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

M&E and ICT Report

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Dodoma – Tanzania

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Acronyms/Glossary

AARR	Annual Average Rage of Reduction
ACTs	Artemisinin-based combination therapy
Afya e-HMS	Afya Electronic Hospital Management System
AfyaSS	Afya Supportive Supervision
AfyaSS	Afya Supportive Supervision
AHSPR	Annual Health Sector Performance Review
AL	Artemether Lumefantrine
ANC	ART
API	Application Programming Interface
APR	Artemisinin Partial Resistance
ARV	Antiretroviral
ASAQ	Artesunate Amodiaquine
CDH	Centre for Digital Health
CHMT	Council Health Management Teams
CHW	Community Health Workers
CSO	Civil Society Organization
CTC	Care and Treatment Clinics
CTX	Cotrimoxazole
DHIS2	District Health Information System Version 2
DHS	Demographic Health Survey
DQA	Data Quality Assessment
EMR	Electronic Medical Records
EMR	Electronic Medical Record
ETL	Electronic TB and Leprosy Register
FFARS	Facility Accounting and Financial Management
GOTHOMIS	Government of Tanzania Health Operation Management Information System
HIS	Health Information System
HISP	Health Information System Program

HIV	Human Immunodeficiency Syndrome
HMIS	Health Management Information System
HMS	Hospital Management System
HRH	Human Resources for Health
HSHSP	Health Sector HIV and AIDS Strategic Plan
HSSP V	Health Sector Strategic Plan V
ICT	Information and Communication Technology
IGME	United Nations Inter-Agency Group for Child Mortality Estimation
IRS	Indoor Residual Spray
ITN	Insecticide Treated Nets
M&E	Monitoring and Evaluation
MESF	Monitoring and Evaluation Strategic Framework
MIS	Malaria Indicator Survey
MMEIG	United Nations Maternal Mortality Estimation Inter-Agency Group
MOH	Ministry of Health
MTR	Mid-term Review
MTUHA	Mfumo Taarifa ya Uendeshaji Huduma za Afya
NASHCoP	National AIDS, STIs, and Hepatitis Control Program
NBS	National Bureau of Statistics
NCD	Non-communicable Diseases
NGO	Non-governmental Organization
NMCP	National Malaria Control Program
NSP	National Strategic Plan
NTLP	National Tuberculosis and Leprosy Program
PFM	Public financial management
PMI	The United States President's Malaria Initiative
PMO	Prime Minister's Office
PMTCT	Prevention of Mother to Child Transmission
PORALG	President's Office-Regional Administration and Local Government
RMNCAH	Reproductive Maternal Newborn Child Adolescent Health
RRH	Regional Referral Hospital
SaaS	Software as a Service
SBC	Social and Behavior Change
SDG	Sustainable Development Goal
SMART	Specific, Measurable, Achievable, Realistic, and Timely
SOURCE	Strengthening Oxygen Utilization and Respiratory Care Ecosystems
SS	Supportive Supervision
STEPS	STEPwise approach to NCD risk factor Surveillance
SWAP	Sector Wide Approach
TB	Tuberculosis
TDHS	Tanzania Demographic Health Survey
TES	Therapeutic Efficacy Studies

THIS	Tanzania HIV Impact Survey
TMIS	Tanzania Malaria Indicator Survey
TWG	Technical Working Group
UCS	Unified Community Systems
UHC	Universal Health Care
UN	United Nations
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNICEF	United Nations International Children's Emergency Fund
USAID	United States Agency for International Development
VIMS	Vaccine Information Management System
WHO	World Health Organization

Executive Summary

Monitoring and evaluation (M&E) are an integral part of HSSP V, which was established to monitor the implementation of priority interventions and evaluate their relevance, effectiveness, efficiency, impact, and sustainability. HSSP V M&E activities are guided by M&E plan; an integrated M&E framework for One Plan III for Reproductive Maternal Newborn Child Adolescent Health (RMNCAH), Human Resources for Health (HRH) strategic plan and Non-communicable Diseases (NCD) strategic plan. The M&E plan considers existing M&E plans and strategies for HIV, malaria, TB, and other major health sector programs in Tanzania to maximize harmonization and alignment and consider monitoring practices in other sectors where relevant.

M&E and ICT units, in collaboration with the President's Office of Regional Administration and Local Government (PORALG), supported the implementation of comprehensive monitoring of HSSP V during the period 2021-2024. Furthermore, the report presents the status of implementation of M&E and ICT strategies, the functionality of M&E and ICT technical working group, the relevance of integrated M&E plan and framework, and a comprehensive analysis of HSSP V indicators. Comprehensive lessons learned during the implementation are presented, and the report provides recommendations to enhance current and future performance monitoring.

The health system has made significant progress in establishing guidelines and policy frameworks for strengthening M&E implementation in the country. M&E tools have been developed or updated to respond to the demand for high-quality data. The development of Unified Community Systems (UCS), Afya electronic Hospital Management System (Afya e-HMS), and Afya supportive supervision (AfyaSS) are evidence of significant development designed to ensure facility- and community-based data are comprehensively captured. The ICT unit has continued to support the development of ICT infrastructure (hardware and software) to support data collection, analysis, and reporting. Work is ongoing to ensure systems developed in the past and the new ones are integrated. M&E and ICT technical working group brought together and coordinated all stakeholders who are significantly contributing to the strategic goals of the Ministry of Health. The following are recommendations for improving the monitoring and evaluation of HSSP V;

Strengthen monitoring of service delivery and disease burden for poor-performing indicators

The following actions may support the health sector in monitoring progress and inform programming.

i. Conduct robust surveys or epidemiological studies to estimate disease burden and impact of interventions for indicators that rely on modeled estimates such as PMTCT.
ii. The Ministry should consider additional indicators to monitor causal pathways for indicators such as neonatal mortality and teenage pregnancy. These indicators may include availability and access to quality neonatal care and neonatal intensive care units for neonatal mortality and norms, equity, sexual abuse, or violence for teenage pregnancy.

Revise the performance of indicators

- The next HSSP should be developed with a clear theory of change that is aligned with the new M&E framework and strategic outcomes.
- Incorporate service delivery process indicators (governance, accountability, etc.) in the next HSSP to monitor key underlying assumptions of HSSP's success.

- M&E indicators should incorporate intermediate outcome indicators to enable health systems to track annual progress between Demographic Health Survey (DHS).
- Revised HSSP indicator to ensure balance and inclusion of key strategic outcomes and process indicators.

Finance HMIS data collection tools

Funds must be allocated for printing and supplying Health Management Information Tools (HMIS) (MTUHA) to health facilities to guarantee the generation of high-quality data at the facility level.

Strengthen patient-level electronic medical records systems.

The use of patient-level EMR systems has the potential to improve data quality and enhance the interoperability of health information systems. HIV programs that use EMR through Care and Treatment Clinics (CTC) are experiencing substantial challenges in managing patients' records as patients are living longer with the use of ARV, migrating, and dropping out of treatment. The health sector should develop long-term strategies to deal with the complexities of HMIS, including anticipating high data volume and using unique identifiers such as national identification numbers or fingerprints to support patient follow-up and records linkage.

Fragmented funding

Health Information Systems such as District Health Information System version 2 (DHIS2) is designed to support reporting of all services and disease statistics for all programs. However, some development partners tend to focus on improving a few aspects of DHIS2 depending on their interest rather than supporting the entire HMIS. "*the problem is partners because they come with their money specific for certain diseases or programs like they want their money only to support malaria and not any other areas of HMIS. Fragmentation of funding is the main challenge the government* faces" (Respondent 4). There is a need for holistic support for HMIS as it is the backbone of all programs that report service delivery and monitor disease burden.

Interoperability and harmonization of systems

The government has made substantial developments to achieve the interoperability of systems. Interoperability remains a challenge, with some private facilities utilizing EMR unable to submit data to DHIS2. With over 180+ existing standalone apps and systems, more efforts are needed, particularly in developing interoperability frameworks, optimizing electronic health records, and using open-source tools. Furthermore, there is a need to intensively evaluate different systems to identify commonalities, differences, and apps or systems that should be integrated.

1. Background and Introduction

M&E activities were guided by the Monitoring and Evaluation Strategic Framework (MESF) 2020-2025. ICT unit supported M&E functions through coordination, development, and maintenance of electronic health information systems and infrastructure, as well as e-health strategies that support data collection, management, and reporting to support decision-making.

Monitoring and evaluation are an integral part of HSSP V, established to monitor the implementation of priority interventions and evaluate their relevance, effectiveness, efficiency, impact, and sustainability. HSSP V M&E activities are guided by the M&E plan, an integrated M&E framework for One Plan III for RMNCAH, HRH strategic plan, and NCD strategic plan. The M&E plan considers existing M&E plans and practices of HIV, malaria, TB, and other major health sector programs in Tanzania to maximize harmonization and alignment and consider monitoring practices in other sectors where relevant.

HSSP V integrated M&E plan focuses on monitoring (i) Financial implementation to assess whether budgets have been released and spent in line with allocations, (ii) Physical implementation to assess whether activities have taken place in line with targets, and (iii) outputs, outcome, and impact to assess whether planned targets were achieved amongst the target population. Three reviews were scheduled as per the HSSP V monitoring plan, (i) annual review to be conducted in the last quarter of every calendar year (2022,2023, and 2025) focusing on the input, process and output indicators and targets specified in annual operational plans, (ii) MTR is conducted halfway through implementation of the HSSP V (2024) covering all the targets mentioned in the strategy, including targets for outcome and impact indicators, and also takes contextual changes into account. The results are used to adjust national priorities and objectives. (iii) The final review involves a comprehensive analysis of progress and performance for the whole period of the national plans.

This section presents the status of implementing M&E and IT strategies, the functionality of the M&E and ICT technical working group, the relevance of the integrated M&E plan and framework,. The section compiles a comprehensive lesson learned during implementation and provides recommendations for decisions about current and future programs.

1.1 Progress

M&E activities extended beyond monitoring health services and disease burden to project monitoring. Over 55 health projects were planned, with 33 completed and in use, 3 completed but not in use, eight still in progress, and 11 yet to start.

1.2 Interventions that contributed to the achievements

Tanzania's Digital Health Strategy 2025–2030 was developed to address challenges of ecosystem fragmentation, a major challenge that hindered the implementation of the previous strategy (2019–2024). The development of the digital health investment roadmap for 2025–2030 is in progress with the support of UNICEF.

Guided by the **Monitoring and Evaluation Strategic Framework (MESF) 2020–2025**, the monitoring and evaluation unit coordinated the design and revision of data collection tools, conducted service delivery surveys, and provided M&E technical support to the Ministry of Health.
Efforts to **incorporate gender-sensitive metrics into health information tools** have further improved equity in data representation.The Ministry of Health has developed a **universal health Application Programming Interface (API)** guideline to enable seamless data exchange and integration across disparate systems.
Digital Platforms such as the Unified Community Systems (UCS), Afya electronic Hospital Management System (Afya e-HMS), and Afya Supportive Supervision (AfyaSS) have enhanced the completeness and timeliness of health data collection and monitoring.

Collaborative implementation and achievements

The Ministry collaborated with stakeholders and maintained its role in providing policy, guidelines, strategies, and legal framework. Government officials supporting M&E activities know HSSP V and its M&E framework.

Social accountability systems developed.

The Ministry, in collaboration with UNICEF, is developing digital client feedback, which is expected to be launched in 2025. The "Mama na Mwana" and "Zan Afya Maoni" platforms in Tanzania Mainland and Zanzibar, respectively, are set to improve social accountability and service quality.

Institutional capacity building

WHO, UNICEF and other development partners have provided technical support to M&E and ICT units to ensure they work efficiently and effectively by strengthening M&E frameworks and integrating M&E plans, innovation, and digital systems to enhance data collection, analysis, and utilization. WHO has facilitated collaboration among stakeholders including financing Technical Working Group (TWG) meetings.

1.3 Interventions that contributed to progress

Developed health information systems interoperability

An **evaluation of the national EMR business** process was conducted, leading to the establishment of the interoperability adapter, which has proven crucial in the development of the **universal health Application Programming Interface (API) guideline** that will facilitate seamless data exchange across health systems to avoid client data duplication. It will also integrate with national platforms such as **EMR and DHIS2**.
Interoperability guidelines have been established, including criteria for transitioning healthcare facilities to paperless reporting and readiness assessment standards.

Capacity-Building and System upgrade

Health Information System Program (HISP), in collaboration with the Ministry of Health, supports capacity-building efforts by conducting DHIS2 academies and specialized training, information systems development, and DHIS2 implementations.

Ifakara Health Institute, under PMI Shinda (Defeat) Malaria project, has worked with NMCP in **standardizing DHIS2 content**, including improving the accuracy of DHIS2 indicators, correcting the DHIS2 system's validation rule, and developing new Artemisinin-based combination therapy (ACTs) dispensing form, which now requires the reporting of individual tablets dispensed instead of strips for artemether-lumefantrine (AL). This change has improved reporting accuracy and addressed concerns about higher antimalarial prescriptions relative to the number of confirmed malaria patients. Most programs have implemented **systems upgrades, including DHIS2 upgrade and DHIS-ETL** to guarantee security and high data quality management and reporting.
The Ministry has conducted **data management capacity strengthening to M&E staff and mentorship to healthcare workers on Data Quality Assessment (DQA)** to nine (9) regions, include Kagera, Tabora, Lindi, Mtwara, Pwani, Rukwa, Katavi, Tanga and Kilimanjaro.
These actions, among many others, have contributed to improving data entry tools and indicators definition and refinement to strengthen data analysis use.

Mainstreamed gender into M&E tools

The Ministry has **reviewed MTUHA books and released a 2024 version**, which includes the new MTUHA book 18 to monitor gender-based violence (sexual abuse and emotional abuse) and cervical cancer.
Other gender-related M&E initiatives include the **development of *the TB Kiganjani App***, which is designed to monitor stigma and gender, and the implementation of a gender-specific TB survey.

Improved financial management and monitoring systems

The health sector improved the enabling environment for tracking and monitoring health finances by improving Public financial management (PFM) interventions like **PlanRep** and **Facility Accounting and Financial Management (FFARS) in Tanzania**. Integration with government systems has been successful. For example, malaria burden stratification data has been integrated with PlanRep to support planning malaria interventions according to the disease burden. USAID supports PFM and FFARS activities.

Enhanced community level digital patient monitoring system

Developed **Unified Community Systems (UCS)** to enhance health service delivery at the community level. UCS facilitates the identification and enrollment of patients accessing HIV, malaria, family planning, TB, and leprosy; reproductive, maternal, newborn, child, and adolescent health; and gender-based violence support. Designed for community health workers (CHWs), UCS enhances referrals and linkages from community-based services to formal health care delivery and, ultimately, improves the performance monitoring of community health services and workforces for better health outcomes. UCS digital backbone consists of three integral components:

- **WAJA App:** This application empowers CHWs out in the community to efficiently register clients, link them to essential health services, and conduct follow-ups, ensuring no appointment is missed.
- **Kituoni App:** Custom-designed for health facilities, this application streamlines the process of serving clients, ensuring that healthcare providers have immediate access to relevant patient data and histories.

- **Dashboard:** This visualization tool provides comprehensive insights through various indicators and reports, delivering actionable intelligence in addition to data (Figure 1). USAID supports UCS.

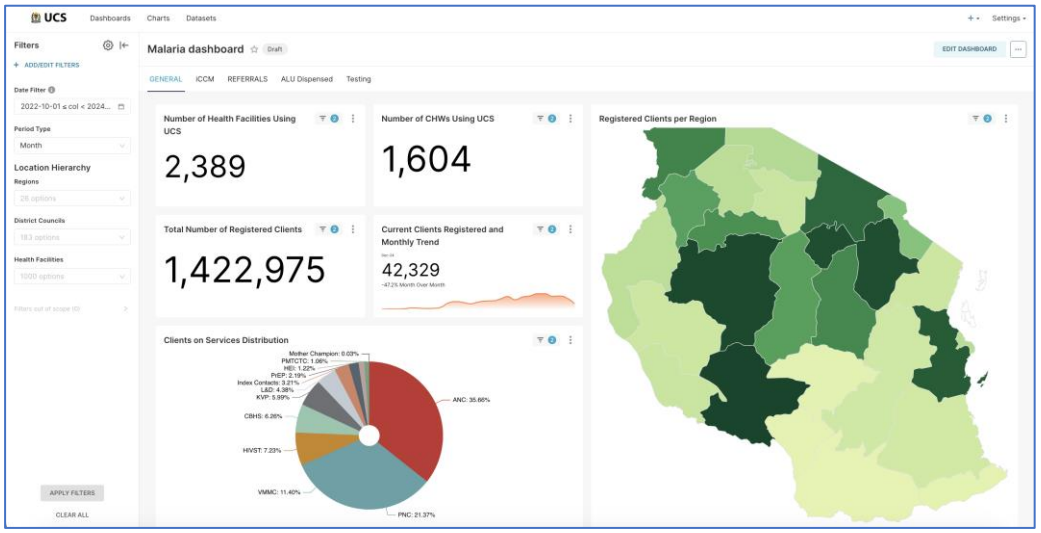

Figure 1: UCS dashboard

Expand monitoring beyond routine indicators.

The Ministry of Health is working with the Health Information System (HIS) to support strengthening integration initiatives, develop dashboards, and strengthen data analysis and use. Through Strengthening Oxygen Utilization and Respiratory Care Ecosystems (SOURCE) project, HIS supports improving medical oxygen access, tracking respiratory care indicators, and addressing data quality challenges through capacity building and collaboration approaches with the Ministry of Health and PORALG.

Result 3: Improved data use for decision-making/ Relevant and ethically sound inputs from research are used for evidence-based policy-making/

1.4 Progress

	Targets 2026	Baseline 2020	Achievements 2023	Progress
	3 Annual Health Sector Performance Profile produced	0	3	The AHSPP 2022 and 2023 are not validated
	Producing data for the CMO presentation during the JAHSR	3	3	

1.5 Interventions that contributed to the progress

Integrated M&E plan

The HSSP V M&E plan is a comprehensive, integrated plan that incorporates M&E plans for:

- One Plan III for the RMNCAH,
- HRH, and
- NCD strategic plans.

Additionally impact indicators for:

- TB were integrated from National Strategic Plan for Tuberculosis and Leprosy (NSP V 2015-2020)
- HIV from Health Sector HIV and AIDS Strategic Plan 2017–2022 (HSHSP IV),
- Malaria from National Malaria Strategic Plan 2014–2020.

Program-specific M&E plans have additional indicators for monitoring and evaluating different government and stakeholder interventions. Programs that revised their strategic plans after HSSP V incorporated HSSP V priorities in their plans.

Research initiatives

Ifakara Health Institute under the PMI Shinda (Defeat) Malaria project, in collaboration with NMCP, is conducting **therapeutic Efficacy Studies (TES)** that have contributed to generating evidence on the emergency of artemisinin partial resistance (APR) in Tanzania. Strategies are underway to change the first-line treatment from AL to Artesunate Amodiaquine (ASAQ).

In-depth analysis of Vaccine Information Management System (VIMS) data through RMNCAH identified **gaps in vaccination coverage** in southern Tanzania that led to the implementation of vaccination catch-up campaigns that led to increased coverage.

There are ongoing efforts to **refine data collection tools and reporting systems** to enhance data quality and usability.

New methods to **assess the effectiveness of health programs and policies** are under development.

1.6 Progress

Shifting coordination of M&E activities to the Prime Minister's Office (PMO) and creating a standalone M&E Unit is an indication of the importance given by the government to the monitoring and evaluation function. This organizational structure wasn't suggested in the HSSP V, but will improve accountability and transparency towards achieving the national health goals.

Management of the result framework:

Out of 11 impact indicators, seven are derived from the District Health Information System 2 (DHIS 2). Similarly, 14 of 20 outcome indicators depend on DHS data. Having a well functioning DHIS 2 ensure a good management of the result-framework, with most of the data available for quarterly and yearly monitoring.

Development of HSSP VI should consider revising selected indicators to ensure inclusion of realistic and measurable indicators, process indicators, and coverage of key HSSP strategic outcomes indicators.

1.7 HSSP V Result Framework

HSSP V results framework has been divided according to the classification used by WHO for the Universal Health Care (UHC) index: RMNCAH & nutrition, control of infectious diseases, NCD and injuries, and health systems.

Key informant interviews with M&E technical leads indicate that most programs were aware of the HSSP V integrated M&E plan and were satisfied with the indicators included in the HSSP V indicator matrix. Programs that revised their strategic plans, such as NTLP and HIV, incorporated HSSP V priority strategic outcomes in their new plans.

An in-depth review of the HSSP V M&E results framework shows that the framework is relevant as it monitors outcome and impact indicators of diseases and conditions contributing to the highest burden of morbidity and mortality in the country, i.e., malaria, HIV, TB, childhood, non-communicable diseases, and maternal conditions. The outcome and impact indicators provide a comprehensive status of the health system's performance as they cover the entire spectrum of the population.

Despite its relevance, the HSSP V M&E results framework was not aligned with the HSSP V conceptual framework, particularly for performance indicators to measure service processes as per the strategic conceptual framework (Figure 2). Most performance indicators are health system's inputs, outcomes, and impact-based and cannot monitor the service delivery process. The underlying assumption for the success of HSSP V is that health services delivery is human-centered, focusing on community empowerment, strengthening preventive services, embracing participatory policy formulation, decision making, and evaluation, investing in coordination at the community level to address social determinants of health and an improved enabling environment. The health sector must monitor all processes to ensure the implementation is on track. WHO has proposed several indicators to track the service delivery process. Indicators such as "expenditure on preventive services as percent of total expenditure in health" could help monitor interventions designed to reorient the health care system that shifts investment from inpatient to outpatient and from curative to preventive care. Tracking of service delivery process indicators is essential in generating evidence on factors associated with the achievement or underperformance of the health sector.

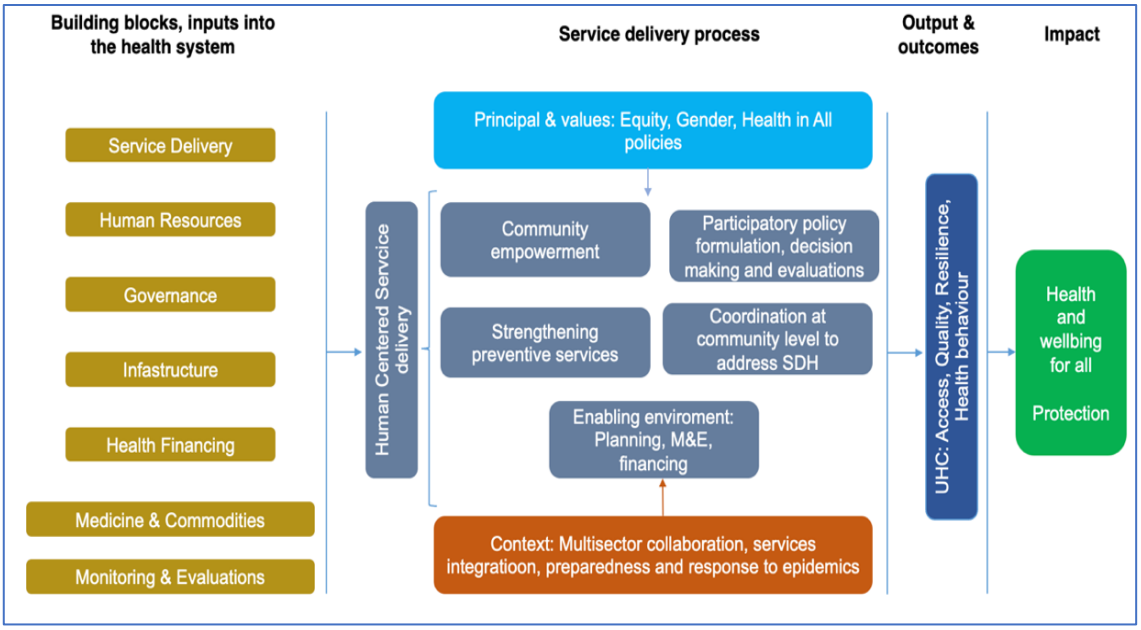

Figure 2: HSSP V conceptual framework

1.8 Clarity of HSSP V result framework

The M&E result framework is designed to clearly describe the vertical and horizontal logic of the project implementation process. The vertical logic, comprised of inputs, outputs, outcomes, and impact, describes what the project aspires to achieve and the causal relationship between what will be done and what will be achieved. Furthermore, it specifies the main risks and assumptions. The horizontal logic specifies how progress and performance will be monitored and the sources of information for verification.

The reviews of the HSSP V result framework show mixed results, where several indicators had clear vertical and horizontal logic while others had none (Table 1: Horizontal logic for selected impact indicators). There was a clear vertical logic for neonatal, under-five, and maternal mortality indicators at outcome and impact level. Few indicators where present to show causal link for malaria, total fertility and PMTCT and none for teenage pregnancy and HIV incidence in youth. More sensitive indicators for monitoring areas of poor performance, such as neonatal mortality, should be considered, including a number of functionating neonatal care and neonatal intensive care units.

Furthermore, several indicators were standalone and could not be linked with vertical logic. These include the prevalence of blindness, under-five stunting, viral hepatitis treatment coverage (B and C), and birth registration. These observations demonstrate the need for strategic selection of indicators that guarantee the presence of vertical and horizontal logic.

Table 1: Horizontal logic for selected impact indicators

Malaria prevalence	**Neonatal and under-five mortality**	**Maternal mortality**	**Teenage pregnancy**	**Total fertility rate**	**HIV incidence per 100 adults and young people (15-24)**	**PMTCT: newborns with HIV infection**
○ ITN coverage	○ Early ANC visits ○ Institutional birth ○ C-sections per 100 live births ○ IPTp2 doses among pregnant women ○ Full immunization coverage among infants ○ Early initiation of breastfeeding	○ Early ANC visits ○ Institutional birth ○ C-sections per 100 live births ○ IPTp2 doses among pregnant women ○ Anemia prevalence in women 15-49 years		○ Demand satisfied with modern methods among currently married women 15-49		○ ART coverage among people living with HIV, with viral load suppression ○ Percentage of adults and children with HIV known to be on treatment 12 months after

	among all newborn children ○ Households with adequate sanitation facilities ○ Anaemia prevalence in under-fives ○ Households with safe drinking water source					initiation of ART

1.9 Effectiveness: M&E and ICT Technical Working Groups

M&E and ICT TWG named TWG10 is formed by the M&E and ICT units within the Ministry of Health and works in close collaboration with PORALG. TWG10 coordinates and oversees all health-related technical aspects of M&E and ICT activities implemented by the government of Tanzania and implementing partners with the aim of strengthening health systems integration, health data management, and digital health innovations. Meetings are coordinated by the M&E and ICT units and composed of invited stakeholders from diverse professions across ministries, universities, local and institutions, implementing and development partners including WHO, UNICEF, USAID, and University of Dar es salaam.

TWG10 has successfully contributed to improving the effectiveness of the health sector through strategic coordination of a wide range of M&E and ICT initiatives implemented by the government of Tanzania and stakeholders. These initiatives include developing and/or improving policies, strategies, protocol guidelines, facility and community information systems, data collection and analysis, data quality assessments, and data use for decision-making. Meeting every quarter, TWG10 has substantially contributed to reviewing health sector performance, bringing all stakeholders to take stock of implementing M&E & ICT activities to ensure no duplication of efforts, leveraging resources, and ensuring state-of-the-art technologies are deployed. Furthermore, developing system interoperability and ensuring data is accessible across systems has recently become the key theme in all meetings, as directed by the president of the United Republic of Tanzania. To further strengthen M&E & ICT functions beyond TWG10, sub-TWG within programs and departments have been established and are meeting regularly through physical and online meetings. TWG10 meetings are scheduled on a quarterly basis; however, due to funding limitations, these meetings have been conducted once every year. Despite these challenges, few meetings have contributed to increased performance review culture, data quality dialog, and data use.

1.10 Efficiency

> *"there are challenges with non-routine indicators. These indicators require substantial investments in data collection since they need special studies. However, good luck; we have recently conducted one study called STEPS survey, which will assist in responding to several indicators which would not have been reported because they rely on a survey, for example, questions related to NCD, eye care, questions on psychiatry, questions about injuries are found in the STEPS survey report which will give use a broader update for the country. (Respondent 4).*

1.11 Sustainability

The health sector's heavy reliance on external donor funding for HIS development poses significant sustainability risks. Strategic investments in local capacity-building and resource mobilization are necessary to ensure long-term viability.

2. Challenges and unfinished agenda

The implementation of the Health Sector Strategic Plan V (HSSP V) has faced numerous challenges, many of which stem from systemic gaps in indicator selection, resource allocation, and system integration.

1.12 Challenges Identified

1. Absence of impact indicators to track several **key strategic outcomes**. This include health education and access to diagnostic services, health research, and public-private partnerships. These omissions weaken the ability to monitor progress in vital health domains. Therefore, despite the over representation of Reproductive, Maternal, Newborn, Child, and Adolescent Health (RMNCAH) accounting for 40%-50% of impact indicators, drivers of maternal and child mortality cannot be comprehensively analysed with the M&E framework.
2. **O**verdependence on DHIS 2 Indicators skews the indicator framework towards facility-based metrics, limiting insights from the community-level.
3. Indicators such as diabetes and hypertension treatment success rates are **subjective and rely on self-reported** data from a small subset of patients. Additionally, the inclusion of non-communicable disease (NCD) mortality as an impact indicator is problematic due to the lack of reliable survey tools. Alternative indicators like obesity prevalence or raised blood pressure could reduce the number of unrealistic and unmeasurable Indicators
4. Indicators for Prevention of Mother-to-Child Transmission (PMTCT) and tuberculosis (TB) incidence **rely heavily on model predictions from international organizations**. These periodic surveys, often conducted at extended intervals, limit the availability of timely data for decision-making. It's also difficult to access to what extend these predictions are taking into account regional and districts specificities.

5. **Quality-of-care indicators are limited** in the HSSP V framework. The sole indicator—"primary health facilities with 3 stars (% of all facilities)"—was not assessed during implementation, leaving a critical gap in evaluating service quality.
6. With over 180 standalone health applications, the **health information system suffers from inefficiency and duplication**. The lack of interoperability significantly hampers cohesive data management.
7. **Resource constraints for** Health Management Information System (HMIS) tools such as MTUHA registers have resulted in incomplete and inconsistent data collection. The withdrawal of development partner support has further exacerbated this issue.
8. The **shortage of ICT professionals**, particularly at the subnational level, impedes the maintenance and optimization of health systems, affecting data quality and system reliability.

1.13 Unfinished Agenda

1. **System Integration and Expansion**
    - **Electronic Medical Records (EMR):** is yet to adopted in most of the primary healthcare facilities, and the interoperability frameworks is not implemented.
    - **Digital Client Feedback Mechanisms:** Platforms such as "Mama na Mwana" and "Zan Afya Maoni" are not scale up to ensure comprehensive community engagement and service quality monitoring.
2. Annual Health Sector Performance Profiles (AHSPP) 2022 and 2023 were not validated, certainly due to the absence of formal quality control mechanisms to guarantee to the top management that documents produced are of high standards.
3. While initiatives like Therapeutic Efficacy Studies (TES) and the STEPS survey have contributed to specific policy changes, broader **integration of research findings into national health policies** is inconsistent. There is no detailed examples of how research findings have informed policy or program interventions.
4. No substantial progress has been reported on **developing a public platform to make health policy plans accessible**.
5. **S**pecific outcomes of the coordination of the national health research agenda by NIMRI were not documented.
6. **There is** no collaboration framework with NBS to ensure comprehensive management, analysis, and dissemination of health survey results like STEPS survey.
7. While advancements such as the Unified Community Systems (UCS) are highlighted, direct links between research findings and health system improvements are not well-articulated.
8. The research framework is reported to have been strengthened, but details on its implementation and specific outcomes are lacking.
9. Specific innovations or examples of knowledge translation by research organizations are not reported.

1.14 Emerging Threats

1. Emerging health challenges such as pandemics, climate-related health risks, and the rise of NCDs require **adaptive monitoring frameworks**. Without proactive adjustments, existing systems may struggle to respond effectively.

2. Rural areas face significant **barriers to adopting digital health tools due to inadequate infrastructure** and limited technical expertise. This disparity risks widening health inequities between urban and rural populations.
3. Weak coordination among stakeholders, particularly in **integrating research outputs and implementing digital health solutions**, threatens the coherence of health system improvements.

3. Recommendations

1.15 Policy level recommendations

Table 2: Policy level recommendations

Action	Responsible	Timeline
Reference all policy plans on Tanzania Health portal and PO-RALG website.	Ministry of Health (MoH)	Q4 2024
Update the coordination framework for clinical and public health research and define the indicators for regular reporting of outcomes.	National Institute for Medical Research (NIMR)	Q3 2024
Develop a research collaboration framework between Universities, research institutes, regional and national hospitals and regional health management teams	MoH, NIMR	Q1 2025
Sign a MoU between Ministry of Health, PO-RALG and the National Bureau of Statistics (NBS) for health survey management and research.	MoH, NBS	Q2 2024
Integrate research findings into health system strengthening initiatives, including behavior change interventions.	MoH, NIMR	Q3 2025
Include clear metrics for evaluating the effectiveness of the research framework and track progress in the M&E unit strategic plan.	MoH, NIMR	Q1 2025
Conduct robust epidemiological studies to estimate disease burden and evaluate intervention impacts for indicators reliant on modelled estimates, such as PMTCT by.	NIMR	Q4 2025

Strengthen monitoring of service delivery and disease burden for poor-performing indicators.

The health sector has made limited progress in neonatal mortality, HIV incidence in youth, PMTCT, total fertility, and malaria. The following actions may support the health sector in prevention and control.

iii. Conduct robust survey or epidemiological studies to estimate disease burden and impact of interventions for indicators that rely on modeled estimates, such as PMTCT. Optimize sample size for rare events, such as HIV incidence, to ensure reliable estimates are generated for programming.

iv. Additional indicators to monitor causal pathways should be considered for indicators such as neonatal mortality and teenage pregnancy. These indicators may include availability and access to neonatal care and neonatal intensive care units for neonatal mortality and sexual abuse or violence for teenage pregnancy.

Revise the performance of indicators.

- The next HSSP should be developed with a clear theory of change that is aligned with the new M&E framework and strategic outcomes.
- Incorporate service delivery process indicators (governance, accountability, etc.) in the next HSSP to monitor key underlying assumptions of HSSP's success.
- M&E indicators should incorporate intermediate outcome indicators to enable health systems track annual progress between DHS survey.
- Revised HSSP indicator to ensure balance and inclusion of key strategic outcome.

Revise the performance of indicators.

Funds must be allocated for printing of HMIS tools (MTUHA) to guarantee generation of high-quality data at facility level.

Strengthen patient-level electronic medical records systems.

The use of patient-level EMR systems has the potential to improve data quality and enhance the interoperability of health information systems. HIV programs that use EMR through Care and Treatment Clinics (CTC) are experiencing substantial challenges in managing patients' records as patients are living longer, migrating, and dropping out of treatment. The health sector should develop long-term strategies to deal with the complexities of HMIS, which include high data volume, the use of unique identifiers such as national identification numbers or fingerprints to support patient follow-up and records linkage.

Fragmented funding

Health Information Systems such as DHIS2 are designed to support reporting of all services and disease statistics for all programs. However, some development partners tend to focus on improving a few aspects of DHIS2 depending on their interest rather than supporting the entire HMIS. "*the problem is partners because they come with their money specific for certain disease or program like they want their money only to support malaria and not any other areas of HMIS. This is the main challenge the government is facing*" (Respondent 4). There is a need for holistic support for HMIS as it is the backbone of all programs that report service delivery and monitor disease burden.

Interoperability and harmonization of systems

The government has made substantial developments to achieve the interoperability of systems. Interoperability remains a challenge, with some private facilities utilizing EMR unable to submit data to DHIS2. With over 180+ existing standalone apps and systems, more efforts are needed, particularly in developing interoperability frameworks, optimizing electronic health records, and using open-source tools. Furthermore, there is a need to intensively evaluate different systems to identify commonality, difference and apps or systems that should be integrated.

1.16 Performance monitoring recommendations and timelines

1. Develop additional indicators to monitor causal pathways for neonatal mortality and teenage pregnancy.
    - Include metrics such as availability of neonatal intensive care units and instances of sexual abuse or violence.
    - **Responsible:** MoH, RMNCAH Unit.
    - **Timeline:** Integrate by Q4 2024 into existing frameworks.
2. Optimize sample sizes for rare events like HIV incidence to ensure reliable estimates for programmatic planning.
    - **Responsible:** NIMR, MoH.
    - **Timeline:** Conduct analysis annually starting Q1 2025.

1.2. Revise the Performance of Indicators

Action Steps:

1. Develop the next HSSP with a clear theory of change aligned with the revised M&E framework and strategic outcomes.
    - **Responsible:** MoH, M&E Unit.
    - **Timeline:** Complete draft by Q1 2025; finalize by Q4 2025.
2. Incorporate service delivery process indicators (e.g., governance and accountability) into the HSSP to track underlying assumptions of success.
    - **Responsible:** MoH, Governance and Accountability Unit.
    - **Timeline:** Introduce by Q3 2024.
3. Establish intermediate indicators for annual performance monitoring, bridging gaps between major surveys like DHS.
    - **Responsible:** MoH, M&E Unit.
    - **Timeline:** Implement by Q4 2024.

2.3. Improve Health Information System (HIS) Tools

Action Steps:

1. Allocate domestic funds for printing and distributing HMIS tools (e.g., MTUHA registers) to ensure consistent, high-quality data collection at health facilities.
    - **Responsible:** MoH, Ministry of Finance.
    - **Timeline:** Budget allocation by Q3 2024; distribution by Q1 2025.
2. Strengthen the use of patient-level EMR systems to improve data quality and enable interoperability.
    - Develop strategies for managing high data volumes and link patient records using unique identifiers like national IDs.
    - **Responsible:** MoH ICT Unit, Private Sector EMR Vendors.
    - **Timeline:** Scale adoption by Q2 2025.

3.4. Address Fragmented Funding

Action Steps:

1. Develop a holistic funding strategy to support comprehensive HIS improvements, reducing program-specific fragmentation.
    - Collaborate with development partners to ensure funds address overall system needs rather than individual disease programs.
    - **Responsible:** MoH, Development Partners Coordination Unit.
    - **Timeline:** Finalize strategy by Q4 2024.
2. Advocate for increased government contributions to HIS funding to ensure long-term sustainability.
    - **Responsible:** MoH, Ministry of Finance.
    - **Timeline:** Engage stakeholders by Q1 2025.

4.5. Enhance Interoperability and System Integration

Action Steps:

5. Develop and implement a national interoperability framework to harmonize over 180 standalone health applications.
    - Evaluate existing systems to identify commonalities, differences, and integration priorities.
    - **Responsible:** MoH ICT Unit, Development Partners.
    - **Timeline:** Framework completed by Q2 2025; phased implementation starting Q3 2025.
6. Optimize electronic health records and promote open-source tools to improve system harmonization.
    - **Responsible:** MoH ICT Unit.
    - **Timeline:** Rollout by Q4 2025.
7. Transition healthcare facilities to paperless reporting, supported by readiness assessments and training programs.
    - **Responsible:** MoH, Facility-Level Administrators.
    - **Timeline:** Pilot in 10 regions by Q3 2025; expand nationwide by Q4 2026.

8.6. Strengthen Legal and Regulatory Frameworks

Action Steps:

1. Draft and implement laws and guidelines for data security, privacy, and patient confidentiality.
    - Ensure alignment with international standards for health data governance.
    - **Responsible:** MoH, Ministry of Justice.
    - **Timeline:** Draft completed by Q3 2024; enforcement by Q1 2026.
2. Develop a public platform to increase accessibility to health policy plans and guidelines.
    - **Responsible:** MoH, Communications Unit.
    - **Timeline:** Launch by Q2 2025.

9.7. Expand Capacity-Building Programs

Action Steps:

1. Train and deploy ICT professionals to underserved regions to ensure the effective implementation of digital health tools.
    - **Responsible:** MoH, Training Institutions.
    - **Timeline:** Begin deployment by Q1 2025; scale by Q4 2026.

2. Strengthen capacity-building efforts for healthcare workers on data entry, quality assurance, and analysis.
    - **Responsible:** MoH, Regional Health Teams.
    - **Timeline:** Conduct training sessions quarterly from Q2 2024 onward.

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10. 8. Focus on Quality-of-Care Monitoring

Action Steps:

1. Develop comprehensive quality-of-care indicators, including facility assessments and patient satisfaction metrics.
    - Integrate into routine monitoring frameworks.
    - **Responsible:** MoH, Quality Assurance Unit.
    - **Timeline:** Design by Q3 2024; pilot by Q1 2025.
2. Conduct regular star rating assessments of health facilities to evaluate and enhance service delivery quality.
    - **Responsible:** MoH, Facility-Level Administrators.
    - **Timeline:** Initiate assessments annually starting Q1 2025.

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11. 9. Promote Evidence-Based Decision-Making

Action Steps:

1. Establish a standardized process for validating and disseminating health performance profiles, such as AHSPP reports.
    - **Responsible:** MoH, M&E Unit.
    - **Timeline:** Validation protocols developed by Q2 2024; operationalized by Q1 2025.
2. Strengthen mechanisms for integrating research findings into national policies and health programs.
    - **Responsible:** NIMR, MoH.
    - **Timeline:** Implement integration mechanisms by Q4 2024.

12. An interoperable ICT system in place, that meets international standards of communication, data storage and exchange of information, and that facilitates delivery of quality services to the population

1. **Expanding ICT to the grassroots level through mobile technology**
    - Systems like the Unified Community Systems (UCS) and AfyaSS, which aim to extend monitoring and service delivery to the community level. Challenges include limited digital infrastructure in rural areas.
2. **Capacity building for users of ICT systems (pre-service, in-service, e-learning/mobile learning)**
    - Capacity-building efforts include DHIS2 training and e-learning modules, but resource constraints hinder widespread implementation.
3. **Deployment of ICT experts at the local level**
    - Progress is unclear, as no specific mention of deploying ICT experts at the grassroots level is made.
4. **Select essential apps for healthcare and ensure availability to all health workers**
    - The report highlights the existence of over 180 standalone apps but no specific progress on selecting or deploying essential apps for all health workers.

5. **Expand the use of electronic medical records systems**
    - Initiatives like GOTHOMIS and HMS have expanded EMR systems in regional referral hospitals, but limited progress is noted for PHC levels.
6. **Maintain the HMIS central data warehouse**
    - The HMIS central data warehouse is functioning, hosting outputs from routine data collection and surveys.
7. **Improve data availability and accessibility (dashboards, drill-down features)**
    - Dashboards like UCS and AfyaSS have been developed to enhance data visualization and use for decision-making.
8. **Create a public platform for accessible policy plans**
    - No specific progress on a public platform for policy plans is reported.
9. **Establish a legal framework for data security, privacy, and confidentiality**
    - Progress is mentioned regarding interoperability guidelines but not explicitly on legal frameworks for patient data protection.
10. **Single planning cycle and integration into one M&E system**
    - Efforts to harmonize M&E systems are ongoing, but fragmentation remains an issue.

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13. A vibrant research community in place, that can provide relevant and ethically sound inputs for evidence-based policy-making

1. **Improve the coordination of clinical and public health research (NIMR)**
    - NIMR coordinates the national health research agenda, but the report does not provide specific outcomes of these efforts.
2. **Enhance use of research findings for health strategies/programmes**
    - Limited progress reported; no detailed examples of how research findings have informed policy or programs.
3. **Collaborate with NBS to manage health survey results**
    - Collaboration with NBS is noted for surveys like the STEPS survey, but no specific outcomes are described.
4. **Promote health research for industrial development (pharmaceuticals, medical products)**
    - No significant progress reported on promoting industrial or translational research.
5. **Improve health system functioning and foster behavioral change**
    - Some advancements in health systems (e.g., UCS) are highlighted, but direct links to research-driven improvements are missing.
6. **Strengthen the research framework and use findings for health sector development**
    - The framework is noted as being strengthened, but details on implementation or outcomes are sparse.
7. **Innovations in knowledge translation in research organizations**
    - No specific innovations or examples are provided in the report.

4. Annexes

The MTR employed a mixed-methods approach involving qualitative and quantitative methods. The following approaches were utilized.

- Document review: HSSP-V, programs, strategic plans, and policies from the health sector to identify areas of alignment, misalignment, policy/strategic plans development process, and engagement of the various stakeholders
- Secondary analysis of existing data (HIS, DHIS2, progress reports from the specific departments at MOH, online published papers, reports, workshop proceedings, to understand the status of implementing the various targets included in the HSSP-V)
- Key informant interviews (capturing opinions about how the various targets and key strategic areas of the HSSP-V have been implemented, achieved, and challenges)
- Data abstraction from various documents.

Data sources

The primary data sources include.

- The M&E indicator matrix specifies local and international data sources, including DHS, DHIS2, MIS, IGME, and MMEIG.
- HSSP V and programs strategic plans and technical reports.
- Meetings reports, including TWG.
- Key informants from leading M&E activities within the MOH.

Data collection and analysis

The key informant interviews that were scheduled and completed are summarized below.

	Target respondent	Status
1	M&E unit – Ministry of Health	Interview completed
2	M&E – TB and Leprosy Program	Interview completed
3	M&E – NASHCoP	Interview completed
4	M&E – RMNCAH	Interview completed
5	M&E – NMCP	NMCP staff not available
6	M&E – Preventive services	NMCP staff not available
7	M&E – Curative services	NMCP staff not available
8	M&E – NCD	NMCP staff not available

Limitations

- **Result-based management data collection tool**

RESPONDENTS TO THE QUESTIONS BELOW ARE M&E FOCAL PERSONS FROM THE FOLLOWING PROGRAMS OR DEPARTMENTS.

- NMCP
- NASHCoP
- TB
- MOH-Curative department

- MOH-Preventive department
- MOH- Reproductive Maternal Neonatal Child and Adolescent Health
- NCD - M&E focal person

1. What strategic plan does the [Program/Department] use to guide its direction and decisions on allocating its resources to attain strategic goals.

2. What was the latest development and revision year?

   Year developed: _____

   Year revised: _____

3. Did the [Program/Department] harmonize its M&E plan and its associated M&E indicators to accommodate HSSP V priorities?

   If yes, what elements of HSSP V did you incorporate?

   If no, why did you not revise your M&E Plan to accommodate HSSP V priorities?

4. Does HSSP V incorporate key performance indicators for your [Program/Department]?

   If yes, probe which indicators?

   If not, probe which indicators should be incorporated?

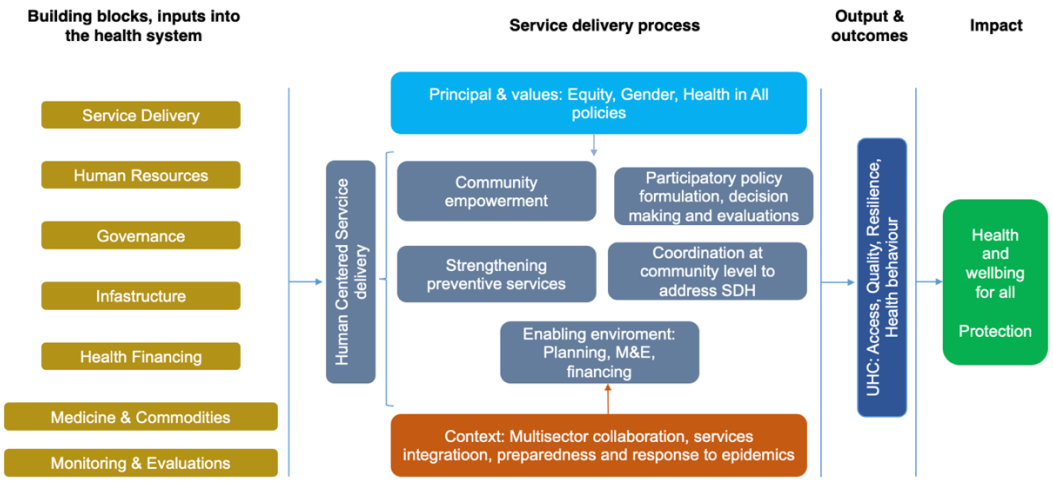
5. Over the past 3 years (2021-2024), what actions have been implemented to strengthening data system to track the achievements of outcomes and impact indicators of the HSSP V?
   Probe as many examples as possible

6. What efforts are made by your Program/Department for mainstreaming M&E indicators to monitor gender issues and promotion of equal access to health services by children, women, and men and any other vulnerable groups (including indigenous populations) for the period 2021-2024?.
   Probe as many examples as possible

7. Monitoring quality of care, governance, accountability, and process.
   There are very few indicators for measuring quality of care, governance, accountability, and other process indicators in HSSP V result framework. What has contributed to this?

   i. Within [Program/Department] what set of M&E indicators track that quality of care, governance, accountability, or other process indicators?

Conceptual framework for HSSP V strategic plan



8. How frequent has your [Program/Department] conducted routine monitoring of indicators (Review) as stipulated on your M&E plan to monitor performance indicators?

   Probe for report if yes

9. After performance review, what has been your feedback mechanism to communicate back to Regions, Districts, Health Facilities, and other stakeholders such as CSO, NGO, and development partners?

   (Ask for report if yes)

10. Over the past 3 years (2021-2024), has there been any documentation of major action, decision made, resources allocation, investment, changes in priorities following regular monitoring of key performance indicators within your [Program/Department]

    Probe for real life cases.

RESPONDENT TO THE QUESTIONS BELOW IS M&E FOCAL PERSON FROM M&E UNIT OF THE MINISTRY OF HEALTH

1. What coordination mechanism to support harmonization of health-related M&E activities between M&E unit of the MoH with M&E units within programs, agencies, department, and PORALG?

Any guiding document or report?

2. Over the past 3 years (2021-2024), what activities or actions has been taken to strengthening data system to monitor the achievements of HSSP V indicators?

Measuring quality of care, governance, and accountability.

3. There are very few indicators for measuring quality of care, governance, accountability, and other process in HSSP V result framework. What has contributed to this?

4. What measure is your department taking to ensure indicators are developed to monitor and evaluate quality of care, governance, accountability, and other process indicators?

5. To what extent has the information Systems, Monitoring, Evaluation & Learning Technical Working Groups contributed in the development of HSSP M&E plan and its associated indicators?

6. To what extent is HSSP V M&E plan relevant in monitoring HSSP V performance indicators?
   If yes or no
   Probe: How

7. How would you describe the functionality of the Information Systems, Monitoring, Evaluation & Learning Technical Working Groups and its contribution in improving effectiveness of health sector coordination mechanisms and partnerships?

8. How would you describe the functionality of the Information Systems, Monitoring, Evaluation & Learning Technical Working Groups and its contribution in monitoring, reporting, and disseminating HSSP V performance?

9. Over the past 3 years (2021-2024), has there been any documentation of major action, decision made, resources allocation, investment, changes in priorities following performance monitoring of key indicators within your program (give examples).

10. Over the past 3 years (2021-2024), What major changes has occurred in improving the following items within HMIS (DHIS2) and other health management information systems, give examples

    Data quality
    Interoperability / Integration
    Reporting by private facilities

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Updated Result framework

	Target 2026	Milestone 2025	Source of data	Precondition	Responsible
Outcome	**Health information and information systems for health are strengthened, including at the subnational level,**				
Output 1	**Credible health information data is timely collected to inform performance improvement initiatives**				
	An interoperability and health data integration framework are roll out in xxxx regions				
	A single M&E system is used by 100% of health programmes				
	Xx% of PHC facilities are using electronic medical records systems				
	The HMIS central data warehouse is hosting all the outputs of routine data collection, surveys and research				
	Xx% of activities prioritized in Civil Vital Registration System and community surveillance of diseases implemented				
Output 2	**Data are analyzed and evidence generated to inform the planning and reporting cycle at all level of the health sector**				
	Data Quality Assessment (DQA), data analysis, knowledge generation, use of data for decision making and reporting refreshment trainings are conducted in xxx Districts				
	Xxx staff of Monitoring and Evaluation and ICT Unit are trained on data projection and forecast				
	Number of Health professionals trained in research method and scientific writing				
	Quarterly and annual review of scorecards are produced to inform Technical Working Group meetings				

	Target 2026	Milestone 2025	Source of data	Precondition	Responsible
Output 3	**Processed data is regularly shared among the health sector stakeholders to improve the use of evidences for decision making and research**				
	Number of annual Regional and District Health Profile published on Tanzanian Health Portal to a fully functional national health observatory				
	Number of visits of the Tanzania Health portal and xxxxxx per year				
	Yearly report on national health research agenda and translation of research evidence to inform policy and practice published by NIMR				
	National Health Survey agenda developed in collaboration with the National Bureau of Statistics (NBS) updated on yearly basis				
	Number of research in pharmaceutical, medical, and translational products, including products used in traditional medicine				
Output 4	**Stewardship of the result-based monitoring function in the health sector is improved**				
	Legal framework for protecting the security of data, privacy, and confidentiality of patients adopted.				