# USAID MEDICINES, TECHNOLOGIES, AND PHARMACEUTICAL SERVICES (MTAPS) PROGRAM

*Improved Access. Improved Services. Better Health Outcomes.*


Tanzanian government officials at the launch of the standard treatment guidelines and national essential medicine list (Photo credit: Stephano Simba)

# Strengthening Antimicrobial Stewardship (AMS) in Tanzania

Technical Brief | September 2022 | Tanzania

Strengthening AMS governance, capacity, and services at national and health facility levels

## Background

The Medicines, Technologies, and Pharmaceutical Services (MTaPS) program (2018-2023) provides pharmaceutical system strengthening assistance to sustain improvements in health system performance and to advance the US Agency for International Development's (USAID) goals of preventing child and maternal deaths, controlling the HIV/AIDS epidemic, combatting infectious diseases, and expanding health care coverage.

To support the Global Health Security Agenda (GHSA), MTaPS works with national stakeholders and counterparts in Tanzania to contain the spread of antimicrobial resistance (AMR) and to improve the quality of health care. MTaPS builds country capacity and strengthens health systems to:

- Optimize the use of antimicrobials
- Strengthen infection prevention and control (IPC) practices
- Promote multisectoral coordination (MSC) on AMR

AMS is a key pillar for the containment of AMR. The 2015 WHO Global Action Plan on AMR, 2019 WHO Benchmarks for International Health Regulations Capacities, and the 2017-2022 Tanzania National Action Plan on AMR (NAP-AMR) emphasize that AMS requires optimizing the use of antimicrobials in both the human health and animal health sectors.

# Problem Statement

AMR is a growing problem that threatens the world's ability to treat infectious diseases. Containing and controlling the spread of AMR is particularly challenging in low- and middle-income countries (LMICs) due to weak IPC measures and high levels of inappropriate antimicrobial use (AMU) compounded by weak regulations, standards, systems, and governance.[1] A situation analysis of antimicrobial use in Tanzania conducted in 2015 revealed inappropriate AMU by health care workers (HCWs)—often overly prescribing antibiotics—and irrational antibiotic use at the community level, contributing to antibiotic resistance. Furthermore, a needs assessment conducted in November 2019 in six MTaPS-supported health facilities (HFs) indicated that hospital medicines and therapeutics committees (HMTCs) are only partially implementing their mandatory roles and responsibilities and concentrating on issues related to procurement of medicines.[2]

In addition, AMR is not on the permanent agenda of HMTC meetings, and promoting appropriate medicine use, including antimicrobials, is not routinely discussed. A survey of 10 hospitals conducted in 2022 assessed their general performance on AMS[3] elements, and identified gaps in monitoring and surveillance, reporting and governance (see figure 1). In particular, there was a lack of coordination between the HMTCs and the continuous quality improvement (CQI) and IPC committees within the hospitals, and between the HTMCs and the quality improvement and IPC committees.

**KEY**[4]

≥ 80 PASS
50-79 WATCH
<50 FAIL

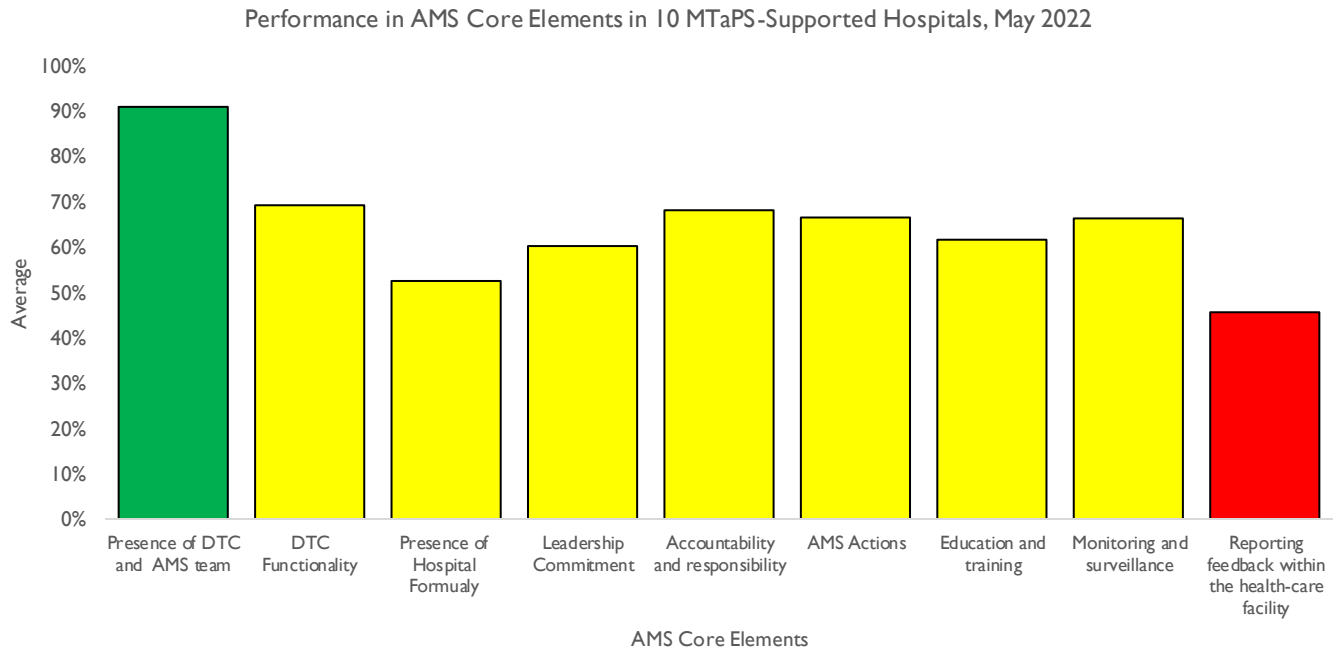


Figure 1: Performance in AMS core elements in 10 MTaPS-supported hospitals assessed in May 2022[1] (Source: MTaPS Tanzania)

[1] Global Antibiotic Resistance Partnership—Tanzania Working Group. 2015. Situation Analysis and Recommendations: Antibiotic Use and Resistance in Tanzania. Washington, DC and New
Delhi: Center for Disease Dynamics, Economics & Policy
[2] Valimba R, Jackson I, Mhadu N, Kikwale M. Rapid Needs Assessment of Medicines and Therapeutics Committees in Six Selected Health Facilities in Tanzania, 2020. Submitted to the US Agency for International Development by Management Sciences for Health, Inc.
[3] Antimicrobial stewardship programmes in health-care facilities in low- and middle-income countries. A practical toolkit. Geneva: World Health Organization; 2019. License: CC BY-NC-SA 3.0 IGO
[4] Key proposed by MOH Tanzania

# Technical Approach

MTaPS' support helps countries make progress on the pathway to higher levels of Joint External Evaluation (JEE) capacity in MSC, IPC, and AMS in order to effectively implement the NAP-AMR.[5] MTaPS builds on countries' existing structures, such as MSC mechanisms on AMR; collaborates with partners to leverage their resources; builds skills through tested and proven methods (e.g., CQI); and supports systems thinking for sustainability.

## Intervention

In Tanzania, MTaPS supports the government's AMS efforts by strengthening MSC, which is at the core of the World Health Organization's One Health approach, which promotes the responsible and prudent use of antimicrobials across animal, human, and other sectors to reduce the emergence and spread of resistant bacteria. MTaPS' efforts include helping to strengthen MSC committees and working groups; engaging experts across sectors to finalize and implement guidelines on AMS; and setting up mechanisms for monitoring implementation of the NAP-AMR.

MTaPS supports assessment of AMS policies using a multisectoral approach and active implementation of AMS practices in HFs.

MTaPS helps to improve MSC by providing technical support and supporting meetings of the AMS and IPC technical working groups (TWGs) as well as the multisectoral coordinating committee (MCC). Through this support, the Ministry of Health, Community Development, Gender, Elderly and Children (MOH) has been able to improve MSC by strategically engaging experts from the animal health sector to team up with human health stakeholders in the implementation of the NAP-AMR.

MTaPS worked with the MOH and other partners to review the 2017 standard treatment guidelines and national essential medicine list (STG/NEMLIT) in light of new therapeutic options and needs. The new STG/NEMLIT was then launched and disseminated to HFs in 2021.

MTaPS is also providing assistance to the MOH to enforce regulations on the prescription and control of antimicrobials and to raise health providers and the public's awareness of AMR and to discourage the inappropriate use of antibiotics. Other activities include training and improving supervision to increase compliance with STG/NEMLIT and improving health professionals' capacities to conduct antimicrobial utilization surveys.

MTaPS developed and implemented a range of training packages related to AMS, including on the STG/NEMLIT, formulary development, medicines and therapeutics committees (MTCs), ethical prescribing practices, and ethical dispensing practices.

MTaPS also supports regular review of plans and progress through meetings of the AMR governance committee; assisting with strengthening AMS governance by assessing stewardship policies and activities, including regulatory frameworks and supply chain management (SCM) of antimicrobials in both the human health and animal health sectors, using a multisectoral approach; and supporting improvements in AMS practice and services in 10 pilot HFs.

MTaPS first conducted an AMS assessment using the WHO AMS assessment tool and AMS supportive supervision in the 10 MTaPS-supported facilities. The findings showed that the facilities were at various stages of hospital formulary development. The supportive supervision teams provided technical support on AMS implementation, including strengthening of the MTC. MTaPS also worked with MOH to develop a draft national hospital formulary template that will be used by hospitals to expedite development of their own hospital formulary. The use of the Extension for Community Healthcare Outcomes (ECHO) platform continues with one AMS session undertaken each month for healthcare practitioners (HCPs) to share experiences and receive mentorship.

In collaboration with relevant stakeholders, MTaPS is coordinating biweekly AMS-IPC clinics using the ECHO platform to provide continuous mentorship to build the capacity of HCWs to foster effective improvement of IPC and AMS practices.

[5] MTaPS GHSA activities use two World Health Organization (WHO) documents as guiding tools—JEE (2018 edition) and Benchmarks for International Health Regulations Capacities (2019).

Finally, MTaPS has supported implementation of one round of the WHO methodology[6] in six tertiary-level HFs which identified key gaps in AMS implementation.


An AMS trainer facilitates a training on ethical prescribing and ethical dispensing for a group of participants from one of the 10 MTaPS-supported HFs in November 2021. (Photo credit: Stephano Simba, MTaPS Tanzania)

## Stakeholder Engagement

MTaPS works closely with the Government of Tanzania, including the MOH; the Ministry of Agriculture, Livestock, and Fisheries (MALF); and the President's Office Regional Administration and Local Government (PO-RALG) to support NAP-AMR implementation. MTaPS collaborates with animal sector experts at Sokoine University of Agriculture and the Food and Agriculture Organization to help develop multisectoral AMS policy guidelines, and collaborates with other partners, including WHO, World Organization for Animal Health, and Centers for Disease Control in Tanzania to achieve the intended results.

# Results and Achievements

In close collaboration with counterparts and stakeholders both at the national and facility levels, the following key results were achieved:

1. Developing, updating, and disseminating key policies, regulations, and operational documents on AMR/AMS, including:
    - Development of the Tanzania Policy Guidelines for Implementing Antimicrobial Stewardship, based on WHO's One Health (OH) approach[7]
    - Development of the AMS NAP monitoring framework and checklist of indicators to monitor progress on the implementation of AMS interventions at the national and HF levels Review of the MTC guidelines and development of dissemination materials
    - Updating and dissemination of STG/NEMLIT with access, watch, and reserve (AWaRe) classification to provide guidance to HCPs on the rational use of antibiotics
    - Development of facilitators' guides on ethical prescribing and ethical dispensing to support training of HCWs
2. MTaPS provided assistance in the development and operationalization of the "Multisectoral AMR Communication Strategy: Moving from Awareness to Action 2020–2025" to improve OH communications, practices, and implementation among MOH; MALF; PO-RALG; and the four TWGs that feed into the MCC (AMR awareness, AMR surveillance, IPC, and AMS).
3. At the hospital level, MTaPS assisted in reestablishing 10 HMTCs (i.e., 1 in each of the 10 supported HFs) to foster AMS implementation.

# Lessons Learned

Several important lessons have emerged from MTaPS' work in strengthening AMS in Tanzania:

- A well-structured national governance mechanism for AMR enables MSC by supporting linkages between ministries, implementing partners, TWGs, and HFs, facilitating discussion of key challenges and their solutions, and promoting harmonization among different partners and stakeholders. All AMS activities are now being presented to the MCC for approval and advice, indicating the strengthening of the multisectoral coordinating mechanism.
- While developing key multisectoral governance documents, early stakeholder engagement in the review process created ownership. Having the review process led by the senior management at the ministry level made for a country-led process, smooth operation, and faster approval. Collection

[6] WHO methodology for point prevalence survey on antibiotic use in hospitals. Geneva: World Health Organization; 2018. License: CC BY-NC-SA 3.0 IGO.

[7] Multisectoral coordination is at the core of the World Health Organization's One Health approach, which promotes the responsible and prudent use of antimicrobials across animal, human, and other sectors to reduce the emergence and spread of resistant bacteria.

and addressing of stakeholder inputs helped improve the governance documents' contents and gain ownership among stakeholders.

- Local or facility-level ownership of AMS activities is critical to sustainability. While traditionally most AMS activities in Tanzania were implemented from the top-down, the 10 MTaPS-supported hospitals are shaping the AMS agenda bottom-up. They have developed their own hospital formulary, including antimicrobials according to their disease patterns and AWaRe categorization; adapted the NEMLIT; and developed facility AMS action plans. Facilities also identified champions across different teams (pharmacy, prescribers, clinicians, laboratory) to promote sustainable change in their facilities. Securing the support and engagement of hospital leadership was also key to creating ownership and successfully implementing AMS practices.
- Peer-to-peer learning can promote collaboration and help build capacity and mentorship among health workers and management. Through the virtual ECHO platform, hospitals have shared and discussed challenges, success stories, and mitigation strategies using a holistic approach.
- Use of evidence to drive AMS program decision making and action—evidence generated from MTaPS' AMS activities (specifically on AMU and antimicrobial consumption) has been published in two peer-reviewed journals respectively (British Medical Journal and Frontiers of Pharmaceutics) and provided baseline evidence to monitor program activities.
- Implementation experience in the 10 MTaPS-supported hospitals can be used to scale up and expand to Tanzania's other hospitals and HFs. In addition, information and experience from implementing the current NAP-AMR will be incorporated in the ongoing development of the new action plan (2023-2028).

> *"Now we have 10 hospitals that are USAID/MTaPS programmed, linking AMS and IPC activities that are cross-fertilizing. We can use these 10 regional hospitals as a model for upscaling hospitals across the country."*
>
> — Professor Jeremiah Seni, MD, M.Med, PhD, Catholic University of Health and Allied Sciences, Chairperson, Antimicrobial Stewardship Technical Working Group

## Pathway to Sustainability

MTaPS has provided technical assistance to the government of Tanzania and other stakeholders to update policies and guidelines that will have sustained impact on AMS governance at the national level and on implementation of evidence-based practices at the facility level. To build and expand on MTaPS' work in Tanzania, there is a need for financing mechanisms that support expansion to other non-MTaPS-supported facilities across the country. Budgeting for AMS activities at the national and hospital level, through comprehensive hospital operational plans and council health plans, as well as developing public-private partnerships, are key strategies.

## Conclusions

MTaPS' implementation of AMS activities to date has contributed to improving Tanzania's baseline JEE score of 1 towards level 2 JEE capacity by supporting 75% (3/4) of capacity level 2, 50% (3/6) of level 3, 14% (1/7) of level 4, and 28% (2/7) of capacity level 5 WHO benchmark actions, resulting in an overall score of 38% (9/24). MTaPS supported MOH and MALF in developing the AMS policy guidelines as per the OH approach. MTaPS supported MOH in developing and disseminating MTC guidelines, STGs, and the NEML consisting of the AWaRe categories of antibiotics. MTaPS conducted training on AMS, specifically ethical prescribing and dispensing of antimicrobials, for 110 (43 female, 67 male) HCPs from 10 MTaPS-supported facilities. MTaPS, in collaboration with MOHCDGEC, supported HCWs to implement AMS interventions including reviving MTCs that will foster AMS implementation at the hospitals. MTaPS supported development of a checklist with indicators that will be used to monitor progress with implementation of AMS interventions in the NAP monitoring framework at the ministry level and at HFs.

Tanzania has made progress through MTaPS' support in improving antibiotic use at the facility level, especially in the 10 pilot facilities, through strengthening local governance structures such as the HMTC and AMS committees to perform their functions. Sustaining these achievements will require continued engagement and leadership of ministerial staff and hospital management to ensure effective coordination and action for AMS.

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**About USAID MTaPS:**

The USAID Medicines, Technologies, and Pharmaceutical Services (MTaPS) Program (2018–2023) enables low- and middle-income countries to strengthen their pharmaceutical systems, which is pivotal to better health outcomes and higher-performing health systems. The program is implemented by a consortium of global and local partners, led by Management Sciences for Health (MSH), a global health nonprofit.