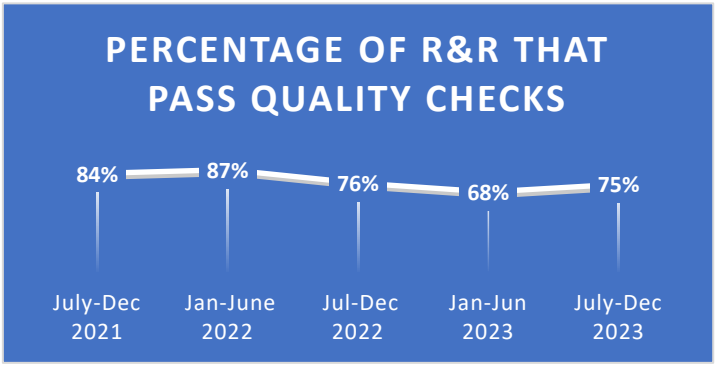
Source: (MSD, Supply plan presentations to TWG)

Expiries and wastage: A reduction in wastage to less than 1% at the MSD indicates good stock rotation and utilization practices.

Source: (Ministry of Health, Supply chain KPI Performance reports)

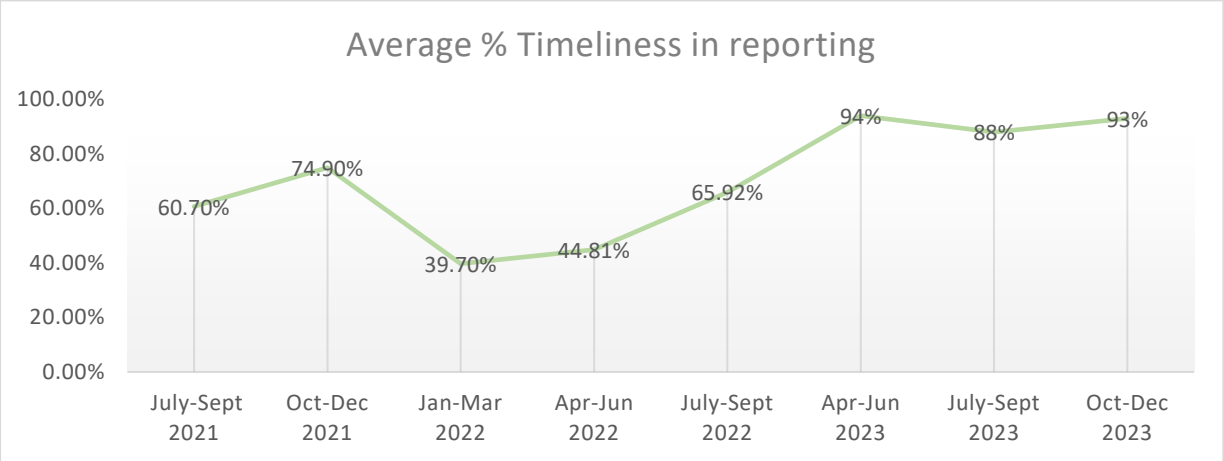
Improve Inventory Management Systems

Quality of data used for order processing: The quarterly trends of data quality showed fluctuations, but notably, the last two quarters demonstrated a positive shift, increasing from 68% to 75%. However this falls short of the 90% target. This can result into inaccurate forecasting leading to over-stock or understock of supplies.



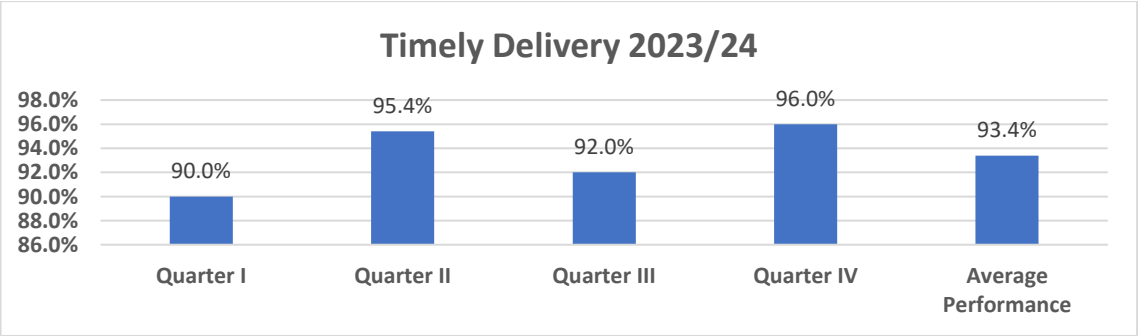
Source: (Ministry of Health, Supply chain KPI Performance reports)

Timeliness of eLMIS reporting by facilities: There is a progressive improvement in the number of Health facilities submitting R&R/R reports in the eLMIS within the agreed schedules.



Source: (Ministry of Health, Supply chain KPI Performance reports)

Delivery of supplies: The improvements in logistics and distribution infrastructure can help mitigate some of the availability issues, even as stock levels remain a concern.



Source: (Ministry of Health, Supply chain KPI Performance reports)

5.2 Interventions

Supply chain training and mentorship initiatives: The Ministry of Health in collaboration with The President's Office, Regional Administration and Local Government (PORALG) conducted mentorship activity on Redesigned Logistics System. Between January and June 2024, a total of 1,201 healthcare workers in 590 health facilities across 40 councils from 20 regions were mentored. Another training session of health workers in Dodoma focused on the implementation of the BUQ (Bottom-Up Quantification) tool, emphasizing its application in forecasting essential medicines.

Supply Plan Integration into TWG Discussions: Supply plans are now a key agenda item in Technical Working Group (TWG) discussions, ensuring that procurement, forecasting, and inventory management are regularly reviewed and aligned with national health goals.

Public–Private Procurement Practices: Implementation of the Prime Vendor system allows the health facilities to procure products from private sector certified wholesalers when they are stockouts at the Medical Stores Department (MSD).

Long-Term Framework Agreements (FWAs): MSD has signed long-term FWAs for various items, leading to the advertisement of 19 tenders encompassing 2,926 line items. These agreements have reduced procurement lead times and enhanced supplier reliability, streamlining the supply chain.

Contract Compliance Unit: A dedicated Contract Compliance Unit has been established to monitor contract performance, ensuring that suppliers adhere to delivery schedules, shelf-life standards, and other contractual obligations.

Ongoing interventions

Standardization of Nomenclature: Efforts to standardize the nomenclature of health commodities across the supply chain are ongoing. This initiative simplifies procurement, improves data accuracy, and reduces errors in stock management.

Infrastructure Expansion: MSD continues to expand its infrastructure, including the construction and improvement of warehouses, to accommodate growing inventory demands and improve distribution efficiency.

Use of Data for Supply Planning: Data-driven approaches are being used to enhance supply planning and demand forecasting, enabling better alignment of procurement with actual needs. This practice helps mitigate stockouts and overstocking.

Artificial intelligence (AI)-driven tools are being piloted to enhance forecasting accuracy and inventory management

The **IMPACT Approach**, adopted in 14 regions, focuses on auditing and monitoring health commodities to improve oversight and help address inefficiencies in commodity management by ensuring better accountability and audits

Integration of locally produced nutritional products into the National Essential Medicines List (NEMLIT) to reduce dependence on imports and promote self-sufficiency in the supply of nutritional commodities.

Interventions that were not planned, but implemented and contributed to the achievement of the targets

Decentralized Drug Distribution (DDD) for ART: ART refilling through private sector providers in urban and semi-urban areas has increased access to ARVs. This was a PEPFAR COP 21 initiative introduced by the National AIDS, STIs, and Hepatitis Control Program (NASHCOP).

Cold chain expansion: The rollout of the HPV vaccine led to significant investments in improving vaccine logistics and cold chain systems. This intervention has strengthened the storage and distribution of temperature-sensitive commodities, particularly vaccines.

5.3 Quality of intervention

People-Centeredness: The shift to a demand-driven supply chain allows facilities to order medicines based on specific local needs. However, gaps exist in the availability of specialized health products, such as those for rare conditions or advanced diagnostics.

Equity: Efforts to ensure the availability of essential medicines in rural areas reflect a commitment to addressing local healthcare demands (equity). For example, investment in zonal stores is aimed at bringing supplies closer to the different regional facilities. However, availability of products is still below the HSSP V target of 95% in primary health care facilities that serve the rural areas

Vulnerable groups, including the elderly, persons with disabilities, children under five years old, and pregnant women, are exempt from contributing to healthcare costs. ***"Makundi maalum kama wazee wanahitaji huduma za afya zenye kipaumbele kutokana na mahitaji yao ya kipekee."***

Efficiency: Collaboration through frameworks such as the Health Commodities and Technology Technical Working Group (HCTTWG) has improved coordination among key stakeholders, including government entities, donors, and private sector partners.

Effectiveness: Strengthened post-market surveillance and inspections by TMDA have enhanced the quality and safety of health products. Despite improvement in availability of products, delays in procurement and distribution, especially for internationally sourced medicines, continue to affect the timeliness of interventions.

Gender: Interventions support gender equity through targeted distribution of health commodities for maternal and child health, such as contraceptives. However, there is limited emphasis on some key gender-specific needs, such as ensuring availability of menstrual hygiene products.

Data disaggregation by gender in the supply chain is minimal, limiting the ability to track how interventions address gender-based disparities.

Ethics: Regulatory oversight by TMDA ensures that all medicines and medical products comply with safety, quality, and efficacy standards, protecting public health and maintaining ethical standards in product availability.

Training programs for healthcare workers and supply chain personnel emphasize adherence to ethical practices, including proper inventory management and rational use of medicines.

5.4 Challenges and unfinished agenda

Shortage of supply chain human resource: The human resource gap is 71% for pharmacists, 82% for Pharmaceutical technicians and 99% for Pharmaceutical assistants. This can affect the accuracy of inventory tracking and forecasting leading to poor stock management practices, unnecessary stock-outs, and inefficient stock rotation practices.

Health Commodity Financing: Health commodities are often treated as project-based expenses, without ring-fenced funding for consistent supply chain management. A funding gap of approximately 163 billion TZS remains unmet annually and reliance on external funding (e.g., Global Fund, GAVI) for procurement sometimes leads to delays and unpredictability in supply levels.

Monitoring and Evaluation: Limited financing affects the Ministry's ability to track supply chain performance comprehensively, leading to erratic data quality and inconsistent reporting.

International procurement: Delays in international procurement processes and lead times for medicines that are sourced outside of Tanzania.

Logistical challenges: Particularly in rural areas with inadequate transportation and storage infrastructure.

Forecasting challenges: Unrealistic demand forecasts significantly undermines the efficiency of supply chain operations at MSD, leading to frequent stockouts and disruptions at health facilities. In addition, the existence of items without any forecast data e.g. in the FY 2022/23, MSD identified at least 15 essential items that were not included in the demand forecasting process

Insufficient local production: Local pharmaceutical production capacity remains insufficient to meet the country's demand for essential medicines and medical supplies. Currently, 80% of medicines, 90% of medical supplies, and all laboratory reagents are imported, which increases costs and lengthens delivery lead times

Medicines with special needs: Some anticancer drugs have unique distribution and procurement requirements that adds complexity to MSD's supply chain. Some essential medicines on the tracer list, such as Hydroxyurea 500mg tablets and Anti-Hemorrhoid Suppositories, lack registration with TMDA and this complicates importation and distribution often requiring waivers from TMDA.

Unfinished agenda

Insufficient Supply chain Capacity: The lack of trained personnel to manage supply chains efficiently has slowed down efforts to standardize and improve inventory management practices at all levels of the health system.

Incomplete Integration of eLMIS: While eLMIS has been rolled out to improve inventory management and streamline medicine distribution, the system has not been fully integrated across all health facilities. Some health facilities still face challenges related to system access and data entry issues, limiting the effectiveness of the system in improving real-time stock tracking and reducing stockouts.

Delayed Procurement and Supply Chain Reforms: The implementation of demand-driven procurement systems have not progressed as quickly as planned, leading to the need for interventions to be carried forward into subsequent phases of HSSP V.

Recommendations

- **Improve demand forecasting accuracy**

  Strengthen Human Resources: Conduct mentorship programs at health facilities to train non-pharmaceutical professionals on supply chain management. Explore utilizing e-learning platforms for continued professional development.

  Data Integration and Coordination: Establishing better collaboration mechanisms between MOH, PO-RALG, and MSD will ensure more comprehensive and inclusive demand forecasting

  Invest in Advanced Forecasting Tools: The adoption of more sophisticated tools that incorporate real-time consumption data, disease trends, and demographic changes can improve forecast accuracy

- **Secure Health Commodity Financing**:

  Ring-fence funds allocated for health commodities to ensure they are exclusively used for procurement and distribution.

  Conduct regular audits to enhance accountability.

- **Enhance Monitoring and Evaluation:**

  Allocate dedicated funds for routine M&E activities.

  Collaborate with development partners for technical and financial support.

- **Fast-Track Tendering Processes and Ensuring FWAs**

  The Procurement Management Unit (PMU) needs to fast-track tendering processes and ensure that all items have Framework Agreements (FWAs). This will address key procurement challenges in the Medical Stores Department (MSD) and broader supply chain systems

- **Accelerate Special Permit Approvals**

  PMU to liaise with the TMDA to acquire special permits for items high-priority unregistered items

- **Strengthen Supplier Contract Management**

  Implement a performance-based contracting approach where suppliers with high compliance levels are prioritized for future tenders.

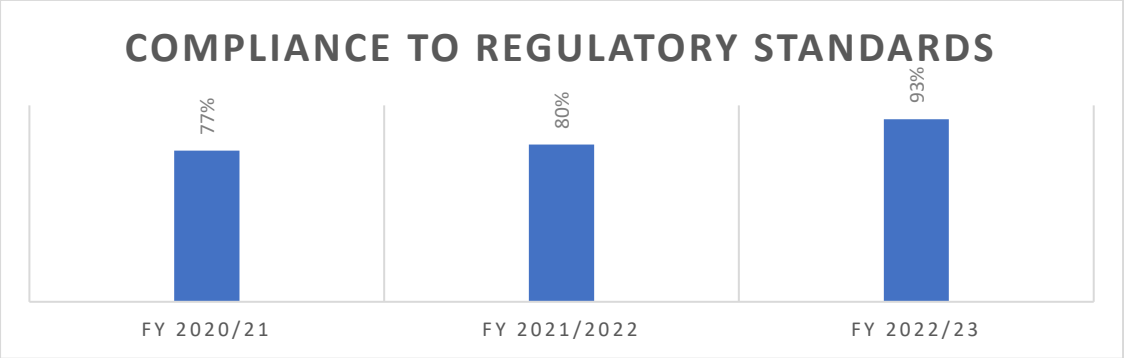
- **Explore the use of Alternative Transport**
  Utilizing motorcycles or small vehicles for last-mile delivery in hard-to-reach areas can speed up deliveries and reduce the risk of stock-outs.

6 Result 3: Strengthened Pharmaceutical Manufacturing, Quality Control, and Regulation

6.1 Progress toward the targets

Target 2026	Baseline 2020	Achievement 2023	Comments
Adverse Drug Reaction (ADR) monitoring	6,713 ADR reports	7,475 ADR reports	
Public-private partnerships to boost domestic pharmaceutical manufacturing	4 pharmaceutical manufacturers	13 pharmaceutical manufacturers	
Updated regulations, policies, and plans	Tanzania Medicines and Medical Devices (TMDA) Act enacted following amendment of Tanzania Food, Drugs and Cosmetics (TFDA) Act	Regulations revised for -Medicines Registration -Pharmacovigilance -Medical Devices and Diagnostics	-National Pharmaceutical Action Plan expired in 2022 -Traditional and Alternative Medicine (Code of Ethics, conducts and Practice) last amended in 2017
Participation in regional harmonization efforts under AMRH and EAC frameworks	Implementation of Common Technical Document (CTD) for the registration of medicines Joint GMP inspections with EAC member states Pharmacovigilance Initiatives, regional training and data-sharing platforms, Development of regional policy and legal frameworks, to streamline the approval and monitoring of medical products.	Regional Capacity Building in regulatory affairs, sharing best practices Harmonizing procedures across the EAC. Mutual Recognition Agreements (MRAs) of medicines registration Harmonization of medical devices and diagnostics regulations Collaboration with regional partners on Post-Marketing surveillance systems	

Improved Regulatory Compliance: TMDA has reported a steady rise in compliance with GMP and regulatory standards among domestic pharmaceutical manufacturers and distributors. This progress is credited to rigorous inspections and improved stakeholder awareness of regulations[1]



Source: (TMDA Annual Reports)

Strategic collaborations, such as the EAC-MRH and AMRH programs, have harmonized regulatory practices, accelerated market access for health products, and bolstered TMDA's capacity through joint inspections and knowledge sharing.

TMDA's recognition as a WHO Maturity Level 3 regulatory authority underscores its regulatory strength but highlights the need for additional resources to sustain this momentum.

The 2017 edition of the standard treatment guidelines (STG) and national essential medicines list STG/NEMLIT have been updated to sixth edition 2021 to reflect new therapeutic options and changing therapeutic needs.

Update outdated policy frameworks: The National Pharmaceutical policy that was formulated in 1991 is outdated and does not reflect advancements in pharmaceuticals, emerging health challenges, or new global health frameworks.

The National Pharmaceutical Action Plan has not been updated since its expiration in 2022.

The National Essential Health care Intervention Package (NEHCIP 2013) is under revision and update. It is hoped that the revision will provide greater clarity and specificity, particularly by detailing the different intervention packages (disease specific) and their corresponding health product requirements.

[1] https://www.tmda.go.tz/publications/50

6.2 Interventions

Digital Monitoring Systems: The implementation of digital tools such as e-Submission for product registration and TMDA's digital inspection systems has improved efficiency in monitoring compliance.

Improved Training and Awareness: TMDA has initiated training programs for manufacturers, distributors, and health facility personnel to increase awareness of regulatory requirements. These programs have directly improved compliance rates among stakeholders.

Strengthened Inspection Frameworks: TMDA conducts inspections across multiple tiers, including manufacturers, wholesalers, and retail outlets. These inspections are guided by the East African Community (EAC) GMP Compendium and aligned with global standards.

Adverse Drug Reactions (ADRs) reporting using digital tools: Healthcare professionals and consumers report adverse drug reactions (ADRs) through digital tools and national pharmacovigilance systems

The **Traditional Medicine (TM)** initiative aims to integrate traditional medicine into the formal healthcare system and this is being piloted in seven hospitals. This will help regulate the use of traditional medicines and make them a recognized part of healthcare services.

6.3 Quality of interventions

People-Centeredness: The Action Plan for the Promotion of Domestic Manufacturers, aimed at boosting local production of essential medicines, ensures that more people, particularly those in rural areas, have access to affordable and high-quality medicines. This helps minimize the logistical barriers that might otherwise hinder access to critical medicines.

Equity: Mutual Recognition Agreements (MRAs) within the East African Community (EAC) framework, reduce barriers for Tanzanian manufacturers to access not only local but also international markets, thus ensuring equitable access to medicines produced locally.

Effectiveness: The TMDA has strengthened its post-marketing surveillance systems, enhanced tracking of adverse drug reactions and quickly address any safety concerns, ensuring that only safe, effective medicines reach consumers.

The implementation of the Common Technical Document (CTD) for drug registration has reduced delays in the registration process, thus speeding up the availability of essential medicines in the Tanzanian market.

Efficiency: Joint inspections by TMDA inspectors with other EAC countries help avoid duplication of efforts, making the overall inspection process more efficient for both manufacturers and regulators.

Gender: Although explicit gender-focused interventions are still evolving, the Action Plan for Promotion of Domestic Manufacturers has provided opportunities for women entrepreneurs in the pharmaceutical sector. By creating more entry points for small and medium-sized enterprises (SMEs), including those owned by women, it helps ensure more inclusive economic participation.

Ethics: The regulatory emphasis on rigorous quality control, testing of medicines, pharmacovigilance and ethical marketing has led to the enforcement of rules that prohibit misleading advertising or the sale of counterfeit medicines.

6.4 Challenges and unfinished agenda

Staffing Limitations: Recruitment delays due to approval processes create workforce shortages, affecting operational efficiency.

Funding Gaps: Only 55.1% of TMDA's operational costs are covered by government funds. A mandatory return of 15% of revenue to the government further strains the organization's resources.

Laboratory Delays: National laboratories sometimes delay the testing of samples, impacting regulatory timelines.

Compliance Gaps in Traditional Medicine: The regulation of traditional and herbal medicines remains inconsistent, with limited oversight in this sector.

Recommendations

Increase Funding: Waiving the 15% revenue return to the government would allow TMDA to reduce charges on stakeholders and improve its operations.

Expand Staffing: Employ specialists in advanced medical devices to enhance inspection accuracy and coverage.

Enhance Collaboration: Strengthen partnerships with local and international stakeholders for better resource-sharing and operational efficiency.

Strengthen Regulation of Traditional Medicines: Regularly review specific policies and enforcement mechanisms to regulate traditional medicines and ensure compliance with safety and efficacy standards.

7 Result 4: Integration of evidence-based traditional and alternative medicine in health services

7.1 Progress toward the targets

Target 2026	Baseline 2020	Achievement 2023	Comments
Strengthened framework for managing research and provision of natural/alternative therapies	Fragmented framework in place	70% progress in policy alignment	Policy review ongoing; gaps in enforcement
Coordinated integration of traditional medicine and modern medicine	none	28 traditional medicine formulations for infectious and non-communicable diseases piloted at 7 regional hospitals	
1 inventory of traditional medicine established and updated		Data collection ongoing	limited resources affecting coverage
5 herbal products manufacturing plants established	None	1 (Mabibo Traditional Medicine Factory)	
Strengthened supervision for safety, quality, and efficacy		2 herbal products on TMDA medicines register	High production costs and regulatory compliance
Strengthened traditional medicine research system by conducting 16 researches on safety and efficacy of traditional medicine carried out	1 research	10 researches	

Strengthen prescriber training and public education on traditional medicines: Low patient uptake and reliance on traditional healers has hindered formal adoption of traditional medicines in the hospitals where there is on-going piloting.

Expedite policy finalization and strengthen enforcement mechanisms: Policy alignment remains fragmented, with challenges in enforcing quality and safety standards for traditional remedies. Inconsistent regulation limits the full integration of traditional medicine. The National Traditional and alternative medicines strategic plan expired in 2022.

Expand pilot programs to more districts: Seven regional hospitals have initiated pilots for integration of traditional medicines, but limited scaling has hindered nationwide integration.

Mobilize more funding to boost research: The Limited funding delays scientific validation of traditional medicine practices.

Enhance collaboration with conservation agencies and expand mapping initiatives: Environmental degradation threatens medicinal plants, impacting the sustainability of traditional remedies

7.2 Interventions

The **Traditional Medicine (TM)** initiative aims to integrate traditional medicine into the formal healthcare system and this is being piloted in seven hospitals. This will help regulate the use of traditional medicines and make them a recognized part of healthcare services.

Integration Efforts: Discussions are underway to include traditional medicines in the National Essential Medicines List (NEMLIT) and supply chain system managed by MSD.

Regulatory Framework: The Tanzania Medicines and Medical Devices Authority (TMDA) is developing guidelines for the quality assurance and safety evaluation of traditional medicine products.

Partnerships: Partnerships have been established between traditional healers, modern healthcare providers, and researchers to foster knowledge exchange and harmonize practices.

Capacity Building: Capacity-building programs for traditional healers and practitioners focus on good manufacturing practices (GMP) and product documentation.

7.3 Quality of interventions

People-Centeredness: Engaging with communities regarding the use of herbal medicine, particularly in treating common ailments such as diarrhea, ensures that healthcare is responsive to local needs and preferences

Equity: The integration of traditional medicine into public health systems will lead to increased accessibility for populations relying on these treatments, thus promoting inclusivity

Effectiveness: The effectiveness of some traditional treatments might still need further validation, and there may be challenges in harmonizing traditional practices with scientific methods of evaluation

Efficiency: Expanding the range of treatments (traditional and modern medicines) may increase efficiency in addressing widespread health needs, especially in underserved areas

Gender: Women are typically the primary caregivers in families, and their engagement with traditional medicine practices may help ensure more inclusive care. Interventions, such as those focusing on maternal health, could empower women as both recipients and providers of healthcare.

Ethics: The effort to regulate traditional medicines and practice demonstrates a commitment to ethical practices. , recognizing and valuing indigenous knowledge

7.4 Challenges and unfinished agenda

Lack of Standardization: Many traditional medicines lack standardized formulations, leading to inconsistency in quality and safety. Traditional medicines are not fully regulated, which complicates their inclusion in formal healthcare systems.

Cost of Production: The high production costs of traditional medicine products remain a significant barrier, particularly for scaling up to meet national demand

Limited Awareness and Acceptance: Despite their cultural relevance, traditional medicines face skepticism among healthcare professionals and policymakers, limiting their integration into mainstream healthcare systems.

Inadequate Research and Development: Limited research into the efficacy and safety of traditional medicines hinders their registration and wider adoption. Challenges in accessing reliable funding for traditional medicine research persist.

Environmental sustainability: The growing demand for herbal medicines can lead to the overharvesting of medicinal plants, threatening biodiversity and the sustainability of the herbal medicine supply chain.

Recommendations

Policy Support: Develop and implement comprehensive policies to support the integration of traditional medicines into the national healthcare system.

Regulatory support: Accelerate TMDA's efforts to establish clear regulatory frameworks for traditional medicine registration and monitoring.

Increase Research and Evidence-Based Validation: Fund and support more scientific research on the efficacy of traditional medicines to provide data that can facilitate the integration of these practices into mainstream healthcare.

Cultural Sensitization and Public Engagement: Conduct awareness campaigns to educate both healthcare providers and the public about the benefits and safety of traditional medicine to promote the acceptance of traditional medicines among healthcare professionals and the public.

Collaboration between Sectors: Strengthen partnerships between traditional healers, modern healthcare providers, and researchers to foster knowledge exchange and harmonize practices.

Promote Sustainable Practices: Encourage sustainable harvesting practices and cultivation of medicinal plants to prevent overharvesting and protect biodiversity

8 Updated results framework for the thematic area

Results	Indicator	Baseline 2023	Target 2026	Milestone 2025	Source of data	Preconditions	Responsible for implementation
Updated Strategic Objective 1: Strengthen the health supply chain to ensure improved availability, accessibility, and quality of essential health products							
Outcome 1: Improve access to diagnosis and technologies							
Output 1.1: Acquisition of diagnostic items	Percentage of health facilities equipped with all the 8 basic diagnostic items (100%)	24%	95%	70%	Procurement records, MSD annual reports, facility assessment reports	Adequate financial resources, public-private partnerships (PPP)	Medical Stores Department (MSD), Ministry of Health (MOHCDGEC)
Output 1.2: Maintenance of equipment	Percentage of facilities with contracts for routine equipment maintenance	%	80%	60%	Health facility equipment audits, maintenance logs	Availability of trained biomedical engineers and technicians, budget allocation for preventive maintenance	Ministry of Health (MoH), Regional Health Management Teams (RHMT), MSD
Output 1.3: Use of technology	Percentage of health facilities using electronic systems for diagnostics and medical equipment monitoring	50%	90%	70%	Digital health records, eLMIS integration reports, facility technology assessment	Digital literacy, investment in IT infrastructure, reliable internet connectivity	Ministry of Health (MoH), Ministry of ICT, Development Partners
Outcome 2: Improved access to Medicines and Supplies							
Output 2.1: Optimize the procurement and distribution systems for medical supplies.	Percentage of health facilities reporting stock levels aligned with real-time demand forecasts, resulting	75%	>90%	80%	eLMIS, procurement data reports from MSD, national health supply chain reports	Sufficient and Predictable Funding, Full integration and proper utilization of	Medical Stores Department (MSD), Ministry of Health (MOHCDGEC)

Results	Indicator	Baseline 2023	Target 2026	Milestone 2025	Source of data	Preconditions	Responsible for implementation
	in fewer than 5% stockouts within a defined period.					electronic logistics systems (eLMIS),	
Output 2.2: Address wastage, inefficiency, and stock-outs	Percentage of facilities stocked according to plan (stocks maintained between the established minimum and maximum stock levels)	<20%	90%	60%	Facility stock management audits	Sufficient and Predictable Funding ,Effective forecasting, improved stock management	Medical Stores Department (MSD), MOHCDGEC, Health Facility Pharmacist
Output 2.3: Improve Inventory Management Systems	Percentage of health facilities with fully operational eLMIS for real-time inventory management, stock tracking, and procurement forecasting	50%	100%	80%	eLMIS reports, system integration reports from MSD, National Health Supply Chain Performance Reports	Adequate investment in IT infrastructure, capacity building	Medical Stores Department (MSD), Ministry of Health (MOHCDGEC)
Output 2.4 Strengthen health facility capacity for effective supply chain management	Percentage of health workers trained in inventory management, data entry, and supply chain integrity best practices.	30%	100%	80%	Training records, Health facility assessments and staff performance evaluations	Adequate financial resources, commitment to continuous learning	Ministry of Health (MOHCDGEC), MSD, Development Partners
Outcome 3. Strengthened Pharmaceutical Manufacturing, Quality Control and regulation							
Output 3.1: Strengthen post-marketing surveillance (PMS) systems for drug quality and safety	Percentage of received Adverse Drug Reaction reports uploaded to Vigiflow database	100%	100%	100%	TMDA annual surveillance reports	Adequate funding, coordination between TMDA and regional facilities	TMDA, MoH
Output 3.2: Promote Local Production of Health Commodities	Percentage of essential medicines sourced from local manufacturers	20%	50%	35%	National pharmaceutical production data, TMDA manufacturing reports	Incentives for local manufacturers, capacity-building programs, streamlined regulatory processes	Ministry of Trade and Industry, TMDA, Local Manufacturers, MoH

Results	Indicator	Baseline 2023	Target 2026	Milestone 2025	Source of data	Preconditions	Responsible for implementation
Output 3.3: Ensure health product management policies, plans, and regulations are current, relevant, and effectively implemented	Percentage of updated policies and frameworks aligned with WHO/EAC standards	60%	100%	80%	Policy review reports, WHO benchmarking reports, legislative records	Government commitment, stakeholder consultations, regional collaboration	Ministry of Health (MoH), TMDA, East African Community (EAC)
Outcome 4. A fully integrated traditional medicine system within Tanzania's formal healthcare framework							
Output 2.1: Unified Regulatory Framework for Traditional Medicine	Percentage of traditional medicine practitioners registered and licensed	20%	80%	50%	Reports from MoH traditional medicines council	Approved regulatory framework.	MoH traditional medicines council
	Herbal medicine products registered by TMDA	2	10	5	TMDA reports	Approved regulatory framework	TMDA, Traditional product manufacturers
Output 2.2: Traditional Medicine integrated into the Formal Healthcare System	Number of regional hospitals facilities offering traditional medicine services as part of their healthcare provision	7	20	15	Healthcare Facility Reports	Protocols for integrating traditional medicine developed	MoH, Local Health Authorities, Healthcare Facilities
Output 2.3: Research and Evidence-Based Data on Traditional Medicine	Researches on safety and efficacy of traditional medicine carried out	1	16	10	Reports from research institutions	Sufficient and Predictable Funding ,Collaboration with international research bodies	MoH, National Institute of Medicines Research (NIMR), TMDA
Output 2.4: Enhanced Public Awareness and Community Engagement on Traditional Medicine Use	Percentage of the population aware of the regulated use and benefits of traditional medicine	unknown	70%	80%	National Health Surveys, Reports on Public Health Awareness Campaigns	Availability of funds, media and communication tools	MoH Public Health Department, Media Partner

Results	Indicator	Baseline 2023	Target 2026	Milestone 2025	Source of data	Preconditions	Responsible for implementation
Output 2.3: Medicinal plants conserved	Number of out-growers to cultivate medicinal plants identified and encouraged		10	5	Reports from Ministry of Agriculture, Environmental Agencies, NGOs	Availability of funds, Engagement of local communities in conservation	Ministry of Agriculture, Ministry of Environment, Local Governments, NGOs

9 Annexes

9.1 Evaluation questions

1. Are the policies, strategic plans and regional framework governing the health products management current and updated Are the pharmaceutical legislation and regulations up-to-date and aligned with current health sector needs (include regulation on traditional medicine)
   1.1. How effective are the current policies in enforcing pharmaceutical sector regulations and compliance?
   1.2. How effective are the current policies in enforcing availability of medical technologies and equipment for the delivery of National Essential health care package -Tanzania?
   1.3. Are regional frameworks adequately supporting national pharmaceutical goals?
2. Are strategies implemented under HSSP V improving availability of medicines, equipment, and health technologies?What is the availability of a basket of essential medicines and supplies at health facilities?
   2.1. How relevant is the essential medicines and supplies list for the delivery of the National Essential Health care intervention Package Tanzania?
   2.2. What is the lead time from ordering to delivery of medicines and equipment?
   2.3. How effective are the supply chain management strategies in reducing stock-outs?
3. Are there mechanisms to ensure appropriate use of medical products? What proportion of regional referral hospitals have functional Medicine and Therapeutic Committees (MTCs)?
   3.1. Are guidelines for improving the quality of prescription available and sufficient at Regional and District levels?
   3.2. To what extent are MTCs coordinating antimicrobial stewardship and infection prevention and control activities?
4. Are strategies implemented under HSSP V contributing to improvement in health products management at all level of the health care system;
   4.1. How effective is the integrated electronic logistics management information system (eLMIS) in supporting supply chain management across all levels?
   4.2. How effective are the distribution strategies in reducing stock-outs at different levels of the healthcare system?
   4.3. Equity: How effective are distribution and dispensing policies and practices in ensuring the access of poorer and vulnerable to quality medicine and medical products?
   4.4. To what extent are supply chain strategies improving the availability of essential health products at the last mile (rural/remote areas)?
   4.5. Are supply chain management strategies effectively reducing wastage and expiries of health products?
   4.6. How are capacity-building initiatives impacting the effectiveness of supply chain management at all levels?
   4.7. Are health facilities adhering to standard guidelines for the storage and management of medicines and supplies?
   4.8. What is the accuracy rate of inventory records compared to physical stock counts at health facilities?
   4.9. How efficiently does the central medical store minimize expirations or stockouts?

9.2 Evolution of the context

a. Institutional context

The implementation of Tanzania's Health Sector Strategic Plan V (HSSP V) has not undergone major leadership disruptions but has seen notable organizational developments aimed at strengthening health governance and management systems. A revitalized Sector-Wide Approach (SWAp) structure has been introduced, with updated terms of reference for technical working groups (TWGs) and increased transparency in activities. These changes aim to better align leadership at national and regional levels with the strategic objectives of HSSP V

b. Regional and global frameworks

AMA and AMRH

Tanzania's active participation in regional regulatory initiatives, such as the **African Medicines Agency (AMA)**[2] and the **African Medicines Regulatory Harmonization (AMRH)**[3], has significantly strengthened its pharmaceutical landscape. These initiatives aim to harmonize regulatory frameworks across Africa, streamline the approval of medicines, and enhance the capacity of national regulatory bodies.

By adopting AMA and AMRH practices, Tanzania has reduced the time required for medicine registration, from 24 months to approximately 10-12 months[4]. This improvement has facilitated quicker access to essential medicines, directly supporting HSSP V's objective of ensuring sufficient availability of quality medicines.

Through the AMRH, Tanzania has benefited from joint assessments and capacity-building initiatives that have enhanced the capabilities TMDA[5]. Additionally, AMA and AMRH promote the rational use of medicines by ensuring that healthcare providers are trained on appropriate prescription practices, thus contributing to better medicine management across health facilities.

Recent Updates: Recent AMRH updates have focused on enhancing post-market surveillance and pharmacovigilance frameworks, which impact how medicines are monitored once distributed in the market.

East African Community Medicines Regulatory Harmonization (EAC-MRH)

The **EAC-MRH** meets regularly to update standards and policies. These updates focus on aligning regulatory practices among EAC member states, which includes Tanzania.

[2] https://au.int/en/pressreleases/20210810/united-republic-tanzania-signs-treaty-establishment-african-medicines-agency

[3] https://www.nepad.org/programme-details/998

[4] Mashingia JH, Ahonkhai V, Aineplan N, Ambali A, Angole A, Arik M, Azatyan S, Baak P, Bamenyekanye E, Bizoza A, Chamdimba C, Doerr P, Fimbo A, Gisagara A, Hamad H, Harris R, Hartman D, Kabatende J, Karangwa C, Kijo AS, Lumpkin M, Maboko S, Matle D, Muhairwe A, Mwesigye JP, Nyabenda B, Schulze A, Seiter A, Sematiko G, Sigonda M, Sillo H, Simai B, Siyoi F, Sonoiya S, Tanui P, Ward M, Yano F, Mukanga D. Eight years of the East African Community Medicines Regulatory Harmonization initiative: Implementation, progress, and lessons learned. PLoS Med. 2020 Aug 12;17(8):e1003134. doi: 10.1371/journal.pmed.1003134. PMID: 32785219; PMCID: PMC7423058.

[5] https://www.tmda.go.tz/pages/african-medicines-regulatory-harmonisation-amrh

Recent Updates: October 2024 meeting reviewed harmonized frameworks for medical devices and diagnostics, focusing on aligning regulatory practices to accelerate market access for essential health products[6]

SADC Medicines Regulatory Harmonization (MRH) Project

The SADC Medicines Regulatory Harmonization (MRH) Project, launched in 2015, builds on the ZaZiBoNa initiative, which started in 2013 to facilitate joint medicine registration across member states. Tanzania joined in 2014[7], and the project focuses on enhancing regulatory systems, improving National Medicines Regulatory Authorities (NMRAs), and streamlining medical product registration.

By harmonizing regulatory practices, the MRH project reduces duplication, builds technical capacity, and improves efficiency. This supports Tanzania's HSSP V by ensuring quicker access to quality medicines, optimizing resource use, and maintaining high standards of safety and quality in healthcare.

SADC Pharmaceutical Framework

The SADC Pharmaceutical Programme, launched in June 2004, aims to enhance the capacity of member states to combat major public health threats like HIV/AIDS, tuberculosis, and malaria by improving access to quality medicines. Tanzania took a significant step in October 2018, when its Medical Stores Department (MSD) signed a Memorandum of Understanding (MoU) with SADC to join the SADC Pooled Procurement Services (SPPS) for pharmaceuticals and medical supplies[8].

Through SPPS, Tanzania can procure medicines in bulk, potentially reducing prices by up to 40%, supporting HSSP V's goals of ensuring sufficient medical supplies and minimizing waste. The MSD has signed 41 contracts with manufacturers for essential medicines, and the introduction of the electronic platform (e-SPPS) has further streamlined procurement processes, enabling better pricing negotiations and improved efficiency. This aligns with HSSP V by supporting its objective to ensure the availability of sufficient medicines and medical products across health facilities while minimizing wastage and reducing costs.

Recent Updates: A June 2024 Ministerial Task Force meeting reviewed regional initiatives, including pooled procurement, as part of SADC's industrialization and integration agenda

East African Regional Pharmaceutical Manufacturing Plan of Action

Tanzania's focus on local pharmaceutical production is a key component of HSSP V. By strengthening domestic manufacturing capabilities, the country aims to reduce dependence on imports and ensure a more reliable supply of essential medicines. The East African Regional Pharmaceutical Manufacturing Plan of Action (EAC-RPMPoA)[9] supports these efforts by promoting regional collaboration to boost local production capacity. As the host of the EAC Headquarters in Arusha, Tanzania plays a pivotal role in facilitating ongoing dialogue among member states through the EAC Secretariat, which coordinates various initiatives under the EACRPMPoA

c. Regulatory framework and policy alignment

[6] https://www.eac.int/publications/category/east-african-medicines-regulatory-harmonization-eac-mrh
[7] https://www.tmda.go.tz/pages/southern-african-development-community-mrh-project
[8] https://www.sadc.int/latest-news/sadc-tanzania-sign-mou-pooled-procurement-services-pharmaceuticals
[9] https://www.industrialization.go.ke/sites/default/files/2023-08/2nd%20EAC%20Regional%20Pharmaceutical%20Manufacturing%20Plan%20of%20Action%2020172027.pdf

Tanzania Medicines and Medical Devices Act (2019)

The **Tanzania Medicines and Medical Devices Act (2019)** provides a robust regulatory framework for the safety, quality, and effectiveness of medicines and medical devices. This legislation established the **Tanzania Medicines and Medical Devices Authority (TMDA)**, which operates under the Ministry of Health. The TMDA is responsible for the medicine registration[10], quality assurance[11], and monitoring of medicines[12] and devices[13], ensuring they meet international standards. TMDA inspects pharmaceutical manufacturing facilities to verify their compliance to minimum Good Manufacturing Practices (GMP)[14]. Domestic manufacturing facilities are inspected at least once per year and once after every three (3) years in case of foreign premises. Nevertheless, the Authority may inspect facility at any time whenever necessary

This act directly aligns with HSSP V's goal of guaranteeing access to quality medicines across all healthcare facilities. It strengthens regulatory control by ensuring that all pharmaceutical products undergo rigorous safety and quality checks before entering the market. The act also emphasizes the need for **post-marketing surveillance**, ensuring that medicines maintain their quality even after being distributed.

The Pharmacy act (2011)

The Pharmacy Act, 2011 of Tanzania is a critical piece of legislation aimed at regulating and controlling the pharmacy profession within the country. The Pharmacy Act established the Pharmacy Council, which regulates the practice of pharmacy and ensures that pharmacies operate according to set standards. This regulation helps maintain a consistent supply of safe and effective medicines, thereby improving access for the population.

The act facilitates the establishment of ADDOs, which are crucial for expanding access to essential medicines, especially in rural areas. By allowing trained personnel to dispense medications, it helps bridge gaps in healthcare access as outlined in HSSP V.

The act emphasizes the rational use of medicines, which is a critical component of HSSP V's goal to improve health outcomes.

The act mandates continuous professional development for pharmacists, which helps them stay updated on best practices related to inventory management and waste reduction strategies. This aligns with HSSP V's focus on improving health service delivery through better-trained healthcare providers

d. Key strategic frameworks supporting HSSP V

National Pharmaceutical Action Plan (NPAP)

The National Pharmaceutical Action Plan (NPAP) run from 2017 to 2022, and its review with HSSP V. A new National Pharmaceutical Strategic Plan (NPSP) was expected to be published in 2023, but

[10] https://www.tmda.go.tz/publications/51
[11] https://www.tmda.go.tz/publications/74
[12] https://www.tmda.go.tz/publications/58
[13] https://www.tmda.go.tz/publications/24
[14] https://www.tmda.go.tz/publications/103

due to overlapping reviews and the transition to HSSP VI, a decision was made to continue implementing the previous plan.

The NPAP's focus was on improving access to medicines, ensuring quality control, and promoting rational use of medicines through implementation of the following key strategies:

- Shifting from a **kit-based supply system** to a **demand-driven supply chain**, which allows health facilities to order based on their specific needs, thus reducing wastage and improving availability.
- Establishing a **Logistics Management Unit (LMU)** to improve coordination and capacity across the supply chain, ensuring that medicines reach health facilities efficiently
- Enhancing **human resource** within the pharmaceutical sector through training programs to improve operational efficiency and service delivery
- Enhancing **Good Manufacturing Practices (GMP)** through regulatory oversight by the TMDA to ensure that all locally produced and imported medicines meet safety and efficacy standards.
- Implementing an **electronic Logistics Management Information System (eLMIS)** to improve inventory management, track stock levels, and minimize stockouts.

Medical Stores Department (MSD) Medium-Term Strategic Plan III (MTSP III)

The **Medical Stores Department (MSD) Medium-Term Strategic Plan III (2021-2026)** plays a pivotal role in the execution of HSSP V. The MSD is responsible for the procurement, storage, and distribution of medical products across Tanzania's healthcare system. MTSP III focuses on:

- **Reducing procurement lead times** to less than 4 months by the end of the plan period thus improving responsiveness to health facility needs.
- Achieving an **order fill rate** of at least 95% for all health facilities
- Maintaining **a stock availability rate** of at least 90% for essential medicines at health facilities
- Reducing average **response time to stockouts** to less than 48 hours
- Achieving **an inventory turnover ratio** of at least 6 times per year, indicating efficient stock management
- Establishing **local manufacturing plants** to reduce reliance on imported medicines and ensure a stable supply of essential drugs.
- Expanding **direct delivery systems** to over 8,000 health facilities to guarantee timely access to medicines.

Tanzania Medicines and Devices Authority (TMDA) Strategic plan 2021/22-2025-26

The Tanzania Medicines and Medical Devices Authority (TMDA) Strategic Plan (2021/22–2025/26) plays a key role in supporting the implementation of HSSP V. The TMDA is tasked with ensuring the quality, safety, and effectiveness of medicines and medical devices across the country. The plan focuses on:

- Strengthening regulatory systems to uphold the quality of health products.
- Enhancing supply chain management to ensure timely availability of essential medicines.
- Promoting stakeholder collaboration to improve access to quality healthcare products.

e. Influence of the health situation on specific outcomes assessed

There is a notable increase in NCDs such as diabetes, hypertension, and cancers and subsequent inclusion of medicines for these conditions in the national essential medicines list

There has been a 15% increase in reported TB cases from 2018 to 2022, with nearly 100,000 cases notified in 2022 alone. This increase is primarily attributed to a rise in clinically diagnosed TB cases, while laboratory-confirmed cases have remained stable[15]

Despite progress in controlling diseases like malaria, HIV/AIDS, and tuberculosis, these communicable diseases continue to pose significant health challenges. Cholera outbreaks have also been reported, affecting numerous regions and highlighting ongoing vulnerabilities in public health response systems[16].

9.3 Objectives of Health Products Management in HSSP V

Improve Access to Essential Medicines

Ensure that essential medicines and health products are available and accessible to all segments of the population, particularly vulnerable groups.

Strengthen Supply Chain Management

Enhance the logistics and supply chain systems for health products to minimize stockouts and ensure timely delivery of medicines and supplies to health facilities.

Enhance Quality Assurance

Implement robust quality assurance mechanisms to ensure that all health products meet safety and efficacy standards, thereby improving patient safety and treatment outcomes.

Promote Local Production of Health Commodities

Encourage the establishment of local manufacturing plants for health products to reduce dependency on imports, improve availability, and lower costs of essential medicines.

Capacity Building for Health Product Management

Strengthen the capacity of the Medical Stores Department (MSD) and other stakeholders involved in health product management through training, resources, and improved infrastructure.

Improve Inventory Management Systems

Develop and implement efficient inventory management systems to track stock levels, reduce wastage, and optimize procurement processes.

[15] https://ntlp.go.tz/site/assets/files/1196/epi-review_jan2023_-_united_republic_of_tanzania_-_final_report.pdf

[16] Country Cooperation Strategy: 2022–2027, United Republic of Tanzania. Licence: CC BYNC-SA 3.0 IGO

9.4 Methodology

Evaluation framework

Medicines and Medical Products.xlsx

Study sites

Data was collected from eight regions representing the eight zones of Tanzania. The regions include Kigoma (West), Arusha (Northern), Mbeya (South Western), Morogoro (Eastern), Mwanza (Lake Zone), Mtwara (Southern), Dodoma (Central), Njombe (Southern Highland). Within each region, a sample of two districts based on rural-urban was selected. Data was collected from zonal warehouses, dispensaries, health centers, district hospitals, zonal hospitals, tertiary and regional referral hospitals. A total of 47 health facilities and 5 zonal stores were surveyed.

Facility level	**No of Facilities**
Dispensaries	13
Health centers	15
District Hospitals	12
Regional hospitals	5
Zonal Hospitals	1
Specialized Hospitals	1

Study design

A mixed-methods to gather data from diverse sources. This included cross-sectional survey, which involved a quantitative approach (survey questionnaire) and a qualitative approach (desk review and in-depth interviews). Additionally, contextual factors were examined that either facilitate or impede progress toward achieving these desired changes.

Guides for data extraction of secondary sources and individual in-depth interview were developed and utilized.

Data collection and Data analysis

The study tools were digitized and synchronized into the electronic devices. Experienced research assistants, recruited from the IHI human resource database, were oriented (2days) about the purpose of the study and other ethical compliance issues. All qualitative interviews were audio-recorded based on the participant's consent. Participants were be interviewed at their convenience while safeguarding confidentiality and privacy. Data collection was conducted from 21st October 2024 to 1st November 2024.

To facilitate quick data capturing, transcription of qualitative data and coding was initiated at the field sites. To ensure robustness, representatives of the steering committee, MOH, PO-RALG, and the Joint review team also joined the field team during data collection.

Data analysis approach

Data was analysed in two main categories: (1) stock status for health supplies; and (2) Storage conditions for the health supplies. All data was imported to STATA version 15 and MS Excel for cleaning and analysis. Data analysis was focused on the indicators of commodity availability, presence of stock cards, stock outs and risk of stock outs for the selected list of essential medicines and health supplies.

Availability of commodities at health facilities was assessed based on presence of the commodity in the store of a given facility on the survey date. Percentage availability of commodities was also analysed by facility level and ownership. In addition, information was summarised in the percentage of facilities with expired products as well as the percentage of facilities with products expiring in the next three months.

Presence of stock cards was analysed only for commodities which were indicated to be managed (handled) at the facility being assessed.

Stock outs of commodities was analysed at three levels, based on information from on stock status captured from the commodity stock card availability in the health supplies store;

- Complete stock out of the commodity on the survey day
- Stock outs registered in the last 6 months
- Stock outs lasting more than three days in the last 6 months
- Duration of stock outs of commodities in facilities

Risk of stock outs: This was assessed by comparing the facility stock status levels across the 6 months period. The stock quantity for the priority commodities was computed for months of stock available and later categorised into 4 categories: that is zero months of stock, 0.1-1.9 months (indicating understocking), 2-4 months (which is the ideal/desired) and >4 months (which indicates overstocking).

On the other hand, at the warehouse level, stock status and risk of stock outs was assessed by rating the months of stock quantity for the priority commodities into 4 categories: that is zero months of stock, 0.1-3.9 months (indicating understocking), 4-9 months (which is the ideal/desired) and >9 months (which indicates overstocking).

Finally, data was also captured on the status of the storage conditions for the facilities assessed. This was rated into three categories; compliant, partially-compliant, and not-compliant. Please note that data for storage conditions was available for 36 facilities.

Limitations

Data Quality and Availability

Data availability and quality across different regions and health facilities may vary, posing challenges for accurate assessment and analysis. Triangulation of data sources was done and there was capacity building for data collection.

Stakeholder Engagement

Ensuring active participation from all relevant stakeholders may be challenging due to time constraints, competing priorities, and varying levels of commitment. A four-day boot camp workshop (November 12–15, 2024) with stakeholders facilitated the collection, discussion, and validation of the gathered information. Additionally, the workshop identified key action points and

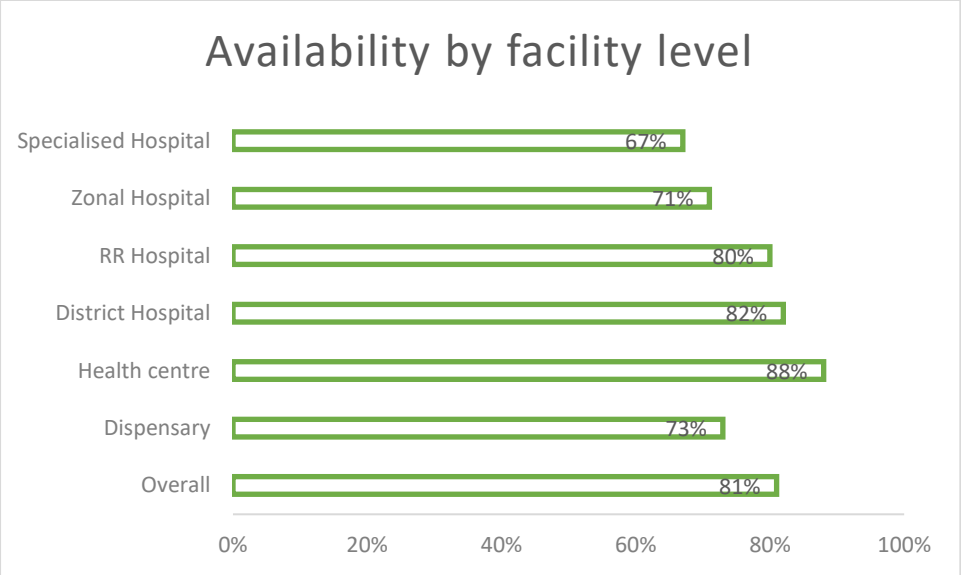
formulated recommendations to support the achievement of the targeted objectives for the next two years of HSSP V.

Ethical consideration

- Ethical Standards: Ethical guidelines were followed during the review (e.g., confidentiality and informed consent).
- Data Privacy and Security: Measures were taken to ensure data privacy and security throughout the review process.

9.5 Additional information supporting/illustrating the results

The overall availability of a basket of 28 health products that were surveyed was reported at 81%, which falls short of the HSSP V target of 95%. This discrepancy highlights ongoing challenges in achieving optimal stock levels of essential medicines and supplies. Furthermore, there was significant variation in availability rates across different levels of care.



Source: (2024 Health facility Survey results from 47 health facilities)

An analysis of the basket of medicines revealed significant variations in availability levels across facilities. Paracetamol, a commonly used analgesic, had the highest availability, found in 96% of facilities.

Conversely, ergometrine, critical for managing postpartum hemorrhage, showed low availability, stocked in only 37% of facilities that are expected to have it.

Source: (2024 Health facility Survey results)

Service Availability and Readiness Assessment of Availability of essential medicines

Results from the Service Availability and Readiness Assessment (SARA 2023) conducted in October 2023 showed that overall availability of essential medicines is below the HSSP target of 95%. There are disparities in availability across different levels of facilities; 83% in referral and district hospitals, 83% in health centers (83%) and 59% in dispensaries.

	Amlodipine	Amoxicillin	Amoxicillin	Ampicillin	Aspirin cap/tab	Beclometasone	Beta blocker	Carbamzepine	Ceftriaxone	Enalapril tablet	Fluoxetine	Gentamicin	Glibenclamide	Haloperidol	Insulin regular	Magnesium	Metformin	Omeprazole	Oral	Oxytocin	Salbutamol	Simvastatin	Thiazide	Zinc sulphate	Percent of	Mean availability
Facility type																										
Referral Hospital	100	76	100	92	92	59	100	63	100	100	53	92	100	53	100	84	100	100	86	84	80	100	80	58	18	89
Hospital	88	93	94	93	89	34	87	56	83	61	19	97	95	52	82	97	91	96	92	97	78	69	64	87	41	89
Health Center	72	93	95	92	66	19	60	27	92	36	7	95	80	28	41	93	88	92	90	93	64	40	44	91	14	83
Dispensary	26	78	87	70	24	3	12	0	74	7	0	8	30	0	5	74	40	74	85	78	28	4	9	80	0	59
Managing authority																										
Government/public	31	83	94	77	28	6	17	6	79	12	2	86	36	5	12	89	46	80	91	91	33	9	14	86	3	66
NGO/not-for-profit	62	86	86	74	38	28	19	7	86	17	0	88	64	7	29	65	66	74	50	65	51	25	17	60	17	61
Private-for-profit	49	66	67	55	43	8	36	6	68	21	3	67	49	8	13	28	54	69	65	38	40	20	18	64	6	51
Mission/faith based	44	83	83	79	56	10	35	13	73	20	4	91	56	11	28	67	63	73	81	76	47	21	25	82	10	67
Urban/Rural																										
Urban	33	83	90	74	31	6	19	6	76	12	1	83	36	5	13	82	46	76	87	84	35	9	14	82	3	64
Rural	43	72	86	72	42	10	32	9	80	21	4	84	53	10	18	62	58	83	81	70	36	21	22	81	7	64

Source: SARA Report 2023

Infectious disease medicines availability

Overall average availability of seven infectious disease medicines was 83%. Across different facility levels, availability was 81% for dispensaries, 93% for health centers, 91% for council hospitals, and 100% for referral hospitals.

	Mebendazole /albendazole cap/tab,%	Amoxicillin cap/tab, %	Ceftriaxone injection, %	Cotrimoxazole cap/tab, %	Ciprofloxacin cap/tab, %	Fluconazole cap/tab %	Metronidazole cap/tab	Total number of facilities
Facility type								
Dispensary	86	87	74	86	85	65%	85%	348
Health Center	95	95	92	92	93	91%	94%	190
Council Hospital	94	94	83	89	95	93%	95%	77
Referral Hospital	100	100	100	100	100	100%	100%	13
Managing authority								
Government/public	92	94	79	95	92	72%	90%	394
NGO/not-for-profit	54	86	86	74	86	86%	86%	10
Private-for-profit	69	67	68	59	65	59%	68%	138
Mission/faith based	84	83	73	75	80	69%	86%	86
Urban/Rural								
Urban	88	90	76	89	88	70%	87%	437
Rural	84	86	80	79	84	69%	83%	191
Total	**87**	**89**	**77**	**87**	**87**	**70%**	**86%**	**628**

Source: SARA Report 2023

Non-communicable diseases medicines availability

Essential medications for non-communicable diseases are most available in referral hospitals, with a 100% stock rate for medications like amlodipine, beclometasone, enalapril, epinephrine, and glibenclamide.

The availability drops in dispensaries, where amlodipine is available 26% of the time, beclomethasone 3%, enalapril 12%, and epinephrine 16%. Beta blockers show a particularly low availability in dispensaries at 1%. Furosemide and glibenclamide are more readily available in dispensaries at 47% and 30%, respectively. Across the board, the overall availability ranges from as low as 7% for beta blockers to as high as 54% for Furosemide.

	Urban/Rural		Managing authority				Facility type					
	Total	Rural	Urban	Mission/ faith based	Private-for-profit	NGO/not-for-profit	Government/public	Dispensary	Health Center	Hospital	Referral Hospital	
Amlodipine	35	43	33	44	49	62	31	26	72	88	100	
Aspirin cap/tab	33	42	31	56	43	38	28	24	66	89	100	
Beclometasone	7	10	6	10	8	28	6	3	19	34	61	
Beta blocker	22	32	19	35	36	19	17	12	60	87	100	
Enalapril tablet	14	20	12	20	21	7	11	7	36	61	100	
Epinephrine	25	32	23	30	34	33	22	16	59	77	93	
Furosemide	54	74	49	73	64	86	49	47	85	87	100	
Glibenclamide	40	53	36	56	49	54	36	30	80	95	100	
Gliclazide	6	11	5	7	11	21	5	3	20	25	22	
Glucose 50%	25	29	23	33	26	48	23	19	47	59	88	
Glyceryl	3	5	2	3	4	0	3	1	11	10	13	
Hydrochloroth	16	22	14	25	18	7	14	8	44	64	76	
Hydrocortison	70	76	68	82	65	86	69	67	80	88	100	
Ibuprofen	60	68	58	73	64	86	57	55	79	88	100	
Insulin regular	14	17	13	28	13	19	12	5	41	82	100	
Isosorbide	8	17	5	21	13	19	5	3	18	61	88	
Metformin	49	58	47	63	54	78	46	40	88	91	100	
Omeprazole	78	83	77	73	69	86	81	75	92	96	100	
Paracetamol	89	86	91	86	69	86	94	88	94	95	93	
Prednisolone	73	78	71	82	65	86	73	69	89	95	100	
Salbutamol	35	35	35	47	40	63	33	28	64	78	76	
Simvastatin	12	21	9	21	20	16	9	3	40	69	100	
Spironolactone	12	20	9	31	22	16	7	5	30	75	100	
Total number	626	189	437	86	138	10	392	348	190	77	11	

Source: SARA Report 2023

Mental health and Neurological medicines availability

Mental health and neurological medicines are most available in referral hospitals, with 75% availability for amitriptyline, carbamazepine, phenobarbital, chlorpromazine, and phenytoin.

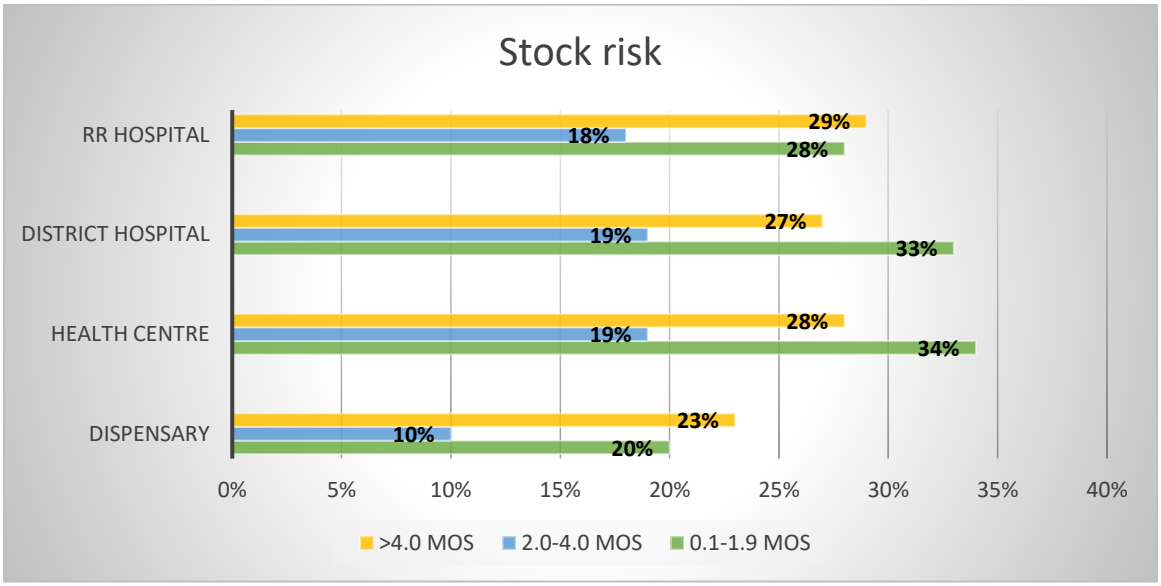
The availability drops in dispensaries and health centers with some medicines like phenobarbital, diazepam, phenytoin at less than 30% availability and some completely out of stock.

	Amitriptyline tablet	Carbamazepine tablet	Chlorpromazine	Diazepam tablet	Diazepam injection or	Fluoxetine tablet	Fluphenazine injection	Haloperidol tablet	Levodopa + carbidopa	Lorazepam injection	Lithium tablet	Phenobarbital tablet	Phenytoin tablet	Valproate sodium	Total number of
Facility type															
Referral Hospital, %	75	75	75	60	75	63	51	63	63	48	24	75	60	75	11
Hospital, %	53	56	40	47	63	19	31	52	16	17	15	57	28	18	77
Health Center, %	36	27	22	28	43	7	9	28	7	7	3	38	10	4	190
Dispensary, %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	348
Managing Authority															
Government/ public, %	7	6	4	5	7	2	3	5	2	2	1	7	2	1	392
NGO/not-for-profit, %	7	7	0	7	7	0	0	7	0	0	0	7	0	7	10
Private-for-profit, %	9	6	6	7	10	3	2	8	3	3	1	8	3	3	138
Mission/faith based, %	13	13	13	14	19	4	6	11	3	3	2	17	8	2	86
Urban/Rural															
Urban, %	6	6	4	5	7	1	3	5	1	1	1	6	2	1	437
Rural, %	13	9	9	10	15	4	3	10	5	5	2	14	6	4	189
Total, %	8	6	5	6	9	2	3	6	2	2	1	8	3	2	626

Source: SARA Report 2023

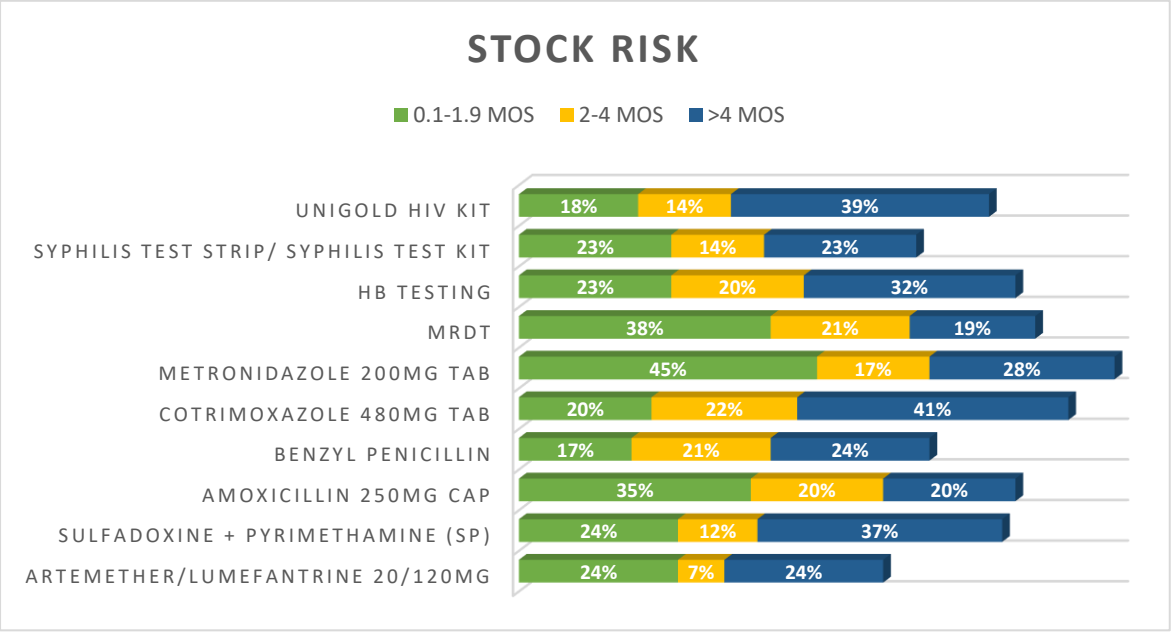
Stock risk

Few facilities have stock within the recommended minimum (2 months) and maximum (4 months) stock levels. This raises potential stock out and potential over stock. There are also cases of overstock which raises potential for wastage.



Source: (2024 Health facility Survey results)

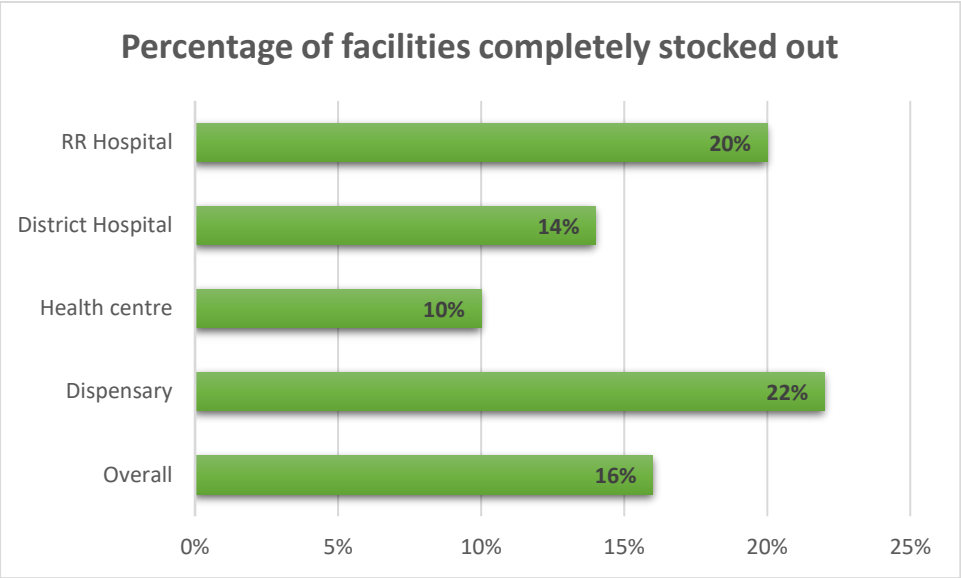
Cotrimoxazole 480mg tab and Sulfadoxine+Pyrimethamine were highly over stocked across the surveyed facilities



Source: (2024 Health facility Survey results)

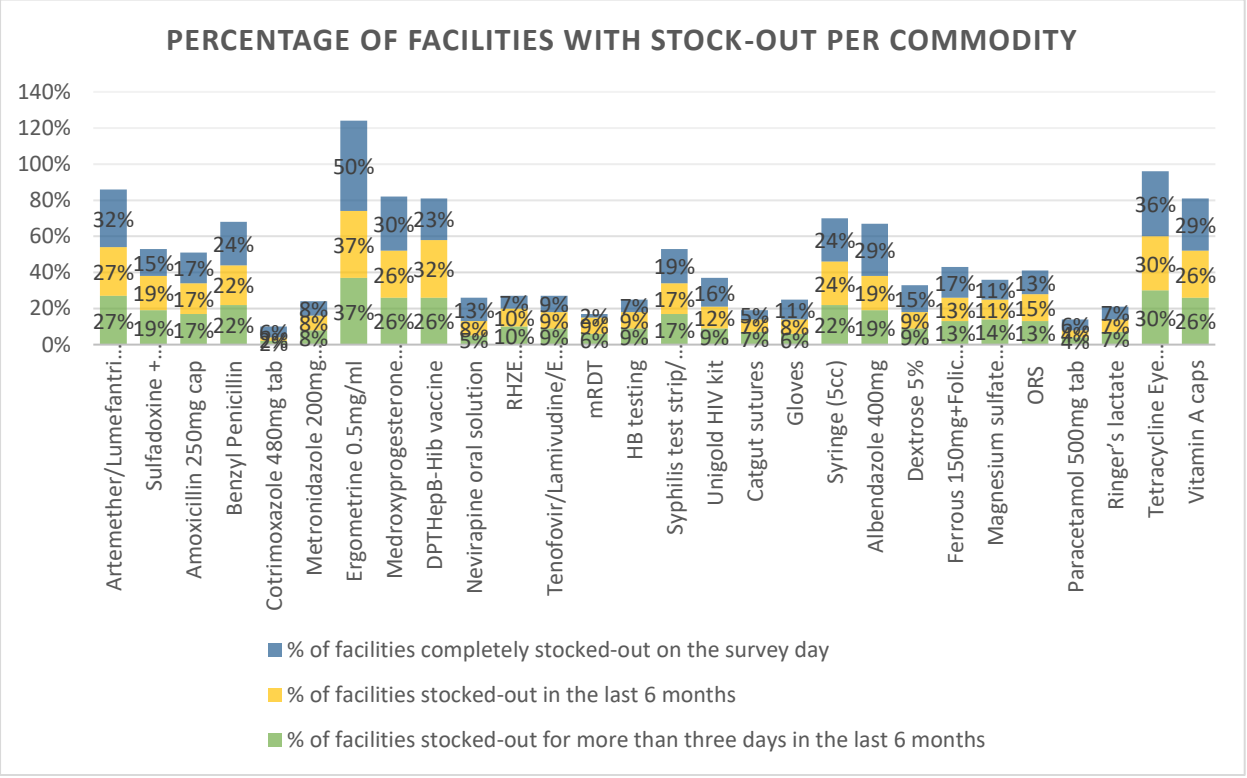
Stockout

Overall Stockout reported across the facilities was 16% with most Stockout reported in the dispensary (22%) which is the primary level health facility.



Source: (2024 Health facility Survey results)

Despite the variation in Stockout rates, Paracetamol, Cotrimoxazole, Metronidazole, Ringer's Lactate, RHZE (anti-TB medication), mRDT (malaria rapid diagnostic tests), HB testing kits, and Tenofovir/Lamivudine/Efavirenz (HIV treatment) were found to have a Stockout rate of less than 10% in surveyed facilities.



Source: (2024 Health facility Survey results)

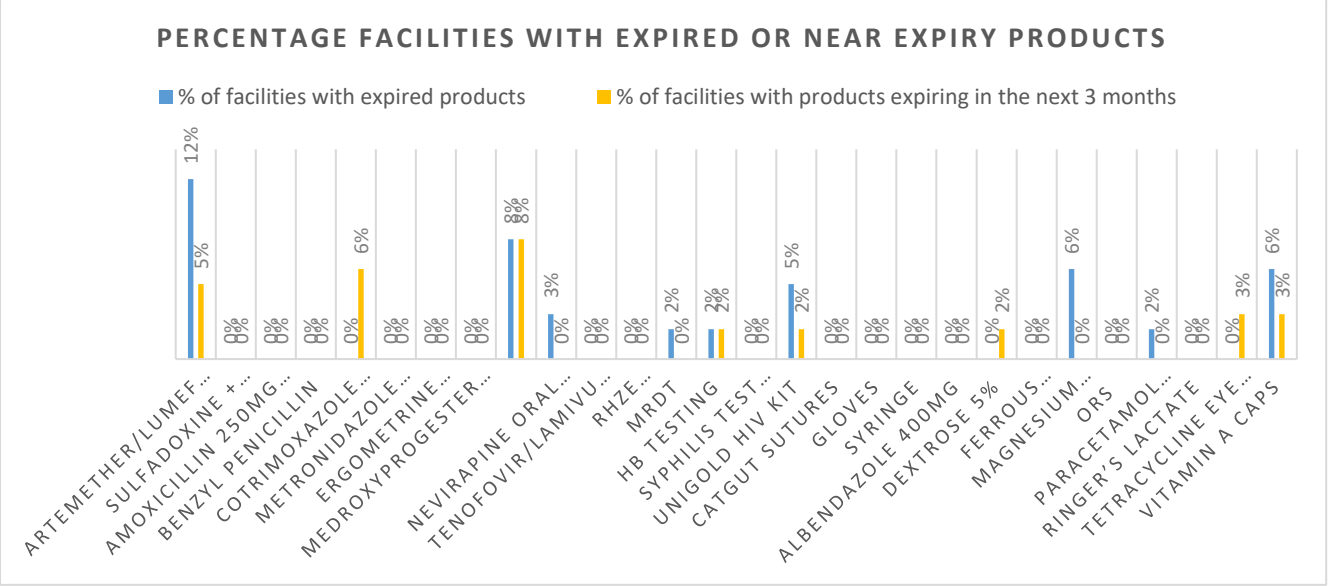
Expiries

The analysis of medicine stock revealed that expired medicines were found in 9 out of the 28 surveyed products, with the proportion of affected facilities varying between 2% and 12%. This highlights gaps in inventory management across lower level facilities.

Artemether-Lumefantrine: Expired stocks were reported in 12% of surveyed facilities, raising concerns given its critical role in malaria treatment.

Additionally, 5% of facilities had Artemether-Lumefantrine stocks at risk of expiring within the next 3 months, indicating potential overstocking or delayed utilization.

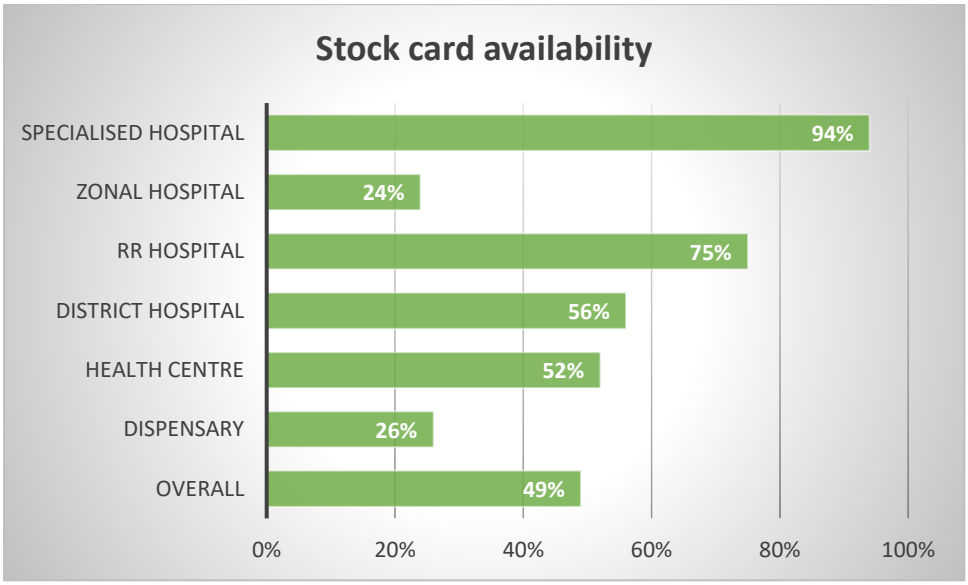
DPTHepB-Hib Vaccine: Expired stocks were identified in 8% of facilities, and in another 8% of facilities having stock at risk of expiring within 3 months.



Source: (2024 Health facility Survey results)

Availability of stock cards

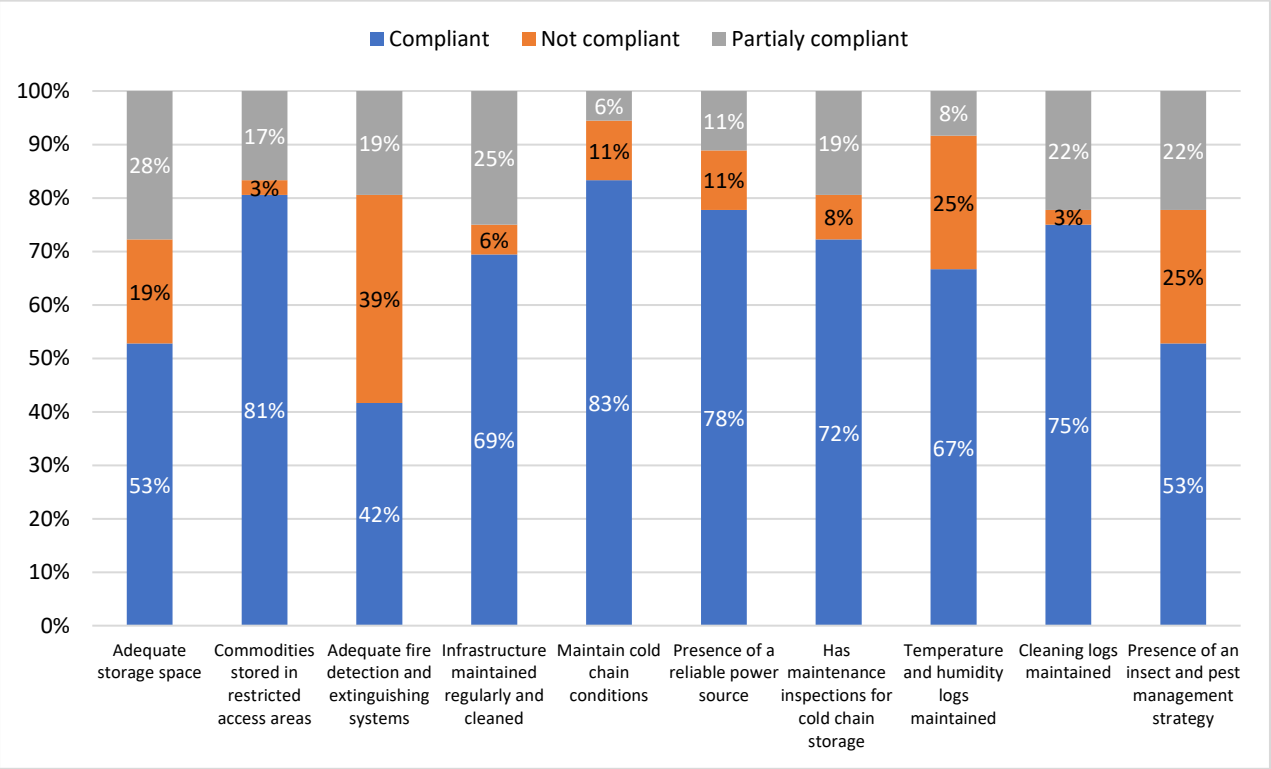
The overall availability of stock cards of 49% in health facilities highlights a critical gap in inventory management. Since most facilities still rely on paper-based systems, the absence of stock cards significantly hampers the ability to track inventory accurately. This shortfall affects several critical aspects of health supply chain operations such as the accuracy of the data entered into eLMIS, monitoring of stock movements, stock levels and expiries.



Source: (2024 Health facility Survey results)

Storage conditions

Overall, the facilities had good storage conditions for products in their custody. One major area of concern is insufficient fire detection and extinguishing systems that raises a risk of safety of the products in storage



Source: (2024 Health facility Survey results)

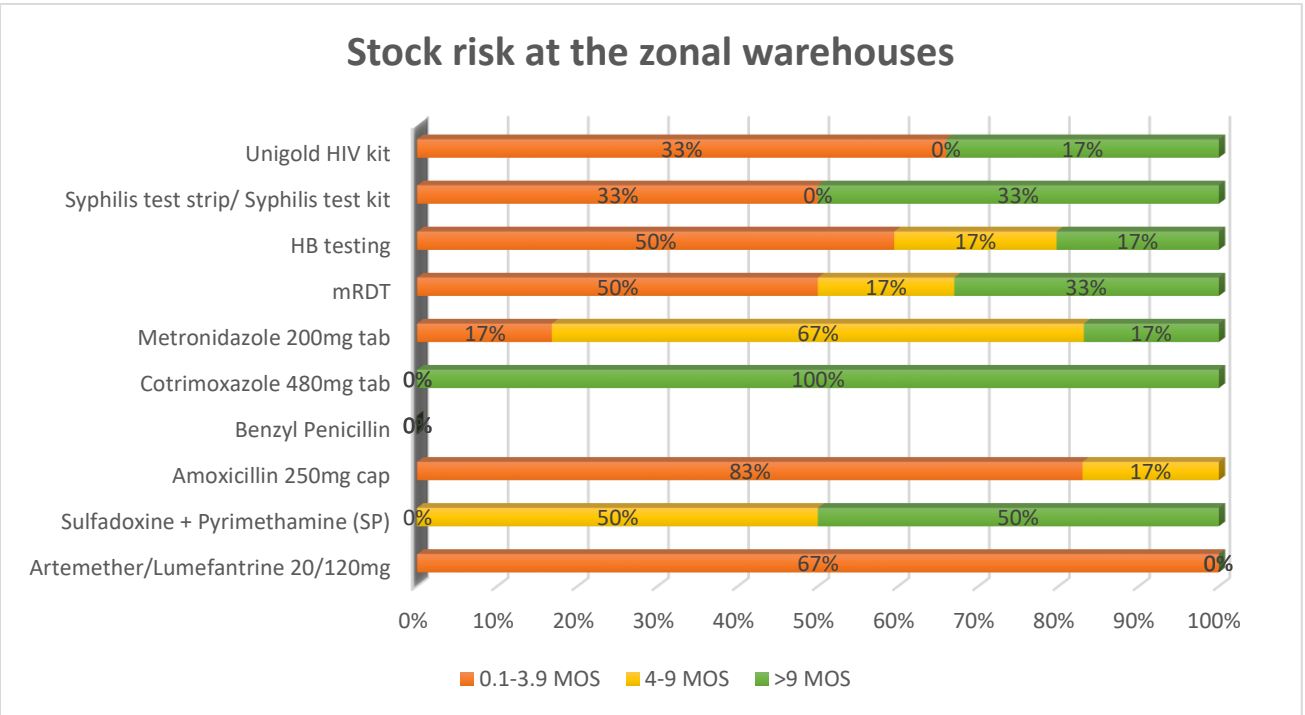
Analysis for the stock status at the warehouses

Overall availability of all the commodities across the warehouses was 71%, while the overall stock outs of commodities was at 34%.

Source: (2024 Health facility Survey results)

Stock at the warehouses

Stock levels across the zonal warehouses were below the recommended minimum stock levels indicating a risk of stock out. Cotrimoxazole was overstocked across the zonal warehouses that were surveyed.



Source: (2024 Health facility Survey results)

10 References

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Mathias , S., Isangula, K., Kahwa, A., Ngadaya, E., Kimaro, G., Kamuzora, W., Soka, G., Kitinya , C., Kagaruki, G., Mwenda , L., Joachim, C. J., Deogratias, D., Donard, F., Kapologwe, N., Erick , F., Kazyoba, P., Mutalemwa , P., Mgaya, Y., & Mfinanga , S. (2024). Factors Affecting the Availability of Essential Health Commodities in Tanzania with a Special Focus on the Tracer Commodities. Tanzania Journal of Health Research, 25(2), 838–849. https://doi.org/10.4314/thrb.v25i2.11 (Original work published April 2, 2024)

Country Cooperation Strategy: 2022–2027, United Republic of Tanzania. Licence: CC BYNC-SA 3.0 IGO.

11 Supplementary Documents

List of documents reviewed and Key Informants

List of documents reviewed

1. Health Sector Strategic Plan V (HSSP V)
2. Ministry of Health National Supply chain KPIs Reports
3. Supply chain Data quality Assessment Reports
4. Public Health Commodities Supply Chain Indicators Reference Manual
5. Health commodities, equipment and technology technical working group meeting minutes 2022, 2023 and 2024
6. Standard Treatment Guidelines.
7. National Essential Medicines List.
8. National Essential Health care Intervention Package
9. Public Health Commodities Supply Chain Indicators Reference Manual
10. TMDA annual reports 2021-2023
11. Tanzania Medicines and Medical Devices Authority (TMDA) Strategic Plan (2021/22–2025/26)
12. Midterm Medical Stores Department (MSD) Medium-Term Strategic Plan III (2021-2026)
13. Ministry of Health; Ifakara Health Institute, and the Global Fund, 2024: Tanzania Service Availability and Readiness Assessment (SARA) Report 2023, Dodoma, Tanzania: MoH, IHI, the Global Fund.
14. National Institute for Medical Research (NIMR) strategic plan 2020/21-2025/26
15. NIMR quarterly newsletters 2022,2023, 2024
16. NIMR report of the Controller and Auditor General for the financial year ended June 2023

Key Informants

1. Chief Pharmacist (Pharmaceutical Services unit)
2. TMDA- Head Medicines Control Inspection and Enforcement (MCIE) section at TMDA
3. Medical Stores Department (MSD) Head quarter-Director of Logistics
4. MSD Zonal Stores Head stores Mwanza, Dodoma, Mtwara, iringa and Kilimanjaro

Data collection tools

Key Informant Interview tools

Health Products Management_KII.docx

Health Facility checklist

Health Products Management_Facility

Availability of medicines survey tool

Health Products Management_Availab