

USAID Medicines, Technologies, and Pharmaceutical Services (MTaPS) Program

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Better Health Outcomes.



Dispensing alcohol-based hand rub. Credit: MTaPS Uganda

MTaPS GHSA/AMR SUMMARY REPORT

About USAID MTaPS

For the past six years, the US Agency for International Development (USAID) Medicines, Technologies, and Pharmaceutical Services (MTaPS) Program (2018–2024) has worked to enable low- and middle-income countries to strengthen their pharmaceutical systems, which are essential to establishing higher-performing health systems and achieving better health outcomes. The program is implemented by a consortium of global and local partners, led by Management Sciences for Health (MSH), a global health nonprofit.

Learn more at <https://www.mtapsprogram.org/>

INTRODUCTION

The USAID MTaPS program enables low- and middle-income countries to strengthen their pharmaceutical systems, which are critical for ensuring access to and appropriate use of safe, effective, quality-assured, affordable medicines, vaccines, health technologies and products, and related pharmaceutical services to improve health. MTaPS' objectives are to (1) strengthen pharmaceutical sector governance; (2) increase institutional and human resource capacity for pharmaceutical management and services, including regulation of medical products; (3) increase availability and use of pharmaceutical information for decision making and advance the global learning agenda; (4) optimize pharmaceutical-sector financing, including resource allocation and use; and (5) improve pharmaceutical services, including product availability and patient-centered care, to achieve desired health outcomes. MTaPS employs a pharmaceutical system strengthening (PSS) approach to identify and implement strategies and actions that achieve coordinated and sustainable improvements of a pharmaceutical system to make it more responsive and resilient for achieving better health outcomes.

MTaPS promoted the Global Health Security Agenda (GHSA), which aims to build countries' capacity to protect themselves from infectious disease threats and to raise global health security (GHS) as a national and worldwide priority. MTaPS provided GHSA technical assistance to 13 collaborating countries, including Bangladesh (BD), Burkina Faso (BF), Cameroon (CM), Côte d'Ivoire (CI), Democratic Republic of the Congo (CD), Ethiopia (ET), Kenya (KE), Mali (ML), Mozambique (MZ), Nigeria (NG), Senegal (SN), Tanzania (TZ), and Uganda (UG), focusing on antimicrobial resistance (AMR) containment. MTaPS' GHSA technical assistance endeavored to assist collaborating countries in achieving higher International Health Regulations (IHR) (2005) capacity levels, as measured by the Joint External Evaluation (JEE) and the World Health Organization (WHO) benchmarks for IHR capacities frameworks. MTaPS' support for AMR containment focused on strengthening multisectoral coordination (MSC), infection prevention and control (IPC), and antimicrobial stewardship (AMS).



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CHALLENGE

AMR is a major public health threat and a leading cause of death globally. According to a 2019 estimation, AMR was associated with 4.95 million deaths, including 1.27 million directly attributable to bacterial AMR, with the highest burden observed in sub-Saharan Africa.¹ The situation remains consistent in the 13 MTaPS collaborating countries, all of which have documented growing resistance to antibiotics reserved for resistant pathogens.^{2,3} According to a baseline situational analysis conducted by MTaPS using the 2019 WHO benchmarks for IHR capacities tool to assess IHR capacity in the AMR technical area, only 31% (69 out of 221) of MSC on AMR (MSC-AMR) actions, 9% (23 out of 252) of IPC actions, and 8% (26 out of 312) of AMS actions were completed collectively across the 13 supported countries, indicating inadequate capacity for AMR containment, prevention, and response to disease outbreaks.⁴

Only 6 out of 13 countries had established MSC governance bodies, with the majority lacking essential supporting policies and terms of reference (TOR). Furthermore, all these bodies were solely operational at the central level and lacked substantial presence and functionality at subnational levels. Key technical working groups (TWGs) such as IPC and AMS TWGs did not exist in 9 out of the 13 countries. Most collaborating countries had completed their national action plans for AMR (NAPs-AMR), but operationalization and implementation were weak, as many lacked detailed costed implementation plans.² IPC programs were limited, with underdeveloped core components at the national and facility levels, evidenced by poor IPC practices, limited political commitment, and high prevalences of health care-associated infections (HAIs).⁵ None of the 13 countries had HAI surveillance policies or protocols. AMS programs and practices were also inadequate in all collaborating countries. None of the 13 countries had considered the WHO Access, Watch, and Reserve (AWaRe) categorization of antibiotics while developing and/or revising their essential medicines lists (EMLs) and standard treatment guidelines (STGs).

Capacity to systematically use standard tools to assess programs and develop improvement strategies was weak in all countries, and AMR containment efforts in the agriculture, animal health, and environment sectors significantly lagged behind those in the human health sector, demanding urgent alignment of comprehensive measures across sectors. Additionally, the global outbreak of COVID-19 further stressed the already strained health systems, notably AMR containment initiatives, as resources were redirected toward pandemic response efforts.

STRATEGIC APPROACH

MTaPS' GHSA technical assistance aimed at helping collaborating countries to slow the emergence and spread of resistant organisms through system strengthening. The program focused on building the capacity of in-country stakeholders and facilities to implement standardized approaches for improving IPC and AMS practices and strengthening MSC-AMR to improve IHR capacities. The technical assistance was guided by results and findings from country scoping visits, baseline JEE scores, and assessments conducted at the national and facility levels. Priority actions were informed by countries' strategic guidance such as NAPs-AMR, use of the 2nd edition of the JEE tool (2018), and implementation of recommended actions in the WHO benchmarks for IHR capacities (2019) tool. The focus of MTaPS technical assistance was to help raise the collaborating countries' capacity levels for AMR containment based on the IHR/JEE framework (Figure 1).

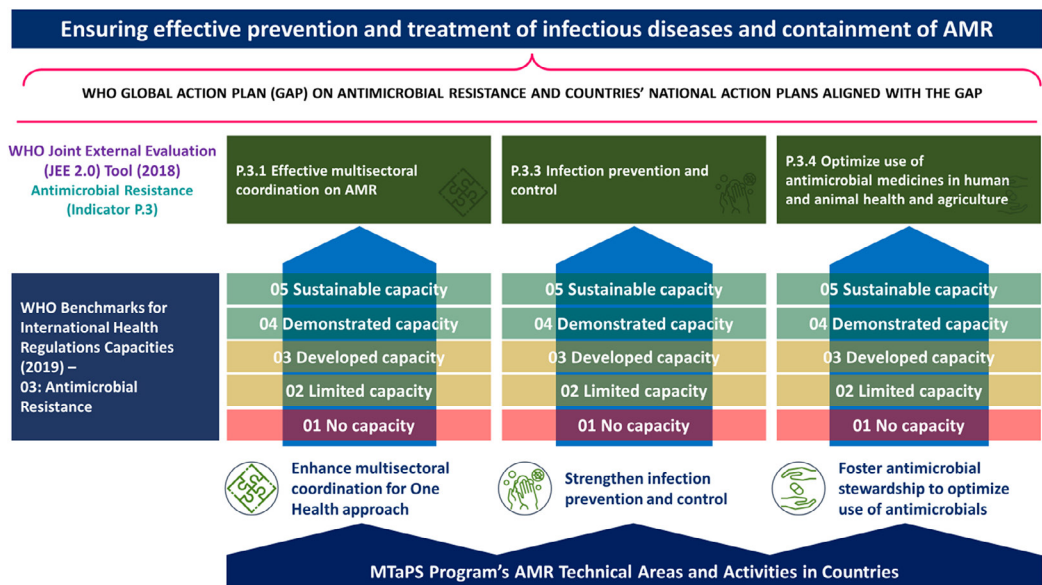


Figure 1. USAID MTaPS program’s GHSA-supported technical approach to improve AMR containment in collaborating countries

Priority was given to actions pertaining to strengthening leadership, local capacity, and ownership; expansion of participation of the animal health, agriculture, and environment sectors and the private sector; creating an enabling environment; adoption of standard approaches; and creating a culture of monitoring and use of data for informed decision making. Building on countries’ existing structures, MTaPS collaborated with in-country stakeholders to leverage resources to transfer proven standard tools, technologies, and approaches; strengthen local capacity and competencies; and continue efforts for ensuring institutionalization and progress toward sustained AMR containment. Across the GHSA/AMR portfolio, MTaPS collaborated closely with Ministries of Health, Environment, and Agriculture, local agencies and partners on the national and subnational levels, health care facilities (HCFs) and animal health facilities, WHO, the Food and Agriculture Organization (FAO), other multilateral organizations, USAID implementing partners, and local and international nongovernmental organizations.

KEY ACHIEVEMENTS



Effective MSC-AMR

Governance for MSC-AMR strengthened

The role of strong leadership in effective AMR containment cannot be overstated. WHO recommends the establishment of AMR governance structures to include national MSC bodies and task-specific and focused TWGs that enable MSC, good communication, and the successful cascading of actions to implementers.⁶ MTaPS’ GHSA technical assistance strategy heavily relied on strengthening MSC-AMR governance bodies’ leadership, oversight, coordination, and technical capabilities.² Through collaborations with government ministries and stakeholders, MTaPS helped establish or revive national platforms for governance and coordination of national AMR responses in 3 countries (BD, CI, and ET); 10 countries (BF, CM, CD, CI, ET, KE, ML, SN, TZ, and UG) developed new or updated a TOR for the multisectoral TWGs that provide leadership, coordination, management, and technical implementation of AMS and/or IPC activities. Additionally, MTaPS provided support to all 13 countries in operationalizing these established MSC bodies by facilitating regular coordination and review meetings. Notably, two countries established subnational MSC bodies at county (KE) and state (NG)

1,473

people (34% female) trained in **AMR-related topics** in **leadership/management** related to multisectoral



engagement in AMR with MTaPS support.

439

(56% of the 785 collective MSC, IPC, and AMS benchmark actions completed in the **13 collaborating countries**, using the **2019 WHO benchmarks tool**.



140 out of 221

MSC actions (17 actions x 13 countries) completed using the **2019 WHO benchmarks tool**.



115 out of 252

IPC actions (21 actions x 12 countries) completed using the **2019 WHO benchmarks tool**.



134 out of 312

AMS actions (24 actions x 13 countries) completed using the **2019 WHO benchmarks tool**.



levels. One country (CI) developed a governance manual for AMR containment to guide decision making and actions related to AMR and health security and a national AMR policy that identifies the roles and responsibilities of government in AMR containment, institutionalizing the efforts. MTaPS supported a total of 708 MSC meetings and facilitated trainings of 1,495 (34% female) participants in various MSC-AMR topics in 13 countries as of June 30, 2024. In line with WHO's recommendation to address the gender and equity gap in MSC-AMR containment—a currently neglected area—MTaPS' support increased female participation in MSC-AMR activities at the national level in 13 countries by 36% between October 2019 and September 2023.^{7,8} To further advance gender equity considerations in MSC leadership and participation, MTaPS published two success stories highlighting the work of specific female leaders and champions in AMR work in UG.

Compliance with the WHO IHR enhanced

MTaPS' technical assistance aimed at supporting countries to strengthen their compliance with the WHO IHR (2005) as measured by the 2018 version of JEE framework and the 2019 WHO benchmarks for IHR capacities tool. It is expected that compliance to IHR would strengthen the capacities of individual countries and the global community to effectively detect, prevent, and respond to public health threats and events.⁹ As of September 2024, MTaPS supported national stakeholders to fully or partially complete 439 (56%) of the 785 cumulative MSC, IPC, and AMS benchmark actions in the 13 collaborating countries, using the 2019 WHO benchmarks tool as stated above. Notably, 140 out of 221 MSC actions (17 actions x 13 countries), 115 out of 252 IPC actions (21 actions x 12 countries—the program did not support IPC implementation in BF), and 134 of 312 AMS actions (24 actions x 13 countries) were completed, contributing substantially to the operationalization of country-specific actions in the NAPs-AMR. Figure 2 below provides the percentage of benchmark actions fully or partially completed with MTaPS support and actions completed with support of only other partners per the WHO IHR Benchmarks for Capacities 2019.

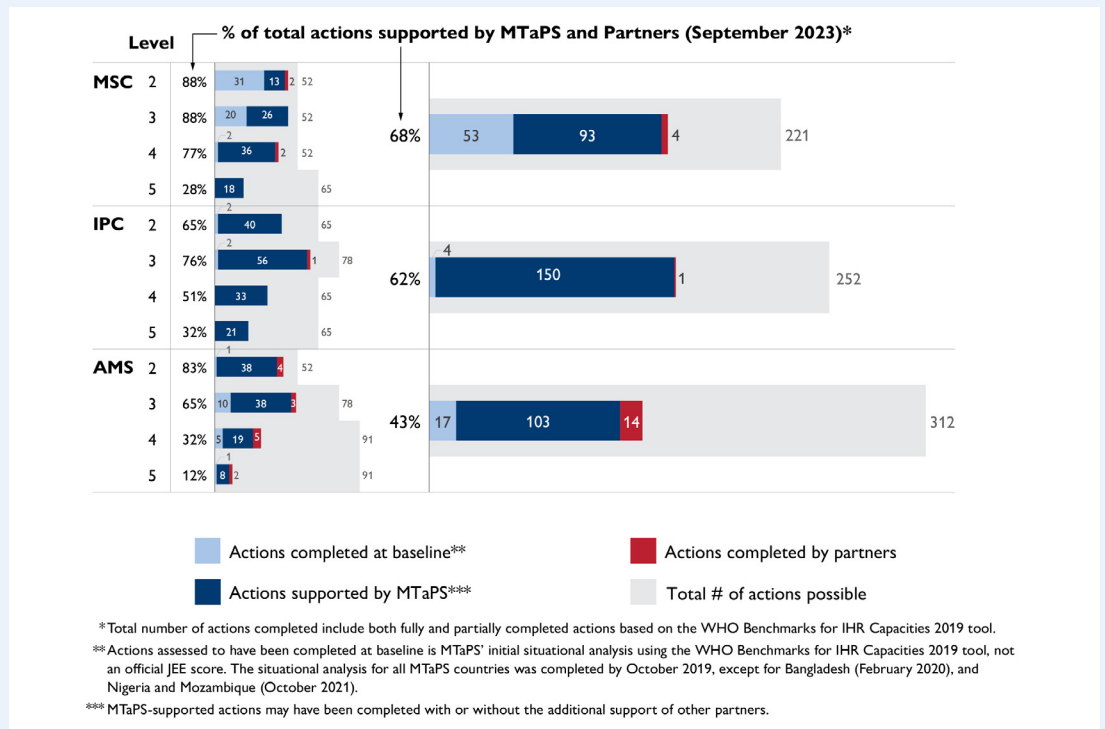


Figure 2. Number of WHO Benchmarks for IHR Capacities completed at baseline, supported by MTaPS and completed by partners for each of the technical areas from levels 2 to 5 across 13 MTaPS-supported countries.

These achievements contributed to moving six countries (CI, CD, ML, NG, SN, and TZ) to higher JEE capacity levels in at least one of the technical areas of MSC, IPC, and AMS per the most recent JEE conducted in 2023 and 2024 using the 2022 version of the tool, which is more stringent. The achievements of the benchmark actions are also expected to strengthen compliance with the IHR framework (2005) related to the AMR technical area and improve the health and safety of populations.

Capacity for NAP-AMR implementation strengthened

One of the most significant milestones in AMR containment was the 2015 endorsement of the WHO global action plan on AMR (GAP) by the 68th World Health Assembly as a primary strategy for the global AMR response.¹⁰ As of November 2023, 178 countries—including all MTaPS-supported countries—had developed and begun implementation of their country-specific NAPs-AMR in alignment with the GAP objectives.¹¹ Through MTaPS' support, four collaborating countries (BF, CI, CD, and ML) finalized and began implementation of their first multisectoral locally led NAP-AMR. To further support operationalization of the NAP-AMR objectives into meaningful and impactful actions, countries were supported to develop implementation plans (BD, CD, and ET) and monitoring and evaluation (M&E) frameworks (BD, CM, CD, and KE), establishing a systematic approach for assessing progress, facilitating evidence-based decision making and knowledge sharing, and promoting accountability and transparency. Furthermore, nine countries (BD, CM, ET, KE, ML, NG, SN, TZ, and UG) reviewed their NAPs-AMR to establish implementation status and identify barriers to and opportunities for implementation, a critical recent WHO recommendation.¹² Of these, six countries (CM, KE, ML, NG, SN, and TZ) proceeded to develop their next iteration of the NAPs-AMR, incorporating findings and recommendations from the reviews. These reviews, in addition to implementation experiences and lessons learned, were instrumental in upgrading the next NAPs-AMR beyond GAP recommendations to include new country-specific strategies such as additional TWGs (including those on governance, M&E, and finance and resource management) and actions for addressing new and emerging concerns linked to AMR, such as those related to social and gender inequalities included in the next iterations of the ET and TZ NAPs-AMR. This progress signifies enhanced self-reliance capacity and offers valuable templates for other countries to update their NAPs-AMR.^{13,14}

Expanded participation of sectors and stakeholders

As the human health sector continues to be the dominant sector in One Health implementation in low- and middle-income countries, MTaPS made intentional efforts to enhance active participation of the animal health and environment sectors and inclusion of nontraditional stakeholders in MSC activities, such as university students, professional associations, and private-sector entities.¹⁵ With collaborative support from MTaPS, three countries (CI, CD, and ML) employed standardized IPC tools originally designed for the human health sector to conduct IPC assessments in the animal health sector, whereas in UG, a wider assessment was done for the agriculture sector using local tools. Moreover, in four countries (BF, CI, ML, and UG), national plans and guidelines for IPC and AMS were developed for the animal health and agriculture sectors. MTaPS' support has led to the involvement of the environment sector representative in national mentorship activities for IPC and AMS in ET, as well as an environment sector–developed action plan for AMR containment. MTaPS' support fostered collaborations of MSC bodies with countries' professional associations in three countries (ET, KE, and TZ) to conduct AMR-related training along with linkage to relicensure of practitioners, whereas in UG, the national AMR subcommittee collaborated with universities to mobilize students in health and biomedical sciences into AMR interest groups that continue to implement AMR awareness and training initiatives.

Bringing the Animal Health Sector Up to Speed in the Fight against AMR in BF, CD, and UG

In UG, the 20-year-old essential veterinary medicines list was revised and updated and guidelines on infection prevention and antimicrobial use in five animal production subsectors, including cattle, sheep and goat, piggery, poultry, and fish, were produced. Similar guidelines were developed in BF to optimize antimicrobial use in the country's livestock sector. To reinforce these initiatives, MTaPS facilitated training sessions and the dissemination of more than 5,000 printed copies of the guidelines in BF and organized 6 dissemination workshops in UG's high-production districts. In CD, MTaPS adapted WHO tools for assessing IPC at farms, pioneering the application of human health tools within the animal health sector.

Multisectoral AMR awareness enhanced

Acknowledging that AMR containment efforts will prove ineffective without public health awareness, and that countries needed to implement cost-effective and multisectoral interventions to raise awareness and understanding of antimicrobial use and AMR as recommended by WHO, MTaPS collaborated with in-country stakeholders to support MSC-AMR bodies to undertake AMR awareness, education, and training initiatives.^{16,10} Countries utilized the momentum of the annual WHO World AMR Awareness Week (WAAW) to hold multisectoral AMR-focused conferences (BF, CI, CD, KE, and ML), panel discussions (BD and ET), workshops (CD), and symposia (MZ and TZ); launch public engagement initiatives such as rallies (BD and MZ), a science fair (SN), social media campaigns (BD and UG), and press releases (ET and TZ); disseminate AMR-related documents and information (ET, KE, TZ, and UG) and MSC structures (SN); and conduct lecture series and seminars (ET, KE, and UG) and training sessions for mass media professionals/journalists (ET and SN). Training of journalists in SN led to the formation of the country's inaugural One Health Journalists Network during the 2021 WAAW; this network then spearheaded media coverage of AMR and One Health during subsequent WAAWs and the rest of the year. To further extend beyond the WAAW and institutionalize public communication and awareness on AMR topics, MTaPS supported Tanzania's AMR multisectoral coordinating committee to develop a multisectoral AMR communication strategy (2020–2025) that has facilitated effective communication on One Health and AMR and coordination among One Health and AMR stakeholders, including the public.

Use of MSC data and evidence for decision making enhanced

Among other benefits, the use of accessible data and evidence fosters unified decisions and buy-in among stakeholders, facilitating implementation of One Health and AMR.¹⁷ Compliance with the IHR (2005) requires countries to annually report on the status of IHR implementation to the World Health Assembly and WHO.¹⁸ MTaPS' collaborative support built the capacity of countries' MSC bodies to apply standard tools to collect, analyze, and interpret data on IHR and AMR through self-assessments to generate evidence, inform country decisions and actions, and monitor the implementation of AMR and IHR benchmark actions. With MTaPS' collaboration, the MSC bodies in five countries (BD, ML, NG, SN, and TZ) undertook self-assessments with the JEE-2 and the 2019 benchmark frameworks, identifying gaps for actions and facilitating evidence-based decision making. Additionally, routine self-assessments with the electronic IHR States Parties Self-Assessment Annual Reporting (e-SPAR) tool (SN and CI) and Tripartite AMR Country Self-Assessment Survey (TrACSS) framework (CD and CI) facilitated annual reporting on the status and progress of IHR and NAP-AMR implementation, respectively, to WHO.

Human resource capacity for MSC-AMR strengthened

MTaPS made intentional efforts to support partner countries to build the human resource capacity of in-country stakeholders to implement AMR interventions. In collaboration with national stakeholders,

the program supported continuous education of professionals and practitioners through developing and availing training courses on AMR topics for human health (BD, CM, CI, ET, KE, ML, SN, and UG) and animal health (CM and CI), as well as accessible e-Learning platforms integrating modules and topics on AMR (BD, BF, CM, CI, ET, KE, ML, and TZ). In three of these countries (ET, KE, and TZ), the courses have been linked to continuous professional development points and mandated as prerequisites for relicensure and are delivered through relevant professional bodies. MTaPS-supported training initiatives led to the establishment of pools of AMR experts at the national and subnational levels in eight countries (CI, CM, ET, KE, ML, SN, TZ, and UG) that have facilitated local capacity transfer and institutionalization of in-service training initiatives. To institutionalize preservice AMR education for health professionals and practitioners, MTaPS collaborated with CM's University of Buea to develop and include content on AMR into the university's curriculum for the new master's degree program for infectious diseases and AMR. Similarly, in UG, MTaPS collaborated with health training institutions, professional bodies, and the National Council of Higher Education to develop a curriculum on AMR for preservice training of health care professionals. Additionally, in KE, MTaPS collaborated with the University of Nairobi School of Pharmacy to incorporate AMS- and One Health-related topics into pharmacy curricula. Significantly, MTaPS partnered with UG's National Curriculum Development Center to assess the content regarding AMR and health security within primary and secondary education curricula. The findings were synthesized into a policy brief advocating for the integration of education on AMR and health security into school education, a critical step in institutionalizing public education and training on AMR.¹⁹

Engaging Future Health Professionals on AMR Containment in UG

MTaPS supported UG's efforts to educate the next generation of health care workers on the dangers of AMR and importance of One Health approaches by organizing symposia for more than 1,000 students undergoing various health professional education courses (such as medicine, pharmacy, nursing, public health, and allied health sciences) from seven universities. Following the events, students formed AMR interest groups in each university, culminating in the creation of a national students' AMR charter under the Uganda National AMR Subcommittee. These groups coordinated various activities, such as patient education, research, media campaigns, and community engagement, to raise awareness about AMR. The initiative led to significant successes, including winning research grants by the health professional education students, totaling USD 173,000. As a result, the program expanded to support curriculum revisions in health care education to integrate AMR content, further solidifying and sustaining its impact on future health care professional education.

AMR and One Health strengthened through MSC policies

Government policy instruments are pivotal in facilitating the implementation of AMR interventions and institutionalizing AMR containment actions.²⁰ Government policies established with MTaPS' support strengthened MSC and AMR containment efforts in collaborating countries. Through a government decree, CI formalized the One Health Platform to institutionalize a national MSC mechanism to address public health threats, including AMR. Additionally, an interministerial decree in the same country mandated official establishment of drug and therapeutic committees (DTCs) in HCFs countrywide, institutionalizing medicine management, including antimicrobials. In a parallel vein, an interministerial order in BF formalized the One Health steering committee, while another order regulating antimicrobial use in the animal sector was instituted with MTaPS' support. To institutionalize AMS and IPC practices, MTaPS built the capacity of MSC bodies to develop policy guidelines on AMS and/or IPC across sectors (CI and TZ), in the human health sector (CI, CM, KE, and ML), and in the animal health sector (NG and UG). The policy guidelines facilitate the standardization of AMS and IPC across sectors.

AMR-related financing enhanced

Effective MSC-AMR continues to be constrained in low- and middle-income countries by inadequate availability and ineffective allocation of resources, including human, financial, and logistical resources.²¹ To operationalize multisectoral strategies for AMR containment, MTaPS strengthened the capacity of MSC bodies in three countries (BD, CD, and KE) to assess available resources and estimate and identify additional funding for implementation plans and M&E frameworks for their NAPs-AMR. Additionally, in CM, similar costing initiatives were conducted to operationalize One Health plans. Remarkably, in KE, MTaPS supported subnational MSC bodies in four counties (Kisumu, Nyeri, Kilifi, and Murang'a) to cost their IPC action plans, cascading costing capacity to lower MSC levels.

Sustainability and local ownership enhanced

MTaPS played a key role in moving toward sustainability of AMR containment actions through transfer of knowledge and skills to local stakeholders and implementers, facilitating local ownership of approaches and interventions and contributing to the local and global bodies of knowledge and policy dialogue for AMR containment and One Health. MTaPS supported MSC bodies, TWGs, and facilities to adopt and/or adapt standardized tools and approaches to implement country-specific interventions. This strategy effectively facilitated buy-in from local stakeholders and decision makers. The technical assistance empowered local stakeholders to actively participate in interventions, acquiring knowledge and skills on best practices. The various training and capacity strengthening initiatives implemented with MTaPS' support led to the creation of a vast pool of experts in AMR governance and IPC and AMS topics at the national level, in HCFs, and among other implementing partners that can facilitate continuous training and capacity building for AMR containment. For example, in three countries (KE, TZ, and UG), these experts are facilitating peer-led learning in HCFs, contributing to local ownership and sustainability.

Furthermore, MTaPS collaborated with government bodies, nongovernment institutions, and other stakeholders and implementers, contributing to transfer of technical capacity and fostering partner engagement and pooling of resources to institutionalize and sustain AMR containment efforts. Notably, in UG, MTaPS provided technical assistance to other USAID-funded projects implementing IPC/water, sanitation, and hygiene programs to transfer capacity for IPC program implementation using standard tools and approaches. To institutionalize M&E of AMR containment interventions, MTaPS supported the integration of AMS and IPC indicators into countries' systems for routine reporting. Critical IPC indicators are now regularly reported through DHIS2 in TZ and ET in addition to AMS indicators in ET. In KE, key indicators on IPC, AMS, and patient safety are included in the Kenya Health Information System for routine reporting, whereas in TZ, AMS indicators were integrated into the national Afya Supportive Supervision System (AfyaSS) for monitoring during routine supportive supervision.

Global technical and thought leadership

MTaPS' technical and thought leadership led to participation in various conferences and global discussions and the publication of 23 technical briefs and highlights, 7 technical guides, and 15 peer-reviewed journal articles as of January 2024, sharing approaches, reviews, expert opinions, experiences, and results that are publicly available as resources to guide ongoing AMR containment efforts. One peer-reviewed journal article, titled "Strengthening Multisectoral Coordination on Antimicrobial Resistance: A Landscape Analysis of Efforts in 11 Countries," published in 2021, cited 30 times and accessed more than 6,750 times (as of September 2024).²² Another peer-reviewed paper, "Moving from Assessments to Implementation: Promising Practices for Strengthening Multisectoral Antimicrobial Resistance Containment Capacity," contributed to the global learning agenda by sharing insights on AMR-related capacity building derived from our multicountry, multiyear implementation experiences.²



Joshi MP, Hafner T, Twesigye G, et al.

Strengthening Multisectoral Coordination on Antimicrobial Resistance: A Landscape Analysis of Efforts in 11 Countries



Joshi MP, Alombah F, Konduri N, et al

Moving from Assessments to Implementation: Promising Practices for Strengthening Multisectoral Antimicrobial Resistance Containment Capacity



IPC policies and practices strengthened

Governance for IPC strengthened

To enhance governance, coordination, and monitoring of IPC activities included in the NAPs-AMR, MTaPS provided support in establishing IPC TWGs in four countries (BD, CI, ET, and UG) and strengthened them in five others (CM, CD, KE, ML, and TZ). In addition, subnational IPC TWGs were established in two countries—at the county level in KE and the state level in NG. WHO recommends the development and implementation of robust IPC programs with appointed staff, clear objectives, and a defined scope of responsibilities as a foundation for resilient health systems and services capable of effectively responding to disease outbreaks and mitigating the spread of AMR.²³ Effective IPC programs at HCFs can reduce the rates of HAIs by 30% and improve patient safety and quality of health care delivery.²⁴ Multidisciplinary IPC committees provide technical leadership and coordination of IPC programs in HCFs.²⁴ With MTaPS' support, 183 HCFs in 12 countries strengthened IPC programs to combat AMR and improve patient safety as of September 2023. MTaPS helped set up IPC committees in 116 HCFs (63%) and revitalized and strengthened existing ones in 67 HCFs. MTaPS helped the committees to develop and/or update TOR and membership, obtain commitment and buy-in from hospital administrators, apply standard tools and approaches for assessments and monitoring of interventions, and convene regularly to monitor and review progress. In collaboration with ministries of health, MSC bodies, and their TWGs and other stakeholders, MTaPS provided support supervision and mentorship to the committees to enhance their capacity for implementing IPC programs at HCFs.



The capacity building support provided by MTaPS in infection prevention and control was very beneficial. We want to thank UNICEF, MTaPS, and our hierarchy for all their efforts. With these new skills and knowledge, we'll be more productive and can reach the objectives of the Ministry of Health and Social Action to contain the pandemic.”

*Captain Idrissa Ndiaye,
Head of the Regional Hygiene Brigade in Thiès, Senegal*

National-level IPC programs strengthened

Functional, stand-alone, national IPC programs with clearly defined objectives, functions, and activities should be implemented to promote good IPC practices, prevent HAIs, and combat AMR.²⁴ MTaPS assisted countries to improve implementation of the six national-level WHO core components of IPC, including IPC programs, IPC guidelines, IPC education and training, HAI surveillance, multimodal strategies, and monitoring/audits of IPC practices and feedback. Implementation of the national IPC programs was monitored in eight countries (BD, CD, CI, CM, ET, ML, MZ, and SN) through repeat assessments using the WHO national IPC assessment tool 2 (IPCAT2).²⁵ Improvement in the core component mean scores was demonstrated in the eight countries with multimodal strategies, demonstrating the largest improvement, from 39.9% (standard deviation [SD]=34.7) at baseline to 65.8% (SD=26.1) at repeat assessment, followed by IPC programs (47.6% [SD=15.2] to 69.6% [SD=10.1]), monitoring/audits of IPC practices and feedback (34.1% [SD=30.7] to 55.8% [SD=24.5]), and IPC guidelines (56.6% [SD=27.7] to 76.5% [SD=18.1]). HAI surveillance demonstrated the lowest improvement in mean scores (14.0% [SD=27.5] to 21.5% [SD=27.5]), followed by IPC education and training (41.96% [SD=28.5] to 56.9% [SD=33.8]). CM demonstrated the largest improvement in the IPCAT2 average component score (10.2% to 41.8%) followed by CI (65.7% to 89.8%), CD (19.7% to 41.5%) and SN (37.7% to 56.3%), MZ (69.0% to 75.2%), ML (46.3% to 32.8%), and BD (32.5% to 48.5%).

Facility-level IPC programs strengthened

As stated previously, MTaPS supported 183 HCFs across 12 partner countries to implement IPC interventions using standardized approaches and tools. Through collaborations with in-country stakeholders, MTaPS facilitated training of a cumulative total of 16,110 HCWs (34.6% female) on IPC topics in 12 countries, support supervision and mentorship of IPC committees and teams, and the distribution and dissemination of standardized guidance, tools, and IEC materials. Four countries (CD, CI, TZ, and UG) developed shorter and customized country-specific tools based on WHO tools to guide supervision, mentorship, and systematic capacity building at HCFs. As a result, 179 (98%) HCFs developed and implemented continuous quality improvement (CQI) plans, 173 (95%) monitored IPC using standardized tools, and 71 (38%) generated baseline and repeat assessment data using the WHO infection prevention and control assessment framework (IPCAF) tool for HCFs.²⁶ The IPCAF tool supports the implementation of eight WHO core components of IPC programs at the acute HCF level and categorizes the scores into four levels: inadequate, basic, intermediate, or advanced.²⁴ A total of 71 HCFs conducted at least one repeat assessment, with some facilities conducting multiple repeat assessments. Baseline assessments were completed for all countries by October 2019 except for Bangladesh (February 2020) and Nigeria and Mozambique (October 2021); the most recent and latest assessments were completed in September 2023. Of the 71 HCFs, 46 (65%) improved by 1 or more levels compared with the baseline—28 (39%) increased by 1 level compared with the baseline, while 18 (25%) increased by 2 levels. Among the 21 (30%) HCFs that remained within the same capacity level, 19 (27%) progressed to higher scores, while 3 (4%) regressed in scores, compared with the baseline values. Only 3 (4%) HCFs regressed to a lower capacity level than assessed at baseline.

National and institutional capacity for IPC strengthened

MTaPS collaborated with stakeholders in advancing IPC standards and practices in multiple countries, revising and implementing country-specific IPC guidelines in four countries (CM, CI, KE, and TZ). To strengthen countries' systems for early detection and management of outbreaks, reducing HAIs, and creating awareness about HAIs and AMR in HCFs, MTaPS supported the development of guidance for HAI surveillance and control in five countries (CM, KE, ET, NG, and TZ). In NG, a manual on IPC for viral hemorrhagic fever was developed. Two countries (MZ and NG) were supported to develop SOPs and protocols to guide IPC practices in HCFs. Furthermore, six countries (CI, CM, ML, MZ, NG, and SN) developed and began implementation of national IPC plans. TZ developed an M&E framework to monitor implementation of the national IPC plan. MTaPS collaborated with various stakeholders in the animal health and agriculture sector to develop national IPC plans in three countries (CI, ML, and UG), and guidelines for IPC and appropriate antimicrobial use in the animal health sector were developed in UG, advancing systems, standards, and practices to reduce cross-infection and contain AMR.

Use of antimicrobials optimized

AMS governance strengthened

According to WHO, governance is one of the essential core elements of effective national AMS programs that provide overall leadership and coordination for actions for ensuring optimal antimicrobial use.²⁷ One of the most important and first activities for AMS programs at the national level involves the establishment of relevant AMS governance structures, such as a national committee and/or TWG.²⁸ In 4 countries (BD, CI, ET, and UG), MTaPS collaborated with stakeholders to establish AMS TWGs at the national level, and in 5 others (CM, CD, KE, ML, and TZ) existing TWGs were strengthened and/or revitalized to provide oversight, coordination, and monitoring of multisectoral AMS implementation. In 2 countries, AMS TWGs were established at subnational levels—in 4 counties in KE and in 2 states in NG. MTaPS' support included the development and/or update of membership and TOR for the

MTaPS facilitated training of a cumulative total of

16,110

HCWs (34.6% female) on IPC topics in 12 countries



Of the **71** HCFs, 65% improved their scores by one or more levels compared to the baseline—**28**



(39%) rose by one level compared to the baseline, while **18** (25%) rose by two levels (as of September 2023).



Among the **21** (30%) HCFs that remained within the same capacity level, **19** (27%)

progressed to higher scores (as of September 2023).



AMS TWGs or committees, conducting baseline and repeat assessments, development of governance and operational tools, and support for regular coordination and review meetings. MTaPS collaborated with ministries of health, TWGs, and other stakeholders to strengthen and revitalize HCF DTCs to enhance their ability to implement AMS actions; this was done through revision and update of the DTCs' memberships and TOR to include AMS teams and/or focal points, baseline assessments and development of improvement plans, and regular review and monitoring meetings. A total of 3 countries monitored the performance of DTC and AMS teams, showing improvements in repeat assessments using various versions of the adapted WHO AMS practical toolkit. In CI, the average score of 19 DTCs increased significantly, from 36% (SD=26) to 65% (SD=18). Similarly, in MZ, 3 DTCs improved from 63% (SD=7) to 82% (SD=4). In CM, despite high staff turnovers, 11 DTCs demonstrated a slight improvement, from 23% (SD=8) to 30% (SD=16). The DTCs facilitated implementation of AMS actions at HCFs, including training and other peer-led learning initiatives and surveillance of antimicrobial use. At the national level, DTC members from HCFs participated in and contributed to the development of technical guidance, materials, and tools; participated in TWG discussions; and facilitated peer-led learning.

Institutionalizing AMS Supportive Supervision in TZ

MTaPS supported TZ in integrating the WHO health facility AMS tool into the national AfyaSS digital platform, enhancing supervision of AMS activities in HCFs. Through AMS supportive supervision at 10 facilities, improvements were observed in monitoring antibiotic use and budget allocation for AMS interventions. The data collected through this process were incorporated into the AfyaSS platform, facilitating the institutionalization and sustainability of MTaPS stewardship efforts. This system-based approach ensures efficient reporting of AMS data, further strengthening AMS practices nationwide.

National and institutional capacity for AMS strengthened

MTaPS collaborated with various stakeholders to advance AMS systems and standards in the human health and animal health sectors. AMS-specific national plans were developed with MTaPS' support in four (BD, CM, CI, and ML) and two (CI and ML) countries, providing country-specific collective roadmaps for promoting appropriate antimicrobial use in the human health and animal health sectors, respectively. To provide evidence-based guidance to practitioners and implementers to optimize antimicrobial use in the human health sector, improve patient outcomes, and reduce the emergence of AMR, four countries (BD, CI, KE, and CD) developed guidelines on AMS implementation, whereas TZ and CD developed DTC guidelines. Furthermore, three countries (BF, CI, and UG) developed similar guidelines for the animal health sector. To enhance antimicrobial selection and use in human health, four countries (BD, ET, SN, and TZ) were supported to develop STGs—with an accompanying mobile STG app in BD—whereas eight (BF, CD, ET, KE, ML, MZ, NG, and TZ) and five (BF, ET, ML, SN, and TZ) countries systematically incorporated WHO AWaRe categorization of antibiotics into their revised national EMLs/formularies and STGs, respectively. In UG, MTaPS supported the revision of the national veterinary EML to support medicine management, including antimicrobials in the animal health sector.

To complete the capacity level 2 action on AMS (P.3.4.)—Undertake an assessment of stewardship policies and activities, including regulatory framework and supply chain management of antimicrobials, using a multisectoral approach—in the 2019 WHO benchmark tool and to inform further actions for strengthening regulation on AMS and promote antimicrobial use, MTaPS supported national MSC bodies and AMS TWGs in 10 countries (BD, BF, CI, CM, ML, MZ, NG, SN, TZ, and UG) to undertake multisectoral assessments to map existing regulations and policies on AMS, identify gaps for strengthening, and make actionable recommendations.⁴ MTaPS collaborated with stakeholders in

UG to conduct an assessment to establish existing systems for antimicrobial use surveillance in the human and animal health sectors and make appropriate recommendations for the government, its AMS TWG, and other stakeholders to streamline antimicrobial use surveillance and strengthen AMS implementation in line with WHO recommendations. In CI and KE, MTaPS supported the national AMS TWG to develop a localized protocol to guide point prevalence surveys on antibiotic use in HCFs. To inform strategies and interventions for optimizing antimicrobial use, surveillance of antimicrobial consumption (AMC) at the national level is essential.²⁹ MTaPS collaborated with stakeholders to conduct a national AMC analysis in three countries (CD, TZ, and UG) to support multisectoral AMC surveillance, and in UG, MTaPS supported the National Drug Authority to develop and implement a framework and manual for continuous multisectoral AMC surveillance at the national level.

“

We are really thankful to the MTaPS project for providing technical and financial support for the activity on AWARe categorization of antibiotics. We specifically appreciate the technical support extended to us because our knowledge on the subject was limited, and we would have never been able to kick start and implement this activity without their support.”

*Ms. Siana Mapunjo,
AMR focal person from the Ministry of Health,
Community Development, Gender, Elders and Children, Tanzania*

“

The training was very interesting and was a change from trainings received before. The method of the assessment of core indicators helps identify the full scope of activities to be addressed by the group managing antimicrobials [a unit within the therapeutics committees] by noting weaknesses, such as a lack of respect of protocols and prescribing practices.”

*Dr. Sirantou Tata Dena,
Doctor and focal point for AMR
at the Centre de Santé de Référence in Koutiala, Mali*

AMS practices and standards enhanced

MTaPS collaborated with ministries of health, national MSC bodies and AMS TWGs, and stakeholders to apply WHO approaches to strengthen AMS programs in 152 HCFs in 13 countries by September 2023. Among these, 147 (97%) HCFs developed and implemented CQI plans to strengthen AMS capacity and improve antibiotic use. MTaPS supported the HCFs to update their AMS governance structures, obtain commitment from HCF management teams, undertake AMS and antimicrobial use assessments, and hold regular review meetings. Furthermore, MTaPS facilitated training initiatives, reaching a total of 12,464 health care workers across 13 countries, and disseminated standardized guidance and tools on AMS, including information, education, and communication materials. With MTaPS' support, six hospitals in UG demonstrated improvement in antibiotic use for urinary tract infection and upper respiratory tract infection and in ET, five hospitals demonstrated similar improvements in surgical antibiotic prophylaxis.^{30,31} These efforts resulted in the creation of three AMS centers of excellence in UG, designated by the national MSC bodies and ministries of health through application of a local criteria-based tool developed with MTaPS' support. The centers of excellence provide reference centers for AMS best practices and support other and lower-level HCFs through peer-led learning and mentorship. To further inform AMS interventions in HCFs, MTaPS supported DTCs and AMS teams to conduct WHO methodology-based point prevalence surveys on antimicrobial use in 33 HCFs across five countries—BF (1), KE (3), NG (7), TZ (9), and UG (13).

AMS programs strengthened in

152
HCFs in **13**
countries by September 2023.
147 (97%) of these HCFs
developed and implemented
CQI plans.



12,464

health care
workers trained
on AMS practices
across **13** countries.





FEATURED RESOURCES

TECHNICAL GUIDES

- [A technical guide to strengthening the multisectoral coordination body to address antimicrobial resistance in MTaPS Program countries](#)
- [A technical guide to IPC facility program assessment and development of IPC improvement plans](#)
- [A technical guide to implementing facility-level antimicrobial stewardship programs in MTaPS Program countries](#)
- [A technical guide to implementing facility-level COVID-19 infection prevention and control activities in MTaPS program countries](#)
- [A technical guide to learning and capacity development to address antimicrobial resistance in MTaPS countries](#)
- [A technical guide to implementing the World Health Organization's AWaRe antibiotic classification in MTaPS Program countries](#)

- [A technical guide to implementing a continuous quality improvement approach to strengthen infection prevention and control programs at health facilities in MTaPS Program countries](#)

TEMPLATES:

- [Preparation tool: AWaRe classification in MTaPS countries](#)

TECHNICAL BRIEFS AND HIGHLIGHTS

- [Introducing the WHO antibiotics categorization in Tanzania](#)
- [Strengthening multisectoral coordination to contain antimicrobial resistance \(AMR\) in Kenya](#)
- [Advancing antimicrobial stewardship in Côte d'Ivoire](#)
- [Strengthening antimicrobial stewardship in Ethiopia](#)
- [Strengthening multisectoral coordination for combating antimicrobial resistance in Ethiopia](#)

- [Lessons learned from the implementation of IPC programs in Uganda](#)

- [Strengthening antimicrobial stewardship in Nigeria](#)

- [Facilitating peer-to-peer learning: practical exchange of knowledge, skills, and best practices toward antimicrobial resistance containment in Uganda](#)

- [Establishing centers of excellence for antimicrobial stewardship in Uganda](#)

- [WHO AWaRe classification of antibiotics for Rwanda](#)

- [Advancing global health security through multisectoral coordination](#)

- [Strengthening infection prevention and control at the national and healthcare facility levels in Ethiopia](#)

- [Strengthening antimicrobial stewardship \(AMS\) in Tanzania](#)

- [Strengthening drug and therapeutics committee utilization in health facilities](#)

- [EVD preparedness response in southwestern Uganda](#)

- [Infection prevention and control interventions in targeted health facilities](#)

- [Main factors contributing to the effectiveness of infection prevention and control committees](#)

- [Technical update: advancing the Global Health Security Agenda](#)

- [Progressing towards a higher Joint External Evaluation capacity level for Uganda](#)

- [Implementation of centers of excellence for AMS in Uganda: progress to date and measurement of the impact of CQI interventions](#)

- [Combatting AMR by strengthening human resource capacity through pre-service training](#)

- [Improving quality of health care services through strengthening infection prevention and control in centers of excellence](#)

Strengthening antimicrobial stewardship (AMS) in Tanzania



FUTURE CONSIDERATIONS

- Develop and implement policies on One Health fortifying countries' MSC platforms to secure sustained access to government resources (e.g., human resource, budget allocation) and mechanisms for accountability to the public.
- Revise and update available standard tools and approaches to incorporate implementation feedback and newer developments.
- Strengthen capacity for effective monitoring of IPC practices and antimicrobial consumption and use, including capacity for data collection and management and simplification and application of tools.
- Strengthen preservice training and public education on AMR, including One Health and GHS considerations to create vigilant health care workers and populations that can effectively contribute to AMR containment and GHS.



PEER-REVIEWED PUBLICATIONS

- [Moving from assessments to implementation: promising practices for strengthening antimicrobial resistance containment capacity](#)
- [Strengthening multisectoral coordination on antimicrobial resistance: a landscape analysis of efforts in 11 countries](#)
- [Development and evaluation of a continuous quality improvement programme for antimicrobial stewardship in six hospitals in Uganda](#)
- [Optimizing prophylactic antibiotic use among surgery patients in Ethiopian hospitals](#)
- [Point prevalence survey of antibiotic use across 13 hospitals in Uganda](#)
- [Antimicrobial use across six referral hospitals in Tanzania: A point prevalence survey](#)
- [National consumption of antimicrobials in Tanzania: 2017-2019](#)
- [A One Health approach to fight antimicrobial resistance in Uganda: Implementation experience, results, and lessons learned](#)
- [Antimicrobial consumption surveillance in Uganda: Results from an analysis of national import data for the human health sector, 2018–2021](#)
- [Addressing gaps in AMR awareness in the public: an evidence-based policy brief to guide school curriculum review in Uganda](#)
- [What is the appropriate antimicrobial use surveillance tool at the health facility level for Uganda and other low- and middle-income countries?](#)
- [Gaps in data collection for sex and gender must be addressed in point prevalence surveys on antibiotic use](#)
- [Identifying and addressing challenges to antimicrobial use surveillance in the human health sector in low- and middle-income countries: experiences and lessons learned from Tanzania and Uganda](#)

- Expand scopes of AMR containment programs to include advocacy and lobbying to obtain political commitment and facilitate policy formulation and regulatory/legislative updates and their implementation/enforcement.
- Link AMR to universal health coverage and primary health care and worker safety as well as vertical infectious disease programs to expand engagement and diversification of funding for AMR containment efforts within the health sector and beyond.
- Develop and promote platforms for e-Learning and virtual training as cost-effective and sustainable approaches, targeting both health care workers and the public to enhance knowledge on AMR, One Health, and GHS.
- Strengthen country systems for the management of pharmaceuticals, including antimicrobials and vaccines. Intentionally focus on approaches linking AMR containment, One Health, and GHS to all the building blocks of the pharmaceutical and health systems.
- Support greater use of and strengthening of the private sector in AMR containment and GHSA, as well as social and behavior change approaches for educating the public on AMR.

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