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

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FISCAL YEAR 2021 QUARTER 2 (JANUARY–MARCH 2021) REPORT

USAID
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FISCAL YEAR 2021
QUARTER 2
(JANUARY–MARCH 2021) REPORT

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PROJECT OVERVIEW

Program Name:		USAID Medicines, Technologies, and Pharmaceutical Services (MTaPS) Program
Reporting Period:		Fiscal year (FY) 2021 Quarter 2 (January-March 2021)
Activity Start Date and End Date:		September 20, 2018–September 19, 2023
Name of Prime Implementing Partner:		Management Sciences for Health
Contract Number:		7200AA18C00074
MTaPS Partners:	Core Partners:	Boston University, FHI360, Overseas Strategic Consulting, Results for Development, International Law Institute-Africa Centre for Legal Excellence, NEPAD
	Global Expert Partners:	Brandeis University, Celsian Consulting, Deloitte USA, Duke-National University of Singapore, El Instituto de Evaluacion Technologica en Salud, IC Consultants, MedSource, IQVIA, University of Washington
	Capacity Resource Partners:	African Health Economics and Policy Association, Ecumenical Pharmaceutical Network, U3 SystemsWork, University of Ibadan, African Collaborating Centre for Pharmacovigilance and Surveillance, Kilimanjaro School of Pharmacy, Muhimbili University, Pharmaceutical Systems Africa
	Collaborators:	International Pharmaceutical Federation, Howard University, University of Notre Dame, WHO, World Bank

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ACRONYMS AND ABBREVIATIONS

ABHR	alcohol-based hand rub
ADR	adverse drug reaction
ADRAC	Adverse Drug Reaction Advisory Committee
aDSM	active drug safety monitoring and management
AIDS	acquired immunodeficiency syndrome
AMR	antimicrobial resistance
AMRH	African Medicines Regulatory Harmonization
AMS	antimicrobial stewardship
ARTI	acute respiratory tract infection
ARV	antiretroviral
ASEAN	Association of Southeast Asian Nations
ATC	Anatomical Therapeutic Chemical
AWaRe	access, watch and reserve (WHO)
BCC	behavior change communication
CDC	Communicable Disease Control (Bangladesh)
CDC	US Centers for Disease Control and Prevention
CIAPOL	Ivorian Anti-Pollution Center
CLA	collaborative learning and adapting
COI	conflict of interest
COR	contracting officer representative
CPD	continuous professional development
CQI	continuous quality improvement
CRO	Oceanography Research Center
CSL	Commodity Supplies and Logistics
CSO	civil society organization
CTD	common technical document
CUK	University of Kinshasa Teaching Hospital
D10	10ème Direction
DAMS	Drug Administration Management System (Nepal)
DDA	Department of Drug Administration
DDD	defined daily dose
DDL	Development Data Library
DEC	Development Experience Clearinghouse
DFRS	Directorate of Training and Health Research
DGDA	General Directorate of Drug Administration
DGFP	Directorate General of Family Planning (Bangladesh)
DGHS	General Directorate of Hospital Services
DGOGSS	General Directorate for the Organization of Health Care
DGS	General Directorate of Health
DMAP	Data Management and Analytics Platform
DMHP	Directorate of Hospital and Proximity Medicine
DOH	Department of Health

DPM	Directorate of Pharmacy and Medicine
DPS	division provinciale de la santé
DQSHH	Directorate of Hospital Quality, Security, and Hygiene
DRA	Drug Regulatory Authority
DRC	Democratic Republic of the Congo
DSFGS	Direction pour de la Santé de la Famille et Groupe Specifique (DRC)
DSV	Directorate of Veterinary Services
DT	dispersible tablet
DTC	drug and therapeutics committee
DTG	dolutegravir
EAC	East African Community
eAMS	electronic asset management system
ECOWAS	Economic Community of West African States
EDT	electronic dispensing tool
eLMIS	electronic logistics management information system
EML	essential medicines list
EMP	essential medicines and health products (WHO)
EWG	Expert Working Group
FAO	Food and Agriculture Organization
FDA	US Food and Drug Administration
FP	family planning
FY	fiscal year
GBT	Global Benchmarking Tool (WHO)
GFF	Global Financing Facility
GHSA	Global Health Security Agenda
GMP	Good Manufacturing Practices
GRevP	Good Review Practices
HCAI	healthcare-associated infection
HIPC	hygiene and infection prevention and control
HIV	human immunodeficiency virus
HTA	health technology assessment
HZ	health zone
ICC	infection control committee
IDDS	Infectious Diseases Detection and Surveillance Program
IGAD	Intergovernmental Authority on Development
IHR	International Health Regulation
ILI-ACLE	International Law Institute-African Center for Legal Excellence
IPC	infection prevention and control
IPCAF	Infection Prevention and Control Assessment Framework
IPCAF	Infection Prevention and Control Assessment Framework (WHO)
IPCAT2	IPC assessment tool
IPRA	Ivorian Pharmaceutical Regulatory Authority
JAG	joint action groups
JEE	joint external evaluation (of International Health Regulations [2005] core capacities)

KEML	Kenya Essential Medicines List
KM	knowledge management
KMITS	Knowledge Management and Information Technology Service
LANADA	National Laboratory for the Support of Agricultural Development
LDP+	Leadership Development Program Plus
LGU	local government unit
LMICs	low- and middle-income countries
LMIS	logistics management information system
M&E	monitoring and evaluation
MAAIF	Ministry of Agriculture, Animal Industry, and Fisheries
MCC	Multisectoral Coordination Committee
MCCH	Maternal Child and Community Health
MCG	Multisectoral Coordination Group
MCH	maternal and child health
MDG	Millennium Development Goal
MDR	multidrug resistant
MEL	monitoring, evaluation, and learning
MESRS	Ministry of Higher Education and Scientific Research
MINADER	Ministry of Agriculture and Rural Development
MIRAH	Ministry of Animal and Fisheries Resources
MNCH	maternal, neonatal, and child health
MOH	Ministry of Health
MOHCDGEC	Ministry of Health, Community Development, Gender, Elderly and Children
MOHFW	Ministry of Health and Family Welfare
MOHP	Ministry of Health and Population
MOU	memorandum of understanding
MSC	multisectoral coordination
MSH	Management Sciences for Health
MSHP	Ministry of Health and Public Hygiene
MSR	medical surgical requisites
MTC	medicines and therapeutics committee
MTC	Multisectoral Technical Committee (Côte d'Ivoire)
MUHAS	Muhimbili University of Health and Allied Sciences
NAMRAC	National Antimicrobial Resistance and Containment Advisory Committee (Ethiopia)
NAMRsC	National Antimicrobial Resistance (AMR) Sub-Committee
NAP	National Action Plan
NC-AMR	National Commission on Antimicrobial Resistance
NCAT	National Committee for Antibiotic Treatment (Senegal)
NDA	National Drug Authority
NEPAD	New Partnership for Africa's Development
NGO	nongovernmental organization
NMTC	National Medicines and Therapeutics Committee
NTP	national tuberculosis program
OH	One Health

OHP	One Health Platform
OIE	World Organization for Animal Health
ORMICI	Observatory on Antimicrobial Resistance in Cote d'Ivoire
OSC	Overseas Strategic Consulting
PD	Pharmacy Department
PEPFAR	US President's Emergency Plan for AIDS Relief
PLMC	Procurement and Logistics Management Cell (Bangladesh)
PMED	Pharmaceuticals and Medical Equipment Directorate (Ethiopia)
PMIS	pharmaceutical management information system
PNAM	National Medicines Supply Program (DRC)
PNDAP	National Program for the Development of Pharmaceutical Activity
POPCOM	Commission on Population (Philippines)
PPB	Pharmacy and Poisons Board (Kenya)
PQM+	Promoting the Quality of Medicines Plus Program
PSCM	procurement and supply chain management
PSCMT	Procurement and Supply Chain Management Team (Philippines)
PSM	procurement and supply management
PSS	pharmaceutical systems strengthening
PV	pharmacovigilance
PViMS	pharmacovigilance monitoring system
PY	program year
QMS	quality management system
RCORE	regional center of regulatory excellence
RH	reproductive health
RHSC	Reproductive Health Supplies Coalition
RMNCH	reproductive, maternal, newborn, and child health
RSS	regulatory systems strengthening
SADC	Southern African Development Community
SCMP	Supply Chain Management Portal
SEARN	Southeast Asia Regulatory Network
SEARO	WHO regional offices for South-East Asia
SIAPS	Systems for Improved Access to Pharmaceuticals and Services
SOW	scope of work
SPRINT	Scaling Pneumonia Response Innovations
STG	standard treatment guideline
TB	tuberculosis
TIMCI	Tools for Integrated Management of Childhood Illnesses
TLD	tenofovir/lamivudine/dolutegravir
TOR	terms of reference
TOT	training of trainers
TTC	Technical Thematic Committee
TWG	technical working group
UHC	universal health coverage
UN	United Nations

UNCoLSC	UN Commission on Life-Saving Commodities
UNDP	United Nations Development Programme
USAID	US Agency for International Development
VEML	Veterinary Essential Medicines List
WASH	water, sanitation and hygiene
WHO	World Health Organization

INTRODUCTION

PURPOSE

Funded by the US Agency for International Development (USAID) and implemented by a team led by Management Sciences for Health (MSH), the purpose of the five-year MTaPS Program (2018–2023) is to provide pharmaceutical system strengthening assistance for sustained improvements in health system performance and to advance USAID's goals of preventing child and maternal deaths, controlling the HIV/AIDS epidemic, and combatting infectious disease threats, as well as expanding essential health coverage.

GOAL

The goal of the MTaPS Program is to help low- and middle-income countries strengthen their pharmaceutical systems to ensure sustainable access to and appropriate use of safe, effective, quality-assured, and affordable essential medicines, vaccines, and other health technologies and pharmaceutical services.

MTAPS APPROACH TO STRENGTHENING PHARMACEUTICAL SYSTEMS

USAID awarded the MTaPS Program to enable low- and middle-income countries to strengthen their pharmaceutical systems to ensure sustainable access to and appropriate use of safe, effective, quality-assured, and affordable essential medicines, vaccines, and other health technologies and pharmaceutical services. In this context, "access" refers specifically to affordability, acceptability (or satisfaction), geographical accessibility, availability, and equity (the extent to which pharmaceutical systems deal fairly with population subgroups differentiated along various parameters). "Use" refers to prescribing, dispensing (or sale or supply to the user), and consumption (or end use).

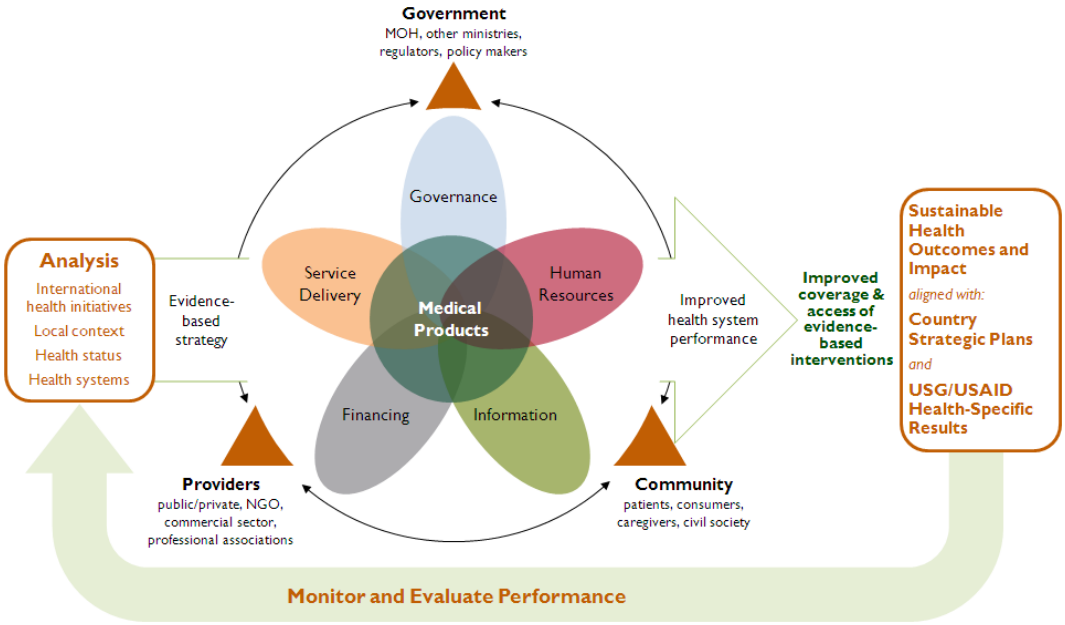


Figure 1. USAID pharmaceutical systems strengthening approach

The program's theory of change is based on USAID's Vision for Pharmaceutical Systems Strengthening (PSS),[1] which posits six functions of health systems that must be strengthened to achieve sustained and equitable access to essential, high-quality services: human resources, health finance, health governance, health information, medical products/vaccines/technologies, and service delivery. MTaPS has adopted this framework to the pharmaceutical sector as per figure 1, which illustrates a comprehensive set of dynamic relationships among a health system's functions with an overarching focus on the role medical products are expected to play in improving health system performance.

ABOUT THIS REPORT

This report presents a summary of achievements by portfolio for fiscal year 2021, quarter 2 (January-March 2021). It summarizes program performance and key challenges and is organized by core funding, objective, and country.

Implementation of planned activities this quarter continued to be impacted by the COVID-19 pandemic. Some activities have been delayed or postponed due to the general slowdown of activities and restrictions on gatherings/movement, as well as the limited availability of the staff.

1 US Agency for International Development. USAID's vision for health systems strengthening, 2015–2019. Available at: https://www.usaid.gov/sites/default/files/documents/1864/HSS-Vision.pdf.

MTAPS RESPONDING TO THE COVID-19 PANDEMIC

Early in 2020, MTaPS received funding from USAID to respond to the COVID-19 pandemic in 13 countries (**Bangladesh, Burkina Faso, Cameroon, Côte d'Ivoire, Ethiopia, Jordan, Kenya, Mali, Mozambique, the Philippines, Senegal, Tanzania,** and **Uganda)**. The COVID-19 activities built off the program's existing platforms and best practices to assist government stakeholders and implementing partners in strategic planning around the COVID-19 response for infection prevention and control (IPC) and emergency IPC supply chain management. Most MTaPS-supported activities through this funding mechanism ended in quarter 1 and the remaining activities ended this quarter.

Table 1 highlights results as of February 28, 2021; for more information, refer to monthly progress reports on MTaPS COVID-19 activities. For more details on COVID-19 indicators, refer to Annex 3 of this report.

Table 1. Cumulative MTaPS COVID-19 indicators, as of February 28, 2021

#	Indicator	Total
1	# of MTaPS-supported health facilities whose staff received COVID-19-related IPC training:*	3,087
1.a	# of facilities trained in IPC for COVID-19	2,595
1.b	# of facilities trained in emergency supply chain management	633
1.c	# of facilities trained in health care waste management (HCWM)	2,276
2	# of health workers who received COVID-19-related training	40,733
2.a	female	23,042
2.b	male	17,470
2.c	sex unknown	221
3	% of MTaPS-supported facilities in compliance with IPC COVID-19 guidelines/SOPs	46% (701/1,533)
4	% of MTaPS-supported facilities that report stock data for IPC commodities with required frequency	97% (721/742)

* Because some health facilities received training in more than one technical area, indicator1 and sub-indicators 1a, 1b, and 1.c are counted separately to prevent double counting.

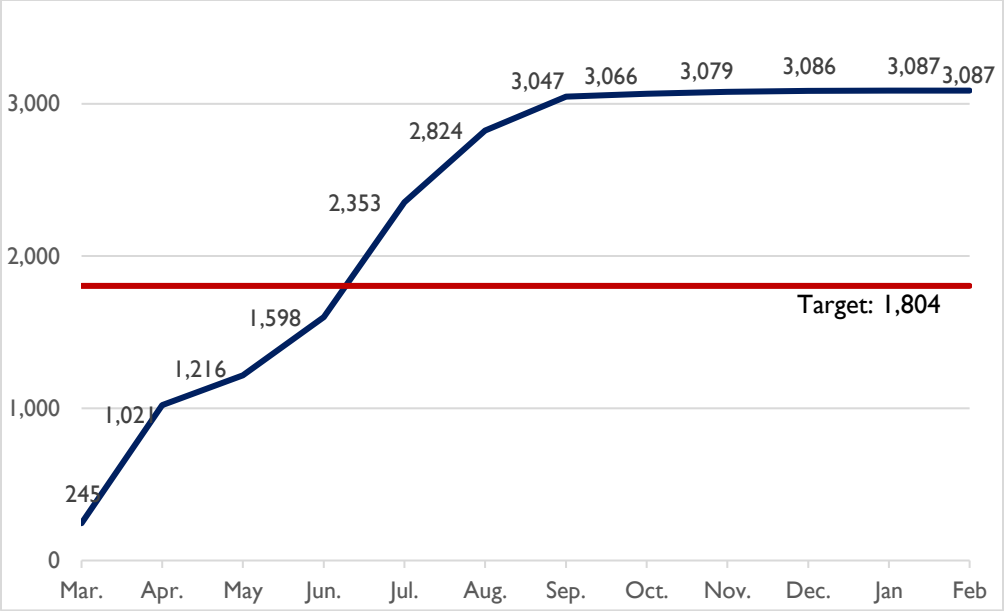


Figure 2. CV 1: Total # of MTaPS-supported health facilities whose staff received COVID-19-related IPC training across all countries, March 2020-February 2021

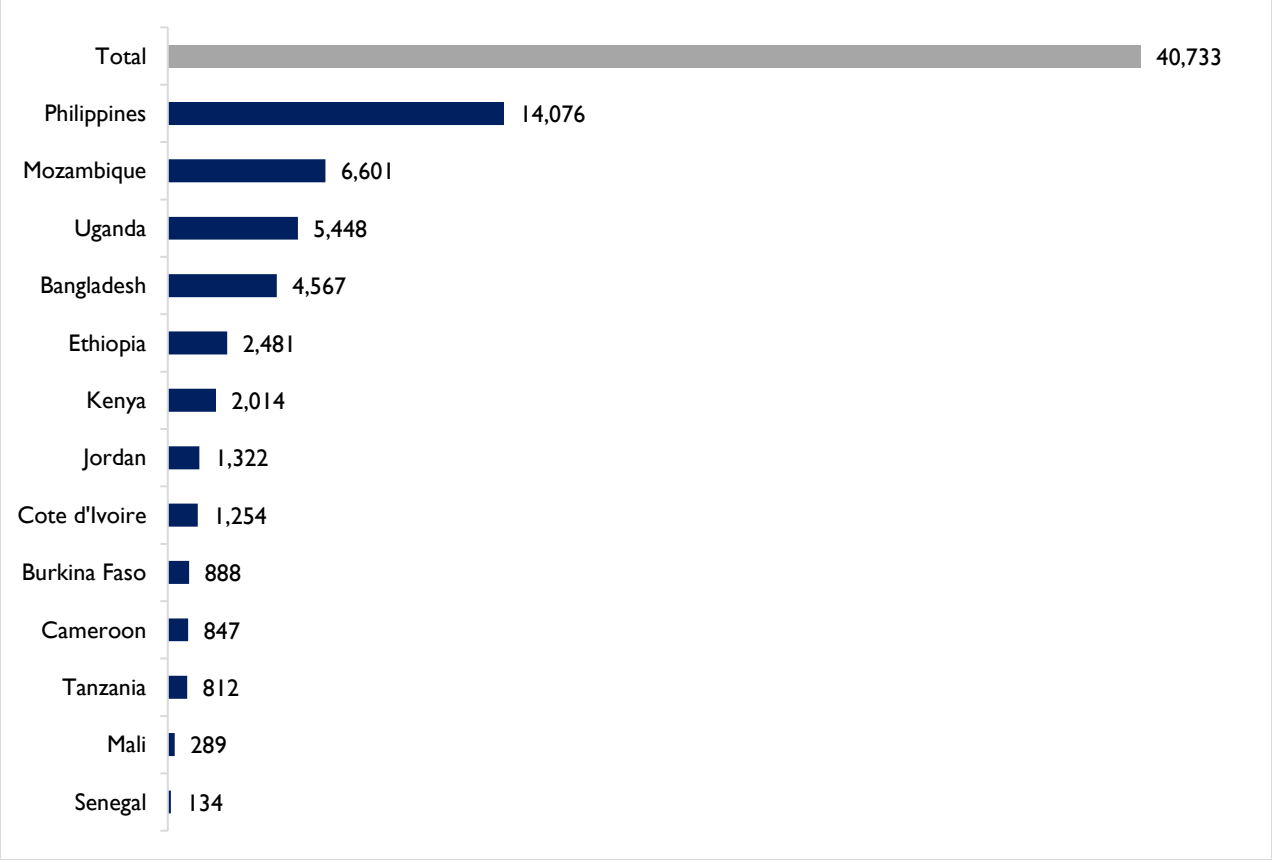


Figure 3. CV 2: Total # of persons who received COVID-19-related training, by country, March 2020-February 2021

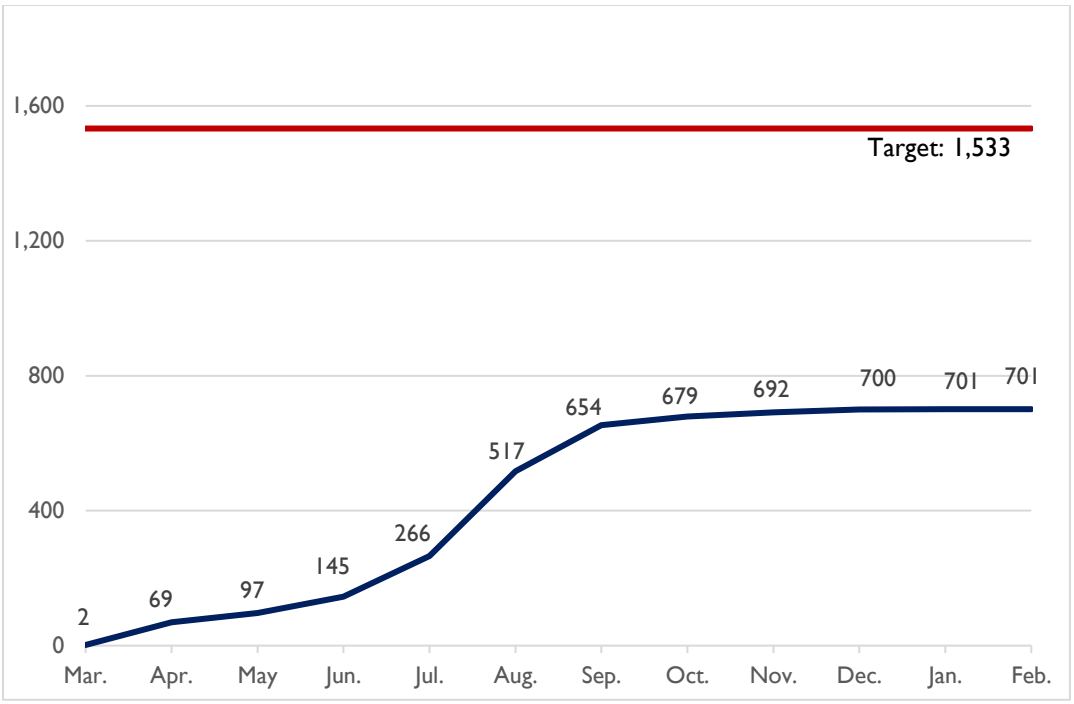


Figure 4. CV 3: # MTaPS-supported health facilities in compliance with COVID-19 IPC guidelines/SOPs, across all countries, March 2020-February 2021

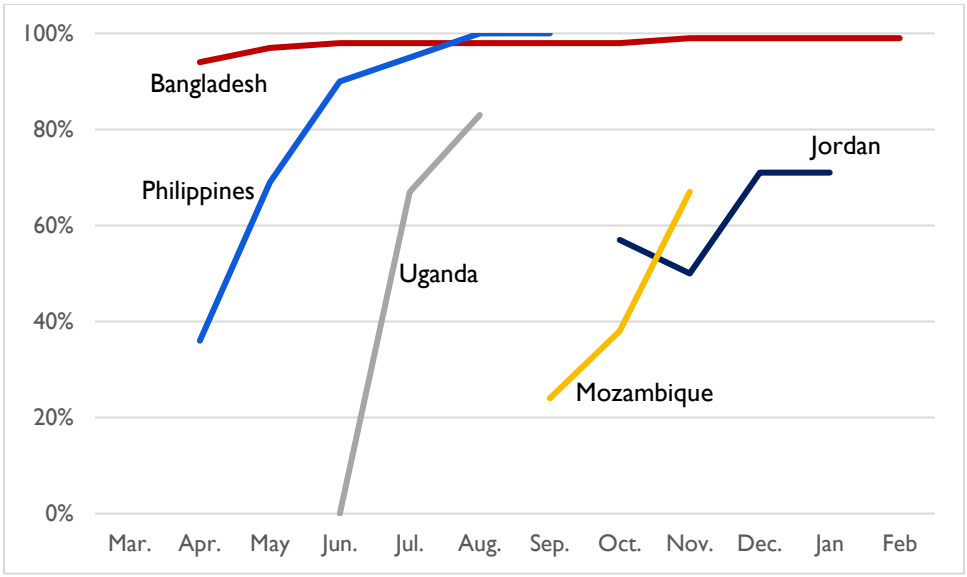


Figure 5. CV 4: % of MTaPS-supported facilities that routinely report stock data for IPC PPE or HCWM commodities, by country, March 2020-February 2021

COVID-19 VACCINE ROLLOUT

This quarter, USAID tasked MTaPS with assisting countries participating in the COVID-19 Vaccines Global Access (COVAX) initiative, a global initiative aimed at equitable access to COVID-19 vaccines. Those countries include: Bangladesh, Burkina Faso, Côte d'Ivoire, Kenya, Mali, Mozambique, Rwanda, Philippines, and Senegal. MTaPS technical assistance will primarily include:

- Policy, planning, and coordination
- Supply chain and logistics management
- Pharmacovigilance and monitoring adverse events
- Capacity building
- Communication and Advocacy

MTaPS will finalize work plans next quarter, after which the program will begin implementation, following USAID approval.

PROGRESS BY CORE-FUNDED PORTFOLIO

COMMODITY SUPPLIES AND LOGISTICS

ACTIVITY 1: INCREASING GOVERNMENT FINANCING OF FAMILY PLANNING COMMODITIES AND SUPPLY CHAIN IN A DECENTRALIZED HEALTH SYSTEM: A POLITICAL ECONOMY ANALYSIS

MTaPS received funding from USAID's Commodity Security and Logistics (CSL) Division of the Office of Population and Reproductive Health (PRH) to conduct a political economy analysis in one country to examine the factors that influence domestic financing of family planning (FP) products and associated supply chain costs that may shape decisions around increasing government financing within a decentralized health system. Using criteria identified with the USAID CSL team in the previous quarter, MTaPS completed a rapid situation analysis to identify a short list of potential countries for the analysis and submitted a report of the findings to USAID. Calls were held with the MTaPS teams in Ethiopia, Kenya, Nepal, Rwanda, Tanzania, and Uganda to inform the desk review. Selection criteria included being a USAID FP priority country, level of government and USAID funding for contraceptives, existence of a government budget line for FP commodities, and general environment for the study. Based on the criteria, two candidate countries, Kenya and Uganda, were initially identified for the analysis, with Rwanda and Nepal as back-up countries.

MTaPS then worked with USAID CSL to develop an activity description to include in a communication to the USAID Missions in Kenya and Uganda to explore their interest. The MTaPS teams in the two countries discussed the activity with their respective activity managers. After the USAID Mission in Kenya provided feedback and further discussions were held with the MTaPS country teams, MTaPS proposed Uganda for the political economy analysis with Nepal, Senegal, and Rwanda as back-up countries. Following discussion between USAID CSL and the USAID Mission in Uganda, a request for concurrence for the activity was submitted by the MTaPS COR team to the Uganda Mission.

ACTIVITY 2: ADVOCACY FOR GOVERNMENTS TO LEVERAGE PRIVATE SECTOR LOGISTICS CAPABILITIES TO INCREASE ACCESSIBILITY AND AVAILABILITY OF FP COMMODITIES

In this quarter, MTaPS (MSH and Pharmaceutical Systems Africa) finished the first draft of the desk review on the fourth-party logistics (4PL) outsourcing model. The goal of the desk review was to explore global 4PL trends and its applications in the public health supply chain; identify best practices and challenges; and guide future approaches in studying and proposing future 4PL outsourcing models. The review provides global 4PL model examples, their advantages, best practices, and policy considerations for implementation.

Also, in this quarter, MTaPS conducted document reviews of the in-country supply chain and potential list of private sector actors in Nigeria and the Philippines, which will be completed with in-country data collection for the landscape analysis of 3/4PLs operating in each country. MTaPS also drafted key selection criteria for the landscape analysis. The criteria will help identify functional and geographical areas for the study.

ACTIVITY 3: USE OF RETAIL PHARMACIES AS A SOURCE OF FP PRODUCTS AND OTHER ESSENTIAL MEDICINES FOR PUBLIC SECTOR CLIENTS IN LMICS: A THOUGHT LEADERSHIP PAPER

MTaPS is developing a thought leadership paper on using retail pharmacies as a source of FP products and other essential medicines for public sector clients in LMICs. The paper aims to identify and

document examples of high-income countries and LMICs using private sector outlets to serve public sector clients with FP and other essential medicines; and to assess how these private sector engagements are operationalized. During the inception meeting with USAID, MTaPS shared an analytical framework to assess how the public sector in high-income countries incorporates provisions and to gather evidence on how they mitigate risks of engagement of private sector pharmacies. The dimensions of the analytical framework include regulation, contracting and reimbursement mechanisms, quality of services, and information technology and management systems.

A preliminary list of potential case countries includes Spain, Sweden, the United Kingdom, and the United States. MTaPS is currently conducting a high-level review of these countries to confirm which ones to include in the case studies. Finally, during the quarter, a draft outline of the paper was developed and is undergoing review by the MTaPS senior management team.

ACTIVITIES FOR NEXT QUARTER

ACTIVITY AND DESCRIPTION	DATE (2021)
Activity 1: Increasing government financing of FP commodities and supply chain in a decentralized health system: a political economy analysis • If the USAID Uganda Mission concurs with the activity, MTaPS US staff will work with the Uganda MTaPS country team to identify key country stakeholders to engage, including potential champions, and begin planning for the activity. If concurrence is not received from the Uganda Mission, MTaPS will work with USAID CSL and MTaPS country teams in Nepal and then Senegal to explore Mission interest • Once concurrence is received, MTaPS will conduct the background literature review, refine the study design, develop research questions, and prepare the interview guides	April-June
Activity 2: Advocacy for governments to leverage private sector logistics capabilities to increase accessibility and availability of FP commodities • Finalize study tools, functional and geographical areas • Start in-country data collection (for landscape, operational cape, and cost benefit)	April - June
Activity 3: Use of retail pharmacies as a source of FP products and other essential medicines for public sector clients in LMICs: a thought leadership paper • A summary of the literature and draft case studies for three high-income countries will be finalized and submitted to USAID CSL in the coming quarter	April - June

GLOBAL HEALTH SECURITY AGENDA

GHSA-SUPPORTED COUNTRIES:

Bangladesh
Burkina Faso
Cameroon
Côte d'Ivoire
DRC
Kenya
Mali
Mozambique
Nigeria
Senegal
Tanzania
Uganda

SUMMARY OF ACTIVITIES THIS QUARTER (FY21Q2)

The focus of the MTaPS Global Health Security Agenda (GHSA) approach and implementation framework is to help countries make progress on the pathway to the next level of World Health Organization (WHO) Joint External Evaluation (JEE) capacity in multisectoral coordination (MSC), infection prevention and control (IPC), and antimicrobial stewardship (AMS). Table 2 highlights the areas that MTaPS supported this quarter in the 12 countries where we are currently providing GHSA support.

Table 2. GHSA activities supported this quarter by MTaPS

GHSA Result Area	Activity	GHSA-funded country											
		Bangladesh	Burkina Faso	Cameroon	Côte d'Ivoire	DRC	Kenya	Mali	Mozambique	Nigeria	Senegal	Tanzania	Uganda
Effective Multisectoral Coordination on AMR	Strengthening MSC governance structures and functions		X	X	X		X	X	X				
	Drafting or updating multisectoral policies, plans, and guidelines	X	X	X	X		X						
	Holding multisectoral meetings	X		X	X	X		X	X	X			
Infection Prevention Control Improved and Functional	Strengthening governance structures for IPC at all levels							X	X	X			
	Assessing and re-assessing IPC programs at national and/or facility levels and/or developing responsive action plans				X		X	X	X		X		
	Developing and implementing IPC policy and/or guidance documents										X	X	
	Developing individual and local capacity	X	X		X		X	X			X		X
Use of Antimicrobial Medicines Optimized	Strengthening governance structures for AMS at all levels		X			X		X					
	Developing AMS policy, planning, and guidance documents, including AWaRe categorization	X			X		X	X			X	X	X
	Assessing AMS capacity at national and local levels and developing action plans				X	X	X						
	Developing individual and local capacity			X	X		X						X
	Supporting medicine use and other assessments and surveillance						X						X

Figure 6 shows the change in the number of facilities MTaPS supports in IPC and AMS, by country, in September 2020 and March 2021. MTaPS is currently supporting 110 facilities in IPC and 115 facilities in AMS, up from 47 and 45, respectively. (Note: Figure 6 does not include the 30 facilities that MTaPS had supported in Ethiopia, as the program closed there in December 2020.)

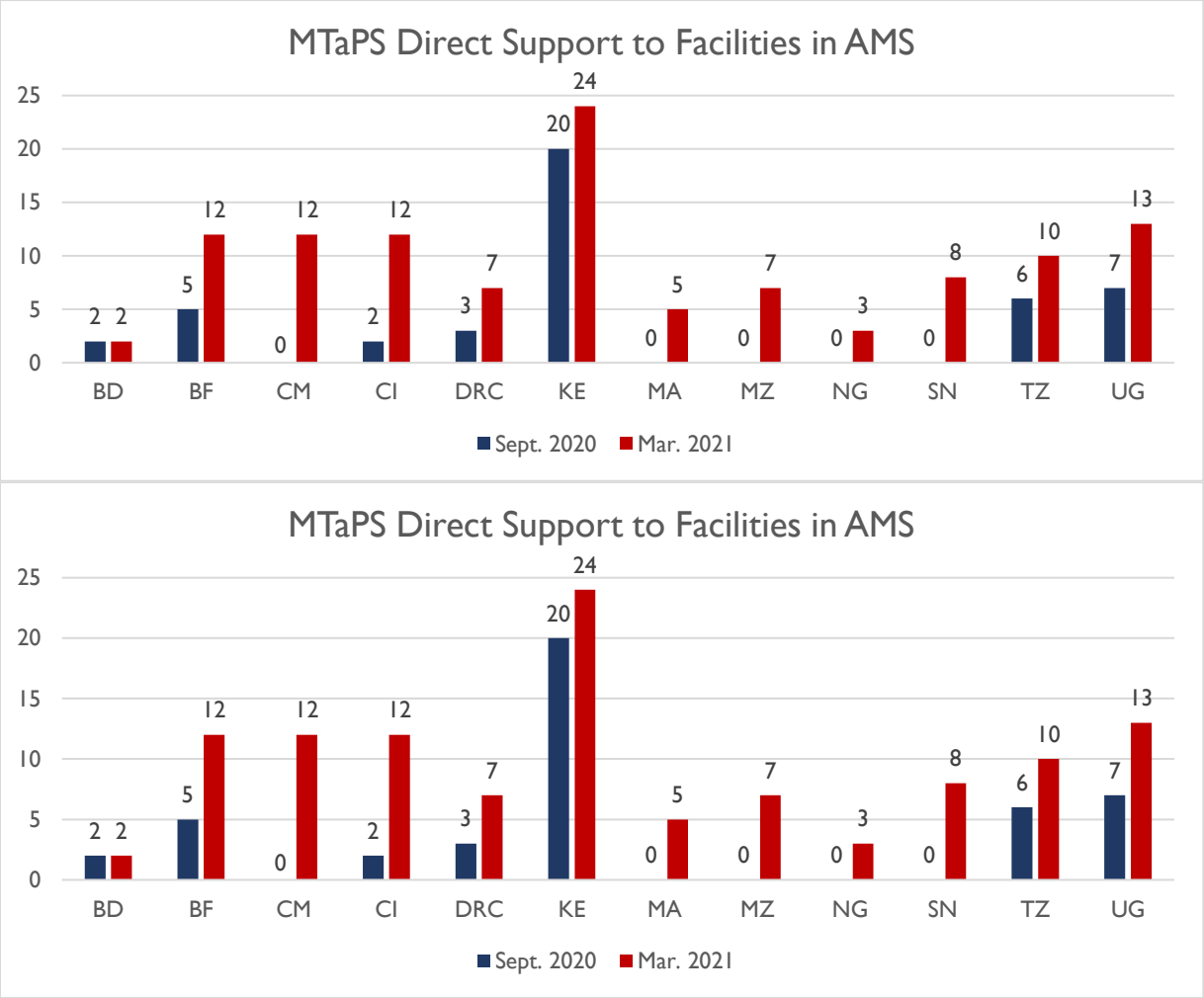


Figure 6. MTaPS direct support to facilities in IPC and AMS in September 2020 and March 2021

During the reporting period, MTaPS finalized the draft of the revision of the GHeL antimicrobial resistance (AMR) 1 course based on the outline developed previously and began drafting the outline for the revision of AMR 2. MTaPS also revised the two-part GHSA technical implementation framework to reflect the activities included in the year 3 work plans.

In February, MTaPS staff published *Strengthening multisectoral coordination on antimicrobial resistance: a landscape analysis of efforts in 11 countries* in the Journal of Pharmaceutical Policy and Practice. It describes multisectoral efforts in GHSA countries. In addition, the following success stories and resources were published during the quarter:

Success stories

Strengthening the Hospital Infection Control Program in Senegal - March 29, 2021. Available in French and English

An Interview with Professor Mireille Dosso on the Fight Against Antimicrobial Resistance in Côte d'Ivoire - March 24, 2021. Available in French and English

Mali launches its e-learning platform on infection prevention and control - March 17, 2021. Available in French and English

Strengthening Jordan's Response to COVID-19 Increasing the Preparedness of the Health Care System to Manage and Treat COVID-19 Patients - February 25, 2021.

Engaging Civil Society Organizations to Expand Reach to Women in the Fight Against AMR - January 25, 2021.

MTaPS' Interventions Raise Infection Prevention and Control Level in Ethiopian Hospitals - January 22, 2021.

In March, the MTaPS communications team posted an interview with Professor Mireille Dosso, President of the Multisectoral Coordination Group for Antimicrobial Resistance and Director of the Institut Pasteur of Côte d'Ivoire, as she talked about the country's efforts, challenges, and priorities to contain AMR.

"This multisectoral approach is a source of great pride for me as it enables strong collaboration among stakeholders…I also would like to add that the collaboration with international partners has helped us make important achievements."

-Prof. Mireille Dosso, President of the Multisectoral Coordination Group for Antimicrobial Resistance and Director of the Institut Pasteur of Côte d'Ivoire

COUNTRY PROGRESS

EFFECTIVE MULTISECTORAL COORDINATION ON ANTIMICROBIAL RESISTANCE

Strengthening MSC governance structures and functions. Burkina Faso's national multisectoral strategic action plan for AMR control ended in December 2020. The MTaPS team, in collaboration with the AMR Technical Thematic Committee (AMR TTC), developed terms of reference (TOR) to review and update the plan. In bimonthly IPC and AMS technical working group (TWG) meetings in **Cameroon**, MTaPS presented on the WHO benchmark actions in MSC, IPC, and AMS for the TWGs to track progress on the country's capacity to contain AMR. Participants resolved to implement all benchmark actions at one level, rather than haphazardly selecting actions from different levels of the WHO benchmark tool. They discussed the need to update the national action plan on AMR (NAP-AMR), which expired in December 2020, to incorporate actions in the WHO benchmark tool for AMR containment. The TWGs assessed progress in MTaPS-supported activities for 2020 and reviewed the implementation plan for 2021. MTaPS/Kenya held meetings with top county health officials in Kilifi and Kisumu counties in February regarding the establishment of the County Antimicrobial Stewardship Interagency Committee. MTaPS also collaborated with the Ministry of Health (MOH) to disseminate the National Antimicrobial Stewardship (AMS) Guidelines for Healthcare Settings and the Kenya Essential Medicines List to Nyeri county in a virtual event. The MOH organized a five-day validation workshop in February to present the results of the internal assessment of International Health Regulations (IHR) implementation capacities in **Mali**, validate the data collected, and complete the Electronic State Parties Self-Assessment Annual Reporting Tool (e-SPAR). MTaPS, as part of the AMR subgroup, supported the IHR focal point and the TWG to collect, review, and document the IHR indicators related to AMR and added the information to the e-SPAR. MTaPS also organized two two-day residential retreats for members of the AMR TWG's AMS and IPC subcommittees, where they developed and reviewed TOR,

developed a one-year subcommittee plan of action after a comprehensive review of the NAP 2017–2022, and identified capacity needs for members. The first AMR MSC workshop was held virtually in March in **Mozambique**. The workshop was organized by MTaPS and the MOH in collaboration with the UN Food and Agriculture Organization (FAO) and representatives from the Ministry of Agriculture. It was attended by 26 participants from 16 institutions, including the government, donors, implementing partners, and universities. During the workshop, government representatives presented on the One Health approach, the AMR action plan in Mozambique, and the use of antimicrobials in animal health. Implementing partners MTaPS, FAO, and CIRAD presented their progress on their GHSA work plans and explained how their work will align with the NAP-AMR. Participants discussed the general AMR governance structure and the proposed TOR for TWGs and started mapping AMR stakeholder roles. The proposed AMR governance structures comprise the multisectoral coordination committee (MCC); MCC Secretariat; and six TWGs, including the AMS and IPC TWGs. This workshop is a first step toward establishing the AMR MCC and will help implement and track progress on the NAP-AMR.

Holding multisectoral meetings or activities. Bangladesh's National Technical Committee to contain AMR met in January. In addition to the Director General of the Directorate General of Health Services (DGHS) and other high-level DGHS officials, participants came from a range of organizations, including the Directorate General of Drug Administration; Department of Livestock Services; Department of Fisheries; Department of Environment; Institute of Epidemiology, Disease Control and Research; Institute of Public Health; professional bodies of different disciplines; and development partners MTaPS, WHO, FAO, Fleming Fund Country Grant, and icddr'b. Participants proposed an update to the National Strategy on Antimicrobial Containment, and the USAID representative recommended that MTaPS and the Fleming Fund assist in the development of a costed NAP. MTaPS helped organize many multisectoral meetings in **Côte d'Ivoire** during the reporting period, including bimonthly meetings of MTC4 (IPC TWG) and MTC5 (AMS TWG) to discuss activity progress, quarterly coordination meetings with the AMR TWG, and a three-day workshop of the AMR Secretariat-National Observatory on Microorganism Resistance with 28 multisectoral participants to help the AMR TWG hold its quarterly coordination meeting. Other meetings with stakeholders covered eLearning, collaboration among implementing partners, IPC training, and AMR TWG governance, among others. MTaPS **DRC** collaborated with WHO to hold a two-day meeting of the National Commission (NC) on AMR for 50 people from multiple ministries to discuss progress on the implementation of the NC-AMR's action plan, the WHO benchmark capacity level and related actions, and the activity calendar; in addition, MTaPS and WHO supported the NC-AMR to hold the first IPC and rational use of medicines subcommittee meetings for 24 people from the MOH, Ministry of Agriculture, Ministry of Fishing and Livestock, and Ministry of the Environment. During each meeting, participants conducted a stocktaking of WHO benchmark capacity level actions and assessed progress on those actions. Of the 14 planned IPC activities, two have been completed, nine are under way, and three have not yet started. Of 30 AMS activities, two have been completed, 11 are in progress, and 17 have not yet started. MTaPS **Mali** participated in and supported several stakeholder meetings during the reporting period, including with the IPC subcommittee, where members discussed activities to address the new wave of COVID-19 cases and the inclusion of facility water, sanitation, and hygiene focal points in the IPC subcommittee's virtual meetings. The monthly One Health Platform meeting focused on each sector's (human, animal, and agriculture) activity reports. Other stakeholder meetings during the reporting period discussed the launch of the eLearning platform, an internal review of the IHR indicators to prepare for the JEE, the validation of the emergency response procedures in biosafety and biosecurity, a COVID-19 data quality audit, and the Ebola epidemic in Guinea.

Drafting or updating multisectoral policies, plans, or guidelines. **Burkina Faso, Bangladesh, Cameroon**, and **Côte d'Ivoire** are preparing to update their NAP-AMRs with help from MTaPS. In **Côte d'Ivoire**, the AMR TWG conducted a situational analysis to identify gaps and guide the NAP revision to better manage AMR risks. Seven experts from the human, animal, and environmental sectors

conducted the analysis, which focused on resistance to antibiotics. The experts listed the following priorities: (1) the bacteria most often identified as a major risk for AMR, (2) the factors that promote resistance, (3) the consequences and the impact of resistance for human and animal health, and (4) risk management. The group recommended collecting data on AMR's socioeconomic and epidemiological impact to characterize the impact of the risks for AMR development and transmission. In **Kenya**, MTaPS, in collaboration with the MOH national AMR Secretariat, finalized the monitoring and evaluation (M&E) framework for the NAP-AMR. Implementation at national and county levels will begin next quarter.

INFECTION PREVENTION AND CONTROL IMPROVED AND FUNCTIONAL

Strengthening governance structures for IPC at the national and facility levels. MTaPS **Mali** worked with government counterparts to establish IPC committees in four health facilities (three public and one private)—the tertiary teaching hospital Gabriel Touré, Dermatological Hospital, Mali Gavardo Hospital, and Segou Regional Hospital. Support included developing and sharing TOR with the four facilities, providing logistical support for field visits, training IPC committee members, assessing IPC and hand hygiene practices using WHO's Infection Prevention and Control Assessment Framework (IPCAF) and Hand Hygiene Self-Assessment Framework tools, and developing a facility action plan for IPC. MTaPS/Mozambique worked with the national IPC committee to review and validate its TOR and membership structure, and it introduced the National Infection Prevention and Control Assessment Tool (IPCAT2) and IPCAF tool to the MOH IPC team. The IPCAT2 assessment was conducted in March at the MOH with MTaPS' support, and the assessment report is being compiled. The 2013 national IPC policy in **Nigeria** has encountered major challenges and has not been implemented effectively. MTaPS Nigeria was invited to join other experts to review the existing policy and implementation framework and start the development of a new IPC policy for Nigeria; MTaPS supported the first IPC policy review working group over two days in March, which included 15 participants from academia, US Centers for Disease Control and Prevention (CDC), Africa Centre for Disease Control, Nigeria Centre for Disease Control, World Bank, WHO, MOH, the tertiary health institution, and professional bodies. Participants developed the outline for the new IPC policy and set up a policy review working group. MTaPS provided feedback on the policy's zero draft and shared it with the working group.

Assessing and re-assessing IPC programs at the national and facility levels and developing action plans. MTaPS **Côte d'Ivoire** collaborated with MTC4 in organizing and attending site visits in eight health facilities to evaluate the IPC committees' functionality and capacity using a standardized evaluation tool developed by the MOH in 2019 (figure 7). The team also conducted an IPC baseline assessment at each facility using the IPCAF (figure 8); regional hospital-CHR, university hospital-CHU). Four teams with three MTC4 members each, including one person from the human health sector, one from the animal health sector, and one from the environment sector, conducted these assessments over two days per site. The results were presented to health workers in the presence of health facility managers and will inform the development of an action plan to improve IPC practices.

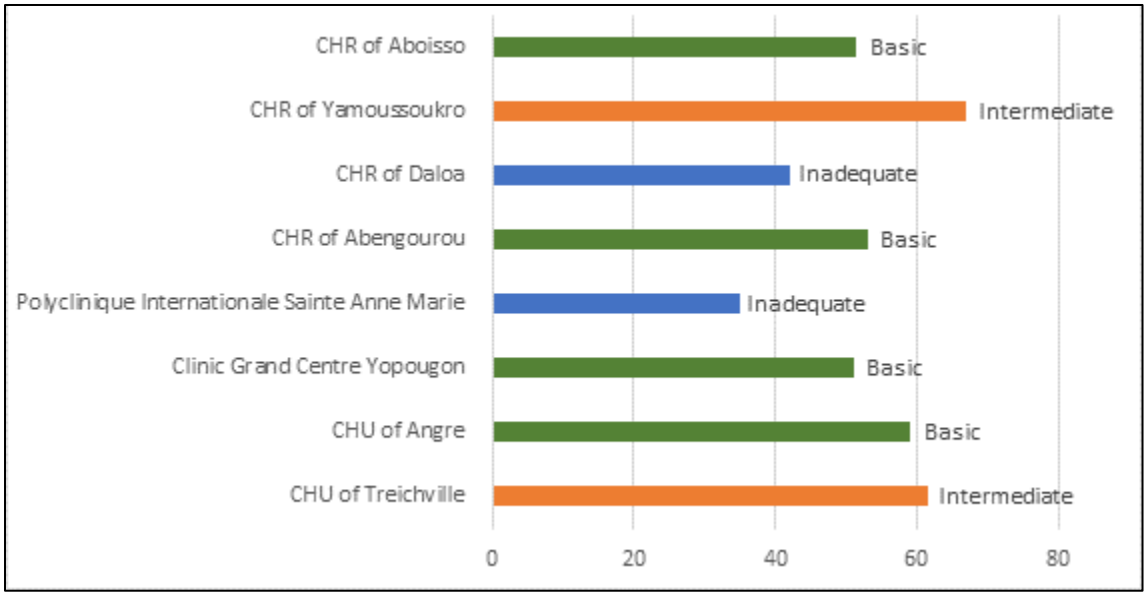


Figure 7. IPC committee capacity score (out of 100) and capacity level in Côte d'Ivoire

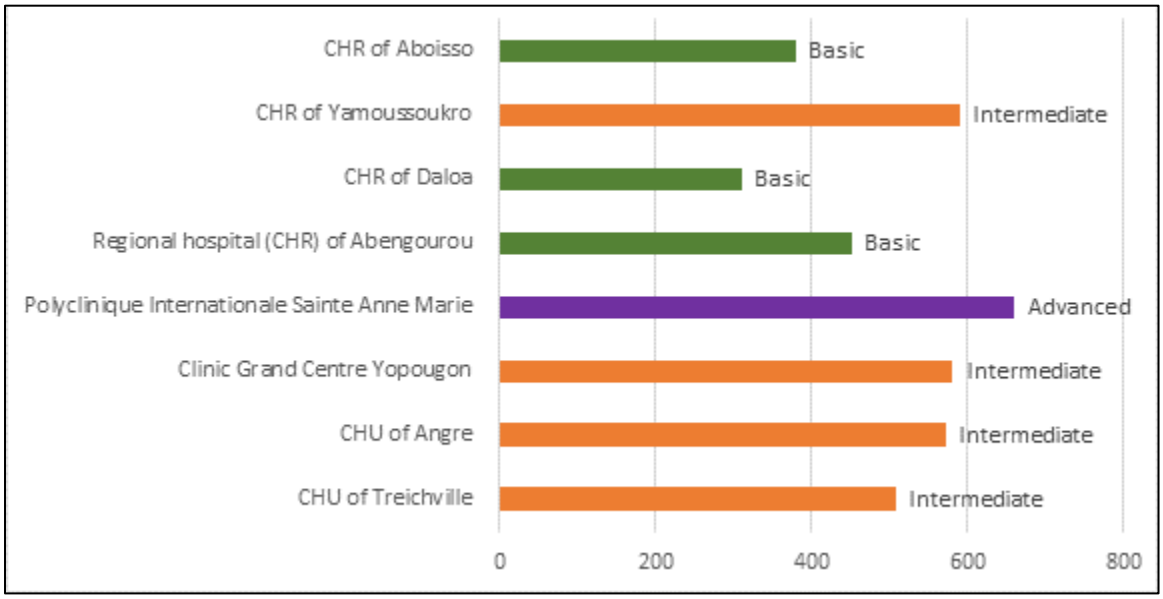


Figure 8. IPCAF capacity score (out of 800) and capacity level in Côte d'Ivoire

In January, MTaPS/**Kenya** and the Nyeri county health department conducted an IPC midterm assessment of eight MTaPS-supported facilities and the county's IPC program (figures 3 and 4).

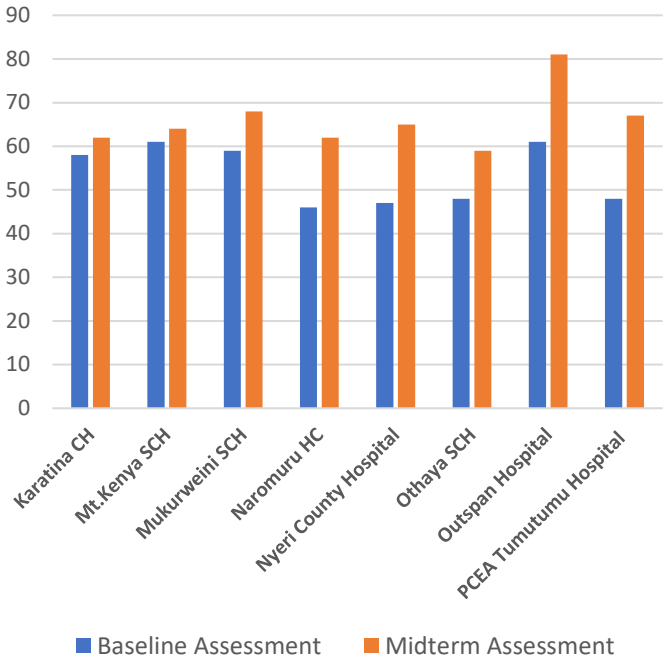


Figure 9. IPC baseline and midterm assessments of Nyeri county health facilities

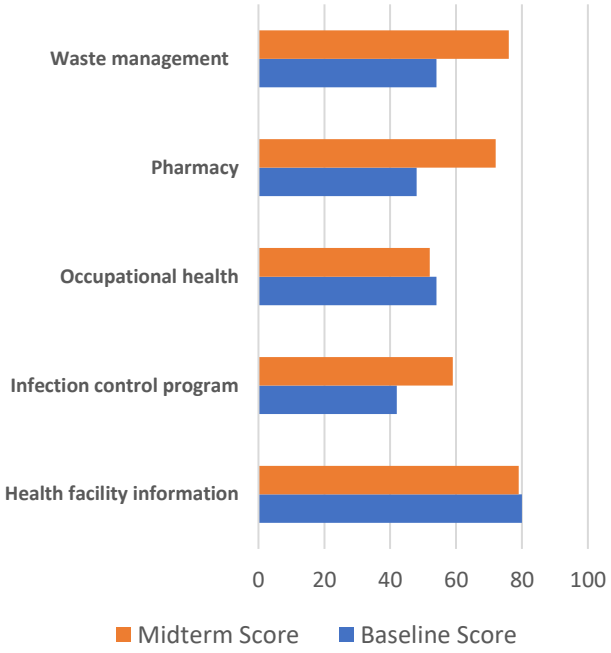


Figure 10. IPC continuous quality improvement baseline and midterm assessments of Nyeri county health department

MTaPS worked with the county health departments in two new focus counties—Kilifi and Murang'a—to conduct an IPC baseline assessment at two health care facilities (figure 9) in each county and at the county level (figure 10). The assessments were followed by meetings to share the findings with hospital management teams, including the medical superintendents and the county director for health.

In the four facilities evaluated using the IPCAF in **Mali**, the components with the best performance were IPC program and built environment, materials, and equipment for IPC at the facility level. Figure 11 shows results of the IPCAF at four health facilities, subdivided by the different IPC components (each component has a total possible score of 100, with a possible total score of 800). All facilities are at the *intermediary* capacity level.

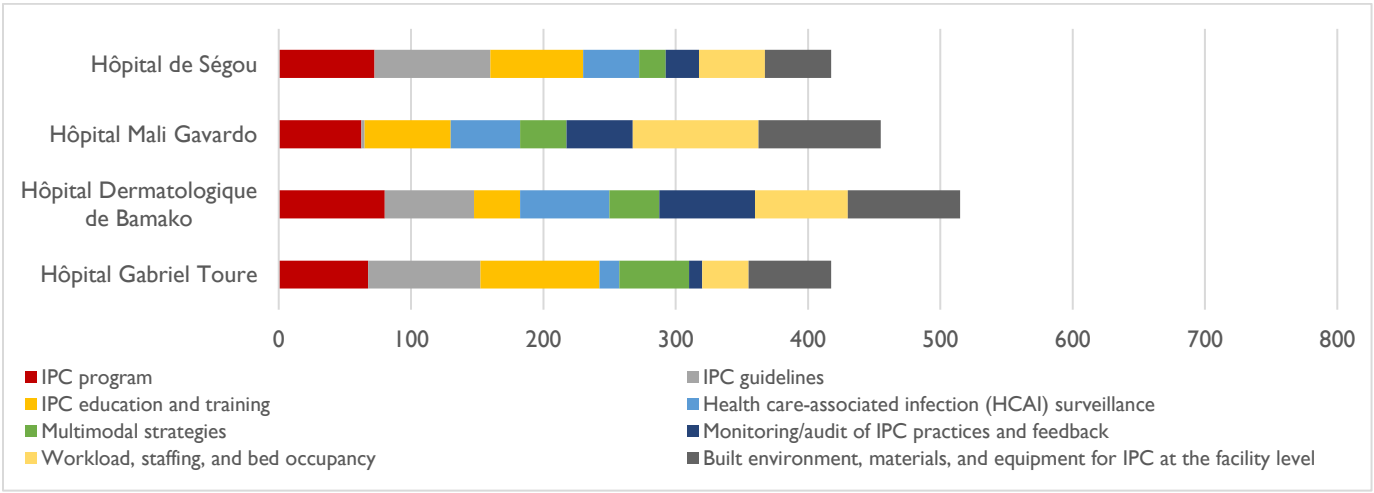


Figure 11. IPCAF scores in four hospitals in Mali

MTaPS/Mali helped the four hospitals assess hand hygiene with the Hand Hygiene Self-Assessment Framework. Results showed three of the four facilities to be at the *intermediary* level and one at the *basic* level (figure 12). The most poorly performing components overall were evaluations and feedback of results, reminders in the workplace, and institutional culture of security. In addition, data on HCAIs were collected.

Figure 12. Hand Hygiene Self-Assessment Framework results in four hospitals in Mali

In **Mozambique**, MTaPS conducted IPCAF assessments in two provincial hospitals in Gaza and Tete during the quarter in collaboration with the MOH. MTaPS, MOH IPC staff, and hospital staff used the IPCAF findings to develop IPC action plans. The hospitals will now use the IPCAF tool to assess other health facilities within their provinces so they can identify and address intervention areas. MTaPS worked with **Senegal's** Directorate of Hospital Quality, Safety and Hygiene (DQSHH) to select the five hospitals that MTaPS will support this year: one level 1, two level 2s, and two level 3s. MTaPS provided technical and financial support to the DQSHH to organize an initial orientation workshop, where one of the three pilot hospitals (HOGIP level 3) shared its experience with the IPC committee revitalization process, and the MOH and MTaPS provided an orientation on the WHO IPCAF tool. Four of the hospitals used the IPCAF as a baseline assessment during the quarter. The assessment at Aristide LeDantec hospital was postponed due to civil unrest. The results from the four hospitals were:

- Level 1 in Mbour has inadequate IPC capacity with a score of 167.5/800
- Level 2 in Fatick has basic IPC capacity with a score of 315/800
- Level 2 in Kaffrine has basic IPC capacity with a score of 380/800
- Level 3 in Touba (Matlaboul Fawzayni) has basic IPC capacity with a score of 310/800

The hospitals developed improvement action plans to address the IPC gaps identified from the IPCAF assessments, and MTaPS will support the IPC committees to implement their plans.

Developing and implementing IPC policy and guidance documents. In January, MTaPS supported the DQSHH to update **Senegal's** national IPC guidelines, which drew on the finalized IPC guidelines from the three pilot hospitals. MTaPS supported a workshop to validate the IPC guidelines and harmonize the matrix for hospital procedures and protocols that IPC committees will use as a reference. The national guidelines cover hand hygiene, environmental cleaning, waste management, accidental exposure to blood, and injection safety. In **Tanzania**, MTaPS helped the Ministry of Health, Community Development, Gender, Elderly, and Children (MOHCDGEC) develop an IPC register, IPC summary reporting form, and national IPC program M&E matrix. This involved collaborating with stakeholders that included representatives from WHO Tanzania, FHI 360, Medipeace, DHIS2 system

developers from the University of Dar es Salaam, staff from the MOHCDGEC M&E unit, and staff from national and zonal hospitals. The group also developed 27 IPC indicators to add to DHIS2 to capture IPC information from health facilities.

Developing individual and local training capacities. During the quarter, MTaPS/Bangladesh facilitated trainings for trainers on IPC that were based on the updated national IPC guidelines and modules. Trainees included members of the IPC committees and IPC teams at Munshiganj District Hospital and Cumilla Medical College Hospital. They now comprise a set of master trainers who will train additional health care providers, including new staff at their own hospitals. In addition, as per the IPC action plan, 40 participants from IPC teams of triage areas and all hospital departments from Munshiganj and 33 from Cumilla attended training sessions. IPC teams at both hospitals now have the knowledge and confidence needed to implement the IPC action plans developed by the IPC committees. The teams are monitoring the IPC situation at their hospitals and are reporting monthly to the hospital focal person and IPC committee on the status of action plan implementation and IPC practices in different departments.

In **Burkina Faso,** MTaPS printed and disseminated 500 copies of the essential medicines list and other health products through a workshop in January. MTaPS had previously supported the revision of the list to incorporate the Access, Watch, Reserve (AWaRe) categorization. The dissemination targeted 25 heads of health care centers at the peripheral level and provided them with an important tool for prescribing, as the medicines on the list are those the country recognizes for use by all practitioners in the health sector. An additional 1,000 copies were printed and will be disseminated at upcoming workshops. In two three-day sessions in March, MTaPS supported **Côte d'Ivoire's** MTC4 to train 71 health workers on IPC at the University Hospital of Treichville (20), the University Hospital of Angre (21), Polyclinique International Sainte Anne-Marie (PISAM) (15), and the Clinic Grand Centre Yopougon (15). Four teams of IPC master trainers, each comprising three people from MTC4, visited the three targeted health facilities to deliver 14 sessions on IPC, such as hand hygiene, HCAIs, and the national IPC plan. The trainees also took part in practical sessions and demonstrations to reinforce their new skills. In addition, MTaPS supported the AMR TWG to visit one veterinary health facility (Antirabic Center of Cocody) to help the facility determine its capacity and the functions needed for a unit to manage veterinary medicines, which does not exist in this facility. The Directorate of Veterinary Services has decided to establish such units following World Organisation for Animal Health guidelines, but they have not yet been implemented.

During Q2, MTaPS/Kenya coordinated and provided technical assistance during a meeting to validate the national IPC curriculum, which included 32 representatives from the counties, implementing partners, TB program, and others. The national curriculum will be used to standardize in-service IPC trainings for health care workers across different levels of health care delivery. MTaPS also contributed to the development of a hospital epidemiology and IPC curriculum. The MOH and Kenyatta University (with funding from the CDC) will use the curriculum to train national and county IPC experts as part of a two-year master's degree program. MTaPS and the Nyeri county health department also supported a training for 20 health care workers from eight facilities on how to assess and prevent surgical site infections. In Kisumu county, MTaPS provided assistance during continuous quality improvement (CQI) training in surgical site infections for 21 health care workers from eight MTaPS-supported facilities and county IPC champions. In Murang'a, MTaPS and the county health department carried out a five-day IPC training course in March for 21 county health officers; similarly, MTaPS coordinated with the Kilifi county health department to hold a five-day IPC training of trainers for 15 officers from six health care facilities. The focus was on preventing HCAIs and institutionalizing IPC programs. In addition, MTaPS collaborated with the two counties' IPC and AMS focal contacts to disseminate national IPC guidelines, posters, and the national AMR communique to MTaPS facilities in the counties. IPC posters included hand hygiene, techniques for hand washing, alcohol-based hand rub, steps for donning personal protective equipment, and other topics.

Public health officer at Kombewa County Hospital, Kisumu, washing hands next to a poster on handwashing techniques distributed by MTaPS. Photo Credit: Doris Bota/MTaPS

The **Uganda** team engaged four health professional councils (Pharmaceutical Society of Uganda, Allied Health Professionals Council, Uganda Medical and Dental Practitioners Council, and Uganda Nurses and Midwives Council) to start building their members' capacity in IPC and AMS. A learning session was organized between MTaPS Uganda and MTaPS/Kenya , based on Kenya's previous success working with processional bodies on continuing professional development. A key lesson learned was the need to first establish the professional bodies' training needs; therefore, MTaPS Uganda reviewed training needs, identified gaps, mapped the needs, and set priorities for each professional body. MTaPS is working with the MOH, the Uganda Protestant Medical Bureau, and the Uganda Catholic Medical Bureau to establish CQI to improve IPC practices in 14 hospitals with a focus on hand hygiene. MTaPS mentored 10 of the hospitals on CQI, directly reaching out to 476 health workers in 26 sessions. MTaPS also distributed educational materials for AMS, IPC, and hand hygiene that were adapted from WHO/CDC best practices and checklists. The materials target IPC/hand hygiene team members, health care workers, hospital managers, and clients (patients and caregivers) to raise awareness about AMR, IPC, and proper hand hygiene techniques. Additionally, MTaPS collaborated with Makerere University to conduct a four-day training on IPC and AMS for 41 IPC and AMS teams at eight health facilities. Training focused on preparing the trainees to lead IPC and AMS interventions at their hospitals and prioritizing interventions that fed into a six-month CQI work plan on hand hygiene improvement that was informed by assessment data collected during mentorship visits. The hand hygiene CQI plans feed into the broader AMS/IPC work plans that the hospitals had developed with MTaPS' support following the baseline survey.

Building Institutional Capacity to Manage eLearning Platforms for IPC and AMS Training

The critical need for online learning has increased as the pandemic accelerated during the reporting period. MTaPS worked with **Cameroon's** Department of Pharmacy, Medicines and Laboratory (DPML) to draft a roadmap to set up the eLearning platform there. Following the roadmap's guidance, MTaPS facilitated the installation of the Moodle eLearning platform on the DPML's website. MTaPS also supported training for resource persons from the DPML and the National Center for Provision of Essential Medicines on managing the platform. The next phase will be to adapt training modules for eLearning. In **Mali**, MTaPS participated in several preparatory meetings for and then worked with the National Institute of Public Health, Directorate General of Public Health and Hygiene (DGSHP), Faculté De Médecine et d'Odonto – Stomatologie (FMOS), and National Science and Health Institute to officially launch the IPC eLearning platform at an event led by the Minister of Health and Social Development, Dr. Fanta Siby. The 91 participants came from the fields of human health, animal health, environment, agriculture, and education and included representatives from USAID, WHO, UNICEF, FAO Emergency Center for Transboundary Animal Diseases, Terre des Hommes, USAID Breakthrough Action, and World Vision. Some attended in person and some online. The ceremony included a presentation on the eLearning platform installation process, live demonstrations of the DGSHP and FMOS Moodle platforms with IPC standard and IPC COVID-19 courses, and a Q&A session. Sharing his thoughts on how the eLearning courses will help build health staff capacity, Dr. Aligui Yattara, representative for the USAID

Director for Health Office, said that "efficient human resources are essential to offer quality care. This is the reason why USAID provided these types of approaches to train, in a sustainable way, key populations and provide the opportunity for people to study regardless of their availability." In preparation for orienting hospitals' infection control committees on the eLearning platform and IPC courses, MTaPS provided a technical session to the DGSHP's Information Technology Unit on how to upload the eLearning courses using SCORM (shareable content object reference model) packages. The DQSHH validated MTaPS' Francophone IPC modules and the COVID-19 IPC courses, which the trainees uploaded to the DGSHP platform.

USE OF ANTIMICROBIAL MEDICINES OPTIMIZED

In the implementation of AMS-related activities in Q2, MTaPS focused on five key areas:

Strengthening governance structures for AMS at the national and facility levels. In collaboration with the MOH's Directorate of Hospital Pharmacy, MTaPS established Drug and Therapeutics Committees (DTCs) in five health facilities in **Burkina Faso** during the quarter. The TOR and budgets for training the DTCs were developed and finalized, and the DTC members of one facility were trained in March. At the end, trainees drafted an implementation work plan for the DTC. The trainings for the remaining facilities are scheduled for the next quarter. During this quarter, MTaPS **Mali** supported the Directorate of Pharmacy and Medicines (DPM) to hold a workshop to prepare for DTCs in 11 health facilities. Participants finalized the TOR to establish the DTCs, reviewed the DTC training modules and tools, and agreed on a schedule for site visits. The DPM shared the TOR with the 11 facilities and directed them to designate DTC members, which MTaPS followed up on. The site visits to train DTC members and collect AMS data are set to begin in April. MTaPS worked with WHO and the **DRC** Pharmacovigilance Center to discuss ways to collaborate during this project year to support the scale-up and strengthening of previously established DTCs. A two-day retreat in February brought together DTC members from the three MTaPS-supported health facilities and one WHO-supported facility to share their experiences, including challenges and lessons learned, to ensure that the DTCs remain effective.

Developing and implementing AMS policy, plan, and guidance documents, including AWaRe classification. In **Bangladesh**, the core working group assigned to design the process and develop the Standard Treatment Guideline (STG) for Antibiotic Use in Common Infectious Diseases held its sixth meeting (in person) to review and provide feedback on the STG draft. After revising the chapters according to the group's recommendations, the STG was shared with senior staff from professional associations for input as well as with MTaPS HQ. In **Côte d'Ivoire**, two groups of experts were established to revise the essential medicines list to include the AWaRe categorization of antibiotics. Group 1 had completed 50% of their tasks but had been slowed by the nonfunctioning of the website that provides information on antibiotic stock levels and procurement at the central medical stores. Group 2's work had been delayed. MTaPS and the Pharmacy and Poisons Board (PPB), which is the national medicines regulatory body in **Kenya**, developed two regulatory guidance documents that target public and private health care workers on the appropriate use of antimicrobials, including using the AWaRe categorization of antibiotics. The PBB's chief executive officer approved the documents, which are being published in a local daily newspaper and on social media. MTaPS provided technical support to **Mali's** National Committee for Antibiotic Treatment (NCAT) to organize a virtual workshop in February to validate the updated policy and guidelines on antibiotic therapy that include WHO's AWaRe classification. Participants agreed to address gaps in the draft STGs and present the policy and STG documents to the Health Systems Strengthening Platform for validation. In **Senegal**, MTaPS also helped its NCAT organize a virtual workshop in February to validate the updated antibiotic therapy policy and STGs that include the WHO's AWaRe classification. The 25 participants included members of the NCAT's four TWGs (policy, antibiotic treatment for adult and pediatric community infections, antibiotic treatment for HCAIs, and antibiotic prophylaxis); representatives from MOH

directorates; six departments of the University Teaching Hospital of Fann; WHO; and USAID implementing partners. Important recommendations included addressing gaps identified during the workshop, combining the separate (pediatric and adult) STGs into one document, preparing for the final validation, and disseminating the antibiotic STGs. MTaPS is working closely with the NCAT Secretariat to monitor and help implement the recommendations. MTaPS **Tanzania** supported the MOHCDGEC to compile, design, and print the AWaRe list of antibiotics for the Minister of Health to approve. A hospital formulary that incorporates AWaRe will help hospitals determine which antimicrobials to prescribe, when, and under what conditions and provide a reference to monitor prescriptions.

"Colleagues from the Ministry and other sectors join me in thanking USAID MTaPS for taking leadership in the development of this key policy document. For long we have struggled with the use of antibiotics and availability of medicines and control of their access in the agricultural sector. We now have a basis for implementing the changes."

– Dr. Anna Rose Ademun, Chief Veterinary Officer and Commissioner, Animal Health, MAAIF

MTaPS is working with **Uganda's** MOH; the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF); and the FAO to assess policies and regulations on antibiotic use in Uganda. MTaPS collected the data and is compiling a draft report. In a year-long process, MTaPS helped facilitate the prioritization and development of the Essential Veterinary Medicines List and guidelines on infection prevention and use of antimicrobials in Uganda by convening and coordinating the process across all stakeholders, including the MAAIF, the National Drug Authority, Makerere University, and the National AMR Subcommittee. The guidelines on infection control and use of antimicrobials in the animal health sector cover all leading animal production systems in Uganda (fish, poultry, sheep and goats, cattle, and pigs) and are available on the MAAIF's website. These developments lay a foundation for AMS in the agricultural sector and were the first of their kind in Uganda.

Assessing AMS capacity at the national and local levels and developing action plans. In **Côte d'Ivoire**, MTaPS supported the AMR TWG to evaluate the capacity and functionality of DTCs through joint visits to eight health facilities: four regional hospitals (Yamoussoukro, Daloa, Aboisso, and Abengourou); the university teaching hospitals in Angre and Trechville; and two private clinics—PISAM and Clinic Grand Centre of Yopougon. A team of four (two members of the AMR TWG, a regional pharmacist, and an MTaPS representative) conducted the assessment in the regional hospitals, while teams of two assessed the other two facilities. Findings were that DTCs exist and meet regularly in the four hospitals, but they do not implement AMS activities. Areas for improvement were mainly related to the promotion of rational use of drugs, especially antimicrobials. At the University Teaching Hospital of Angre and Clinic Grand Centre of Yopougon, DTCs had not been established, while the DTCs at PISAM and Trechville had not been active for about 10 years. The facilities drafted plans to set up or revitalize DTCs. As a next step, the AMR TWG will help reinforce the DTCs' ability to implement AMS activities through a competency-based training and tools for self-assessment, activity reporting, and antimicrobial use surveillance. MTaPS also used the joint visit as an opportunity to collect baseline data on pharmaceutical services at three randomly selected regional hospitals.

Results show that among surveyed patients:

- At the regional hospital of Yamoussoukro, 94% of 18 patients knew the number of units of the drug per dose, and 89% knew how often to take their medication
- At the regional hospital of Daloa, 80% of 20 respondents knew the number of units of the drug per dose, and 88% knew how often to take their medication
- At the regional hospital of Abengourou, 92% of 13 patients surveyed knew the number of units of the drug per dose, and 92% knew how often to take their medication

In March, MTaPS supported the AMR TWG to visit one veterinary health facility (Antirabic Center of Cocody) to help the facility determine the capacity and functions needed for a unit to manage veterinary medicines, which currently does not exist. The Directorate of Veterinary Services decided to establish

those units in veterinary facilities following OIE guidelines, but they have not yet been implemented. MTaPS continued to partner with the **DRC** Pharmacovigilance Center to establish four additional DTCs in two hospitals in Nord Kivu and two in Ituri province. The DTC process began with a baseline study to assess medicine use in the facilities and to nominate and train around 80 DTC members. At the end of the training, each DTC developed a 12-month action plan, including a CQI plan. MTaPS/Kenya supported a two-day workshop to validate and finalize the national AMS training curriculum and tools, which will be used to develop the capacity of health care workers countrywide on how to establish AMS programs. In Kilifi and Murang'a counties, MTaPS and the county health departments conducted baseline assessments of the AMS and IPC activities at the counties and at two health care facilities in each. MTaPS held meetings to share preliminary findings of the assessments for hospital and county health management teams, including county health directors. The findings will target areas of support and provide a reference for measuring the progress of AMS and IPC interventions. During the hospital visits, MTaPS distributed the National AMS Guidelines for Healthcare Settings, National AMR Communique, National IPC Guidelines, and IPC posters. MTaPS also worked with the Nyeri county health department to distribute the National AMS Guidelines for Healthcare Settings, KEML, national IPC guidelines, and Nyeri County Strategic Plan in eight MTaPS-supported health care facilities.

Supporting medicine use and other assessments and surveillance. In Nairobi county, the **Kenya** team helped Kenyatta National Hospital analyze its antimicrobial use and consumption data from 2019 to 2020. The hospital's AMS team will use the results to inform the hospital's antimicrobial prescribing guidelines. MTaPS is reviewing the hospital's guidelines on surgical antimicrobial prophylaxis. Once completed, copies will be disseminated and adherence to the guidelines monitored. MTaPS **Uganda** continued supporting 14 hospitals to become AMS centers of excellence. MTaPS conducted mentorship visits and provided technical support to 10 of the hospitals during the quarter. During the visits, discussions were held on antimicrobial use problems, and the groundwork was laid for the hospitals to develop their AMS improvement plans (figure 13). MTaPS used standard surveillance tools to measure antibiotic consumption in the health facilities. Survey findings showed overuse of antibiotics in surgery and for urinary tract infections (UTIs) and upper respiratory tract infections (URTIs). MTaPS conducted a training workshop on AMS and IPC and helped the hospitals prioritize AMS interventions. They developed six-month work plans using CQI to improve the use of antibiotics in surgery, URTI, and UTI. The pre- and post-training assessments showed a knowledge increase of 20%. MTaPS also distributed educational materials, guidelines, and reminders for the workplace at the 10 hospitals; in addition, MTaPS gave copies of the WHO toolkit on AMS in low- and middle-income countries, the medicines and therapeutics committee manual, and antibiotic use prompts to six MTaPS-supported health facilities.

Figure 13. CQI plan goals for to improve AMS and IPC in 10 centers of excellence in Uganda

Developing individual and local training capacity. Following the steps in the previously developed roadmap to revitalize or establish DTCs in **Cameroon**, MTaPS supported the DPML to organize a four-day workshop in March to train 16 DTC champions from 12 health facilities representing seven regions. Training included an overview of a DTC, drug utilization studies, AWaRe classification, routine medicine use monitoring, and notification of adverse drug effects. The **Kenya** team collaborated with the Kisumu County Department for Health and Sanitation to hold a two-day training for 30 health care workers from MTaPS-targeted health care facilities on AMS and DTCs. This was the third and final training for the AMS and committee teams. At the end, participants updated their work plans to incorporate lessons learned—largely focused on reducing inappropriate use of specific antibiotics, medication safety, and pharmacovigilance.

MTaPS representative handing over national AMS guidelines and Kenya Essential Medicines List to nurse in-charge, Ahero County Hospital, Kisumu county. Photo credit: Doris Bota/MTaPS

A facilitator training health care workers during the MTaPS-funded AMS/MTC training in Kisumu county. Photo credit: Collins Jaguga/MTaPS

MATERNAL, NEWBORN, AND CHILD HEALTH

The MTaPS maternal, newborn, and child health (MNCH) portfolio contributes to achieving Sustainable Development Goal 3: Ensure healthy lives and promote well-being for all at all ages and prevent child and maternal deaths by increasing global awareness of the barriers to access to essential maternal and child health (MCH) medicines and supplies and by providing technical assistance to reduce these barriers at both the global and country levels. The goal of the MTaPS MNCH portfolio is to ensure availability and appropriate use of safe, effective, and quality-assured medical products and effective pharmaceutical services to reduce maternal, newborn, and child mortality by strengthening pharmaceutical systems.

During this quarter, MTaPS focused on obtaining approvals of scopes of work for all activities in the year 2 work plan so that implementation can start. A second activity to introduce procedures for manufacturing safe and quality medical oxygen in one country was approved for the year 3 work plan. With one activity to finalize the RMNCH forecasting supplement approved last quarter, and after further discussion on the content of a final activity, the year 3 work plan will be finalized next quarter. Because of delays in finalizing and approving year 2 and 3 work plans and scopes of work, year 2 and 3 activities are being implemented concurrently in project year 3. A dissemination plan for all the year 1 deliverables has been developed and approved and progress has been made, sharing key products with the relevant USAID missions and more widely on our website. The MTaPS MNCH team presented on the mapping of registration of MNCH medical products in 9 countries in the MTaPS quarterly technical meeting where at least five USAID missions as well as other USAID Washington staff participated, and at an internal MSH wide Pharmaceutical Systems Strengthening in Practice Knowledge Exchange.

QUARTER PROGRESS FOR FY21 (YEAR 3) Q1

OBJECTIVE 1: PHARMACEUTICAL-SECTOR GOVERNANCE STRENGTHENED

Year 2/activity 1.3.1: Strengthen civil society engagement to increase access to and use of safe, quality MNCH medicines and technologies and effective pharmaceutical services

MTaPS is developing a discussion paper on civil society engagement interventions with, or that hold promise for including, a component on improving availability, affordability, and appropriate use of quality medical products, particularly for MNCH products. The draft inception note and discussion paper outline developed during the last quarter were further revised after discussions with other USAID teams from Africa Bureau and the Democracy, Human Rights, and Governance (DRG) Group to ensure that this activity is complementary to and will draw on the investments in their portfolios. The discussion paper will focus on the implications of what has been learned from research and initiatives for policy and practice.

OBJECTIVE 2: INSTITUTIONAL AND HUMAN RESOURCE CAPACITY FOR PHARMACEUTICAL MANAGEMENT AND SERVICES, INCLUDING REGULATION OF MNCH PRODUCTS

Year 1/activity 2.1.1: Review of registration of MNCH commodities

MTaPS conducted a mapping exercise to identify challenges in registering MNCH medical products in Bangladesh, DRC, Mali, Mozambique, Nepal, Rwanda, Senegal, Tanzania, and Uganda with the approval of the respective USAID Missions. During this quarter, all country reports, documenting the registration processes and challenges for MNCH medical products and highlighting key issues that national regulatory authorities should consider to further improve the process, were finalized and shared with USAID and the national regulatory authorities (NRAs) in each country. A technical brief that synthesizes the findings from the nine country studies, as well as from interviews with pharmaceutical manufacturers on their perspectives on registering MNCH medical products and the barriers they encounter in LMICs,

was finalized and disseminated to the nine USAID Missions and NRAs. The main findings and considerations were presented to USAID Missions at the March quarterly technical meeting and to MTaPS and other MSH staff in an internal knowledge event. The considerations in the country reports and the technical brief will inform regulatory authorities and other policy makers of strategies to eliminate barriers and bottlenecks to further improve the registration process.

Year 2/activity 2.1.1: Support the streamlining of registration of MNCH medical products in at least one country

As a follow-on to the year 1 registration mapping activity, MTaPS is planning some in-country work to streamline registration by using the findings and considerations from the mapping and to optimize registration of MNCH medical products by incorporating them into regional harmonization efforts. This work is awaiting Mission concurrence from Mozambique to start implementation.

Year 1/activity 2.1.2: Document quality assurance in local procurement

This activity aimed to document best practices to ensure quality of medicines when they are procured sub-nationally, which is often the case for MNCH medicines in LMICs, using examples from Nigeria, Tanzania, and Liberia. During this quarter, the technical brief describing the best practices and lessons learned was finalized and will be disseminated. Key best practices include transparent selection of suppliers according to standard procedures, obligatory registration for products procured sub-nationally, and use of restricted tenders and standard procedures for procurement. The quality of medical products procured sub-nationally should be ensured throughout the process of procurement, and a national, risk-based post-market surveillance strategy is essential.

OBJECTIVE 3: AVAILABILITY AND USE OF PHARMACEUTICAL INFORMATION ON MNCH MEDICINES FOR DECISION MAKING INCREASED AND THE GLOBAL LEARNING AGENDA ADVANCED

Year 2/activity 3.1.1: Support implementation of promising procurement practices to improve access to safe, effective, affordable, quality-assured medical products for women and children

To contribute to MTaPS' sub-objective—pharmaceutical systems strengthening and global learning agenda advanced—MTaPS is planning to improve sub-national procurement in a country still under discussion (likely Nepal) by supporting decentralized procurement units in a specific geographic area of the country. This activity will use lessons learned from the technical brief developed under the year 1 activity to orient development of action plans and guidelines for improved sub-national procurement. The SOW has been approved by USAID and MTaPS is awaiting Mission concurrence to begin.

Year 2/activity 3.3.1: Map the institutionalization of pediatric amoxicillin formulations in countries

After USAID and MTaPS agreed that a consultative meeting to review the current situation of access and appropriate use of amoxicillin, to determine action steps, and to define the role for partners would be of greater value than the originally planned mapping activity, MTaPS is supporting USAID and UNICEF to plan for that meeting. A revised SOW and a concept note for the meeting have been developed. Several discussions have taken place between USAID, UNICEF, and MTaPS to identify the key bottlenecks to access and appropriate use of amoxicillin and possibly other newborn and child health medicines. A wider planning committee has been established to include partners R4D, CHAI, and PATH, and a meeting is being planned for early next quarter to define the key bottlenecks to access and appropriate use of amoxicillin and possibly other newborn and child health medicines to focus the discussion of the consultative meeting.

OBJECTIVE 5: PHARMACEUTICAL SERVICES FOR WOMEN AND CHILDREN, INCLUDING PRODUCT AVAILABILITY AND PATIENT-CENTERED CARE, IMPROVED

Year 3/activity 1: Validation of RMNCH forecasting supplement

Quantification practices have a direct effect on product availability. MTaPS has shared the updated RMNCH forecasting supplement with six country teams of the USAID/Global Health Supply Chain Procurement Supply Management (GHSC/PSM) Project to validate the supplement.

MTaPS, together with the Task Order 4 team from PSM, conducted an orientation session on the revised RMMCH forecasting supplement for 30 people from PSM teams in 6 countries who will be conducting a forecast in the first few months of 2021. The session aimed to equip the teams to use the forecasting supplement for their exercise and to provide feedback to validate the document. As part of continued follow-up with the country team, MTaPS has been able to provide advice and clarification on standard treatment recommendations from WHO and other aspects related to treatment. The forecasting exercises will be completed next quarter, and MTaPS plans to finalize the forecasting supplement according to the comments from the country teams.

Year 2/activity 5.2.1: Improve systems for managing and administering oxygen and other medical devices of the respiratory ecosystem

Oxygen is an essential medical product in the COVID response but also for children and newborns with hypoxia due to pneumonia and other conditions. After MTaPS completed a mapping of partner support in the respiratory ecosystem, it was seen that there was little support to the respiratory ecosystem in countries to allow them to strengthen systems to ensure appropriate oxygen administration and particularly regulatory systems. MTaPS has designed an activity to ensure the quality of locally manufactured oxygen in one or two countries. During this quarter, MTaPS discussed with USAID to finalize the SOW, which is now approved, allowing MTaPS to recruit a consultant and start the activity.

COMPLETED DELIVERABLES THIS QUARTER

- Technical report: Improving Access to Maternal, Newborn and Child Health products in Low- and Middle-Income Countries: Considerations for Effective Registration Systems
- 9 country reports: Mapping of Registration of MNCH Medical Products
- Technical brief: Ensuring the Quality of Sub-nationally Procured MNCH Medical Products-Findings from Liberia, Nigeria, and Tanzania
- The RMNCH Supplement for Forecasting Consumption of Select Reproductive, Maternal, Newborn, and Child Health Medical Products

ACTIVITIES FOR NEXT QUARTER

ACTIVITY AND DESCRIPTION	DATE (2021)
Year 2/activity 1.3.1 Strengthen civil society engagement to increase access to and appropriate use of safe, effective, quality-assured MNCH medicines, technologies, supplies and, pharmaceutical services After approval of the inception note and discussion paper outline, the consultant will start work on the discussion paper and will request any project documents and resources from Africa Bureau and the DRG group in USAID to be considered in the paper. A first draft of the paper will be developed this quarter.	June
Year 1/activity 2.1.1: Review registration of MNCH commodities Further webinars will be conducted this quarter, and a draft manuscript for peer-review journal publication will be developed.	June
Year 2/2.1.1: Support streamlining registration of MNCH products in at least one country Once concurrence has been obtained, MTaPS will develop a detailed plan for the activities. Contact will be made with a regional platform to discuss the possibility of joint assessment of MNCH medical products.	June
Year 1/activity 2.1.2: Document quality assurance in local procurement The technical brief, Ensuring the Quality of Sub-nationally Procured MNCH Medical Products-Findings from Liberia, Nigeria, and Tanzania, will be disseminated and posted on the MTaPS website.	April
Year 2/activity 3.1.1: Support implementation of promising procurement practices to improve access to safe, effective, affordable, quality-assured medical products for women and children After Mission concurrence, the consultant will be recruited, a detailed plan will be developed, and procurement practices in one region will be mapped.	June
Year 2/activity 3.3.1: Map the institutionalization of pediatric amoxicillin formulations in countries Planning for the consultative meeting on improving access and appropriate use of amoxicillin will continue, and at least one of the series of consultative meetings will be held.	June
Year 3/activity 1: Validation of RMNCH forecasting supplement Feedback will be collected from the countries and final changes to the supplement made. The accompanying summary document or "how-to guide" will also be drafted according to any suggestions from the teams who conducted the validation.	June
Year 2 /activity 5.2.1 Improve systems for managing and administering oxygen and other medical devices of the respiratory ecosystem A consultant biomedical engineer will be recruited, and countries will be selected for the work to ensure quality of locally manufactured oxygen.	June

OFFICE OF HEALTH SYSTEMS, CROSS BUREAU FUNDING

ACTIVITY 1: MEASURING PHARMACEUTICAL SYSTEMS STRENGTHENING, INCLUDING ACCESS TO MEDICINES

No activity this quarter.

ACTIVITY 2: PHARMACEUTICAL SYSTEM STRENGTHENING COURSE (PSS 101)

MTaPS continued to further refine the PSS 101 course this quarter and completed the design of an additional PSS 101 module on supply chain management in the context of pharmaceutical systems strengthening (PSS) and universal health coverage, after going through an iterative review process. This brings the total number of completed modules to seven of the eight planned modules to date.

Last quarter, MTaPS initiated conversations with the Global Health Professional and Organizational Development (GHPOD II) team about migrating the PSS 101 eLearning course to the Global Health eLearning Center (GHeL) platform. GHPOD II approved the course for GHeL and negotiated a scope of work with MTaPS. The GHPOD II team provided three options for hosting the course and worked with MTaPS to determine that the best solution would be to host the course as an HTML file. The team has since started the migration, optimizing the functionality of all modules to ensure full accessibility and usability. This process is ongoing and is expected to be completed in April 2021.

This quarter, MTaPS initiated conversations with the course administrators at USAID University to have the eLearning course hosted there as well. The course is now available on the pilot test site and is expected to go live in June 2021. The plan is for USAID staff to take the course asynchronously with the option to attend one of two live sessions tentatively planned for quarter four. MTaPS is working with the COR to plan virtual sessions via USAID University (potentially using a blend of approaches). A draft agenda was submitted to the USAID/COR team for review and feedback.

ACTIVITY 3: ROADMAP FOR HEALTH TECHNOLOGY ASSESSMENT (HTA) INSTITUTIONALIZATION

Last quarter, MTaPS held the global launch of the HTA core roadmap document, *A Roadmap for Systematic Priority Setting and Health Technology Assessment (HTA): A Practical Guide for Policy Action in Low- and Middle-Income Countries*. The focus for this quarter was to initiate the planning for regional dissemination and application of the roadmap in selected countries. The dissemination and application will be conducted through two regional workshops for participants from two or three selected countries in Sub-Saharan Africa (SSA). The objective of the workshop will be to support participating countries in developing country-level HTA roadmaps and provide targeted capacity building. MTaPS will leverage its HTA roadmap guidance document to provide a flexible planning and capacity-building template and will also utilize the World Health Organization (WHO) HTA 101 guide should it be published during the period of implementation for this work plan and found relevant. By using a roadmap approach, countries will identify the steps and tools needed for HTA institutionalization.

MTaPS is developing a concept note for the workshop with an agenda based on the current situational analysis of HTA in SSA. The situational assessment is based on the systematic literature review conducted for the HTA roadmap document; a web-based survey with HTA experts in Africa conducted in the previous year; and discussions with a key donor related to HTA, the Bill and Melinda Gates Foundation (BMGF). The BMGF funds the International Decision Support Initiative (iDSI), which is its key technical assistance provider partner for HTA. In recent years, iDSI has been active in a number of countries in SSA—Ethiopia, Ghana, Kenya, Rwanda, South Africa, Tanzania, Uganda, and Zambia. iDSI is

currently focused on expanding HTA in Kenya and Uganda and building HTA resource hubs to support advancement of HTA in SSA. iDSI is creating resource hubs at the Kenya Medical Research Institute and the Africa Centers for Disease Control in Ethiopia. For the regional workshops and capacity building, MTaPS proposes engaging countries that are interested in HTA but are not currently a primary focus of iDSI partners. These could potentially include Ghana, Tanzania, and Francophone countries such as Senegal. MTaPS will also invite and engage with experts from the resource hubs being established to build linkages for advancing HTA and share lessons learned from the SSA countries advancing HTA. Two 90-minute workshops, one for Anglophone and another for Francophone SSA countries, are currently being targeted for May and June 2021 based on participant availability. The learning agenda is split into two sections. The first half will be plenary sessions focusing on the stepwise approach of the HTA roadmap, country case studies, and developing country action plans, and the second half will be focused on topics that country stakeholders have expressed interest in, such as pragmatic HTA methods and process guidelines. MTaPS will be sharing the concept note in April 2021 with USAID for feedback and initiating country-level engagement activities.

MTaPS is also developing publications based on the HTA roadmap findings. A balanced scorecard analysis of HTA status in selected SSA countries is being completed. An abstract based on this analysis has been accepted for a poster presentation at the Professional Society for Health Economics and Outcomes Research in May 2021. MTaPS is also developing a journal article based on the analysis that will be submitted to a peer reviewed journal during this project year.

ACTIVITY 4: IMPROVE PHARMACEUTICAL EXPENDITURE TRACKING AND THE USE OF EXPENDITURE DATA FOR DECISION MAKING

Last quarter, MTaPS (MSH and consortium partner R4D) and the Local Health System Sustainability (LHSS) Project started mapping of the pharmaceutical expenditure data that the team had from health systems stakeholders in Burkina Faso. This quarter, the team completed the data mapping and drafted a resource for pharmaceutical expenditure tracking to accompany System of Health Accounts 2011 framework guidance. The resource will enable countries to more accurately capture population-per-capita pharmaceutical expenditures per disease or drug therapeutic class. The team submitted the draft resource as the first deliverable for the activity, and it is undergoing USAID review. The resource reflects the approach specific to Burkina Faso. Once the resource has been reviewed and approved, MTaPS plans to pilot it in Benin. Along with a pilot in Benin, the team will use the results to produce a generalized approach that can be applied to other countries. In preparation for that phase, MTaPS has sought mission concurrence for the pilot activity in Benin.

This quarter, MTaPS and LHSS met with WHO EURO to discuss piloting the resource in the region. The WHO EURO team indicated interest in piloting the resource in North Macedonia. MTaPS and LHSS will discuss with the COR whether to share the draft resource or the more generalized approach once the pilots are completed.

ACTIVITY 5: COMMON STANDARDS FOR REGULATORY INFORMATION MANAGEMENT SYSTEMS IN LMICS AND THEIR APPLICATION IN DESIGNING A SOFTWARE SUITE FOR NMRAS

Sub-activity 5.A. Develop common standards for regulatory information management systems (IMS) used by NMRAs

This activity aims to develop a common set of basic standards on which regulatory IMS can be based. Last quarter, MTaPS developed and shared the implementation plan with the Promoting the Quality of Medicines Plus (PQM+) Program, a collaborator on the activity. This quarter, MTaPS and PQM+ instituted regular team meetings, agreed on the scope of the standards for regulatory IMS, and refined the implementation plan, which was shared with USAID. Based on feedback from USAID, it was

apparent that the team needed to adjust the implementation plan to meet the timelines and clarify the standards to focus on within the scope of the activity. The team has since revised the implementation plan and clarified the scope of the activity to focus on common data elements required for developing regulatory IMS.

The team developed a review strategy, and MTaPS conducted a literature search on common standards for regulatory IMS. This included accessing the report *Scoping of a Continental Regulatory Information Management System Solution and Information Sharing Platform for the Member States in the African Union*, which was funded by the World Bank and is highly relevant to the current effort. MTaPS also drafted a high-level outline of the report based on the information review thus far and shared it with PQM+ for input.

In preparation for consultations, MTaPS identified a list of global stakeholders (e.g., World Health Organization, BMGF, Global Fund) and shared it with USAID for review. Once the list is finalized and approved, the team will solicit participation and engage stakeholders in virtual workshops tentatively scheduled for the third quarter. The solicitation letter has been drafted and is with USAID for review.

Sub-activity 5.B. Optimization and deployment of Pharmadex

MTaPS is building on existing system requirement specifications to define functionalities of Pharmadex version 2 in a modular fashion. A test version has been launched, and this quarter MTaPS hired a software developer to further develop and finalize the software. The team is prioritizing development as follows:

1) The initial web-based application with a public facing section for reports (e.g., list of authorized medicines)
2) User registration using a common standard called OAUTH2
3) Plan the workflow for pharmacy and pharmacist toward the inspection module
4) Plan the workflow for manufacturers/importers and their staff toward the medicines marketing authorization module

This prioritization allows MTaPS to start implementing activity 5.B while the standards from 5.A are being developed. It is anticipated that as the standards are agreed upon, they will be applied to Pharmadex.

To monitor and execute these tasks, the software development team is using an agile management tool called Redmine, which allows us to easily manage priorities and track progress and outstanding tasks. It is specifically focused on software development and is open source.

ACTIVITY 6: ADVANCING EQUITABLE ACCESS TO QUALITY PHARMACY SERVICES IN THE PRIVATE SECTOR THROUGH RETAIL DRUG SELLERS

As per the approved work plan, the activity aims to collate existing evidence on the quality of pharmacy services in retail outlets and their role in expanding equitable access to services, particularly for vulnerable and underserved populations. In the previous quarter, MTaPS developed the implementation plan for the activity and held preliminary discussions with consortium partner Boston University School of Public Health (BUSPH) regarding its interest in and availability to support the activity. This quarter, MTaPS initiated a sub-award for BUSPH to assist in the analysis of existing evidence on the quality of services provided by retail drug outlets and the extent to which these outlets expand equitable access to quality pharmacy services in low- and middle-income countries (LMICs). MTaPS conducted a rapid literature review with the aim of addressing the following questions in a policy brief:

- What is the quality of pharmacy services provided by retail drug outlets in selected USAID priority countries?
- What is the level of market penetration of these outlets, particularly in vulnerable communities?

- To what extent have governments sought to incorporate these outlets through accreditation
- into the formal health system as providers of pharmacy services?
- What are some of the key factors hindering continued uptake of accreditation programs?

However, during discussions regarding year 4 activity proposals, the COR team asked MTaPS to reconceptualize the activity to incorporate one of the proposed ideas for year 4. For year 4, MTaPS had proposed an activity examining the geographic accessibility of retail drug outlets. Further, as per the approved year 3 work plan, the activity included a potential workshop at the 80th International Pharmaceutical Federation World Congress of Pharmacy and Pharmaceutical Sciences in September 2021. That event has been cancelled due to the COVID-19 pandemic, providing further impetus to reconceptualize the activity. This quarter, MTaPS drafted a new concept for the activity that includes a proposed review of publicly available data sources on retail drug outlets to determine what data are available regarding the geographical accessibility of retail drug outlets and the quality of the products and services they provide. MTaPS would then use the findings to select one country for a case study to examine the density of retail drug outlets and the quality of pharmacy services and identify the mix of retail outlets versus public dispensaries that demonstrably advances equitable access. The concept is undergoing review by USAID.

ACTIVITY 7: INVESTIGATING THE USE OF INFORMATION FROM PHARMACEUTICAL MANAGEMENT INFORMATION SYSTEMS (PMIS) FOR EVIDENCE-BASED DECISION MAKING

This study aims to understand the facilitators and constraints of PMIS adoption and data use for decision making, focusing specifically on systems MTaPS or its predecessor programs have implemented. This quarter, MTaPS completed a literature review of the primary factors affecting the institutionalization of health information systems. This informed the draft of the literature review and conceptual framework sections of the study protocol. MTaPS also completed a mapping of PMIS by country, which will inform the selection of the country and PMIS to be proposed to USAID for the study. The team is in the process of refining the study design with the aim of submitting the full protocol to USAID for approval in April.

Sub-activity 8.B. PSS TAG engagement

No activity this quarter.

Sub-activity 8.C. Conference participation

MTaPS drafted and submitted five abstracts for the Global Health Science and Practice Technical Exchange 2021, which will be held April 21–24, 2021. Four of the abstracts were accepted for presentation:

- *Global tools to combat AMR: A close look at GHSA-supported interventions in Côte d'Ivoire*
- *Balancing equity and emergency response during the COVID-19 pandemic: The case of the Philippines*
- *Using novel capacity-building approaches to prepare health workers and systems for COVID-19 infection prevention and control (IPC) response*
- *The Global Benchmarking Tool: Experiences and lessons learned strengthening national regulatory systems*

The team started developing content for the sessions, which will be finalized for presentation at the conference in the next quarter.

In addition, MTaPS drafted and submitted five abstracts for the American Public Health Association (APHA) 2021 Annual Meeting:

- *Registration of maternal, newborn and child health products: Findings and considerations from a nine country survey*

- *Establishing an emergency supply chain system for continuous access to COVID-19 commodities in Bangladesh*
- *Improving infection prevention and control (IPC) practices: Interventions in six Tanzanian hospitals*
- *Experiences and lessons from using Global Health Security Agenda perspectives and approaches to implement antimicrobial resistance containment efforts in 11 countries*
- *Strengthening pharmacovigilance capacity through harmonization efforts in the Economic Community of West African States*

The team is awaiting decisions from the review panel and if accepted, MTaPS will participate in APHA 2021, scheduled for October 24–27, 2021.

MTaPS also published four manuscripts this quarter. *Making the investment case for national regulatory authorities*; *National Health Insurance Fund's relationship to retail drug outlets: a Tanzania case study*; and *Strengthening multisectoral coordination on antimicrobial resistance: a landscape analysis of efforts in 11 countries* were all published in the *Journal of Pharmaceutical Policy and Practice*. The fourth manuscript, *COVID-19 vaccines pricing policy options for low-income and middle- income countries*, was published in *BMJ Global Health*.

EXTENDED YEAR 2 ACTIVITIES

ACTIVITY 1: REFINE/VALIDATE PSS INSIGHT IN USAID MTAPS-SUPPORTED COUNTRIES

In year 2, MTaPS refocused the strategic direction for PSS Insight and partnered with BUSPH to reconfigure the tool, reducing the number of indicators from 117 to 38. The resulting tool, PSS Insight v2.0, has 38 indicators and is much simpler than the earlier version. The vision for PSS Insight v2.0 is to have a user-friendly tool that governments can routinely use to monitor national progress in their PSS and inform their ongoing strengthening interventions. The 38 indicators represent an attempt at striking a pragmatic balance between a low data collection burden and enough comprehensiveness to measure critical system components and attributes. As important, the simpler tool means that countries can implement this regularly without donor support.

This quarter, MTaPS submitted the technical report detailing the finalization of PSS Insight v2.0 along with the performance indicators reference sheets (PIRS). This deliverable is undergoing review by USAID.

MTaPS also developed a concept note for piloting PSS Insight v2.0. The purpose of the pilot is to test the indicators and assess the suitability of the accompanying PIRS and training materials for data collection.

ACTIVITY 3: IN COLLABORATION WITH CORE PARTNER NEPAD, SUPPORT THE AMRH INITIATIVE TO INCREASE INSTITUTIONAL AND HUMAN RESOURCE CAPACITY FOR PHARMACEUTICAL REGULATORY SYSTEMS IN AFRICA

Previously, MTaPS worked with AUDA–NEPAD to improve the Medicine Regulatory Harmonization Program management guidance tool. The tool aims at assisting Regional Economic Communities (RECs), such as the Economic Community of West African States (ECOWAS), Intergovernmental Authority on Development, and Southern African Development Community, to implement medicines regulatory harmonization programs in a more effective, efficient, and sustainable manner. MTaPS also worked with AUDA–NEPAD to develop and administer an online survey to the RECs and pharmaceutical industry to obtain information on the achievements, challenges, and lessons learned. MTaPS is finalizing the technical and editorial review and anticipates submission to USAID and AUDA–NEPAD by May 2021.

ACTIVITY 8: SUPPORT AFRICAN REGIONAL HARMONIZATION EFFORTS FOR PHARMACOVIGILANCE

MTaPS is collaborating with the West Africa Health Organization (WAHO) and the 15 ECOWAS to develop a web-based platform for improving pharmacovigilance (PV) systems in the ECOWAS region. This quarter, MTaPS held a meeting with all 15 member countries to present the finalized report of the survey on the data elements that countries have available and are willing to share on the PV platform. WAHO is working with a company called SIDMACH to develop a web-based platform called the Essential Medicines and Vaccines Portal to support sharing of data on all national medicines regulatory authority (NMRA) regulatory functions within the region. WAHO agreed to having MTaPS leveraging the existing portal to launch the PV platform. This quarter, MTaPS initiated the procurement process of a SharePoint license, which will allow expansion of the portal to include the PV platform. MTaPS also identified the template for data use agreements and will work with WAHO and member states to create a final draft for approval and dissemination.

MTaPS convened a meeting with the WHO headquarters and the WHO Regional Office of Africa (AFRO) teams to discuss how best to collaborate and enhance sharing findings from the WHO Global Benchmarking Tool (GBT) for evaluating national regulatory systems for the 15 countries, once a data sharing agreement has been instituted. WHO AFRO expressed willingness to collaborate with MTaPS to support harmonization of PV systems in ECOWAS and improve patient safety in the region. However, the WHO headquarters team was unable to attend, so another meeting will be scheduled in the next quarter to seek their engagement.

ACTIVITY 10: IDENTIFY GAPS IN INTEGRATION OF IPC/WASH CRITICAL CONDITIONS INTO THE QUALITY OF CARE AND QUALITY IMPROVEMENT TOOLS AND PROCESSES

MTaPS has been working to identify gaps in integrating infection prevention and control (IPC)/water, sanitation, and hygiene (WASH) critical conditions into the quality of care (QOC) and quality improvement (QI) tools and processes in Bangladesh, with an emphasis on maternal, newborn, and child health (MNCH). MTaPS already reviewed and analyzed 19 documents related to QOC/QI in the Bangladesh health system to characterize how IPC/WASH is integrated. The team applied the same analysis to 19 QOC/QI documents from Côte d'Ivoire, DRC, Ethiopia, Senegal, Tanzania, and Uganda to provide some country-level comparison and help contextualize the findings from Bangladesh.

This quarter, the team used the findings to draft a preliminary report and submitted it to USAID for review. The Bangladesh team consulted the Quality Improvement Secretariat (QIS) in the Directorate General of Health Services to identify 16 health facilities that represent tertiary, secondary district, and primary upazila levels of care based on criteria discussed with the QIS. The criteria included a current government or development partner intervention related to MNCH QOC, IPC, or WASH; a good relationship between the facility quality improvement committee and the QIS and member secretary; and the willingness of hospital management to strengthen IPC and WASH.

The scope of work for a consultant to carry out the qualitative research has been completed, and in collaboration with the QIS, MTaPS has identified two candidates so far. The consultant will gather stakeholders' perspective on how the various QOC/QI documents the Ministry of Health and Social Welfare's Quality Improvement Secretariat (QIS/DGHS) has produced relate to each other, the extent to which they have been implemented throughout the health system, and any perceived gaps in the integration of IPC/WASH critical conditions into QOC and QI tools and processes. MTaPS finalized the guide that the consultant will use for the interviews. MTaPS has held preliminary discussions with the QIS regarding the need for a government order approving the activity to facilitate access. In addition, the team identified three documents related to QI or MNCH to review. Once the consultant is on board, anticipated by the end of April, the team will initiate data collection.

ACTIVITIES FOR NEXT QUARTER

ACTIVITY AND DESCRIPTION	DATE
Activity 1: Measuring pharmaceutical systems strengthening, including access to medicines • Inform WHO on MTaPS' plans for piloting of PSS Insight 2.0 indicators; seek its input; and explore opportunities to collaborate, as appropriate, on the various aspects of the pilot • Revise the draft concept note based on comments from the Assistant Director-General, Access to Medicines and Health Products, WHO regional offices and other departments, USAID, and other stakeholders • Continue to assist WHO to identify experts, implementers, and stakeholders that can serve as a network of experts to guide Access GBT development • Work with WHO to define MTaPS' support to the Access GBT tool consultation and development process	April–June 2021
Activity 2: Pharmaceutical system strengthening course (PSS 101) • Complete migration of the course to the GHeL and USAID University platforms • Finalize plans for two hybrid sessions in quarter 4	April–June 2021
Activity 3: Roadmap for health technology assessment (HTA) institutionalization • Finalize concept note for HTA workshops and share with USAID for review • Convene two 90-minute workshops	April–June 2021
Activity 4: Improve pharmaceutical expenditure tracking and the use of expenditure data for decision making • Initiate plans for piloting the resource	April–June 2021
Activity 5: Common standards for regulatory information management systems in LMICs and their application in designing a software suite for NMRAs • Share revised implementation plan with USAID • Finalize list of stakeholders with USAID and solicit engagement • Convene stakeholder consultation workshops • Test the web application and OAUTH2 with users • Verify workflows with selected NMRAs	April–June 2021
Activity 6: Advancing equitable access to quality pharmacy services in the private sector through retail drug sellers • Finalize concept based on feedback from USAID • Complete literature review based on revised scope	April–June 2021
Activity 7: Investigating the use of information from pharmaceutical management information systems (PMIS) for evidence-based decision making • Submit research protocol to USAID for approval • Revise and finalize protocol based on USAID feedback and submit for ethical review • Initiate study pending approval ethical review	April–June 2021
Activity 8. General portfolio management Sub-activity 8.B. PSS TAG engagement • Redraft the terms of reference to expand the group to incorporate PQM+'s role and interests	April–June 2021
Activity 8. General portfolio management Sub-activity 8.C. Conference participation • Develop content for sessions and participate in GHTechX • Develop and submit abstracts for American Society for Tropical Medicine and Hygiene	April–June 2021

ACTIVITIES FOR NEXT QUARTER

ACTIVITY AND DESCRIPTION	DATE
Year 2 Activity 1: Refine/validate PSS Insight in USAID MTaPS-supported countries • Finalize the concept note for the pilots • Initiate plans for the pilot	April–June 2021
Year 2 Activity 8: Support African regional harmonization efforts for pharmacovigilance • Meet with the relevant team in WHO Geneva to discuss the data elements for the platform and the possibilities for harvesting data from existing WHO platforms, such as VigiBase and GBT Share Point • Work with SIDMACH to deploy SharePoint license on the regional Microsoft data center • Work with WAHO, WHO, and ECOWAS countries to draft data use agreements • Review the work on the PV portal done by the consultant to ensure that it meets the needs of the team • Expand the current membership and scope of work of the ECOWAS PV Expert Working Group to include the duties of the community of practice	April–June 2021
Year 2 Activity 10: Identify gaps in integration of IPC/WASH critical conditions into the quality of care and quality improvement tools and processes • Finalize consultant contract and initiate data collection	April–June 2021

CROSS-CUTTING ACTIVITIES

GENDER ACTIVITIES

Key gender activities for this quarter focused on creating gender activities in country Y3 work plans and developing a gender work plan and scope of work to meet country-level goals. The scope of work is currently undergoing approval.

A new informational series called the "Gender Gist" was approved. The Gender Gist is information for field practitioners and is tied to MTaPS activities. The Gist will include useful and practical information on sex and gender considerations for different topics in pharmaceutical systems strengthening. The timing (biweekly vs monthly) will be determined by information needs and to avoid overwhelming staff with information. The first installment is a discussion of how sex and gender impact pharmacovigilance (PV) and vaccines. With the rapid introduction of the new COVID-19 vaccines, PV is an important aspect of the vaccine roll-out. Although safety is always the first concern with new medicines, it is well known that males and female respond to vaccines very differently. Therefore, field practitioners need to understand the difference between sex and gender. This information will be posted as a blog through MTaPS communications and include hyperlinked references.

Finally, MTaPS/Philippines and MTaPS partner, Overseas Strategic Consulting's (OSC), will be analyzing operational research/data to assess sex-related adverse drug reactions and the broader gender effects through a retrospective data analysis of one to two years of data from the PharmacoVigilance Monitoring System. Focus group discussions and key informant interviews will supplement the data gaps to assess the barriers to access and determine disparities based on sex and/or gender after preliminary analysis of these data. MTaPS/Philippines is currently assessing institutional review board (IRB) requirements. OSC's gender advisor expects to start writing the IRB application and refining the methodology in the next quarter.

PROGRESS TOWARD OBJECTIVES

OBJECTIVE 1: PHARMACEUTICAL-SECTOR GOVERNANCE STRENGTHENED

Promoting transparency and accountability is a prerequisite for improving access to essential medicines and strengthening health systems to achieve universal health coverage.[2] Poor governance in pharmaceutical systems can reduce access to pharmaceutical products, inflate medicine prices, and waste scarce health system resources.[3] Governance plays a critical role in minimizing opportunities for corruption and mitigating other system inefficiencies. It also shapes the ability of the health system to respond to challenges. This section highlights selected areas of work on MTaPS governance activities in this reporting period.

TRANSPARENCY AND ACCOUNTABILITY OF COUNTRY PHARMACEUTICAL SYSTEMS IMPROVED

In the **Philippines**, MTaPS is providing technical assistance to build the capacity of the Department of Health's (DOH) procurement and supply chain management team (PSCMT) to steward, plan, implement, oversee, and sustain an integrated and well-functioning supply chain and provide shared services to support the transition from a centralized model with fragmented procurement and supply chain management (PSCM) functions to a decentralized and integrated system. Important progress toward improved governance, integration, and coordination of centrally managed PSCM functions was attained in this reporting period as a result of discussion between MTaPS and the DOH's Disease Prevention and Control Bureau (DPCB). The implications of the Bureau's current restructuring for the execution of PSCM functions of the DPCB's public health programs and opportunities for achieving efficiencies and better coordination by integrating PSCM functions were among the topics deliberated. The DPCB agreed in principle that the PSCMT should take the leadership role on PSCM functions such as forecasting and supply planning, and the DPCB's public health programs should transfer these functions to the PSCMT. Building on agreements reached with the National Tuberculosis Program (NTP) in the previous reporting period, the DPCB agreed that the donor-funded NTP Drugs and Supplies Management Unit should be moved under the leadership of the PSCMT along with other externally supported units such as the Logistic Management Unit of the National AIDS and STD Prevention and Control Program. MTaPS will continue to work closely with the DPCB and the PSCMT to advance the integration of PSCM functions under the stewardship and leadership of PSCMT and to support coordination with the DOH's public health programs and regional counterparts to mitigate duplication and gaps in PSCM functions at the central level.

As part of efforts to strengthen oversight and accountability for PSCM at the region level in the Philippines, MTaPS supported the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) Ministry of Health to organize a two-day workshop on PSCM. Working with the USAID BARMMHealth project, MTaPS helped participants develop a high-level vision for PSCM for the region that builds on what already exists and on the priorities of the provincial Ministry of Health. The vision forms the basis for developing an action plan for establishing a well-functioning PSCM system in the BARMM.

[2] Wirtz VJ, Hogerzeil HV, Gray AL et al. 2017. Essential medicines for universal health coverage. The Lancet 389(10067), 403–476.
[3] WHO. 2013. Good Governance in the Pharmaceutical Sector. Geneva: World Health Organization. Available at: http://www.who.int/medicines/areas/governance/EMP_brochure.pdf?ua=1

As **Nepal** continues its transition to a federated system, MTaPS is assisting the Department of Drug Administration (DDA) and the Ministry of Health and Population (MOHP) in reviewing options and proposing a new organizational structure for the DDA that best supports its functional responsibilities in the decentralized system, as well as its role in stewardship, coordination, oversight, and enforcement. In March, MTaPS assisted the DDA and MOHP to convene a workshop to discuss the reorganization of the DDA. High-level staff from the MOHP, DDA central and provincial levels, the National Medicines Laboratory, the MOHP's Food and Drug Administration Drafting Committee, the Pharmacy Council, the World Health Organization (WHO), USAID, and the Promoting the Quality of Medicines Plus (PQM+) project heard from WHO and MTaPS on the various degrees of autonomy for a national regulatory authority. In addition to autonomy, participants deliberated on the principles that should guide the new structure for the DDA; its new roles and responsibilities, including for regulating food and cosmetics; and the decentralization under way in Nepal. Work that started on drafting the new organograms for the DDA and the National Medicines Laboratory at the workshop will continue in April in preparation for a high-level meeting with government officials responsible for reviewing and approving the organograms and related staffing norms.

In **Jordan**, MTaPS has received Mission funding to support the National Vaccines Procurement Modernization Committee (NVPMC) and a technical subcommittee to implement a set of approved interventions aimed at modernizing the Government of Jordan's vaccine procurement laws, policies, and processes to improve efficiency and effectiveness in vaccine planning and procurement. These efforts continue and build on work of the USAID Health, Finance, and Governance project, which halted in early 2020. MTaPS worked with the Ministry of Health and other stakeholders to hold the first meeting of the NVPMC in over a year. Nearly all key agencies were represented at the meeting, which was held virtually. Members were orientated on the NVPMC's terms of reference (TOR) and the conditions precedent submitted by the US Government to the Government of Jordan for continuation of pneumococcal conjugate vaccine and discussed the five priority activities and related implementation plan, among other matters, specifically:

- Amend the new government procurement bylaw to extend the maximum limit of the framework agreement to from two years to three years, to be completed by the Ministry of Health (MOH), Ministry of Finance (MF), and Government Procurement Department (GPD)
- Institutionalize partial prepayment for vaccines through activation of Government Procurement Bylaw, article 93, with further amendment to allow additional prepayment for vaccines, to be completed by the MOH, MF, and GPD
- Modify the principles of drug registration to include pricing of vaccines to provide a reference for their costs, to be completed by the Jordan Food and Drug Administration (JFDA)
- Add an article in the new government procurement bylaw or in its instructions permitting the development of exceptional provisions to deal with the procurement of pharmaceuticals, especially vaccines, under instructions permitting negotiations to take place, to be completed by MOH, Ministry of Industry and Trade, and GPD

The committee agreed to develop a new implementation plan that sets out actions, executing partners, deliverables, and due dates for completing the five priority activities by September 2021.

With **Asia Bureau** funding, MTaPS is partnering with WHO Geneva; the WHO Regional Office for South-East Asia (SEARO); and the WHO Collaborating Center for Governance, Transparency, and Accountability in the Pharmaceutical Sector in Toronto to develop a how-to manual on managing conflicts of interest (COIs) within public pharmaceutical committees. Data collection was completed for the study that MTaPS and WHO SEARO are conducting to inform the development of the manual, which will examine the existence and implementation of COI management policies in 10 countries in the South-East Asia Region. The draft report of study findings is being reviewed to incorporate comments from WHO and MTaPS, after which it will be shared with the respective ministries of health for

verification. In addition to informing the development of the how-to manual, the survey results will be used to develop a section on COI policies for inclusion in the next WHO annual publication that reviews progress in improving access to medical products in the South-East Asia Region. Additionally, the report of the literature search that identifies model guidance, policies, and procedures on managing COI in the pharmaceutical sector that can be applied or adapted for the Asia region was finalized. Planning began for a proposed joint publication that combines the situation analysis findings and literature review. MTaPS also developed a detailed outline of the how-to manual for review based on the literature review report and survey findings.

For more detail on MTaPS' AMR activities and the GHSA, refer to the GHSA section and Objective 5/AMR activities in this report.

EVIDENCE-BASED MEDICINES POLICIES, LAWS, REGULATIONS, GUIDELINES, NORMS, AND STANDARDS IMPROVED AND ENFORCED

Robust national pharmaceutical policies and legislation provide the enabling framework for advancing equitable and sustainable access to and appropriate use of safe and efficacious medicines of assured quality. MTaPS worked with countries to develop, update, review, and establish national policies for medical products and legislation for the regulation of medicines and other health products using best practice standards and guidelines. Support was also provided to develop and review guidelines required to provide direction and clarity on the statutory requirements for compliance by users.

An important area of work in **Nepal** is MTaPS' support to the MOHP and DDA for revising the legal framework (law and regulations) to incorporate recommendations made by WHO following an assessment of the country's regulatory system using WHO's Global Benchmarking Tool (GBT). MTaPS worked with its partner, the International Law Institute-African Center for Legal Excellence (ILI-ACLE), to incorporate the legal recommendations from the recently finalized GBT assessment into the zero draft of the drug law. The zero draft, developed by ILI-ACLE based on an earlier MTaPS-supported gap analysis of Nepal's legal and regulatory framework, was used as a resource document for revising Nepal's new draft drug law. MTaPS translated the draft law into English, and ILE-ACLE began work on comparing it with the zero draft in this reporting period. The new drug law is critical to enabling the DDA to increase its maturity level; improve regulatory practices in line with WHO recommended best practices; and take on new roles for medical products regulation, such as pharmacovigilance. The newly established TWG on policy, law, and reorganization, which is tasked with managing the regulatory revision process, held its first meeting in this reporting period with MTaPS' support. MTaPS also met with the MOHP to discuss how the program can support the legislative review and approval process to get the bill enacted into law. MTaPS finalized a mapping report that identifies and prioritizes the regulations that need to be developed or updated. The report will be submitted for review at the next TWG meeting.

In **Mozambique** MTaPS is providing technical assistance to develop, review, and validate regulations and implementing guidance that support the newly enacted medicines act and operationalize the new national medicines regulatory authority, *Autoridade Nacional Reguladora de Medicamentos de Mozambique* (ANARME) established by this act. In this reporting period, MTaPS worked with **Mozambique's** National Directorate of Pharmacy (DNF) to review the regulation on good distribution practices and import and export of medical products and obtain the DNF's feedback on the changes needed. This regulation is important for regulating the distribution of medicines and other medical products from manufacturer to end user and particularly for safeguarding the quality of products that pass through various distribution channels.

With assistance from MTaPS, the **Rwanda** Food and Drug Authority (FDA) validated and finalized a four-year strategic plan that sets out the vision, priorities, and strategic objectives for the regulatory authority. Once the plan is approved by the Rwanda FDA's Board of Directors, MTaPS will support the

authority to operationalize the plan through the development of an annual action plan. Also in Rwanda, a draft implementation manual that sets out guidelines and procedures for managing and storing oxytocin was shared with country counterparts for review.

In **Jordan**, MTaPS met with the directors of the Ministry of Health Finance and Administration Directorate and the Government Procurement Department (GPD) to discuss needed procurement bylaw amendments to meet the three points set out in the conditions precedent submitted by the US Government to the Government of Jordan for continuation of pneumococcal conjugate vaccine. There was agreement that for the first point, the bylaw provides for prepayment for vaccine procurement, the relevant article can be activated once needed, and a follow up meeting should be held to identify the best mechanism to institutionalize prepayment practices. With respect to the second point on the length of framework agreements, the parties agreed that MTaPS will support the GPD to send proposed amendments to the relevant articles to the Legislation and Opinion Bureau to extend the maximum limit from two to five years (rather than the three years originally suggested). The third point, which pertains to amendments to allow for negotiations on vaccine procurement, will need to be discussed further with the World Bank, as it may not be in favor of such a change.

For more detail on MTaPS' AMR activities and the GHSA, refer to the GHSA section and Objective 5/AMR activities in this report.

As a result of MTaPS' technical assistance in governance to GHSA-supported countries:

Bangladesh shared the draft of its standard treatment guidelines for antibiotic use, which incorporates the WHO AWaRe (Access, Watch, and Reserve) classification, with various professional associations for review and feedback.

Kenya's national AMR secretariat, in collaboration with the Ministry of Health, finalized the monitoring and evaluation framework for the AMR national action plan. Two regulatory guidance documents developed to encourage the appropriate use of antibiotics by health professionals and the public were approved by the chief executive officer of the national medicines regulatory authority. The new schedules of medicines incorporate the AWaRe classification to facilitate improved prescribing of antimicrobials.

Senegal's national IPC guidelines were updated, and a guide to help facility-level infection control committees develop their own procedures was validated. The country's updated standard treatment guidelines for antibiotics, which now include the WHO AWaRe classification, were reviewed at a virtual validation workshop supported by MTaPS.

To support monitoring and evaluation of IPC programs in **Tanzania's** health facilities, 27 IPC indicators that are to be added to the District Health Information Software 2 (DHIS2) system were agreed on and an IPC register, summary reporting form, monitoring and evaluation matrix, and other tools were developed.

Uganda completed data collection for an assessment of policies and regulations on antimicrobial use in humans, which will be used to inform the development of a national AMS plan.

STAKEHOLDER ENGAGEMENT AND EMPOWERMENT, INCLUDING CIVIL SOCIETY AND CONSUMERS, INCREASED

In North Kivu and Ituri provinces in eastern **DRC,** MTaPS is providing assistance to increase the engagement of communities and civil society groups in the management of medical products at the health center and community levels. At the health zone level in DRC, community members serve on health area development committees (*comité de développement de l'aire sanitaire* [CODESAs]), which enables them to participate in planning, management, and monitoring of health activities and to meet with staff at the health center in their zone on a monthly basis to review results and discuss how to address concerns. In March, MTaPS and North Kivu and Ituri provincial health divisions (*Division Provinciale de la Santé*) organized a one-day training in each province to increase the participation of community members in the oversight of medicines management and build their capacity in this area. Members of the CODESAs in five health zones in each province (ten health zones in all) participated in the two trainings, which began with an explanation of the roles and responsibilities of the CODESAs in the management of medicines. MTaPS also supported a summary module that sets out these responsibilities and drafted TOR for the CODESA for review. So far, 258 community

members (178 from Ituri and 80 from Nord Kivu) have been briefed on the roles and responsibilities of CODESAs in medicine management. MTaPS also developed a post-training plan that sets out steps for engaging the committees more actively in oversight and other activities. These include organizing one-day quarterly meetings to bring community members of CODESAs and other committees and relevant civil society organizations together to discuss key medicines management issues.

MTaPS supported a two-day retreat of **Nigeria's** national AMR TWG subcommittees for IPC and AMS. Subcommittee members from multisectoral groups of human health, animal health, the environment sector, civil society, AMR TWG secretariat, academia, and professional and regulatory bodies worked together to develop TOR for their respective subcommittees and draft one-year action plans for the two subcommittees based on the 2017–2022 national action plan for AMR.

OBJECTIVE 2: INSTITUTIONAL AND HUMAN RESOURCE CAPACITY FOR PHARMACEUTICAL MANAGEMENT AND SERVICES INCREASED, INCLUDING REGULATION OF MEDICAL PRODUCTS

INSTITUTIONALIZATION OF PROVEN, INNOVATIVE APPROACHES TO BUILDING HUMAN RESOURCE CAPACITY

Curricula and Training Materials

This quarter's highlights include the development and dissemination of national antimicrobial stewardship (AMS), infection prevention and control (IPC), and drugs and therapeutics committee (DTC) training packages and curricula to boost the capacity of health care workers in Kenya, Burkina, and Mali. In **Kenya**, MTaPS helped organize the review and validation of the national IPC curriculum. The event was attended by representatives from 32 counties and implementing partners. The standard curriculum will serve as a reference point for learning institutions to identify relevant IPC components to include in their pre-service training. The MTaPS team also helped validate the AMS curriculum and related tools; the complete package will capacitate health care workers throughout Kenya on establishing AMS programs in health care settings. Other notable activities include the production and distribution of the national antimicrobial (AMR) communique and posters to further increase knowledge on county-level IPC and AMS standards in Kenya. As part of this effort, four different IPC posters were distributed to MTaPS-supported facilities.

In **Burkina Faso**, MTaPS helped the Ministry of Health (MOH) draft an AMS training toolkit for the animal sector. The toolkit includes a curriculum, consisting of a facilitator guide explaining how to lead the training program; a timed agenda for face-to-face training; a participant guide for learners to use during classroom training; and PowerPoint slides.

To promote the provision of quality in-service training for DTC members in **Mali**, MTaPS held a two-day workshop to review and validate training modules and tools that will be used to train DTCs at 11 sites.

MTaPS continues to support the **Jordan** MOH in developing a training plan to improve IPC conditions at four newly established COVID-19 field hospitals; an aspect of this support includes the design of a comprehensive training package to be used to train IPC officers (mostly nurses) at each of the four hospitals. The training package will include expanded modules tailored for on-the-job training and follow-on mentoring support through visits.

e-Learning Platforms and Course Materials

MTaPS' support in this reporting period included an e-Learning assessment; selection of suitable institutions for hosting e-Learning platforms; design of e-Learning courses; and building the capacity of local teams responsible for platform management. While two countries (Bangladesh and Cote d'Ivoire) are in their initial stages of work, nine MTaPS-supported countries have made considerable progress in strengthening the capacity of local training institutions to manage IPC and AMS e-Learning for both pre- and in-service training.

The e-Learning program in **Cote d'Ivoire** encountered some MOH administrative and other challenges, and since last year, the MTaPS country team has been working hard to obtain authorization to establish the e-Learning platform. After months of negotiations and discussion to develop and fine-tune the activity roadmap, the team obtained the necessary approvals from all key stakeholders (including the director of Pharmaceutical Activities, the AMR focal point, and representatives of the

National Institute of Public Health). As next steps, MTaPS will help set up the Moodle platform and proceed with training local e-Learning management teams. The MTaPS team is also finalizing terms of reference (TOR) that will clarify roles and responsibilities during the design and implementation phases.

In **Bangladesh**, the MTaPS team completed their e-Learning assessment and selected a2i as the institution to host the e-Learning platform. Concurrently, the team continued to develop draft scripts for adaptation into three new e-Learning modules that will be deployed through the new local platform.

In **Kenya**, MTaPS continues to assist the MOH with implementing a continuing professional development (CPD) and relicensure-linked, in-service IPC training course. On March 16, 2021, the team met with 17 members of professional associations to review progress made in developing the IPC CPD training course and identifying implementation strategies to increase uptake of the course once deployed.

In **Cameroon**, MTaPS completed the migration of the temporary e-Learning platform onto more sustainable local systems. An important part of this process involved MTaPS building the capacity of seven local e-Learning team members with support from Empower School of Public Health, one of MTaPS' resource partners. This was the third part of a series of virtual training sessions provided to the Department of Pharmacy, Drugs, and Laboratory and the National Center for Provision of Essential Medicines to equip them with e-Learning platform management skills. The integration of 10 IPC francophone modules and 12 COVID-19 e-Learning modules (6 in French and 6 in English) into the 2-local e-Learning platforms were also completed. As next steps, MTaPS Cameroon will organize the official handover of the platforms through a webinar at the end of April.

This quarter, **Burkina Faso**, **Mali**, **Senegal**, and **Tanzania** made tremendous progress with their e-Learning program designs. All four countries reached their final stage (stage 5). **Senegal** and **Tanzania** conducted prelaunch planning meetings in preparation for deploying both e-Learning Moodle platforms at the end of April. These meetings will pilot test the uploaded e-Learning courses using SCORM (Shareable Content Object Reference Model) packages. Local e-Learning managers are also given the opportunity to demonstrate their platforms in a teach-back format that highlights its various functionalities by using administrative and participants' screens.

In collaboration with the Direction Générale de la Santé et de l'Hygiène Publique and the Faculté de Médecine et d'Odontostomatologie, the MTaPS **Mali** team helped the MOH launch its two e-Learning platforms. These platforms will address the ever-increasing capacity-building needs of health care providers and ensure the sustainability of IPC/AMS programs in the country. Each platform houses 16 e-Learning modules (6 COVID-19 modules and 10 IPC standards modules). As part of the launch, the team provided an orientation session using a blended approach to the e-Learning platforms to more than 90 participants who attended the ceremony. Other important highlights include inaugural speeches from representatives of USAID and the Minister of Health and Social Development, Dr. Fanta Siby. The ceremony concluded with live demonstrations of the IPC standard and COVID-19 e-Learning courses by the MTaPS-trained local e-Learning teams.

> *"In Mali, the right to health is a constitutional right ... With the list of emerging diseases such as COVID-19, Ebola, our big challenge is to develop a capacity for health resilience guaranteeing equitable access to the user of quality health care for all ... With the support of Medicines, Technologies, and Pharmaceutical Services Program (MTaPS), funded by USAID, the online learning platform has been set up in these two institutions and the capacities of platform managers have been strengthened to offer continuing education on IPC to health professionals and students ... I urge you all to take ownership of this platform designed to serve and help promote prevention and infection control and antimicrobial resistance control."*
>
> - Dr. Fanta Siby, Minister of Health and Social Development,

Similarly, in **Burkina Faso**, MTaPS officially handed over the e-Learning platform through a two-hour webinar. The virtual event brought together 37 representatives from USAID, the University of Burkina Faso, and various departments of the MOH. Participants had the opportunity to ask questions about the platform and the IPC and AMS e-Learning courses. The platform will provide ongoing training for and capacity strengthening of health care workers and AMR champions.

Preparations have commenced for rolling out the online training for cohorts of IPC/AMS champions in Burkina Faso, Cameroon, Mali, Senegal, and Tanzania. These training events were expected to be completed this quarter. However, for most of the countries, these were the first e-Learning platforms and so local stakeholders wanted to officially launch the platforms first before proceeding with training. MTaPS will also support these countries in customizing and adapting the AMS materials into e-Learning modules before uploading them onto their local e-Learning platforms.

MTaPS teams continue to support the local governments in the **Philippines** and **Rwanda** in developing e-Learning courses. **Philippines'** e-Learning course design efforts focused on transforming selected PSS 101 modules to PSS and warehouse operations management modules that will be deployed through the Department of Health (DOH) Academy as part of a CPD for the procurement and supply chain management (PSCM) workforce. In **Rwanda**, MTaPS continues to support the Rwanda Food and Drug Administration (FDA) in developing e-Learning courses as part of its regulatory and pharmacovigilance (PV) system strengthening activities. Course outlines for four modules on medicine dossier evaluation and registration, which will contribute toward building the capacity of current and future medicine assessors, were developed in this reporting period. The team has made significant progress and is in the final stages of designing both the regulatory and PV e-Learning courses, which are on target to be completed by June 2021. Both courses will be deployed through the Rwanda University e-Learning platform and thereafter used for preservice distance training of health care providers.

STRONGER CAPACITY OF GOVERNMENT TO MANAGE PHARMACEUTICAL SYSTEMS

Competency-Based Training Activities

MTaPS is supporting the Ministry of Public Health in **Cameroon** to scale up IPC interventions. To this end, the team assisted MOH's Department of Health Promotion (DPS) in training six IPC champions from six additional health facilities through a four-day training-of-trainers (TOT) workshop. This workshop equipped participants with necessary competencies for leading and managing IPC programs in health facilities. The MTaPS-trained champions (in collaboration with MTaPS and the DPS) replicated the training and capacitated 62 other IPC committee members (32 men and 30 women) in their respective facilities. Experiential sessions requiring participants to conduct teach back were used, thus affording them the opportunity to apply the knowledge and skills acquired during the TOT sessions. Participants were required to develop action plans, which they are expected to implement post workshop to further reinforce the skills learned. In addition, MTaPS Cameroon helped the MOH conduct a DTC workshop to strengthen the technical capacity of 16 DTC champions and facilitate implementation of the 2020 national DTC roadmap. This initiative is expected to decrease the irrational use of antimicrobials, especially antibiotics in health care settings in Cameroon.

Similarly, MTaPS assisted the **Côte d'Ivoire** MOH through the IPC technical working group (TWG) in organizing and carrying out competency-based TOTs to boost the capacity of IPC champions in eight additional facilities that MTaPS began supporting in the previous quarter. The workshops were geared toward creating a pool of trainers and strengthening their capacity to organize and conduct facility-level training to introduce the revised IPC guidelines. Utilizing the cascaded training model, the workshops imparted IPC competencies to 12 participants, thus enabling them to roll out training for 71 health care workers from the university hospitals of Angre and Treichville, the Clinic Grand Centre Yopougon, and the Polyclinique Internationale Sainte Anne-Marie. A key element of the training is the integration of

new IPC guidelines and sensitization of service providers on the risks of AMR in the TOT curriculum, to provide more comprehensive training and foster better learning outcomes.

In addition to strengthening the capacity of four previously established DTCs through a two-day workshop organized in collaboration with WHO and the **Democratic Republic of the Congo** 's (DRC) Pharmacovigilance Center, MTaPS helped establish six additional DTCs in health institutions in the Nord Kivu and Ituri provinces in DRC. Each new DTC developed a 12-month action plan, including a continuous quality improvement (CQI) plan. MTaPS teams will conduct visits as next steps to check on progress made on implementing these actions plans.

In **Kenya**, MTaPS supported capacity building and training of both county- and facility-level health care workers. A total of 20 IPC champions (2 men, 18 women) from 8 facilities were capacitated on care bundles and strategies for preventative management of health care-associated infection (HCAIs). Participants were also equipped with skills to collect, analyze, and interpret IPC data, which is essential for planning, implementing, and evaluating health practices. MTaPS/Kenya also provided the same type of training to 41 IPC champions (12 males, 29 females) in Nyeri and Kisumu facilities and county health departments. The training was timely as it coincided with a CQI training on surgical site infections.

MTaPS also facilitated four-day residential training on IPC and AMS for eight health facilities in **Tanzania**. The training equipped 41 (23 female, 18 males) IPC and AMS champions with competencies to lead the implementation of IPC and AMS interventions in their respective hospitals. A key element of the training was the integration of the hand hygiene assessment data collected during the mentorship visits. MTaPS teams will conduct follow-up visits as next steps to check on completion of the actions plans developed by participants during the workshop.

Institutional Capacity Building

Well-functioning pharmaceutical systems depend on national departments of pharmacy, procurement agencies, contracting, accreditation, and other national and sub-national government departments and managers that have sufficient capacity to steward, manage, and coordinate stakeholders and effect positive change within the pharmaceutical sector.

Some important agreements were reached in the **Philippines** in this reporting period that will enable the DOH's PSCM team (PSCMT) to effectively steward, coordinate, and sustain an integrated and well-functioning supply system. The DOH's Disease Prevention and Control Bureau (DPCB) agreed to support the PSCMT in taking the leadership role on PSCM functions, such as forecasting and supply planning. In addition to agreeing in principle that its public health programs should transfer these functions to the PSCMT, DPCB also concurred that donor-funded units, such as the National TB Program's Drugs and Supplies Unit and the National AIDS and STD Prevention and Control Program's Logistic Management Unit should be moved under the stewardship of the PSCMT. MTaPS will continue to work closely with the DPCB and PSCMT to formulate the policy amendments needed to implement these transitions. To further support the transition from a centralized model with fragmented PSCM functions to a decentralized and integrated system, MTaPS assisted the MOH in the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) to organize a workshop to develop a high-level vision for PSCM for the region. The vision, which focuses on the priorities identified by the provincial MOH as well as building on what already exists, provides the basis for developing an action plan for establishing a well-functioning PSCM system in BARMM. Additionally, MTaPS, working with its partner Deloitte, began planning the visioning and design exercise, which will involve working with the DOH to identify options for the PSCM system architecture in the Philippines.

The **Rwanda** FDA submitted its new four-year strategic plan (2021-2024) to its Board of Directors for approval in this reporting period. The four-year plan, which was developed, reviewed, and validated by stakeholders with assistance from MTaPS, identifies the vision, strategic objectives, and actions that will

enable the authority to fulfill its mandate. Once approved, MTaPS will assist the Rwanda FDA in operationalizing the strategy by developing an annual action plan.

MTaPS is assisting **Nepal's** Department of Drug Administration (DDA) and the Ministry of Health and Population (MOHP) in developing a new organizational structure for the DDA that best supports its functional responsibilities and its role in stewardship, coordination, oversight, and enforcement as the country transitions to a federated system, and the DDA transitions to a single autonomous body that will be responsible for regulating both medical products and food. A workshop supported by MTaPS in March brought together high-level staff from MOHP, DDA central and provincial levels, the National Medicines Laboratory, MOHP's Food and Drug Administration Drafting Committee, the Pharmacy Council, WHO, USAID, and the Promoting the Quality of Medicines Plus (PQM+) project to discuss the DDA reorganization. In addition to discussing the principles, new roles, and decentralization considerations that should guide the new DDA structure, participants heard from WHO and MTaPS on the various degrees of autonomy of national regulatory agencies. Workshop participants also contributed to developing the first drafts of the new organograms for the DDA and National Medicines Laboratory.

In North Kivu and Ituri provinces in eastern **DRC**, MTaPS is assisting the provincial TWGs on medicines in improving their capacity to lead collaborative efforts with development partners and manage and oversee the provision and distribution of lifesaving maternal, newborn, and child health (MNCH) and other essential medical products. In this reporting period, MTaPS supported the TWGs in holding meetings in their respective provinces at which they reviewed and validated provincial medical products, forecast results, validated stock status, and analyzed and validated quarterly orders from health zones, among other activities.

IMPROVED CAPACITY OF PRIVATE-SECTOR ORGANIZATIONS TO SUPPORT PHARMACEUTICAL OPERATIONS

Large segments of the population use retail pharmacies and medicine outlets as the first point of care. In **Bangladesh**, up to 80% of people seek care from village doctors and retail outlets where overprescribing, selling unnecessary medicines, and issuing antibiotics without prescriptions are frequent occurrences. As part of efforts to improve access to safe, affordable, quality medicines and pharmacy services in the private sector, MTaPS is working with the Better Health in Bangladesh Project (funded by the UK Department of International Development) to optimize the pharmacy inspection and licensing system. These collaborative activities include developing an electronic pharmacy inspection and licensing system for the Directorate General of Drug Administration (DGDA). In this reporting period, MTaPS demonstrated an early version of the system to DGDA, who approved it to be piloted in two sub-districts.

In **Nepal**, MTaPS met with the DDA's Inspectorate Division to discuss strategies to strengthen the inspectorate and thereby improve the regulation of pharmacy and distribution practices in public and private dispensing outlets. Addressing issues, such as the dispensing of prescription medicines without a prescription, poor labelling, and pharmacy ownership, are challenging in Nepal where many pharmacies are not owned or managed by qualified pharmacists. Based on these discussions and a review of the relevant regulations, MTaPS developed and submitted a detailed activity plan to strengthen Good Pharmacy Practices (GPP) and Good Distribution Practices (GDP) to the DDA director general for approval. As part of these efforts, MTaPS tested an electronic GPP inspection tool and identified indicators that need further discussion.

MTaPS is assisting the **Philippines** DOH in implementing framework agreements. A recent procurement initiated by the DOH for anti-TB medicines received no bids because bidders were unable to meet eligibility requirements, particularly related to producing a certificate of product registration valid for the required pack size as requested in the bidding. As part of strategies to address this bid

failure, MTaPS is working with the DOH to provide an orientation on framework agreements to potential bidders to facilitate greater participation and compliance with bidding requirements.

In **Kenya**, MTaPS has been collaborating with medical, pharmacy, nursing, and other professional associations to develop CPD and relicensure-linked in-service courses in AMS and IPC for the associations to deliver to their members working in both public and private sectors. Now that training is well underway, MTaPS and the IPC CPD education committee organized a one-day meeting that brought together 17 members from 5 professional organizations and 1 regulatory body to discuss the status of the IPC course lessons learned and areas for improvement. Participants also strategized on how to encourage the implementation of IPC interventions by their members that complete the course.

In the previous quarter, MTaPS met with the Pharmaceutical Society of **Uganda** to discuss collaborating on developing continuous medication education and lectures aimed at increasing awareness on IPC and AMS among members that work in both the public and private sectors. Similar discussions were held with the Allied Health Professionals Council, the Uganda Medical and Dental Practitioners Council, and Uganda Nurses and Midwives Council, all of whom expressed interest in such a collaboration. Based on the successes and lessons learned shared by the MTaPS/Kenya team, the MTaPS Uganda team embarked on an exercise to determine the training needs of each professional body. Based on the training needs, gaps, and mapping for the four professional bodies, the priorities for the collaboration for the next quarter have been set.

MTaPS held an inception meeting with the National Association of Pharmacists in **Cote D'Ivoire** and the national AMR-TWG to discuss opportunities for collaboration, including developing CPD sessions to increase awareness on AMR among members that work in both the public and private sectors. The association expressed interest in collaborating with the AMR-TWG and agreed to allocate 4 of the 20 required hours of continuing education time to the AMR-TWG to provide training to pharmacists on AMS.

STRONGER MEDICINES REGULATORY CAPACITY, INCLUDING THROUGH REGIONAL REGULATORY HARMONIZATION

Enhancing the Functional Capacity of National Medicines Regulatory Authorities Through Pharmaceutical Regulatory System Strengthening

The MTaPS/**Bangladesh** team worked with the DGDA to establish working teams to support effective implementation of the nine regulatory functions of the NMRA as identified by the WHO Global Benchmarking Tool (GBT) and update the DGDA's institutional development plan (IDP). In **Nepal**, MTaPS supported the establishment of a QMS TWG to advance implementation of QMS and attainment of ISO 9001:2015 certification for the DDA. MTaPS' technical assistance continues to support efforts geared towards establishing semi-autonomous NMRAs in **Mozambique** and **Nepal**, and the strengthening of the newly established Rwanda FDA by supporting the drafting and validation of several required regulations and guidelines.

In Q2 PY3, the detailed support provided by MTaPS to various aspects of the regulatory functions of the NMRA in MTaPS-supported countries during the quarter are highlighted below with further details contained in the individual country reports.

Improving the legal framework for pharmaceutical regulatory system and regulatory functions

An appropriate and updated legal and regulatory framework is crucial for effectively regulating the pharmaceutical market in countries. MTaPS' support in this area is further elaborated under objective 1.2. Refer to Objective 1, Evidence-Based Medicines Policies, Laws, Regulations, Guidelines, Norms, and Standards Improved and Enforced, for more details.

Capacity to manage key functions of the regulatory system

MTaPS/**Bangladesh**, in collaboration with WHO, continued to support the DGDA in restructuring 10 working teams to support 9 regulatory function areas outlined in the WHO GBT with particular emphasis on vaccines. MTaPS attended a meeting of the Coalition of Interested partners (CIP) on the GBT report. The meeting helped clarify the areas to be supported by each partner for better coordination.

In **Mozambique**, the team drafted the TOR for the Grupo de Trabalho de Medicamentos (i.e., Medicines Working Group [GTM]) for regulatory system strengthening to promote coordination and collaboration of partners working in medical product regulation; maximize opportunities of knowledge sharing and financial and technical support; and promote exchange of regulatory trends.

The MTaPS/**Nepal** team participated in a meeting to discuss issues on reorganizing DDA, including inclusion of food and cosmetics components into its work, new roles and responsibilities, decentralization of DDA, and autonomy for DDA. MTaPS, through the International Law Institute-African Center for Legal Excellence, is supporting inclusion of all the legal provisions needed to increase DDA's maturity level into the draft law prior to review by the authorities. MTaPS participated in the virtual GBT assessment of the DDA and review of the IDP. A total of 198 recommended actions were developed to support DDA in moving to maturity level 3. MTaPS is supporting DDA in developing a one-year implementation plan to incorporate actions required to meet maturity level 2 indicators and sub-indicators.

The MTaPS team in **Rwanda** continued to support the Rwanda FDA in finalizing its four-year strategic plan (2021-2024). The validated and finalized strategic plan was submitted to the Rwanda FDA board for approval at the end of January 2021; approval is expected in April.

Improving the regulatory system by establishing a QMS

MTaPS/**Mozambique** trained DNF staff on the essential elements for conducting an internal audit for QMS as part of a broader plan to train a team of internal quality auditors. In **Nepal,** the MTaPS team supported staff of the DDA and national medicines laboratories (NML) to undertake a virtual QMS training organized by the Quality Forum from the Federation of Indian Chambers of Commerce and Industry. More than 40 people passed the 3 basic sessions. Eight DDA and NML staff members and one MTaPS staff person finished the QMS assessor training and passed the audited exam in early February. After verification by auditors in India, the participants will receive a certificate. In addition, the QMS TWG held its first meeting, and development of a QMS manual is ongoing. MTaPS drafted a QMS implementation plan that was submitted to the TWG and hired a technical advisor to support DDA's QMS work. In **Rwanda**, MTaPS submitted the finalized quality manual to the Rwanda FDA Board of Directors for approval.

Product registration systems improvements

To protect public health, NMRAs must establish strong registration systems to ensure the quality, safety, and efficacy of medicines and other medical products before marketing authorization. During this quarter, MTaPS initiated steps to support the introduction of COVID-19 vaccine in **Jordan** by recruiting a country team and developing a work plan to provide support to Jordan FDA**.** The plan involves support to streamline the regulatory framework and guidelines for expedited registration of vaccines in general with a focus on shortening the pathways for registration of COVID-19 vaccines that have been approved for emergency use by other well-resourced authorities.

In **Mozambique**, support was provided to National Directorate of Pharmacy/Autoridade Nacional Reguladora de Medicamentos (DNF/ANARME) to enhance Pharmadex to align it with the common technical document (CTD) format for marketing authorization dossiers. These enhancements will enable Pharmadex to better comply with international standards (guided by WHO) and with the Southern

African Development Community (SADC) guidelines. To sustain the transfer of knowledge to regulators in the longer term, MTaPS is working to develop an online e-Learning course on medicine registration in **Rwanda**. The finalized modules will be loaded on Rwanda FDA's platform and piloted with new assessors.

Improving regulatory inspection, enforcement, and licensing of establishments

MTaPS/**Nepal** has been meeting with the DDA inspectorate team to discuss how to strengthen DDA's inspection function. During the quarter, MTaPS prepared a detailed activity plan to strengthen GPP and GDP, which is awaiting the DDA director general's approval. The electronic GPP inspection tools for private and public sector pharmacies and health facilities were tested, and some indicators need further classification as critical, major, or minor. MTaPS plans to support a virtual meeting between the Uganda and Nepal teams to facilitate peer learning.

Using the well-established Directory of Registered Medicines, MTaPS supported provincial health inspectorates in **DRC** in conducting surveillance and identifying unregistered and unauthorized medicines. Actions to withdraw the products or renew medicines were enforced.

Improve PV systems in countries and regions

Please refer to objective 5.3 for details.

Improving pharmaceutical and regulatory system workforce capacity

MTaPS is developing an online e-Learning course in medicine evaluation and registration for **Rwanda** FDA for sustained capacity building of current and future assessors. During the quarter, MTaPS developed 3 modules with 12 mini-modules for the e-Learning course. These materials have been designed into storyboards and are currently under review by MTaPS and Rwanda FDA. In the **Philippines,** MTaPS adapted two modules on PSS, namely, Overview of Pharmaceutical System Strengthening & Organization of Pharmaceutical System and Warehouse Operations Management and shared them with DOH for review and comments. MTaPS, in collaboration with the DOH, held a workshop to conduct a systems and capacity gap analysis of PSCM and PV functions to be performed by local government units (LGUs) to implement the UHC law. Inputs from the workshop are being used to develop a curriculum to train local technical assistance providers to support LGUs to set up required PSCM and PV systems to implement the UHC law.

Strengthen use of electronic information technology solutions for efficient and transparent medicine regulatory processes

In **Mozambique**, MTaPS continued to engage with its DNF counterparts to get approval to transfer the existing Pharmadex database to a cloud-based solution. In a meeting with DNF to resolve the issues around migrating Pharmadex to a cloud-based server, it was agreed that the DNF will provide fiber optic internet connection in its offices, and MTaPS will train the IT team on maintenance. MTaPS continues to upgrade Pharmadex to fully align with the CTD format before moving the software to a cloud-based server. The team also discussed the need to integrate the parallel import module developed for the DNF by a Global Fund-supported developer into Pharmadex and to jettison the MTaPS-developed module.

Following the decision of the DDA to migrate to Pharmadex in **Nepal**, the director general approved the scope of work and members of the Management Information System (MIS) TWG. MTaPS revised the detailed implementation plan for Pharmadex to include data cleaning as a necessary step to support transfer of the data from the current system to Pharmadex. The team held a workshop to discuss the software requirements specification (SRS) for product registration, pharmacy, and manufacturer registration. The pharmacy registration SRS was finalized and will be approved at the next MIS TWG meeting. The SRS for all registration processes and inspections are still being drafted. The scope of work to engage a short-term consultant to support data transfer into Pharmadex has been prepared. The

DDA approved the changes made to its website, and DDA staff members have been trained to manage the site.

The MTaPS/**Philippines** team facilitated discussion with the FDA on how MTaPS can support optimization of its registration process by using Pharmadex. The FDA agreed to consider how Pharmadex aligns with its current electronic service initiative. MTaPS also proposed setting up a CIP in the country to coordinate partner support. MTaPS continued to support the DOH by enhancing PViMS in accordance with active drug safety monitoring and management (aDSM) requirements, including establishing interoperability between PViMS and the country's national TB information system. MTaPS also supported the Pharmacy Department in developing a nationwide PViMS roll-out strategy involving all aDSM stakeholders and agreed on modalities for the roll out.

In **Rwanda**, MTaPS is supporting the Rwanda FDA in automating its regulatory processes and providing its services online. MTaPS assessed the Product Registration Information Management System to understand its capacity to support registration functions. The assessment report was finalized and is undergoing editorial review.

Advancing regional regulatory harmonization efforts

Building on the work supported by MTaPS, in collaboration with the **Intergovernmental Authority on Development (IGAD)**, several activities were carried out to promote harmonization of medicine regulation, especially in fostering convergence of PV systems. Prioritization was given to areas to address in the face of the COVID-19 pandemic. In that respect, a meeting was held with the IGAD PV Expert Working Group on March 30-31, 2021, to discuss risk management of COVID-19 vaccine in the region, validate the IGAD PV baseline assessment report, discuss the roadmap for the development of the IGAD-PV curriculum, and provide an update on IGAD PV activities.

Because of movement of people across borders and sharing of health facilities by populations from different countries, MTaPS targeted improvement of PV systems at cross-border facilities within the **Kenyan** county that borders Uganda, Ethiopia, and South Sudan to enhance patient safety. MTaPS, in conjunction with the Pharmacy and Poisons Board, which is the NMRA for Kenya, held a sensitization meeting on safety monitoring and developed a PV and post-marketing surveillance (PMS) sensitization package for cross-border facilities and county focal persons. It is anticipated that the focal persons will use the package to create awareness on PV/PMS within their facilities with the expected outcome of improved patient safety, increased adverse event reporting, and improved patient outcomes.

OBJECTIVE 3: AVAILABILITY AND USE OF PHARMACEUTICAL INFORMATION FOR DECISION MAKING INCREASED AND GLOBAL LEARNING AGENDA ADVANCED

INTEROPERABILITY OF PHARMACEUTICAL MANAGEMENT INFORMATION SYSTEMS THAT LINK PATIENTS AND PRODUCTS

MTaPS/**Philippines** continues to collect requirements for developing the electronic logistics management information system (eLMIS) implementation roadmap by providing technical assistance to the eLMIS technical working group (TWG). Meetings with the eLMIS TWG were temporarily postponed by Department of Health (DOH) due to the COVID vaccine roll-out activities, causing potential delays in finalizing the implementation roadmap. However, MTaPS/Philippines continued working with DOH's Knowledge Management and Information Technology Service and other members of the eLMIS TWG to identify an appropriate eLMIS solution for DOH. MTaPS/Philippines also organized a meeting with the Pharmaceutical Division (PD) and the National Family Planning Program to analyze how the PD's Pharmaceutical Management Information System (PMIS) is currently producing its consumption and stock-on-hand reports. They provided recommendations on how the PMIS can compute the average monthly consumption (AMC), adjusted average monthly consumption, and the recommended quantities to order.

MTaPS/**Philippines** has finalized a scope of work with Deloitte to design the procurement and supply chain management (PSCM) system architecture. Deloitte and MTaPS will facilitate workshops, analyze data, and propose multiple options to cover different scenarios for the PSCM program structure.

MTaPS teams in **Rwanda** and **Philippines** continued to roll out the Pharmacovigilance Information Monitoring System (PViMS) to improve spontaneous and active reporting of adverse events and promote patient safety. MTaPS/**Philippines** continued supporting the DOH with enhancement of the PViMS in accordance with active drug safety monitoring and management (aDSM) requirements. The enhancement included the establishment of interoperability between PViMS and the country's national TB information system. It was agreed to implement the PViMS first in selected facilities in at least two regions to strengthen aDSM reporting prior to scale-up in other regions. MTaPS/**Rwanda** worked with the Rwanda Food and Drug Administration to install the PViMS on their own servers. It has been customized to meet local requirements from the Rwanda FDA but an updated version will be installed in the next quarter. To guide users, MTaPS provided support in finalizing the PViMS users' manual.

MTaPS/**Bangladesh** and United Nations Population Fund worked together to scale up the DGHS' eLMIS for maternal, newborn, and child health in three more districts (Gaibandha, Bhola, and Bagerhat). A total of 57 participants (52 males, 5 females) from the 3 districts attended the training. MTaPS/Bangladesh has combined two existing systems—the Warehouse Inventory Management System (WIMS) that includes electronic indent of TB drugs and the electronic Asset Management System (eAMS)—to address constraints in logistics and equipment management in the NTP reference laboratory network. Changes were made to the WIMS, electronic indenting tools, and the eAMS to allow logistics and equipment to be managed electronically. A workshop was facilitated in coordination with the NTP and USAID Infectious Disease Detection and Surveillance Program. As part of the e-TB Manager roll-out nationwide, MTaPS/Bangladesh conducted training for 354 participants (70 female, 284 male) in the Chattogram. MTaPS continued remote support of e-TB Manager users across the country and eAMS at the 61 district-level hospitals.

Pharmadex version 2.0 work was initiated in **Mozambique** and **Nepal**. MTaPS/Mozambique continued to work with National Directorate of Pharmacy, (DNF) counterparts to get approval from DNF to transfer the existing Pharmadex system to a cloud-based host. Work began on the requirements for

enhancing Pharmadex to follow the common technical document format for marketing authorization dossiers. The DNF's Registration Department SOPs will be used to provide information on existing work procedures. In **Nepal**, the new Department of Drug Administration (DDA) leadership has decided to transition the product registration system and the future DDA management information system to Pharmadex as soon as possible. The implementation plan was finalized and shared with the newly appointed director general and DDA central and provincial staff. A cloud server for Pharmadex that is hosted in Nepal has been identified, and the registration module has been set up on that server. The new system will facilitate and expedite the registration process in Nepal and help to implement the dossier review, in line with WHO requirements.

MTaPS, under **Cross Bureau**, is developing a set of common standards for regulatory information management systems (IMS) used by national medicines regulatory authorities (NMRAs), in conjunction with USAID Promoting the Quality of Medicines Plus (PQM+) Program. This quarter, MTaPS and PQM+ revised the implementation plan and conducted a literature search on common standards for regulatory IMS. MTaPS prepared a draft outline for the report and is planning for the next phase of the activity, soliciting feedback from global stakeholders.

INCREASED AND BETTER USE OF INFORMATION ON PHARMACEUTICAL SYSTEMS FOR DECISION MAKING

MTaPS/**Bangladesh**'s support to Directorate General of Drug Administration (DGDA) in uploading adverse drug reaction reports to the WHO Vigiflow database continued from the last quarter of FY20, increasing the total to 629 from 276. MTaPS/Bangladesh , in collaboration with other partners, such as WHO and Product Quality Management Plus (PQM+) under the umbrella of the Coalition of Interested Partners Bangladesh, worked with DGDA to identify 10 working teams for the 9 regulatory functional areas classified according to the WHO Global Benchmarking Tool. These include pharmacovigilance, licensing establishments, marketing authorization, and regulatory inspection. All these efforts are geared toward achieving maturity level 3 as per the WHO GBT and, ultimately, ensuring appropriate use of safe, effective, and quality-assured essential medicines and pharmaceutical services in Bangladesh.

MTaPS/**Mozambique**, in conjunction with the biostatistician/consultant, developed an initial report on the active surveillance system using data entered into PViMS. The data analyzed came from nine participating health facilities that are using tablets to capture data from forms A, B, and C. Some of the results were, number of patients under active surveillance 2,606; number of patients with a follow-up visit 1,228; and number of patients with a documented pregnancy outcome 16.

ADVANCEMENTS IN PHARMACEUTICAL SYSTEMS STRENGTHENING RESEARCH AND THE GLOBAL LEARNING AGENDA

Please refer to Cross Bureau activity 2 for a full description of progress on this activity.

OBJECTIVE 4: PHARMACEUTICAL-SECTOR FINANCING, INCLUDING RESOURCE ALLOCATION AND USE, OPTIMIZED

EVIDENCE-BASED MEDICINE STRATEGIES AND PHARMACEUTICAL BENEFITS PROGRAMS DEVELOPED

In quarter 1, MTaPS developed and launched the *Roadmap for Systematic Priority Setting and Health Technology Assessment (HTA): A Practical Guide for Policy Action in Low- and Middle-Income Countries*. During this quarter, MTaPS worked toward implementing a regional dissemination and application workshop for Asia and Sub-Saharan Africa that would provide further guidance to make the guide more adaptable to each country context. To date, government interest in establishing HTA has been confirmed in the Philippines, Kyrgyzstan, and Vietnam. MTaPS will conduct two regional workshops for participants from two or three selected African countries and is developing a concept note for the workshop with an agenda based on the current situational analysis of HTA in Sub-Saharan Africa.

Initial conversations have also been held to assess potential USAID support to HTA in India, given the current support provided by Bill and Melinda Gates Foundations and International Decision Support Initiative (iDSI). In line with this, MTaPS is developing a concept note and detailed agenda for a two-day (two hours per day) regional workshop in Asia. MTaPS will incorporate materials from the WHO HTA 101 into these regional workshops as the WHO documents become available. In Africa, MTaPS proposes engaging countries that are interested in HTA but are not currently a primary focus of iDSI partners (i.e, the Kenya Medical Research Institute and the Africa Centers for Disease Control in Ethiopia). These could potentially include Ghana, Tanzania, and Francophone countries, such as Senegal. MTaPS will also engage with experts in Kenya and Ethiopia who partner with iDSI to build linkages for advancing HTA and share lessons learned.

To further disseminate the roadmap, one of the four abstracts submitted last quarter has been accepted for a poster presentation at the International Society for Pharmacoeconomics and Outcomes Research conference in May.

During this quarter, MTaPS/Asia Bureau finalized and submitted two additional documents to USAID: A *brief on defining pharmaceutical benefits* and *Pharmaceutical Benefits Packages in Asia: A Cross-Country Mapping of Coverage Arrangements.*

EFFICIENCY OF PHARMACEUTICAL RESOURCE ALLOCATION AND USE INCREASED

Beyond fund mobilization, efficient allocation and use of resources remains a critical component of sustainable financing of pharmaceuticals and related health technologies. In line with this, MTaPS/**Philippines** is providing support to the Department of Health on preparing rebidding documents for strategic purchasing of pharmaceuticals using a framework agreement. During this quarter, MTaPS initiated discussions with the Health Economic Unit to conduct costing of Medical Surgical Requisites in Bangladesh to inform equitable allocation of medical and surgical commodities to health facilities. MTaPS/**Nepal** initiated plans to support the review of the national medicines policy and its component on pricing of pharmaceuticals**.** As part of its support to vaccine distribution in Jordan, MTaPS/**Jordan** initiated steps to conduct a comprehensive analysis on the most appropriate funding modalities to facilitate sustainable financing for vaccines in Jordan.

MTaPS/**Asia Bureau** conducted follow-up meetings with USAID Missions and with the countries interested in using the One Health Tool to cost pharmaceutical benefits. MTaPS will conduct a virtual training meeting on the One Health Tool for two or three countries that have expressed interest in using the tool. MTaPS/**Asia Bureau** submitted two additional reports to USAID: *Report on Pricing*

Policies in Asia and the final version of the *Guidance Document for Using One Health Tool to Cost Pharmaceutical Benefits.* Following last quarter's pharmaceutical expenditure data mapping exercises using expenditure data from Burkina Faso, MTaPS/**Cross Bureau,** in collaboration with the Local Health System Sustainability Project (LHSS), drafted a resource for pharmaceutical expenditure tracking to accompany the System of Health Accounts 2011 framework. The pharmaceutical expenditure tracking resource is currently undergoing review by USAID. Based on the exploratory findings from Burkina Faso, the resource, when reviewed and approved, will be piloted in two additional countries to allow the team to produce a more general version that can be used in multiple countries. During this quarter, the MTaPS and LHSS team also approached national ministries of health and national health accounts teams in nine countries that the COR team had previously contacted regarding their interest in pharmaceutical expenditure tracking. Based on the initial discussions with countries, MTaPS will pilot the resource in Benin while LHSS pilots it in Vietnam. During this quarter, MTaPS and LHSS also met with the Global Fund on the status of the resource. The Global Fund had expressed interest in supporting the development and implementation of the tool. MTaPS and LHSS also met with WHO EURO to discuss piloting the resource in the region. The WHO EURO team indicated interest in piloting the resource in Europe, specifically in North Macedonia. MTaPS and LHSS will discuss with the USAID COR team to decide on when to share the draft resource with WHO Geneva and EURO.

OBJECTIVE 5: PHARMACEUTICAL SERVICES, INCLUDING PRODUCT AVAILABILITY AND PATIENT-CENTERED CARE TO ACHIEVE DESIRED HEALTH OUTCOMES, IMPROVED

INCREASED AVAILABILITY OF ESSENTIAL MEDICINES AND OTHER HEALTH TECHNOLOGIES

Ensuring the availability of safe, effective, quality-assured, and affordable medicines and health technologies is critical for effective health outcomes. It also requires sustainable demand planning; efficient and coordinated procurement systems; optimized warehousing, inventory management, and delivery systems; and reliable data for decisions supported by local institutional and individual capacity.

In **Bangladesh**, MTaPS assisted in organizing and facilitating two coordination meetings to update the list of Medical and Surgical Requisites (MSR) under the Directorate General of Health Services (DGHS). The committee, which was constituted by the Ministry of Health and Family Welfare (MOHFW), met on February 3 and 10, 2021, and is chaired by the Director, Hospitals and Clinics. During the meeting, members discussed adding COVID-19-related items and medical waste management items, with indicative prices, to the list. The final list, with input incorporated, is in the process of approval by the MOHFW. Once finalized and approved, it will be used by hospitals to support their procurement efficiency and equitable acquisition of MSR to provide diagnosis and treatment services.

In the **Philippines**, MTaPS continues working with the Department of Health's (DOH) Disease Prevention and Control Bureau (DPCB) and Procurement and Supply Chain Management Team (PSCMT) to establish the PSCMT's technical stewardship role for a centrally integrated procurement and supply chain management (PSCM) system. In February, MTaPS conducted a meeting with the DPCB to discuss the current restructuring initiative and its implications on performance of PSCM functions. During the discussion, it was agreed that public health programs under the DPCB would continue performing high-level PSCM planning, such as procurement budget planning and allocation, and monitoring of stock availability at service delivery points. It was agreed that other functions, including quantification and distribution allocations, should be transferred to the PSCMT. It was also agreed that externally funded PSCM support units such as the Drug Supply Management (DSM) Unit of the National Tuberculosis Program (NTP) and the Logistic Management Unit of the National AIDS and STD Prevention and Control Program will perform their roles under the supervision of the PSCMT. The DSM Unit under the DBCB, which is donor funded, will be transferred to the PSCMT for better coordination and stronger stewardship. MTaPS will continue working with health programs and the PSCMT to support the integration of supply chain functions to leverage resources and avoid duplication and fragmentation.

During this quarter, MTaPS/**Philippines** adapted two eLearning modules on pharmaceutical systems strengthening—"Overview of Pharmaceutical System Strengthening and Organization of Pharmaceutical System" and "Warehouse Operations Management"—and shared them with the DOH for review and comment. Following a content review and quality check by the PSCMT and Health Human Resources Development Bureau, these new eLearning modules will be uploaded to the DOH Academy. The eLearning modules will help the PSCM workforce complete the courses on their own time and at their own pace, earn continuous professional development credits awarded by the Professional Regulation Commission, and further develop their capacity to perform PSCM functions efficiently. These modules are an addition to the previously launched eLearning courses on infection prevention and control, health care waste management, and emergency supply chain management. MTaPS has taken steps to develop and upload new eLearning modules to the DOH Academy.

In **Bangladesh**, MTaPS continued to collaborate with the Access to Information (a2i) program, which led to the development of the national eLearning platform. MTaPS is planning to assist the MOHFW and

its directorates to develop eLearning courses and incorporate them into the platform. MTaPS held a meeting with the a2i eLearning platform focal point and the platform development team to clarify shared goals and objectives. MTaPS and a2i also detailed the collaboration approach, requirements, and next steps. Incorporating the MOHFW's courses with a2i's platform promotes sustainability and leverages resources as more government health staff receive training online.

In **Bangladesh**, MTaPS and the UNFPA facilitated a one day training of trainers in seven districts (Bhola, Netrakuna, Kishoregonj, Khagrachari, Gaibandha, Bogura, and Sunamgoni). The objectives of the training were to assess the knowledge of participants on the DGHS electronic logistics management information system (eLMIS), provide hands-on exercises and practice for proper data collection and analysis, and demonstrate DHIS2 platforms. The training will support local trainers in rolling out the systems in health facilities in their respective districts and supporting the DGHS to have more visibility of stock to make informed decisions for program planning and procurement of maternal, newborn, and child health (MNCH) products. Also in **Bangladesh**, as part of capacity building and sustainability initiatives, MTaPS facilitated training sessions organized by the Directorate General of Family Planning (DGFP) on computerized inventory management systems (Upazila Inventory Management System [UIMS]) for 133 government officials from Dhaka, Pirojpur, Jhalokathi, Barishal, and Narshingdi districts (47 female and 86 male). The training also featured a live demonstration on the inventory software and data from the DGFP eLMIS, which tracks contraceptive stock data at all facility levels in five districts so that DGFP officials can easily access data and make immediate decisions with minimal support. In addition, based on USAID's commitment to the DGHS in the MOHFW's Technical Assistance Committee meeting, MTaPS worked with the DGHS to embed technical staff to provide continuous technical assistance. These staff will enhance the efficiency of the MOHFW by providing onsite mentoring and continuous knowledge transfer to better function as the procuring entity as well as the oversight body in complex procurement situations.

In the **Philippines**, MTaPS, in collaboration with the DOH, held a workshop to conduct a systems and capacity gap analysis of PSCM and pharmacovigilance (PV) functions to be performed by local government units (LGUs) to implement the UHC Law. The workshop gathered valuable input on capacity gaps and needs of the LGUs to design a Local Technical Assistance Provider program for well-functioning PSCM and PV systems. MTaPS is analyzing input and developing a curriculum to identify and train a pool of local technical assistance providers who will support LGUs to set up required PSCM and PV systems to implement the UHC Law.

During this quarter, MTaPS/**Bangladesh** produced a stock analysis report of contraceptives that highlighted an implant shortage and an injectable overstock in the country. MTaPS shared the report officially and organized a formal meeting with the director general of the DGFP and relevant directors to make informed decisions on understocked and overstocked contraceptives, such as redistributing some implants among the subdistricts, and recommended against procurement of additional injectables in FY 2021–22. The director general and directors accepted the proposal and immediately instructed the relevant officials to begin the redistribution of contraceptive implants according to the proposed plan. MTaPS will further support the DGFP to analyze injectable overstock and will make decisions accordingly. Through its technical advisors, MTaPS/ **Bangladesh** also provided technical assistance to the DGFP and demonstrated the eLMIS and the use of data for decision making during a series of supply chain management workshops organized in Moulvibazar, Sylhet, and Cumilla districts. Stock status of MNCH commodities was reviewed at different levels of the system to make informed supply chain decisions. The director general of the DGFP instructed all participants to monitor the stock situation of contraceptives at different levels and take necessary precautions to reduce stock-outs and/or overstock at service delivery points.

During this quarter, MTaPS/ **Philippines** supported the DOH eLMIS technical working group as it completes the requirements for developing the eLMIS implementation roadmap. MTaPS also provided

DOH/Knowledge Management and Information Technology Service (KMITS) with required costing details to support the deployment of the eLMIS, which is incorporated into KMITS' three-year budget plan (2022–2024). As a next step, MTaPS will issue a solicitation and gather proposals from potential solution providers to select the best fit and best value eLMIS solution for the Philippines. Also in the **Philippines**, MTaPS facilitated a meeting with the Pharmaceutical Division (PD) and National Family Planning (NFP) Program to analyze how the pharmaceutical management information system (PMIS) is currently producing consumption and other stock-related reports and to see how the principles of rational allocation can be built into the system. In this meeting, recommendations were provided on how the PMIS can compute the average monthly consumption, adjusted average monthly consumption, and recommended quantities to order. The PD agreed to explore the feasibility of adopting MTaPS' recommended changes into the PMIS. The NFP agreed to further work with the PD in implementing a practice of rational allocation and distribution of family planning commodities by using the PMIS.

In **Bangladesh**, the DGFP started distributing commodities in Kalukhali upazila under Rajbari district. MTaPS technical advisors worked closely with the DGFP central warehouse, Faridpur Regional Warehouse, and Pangsha upazila store to set up a computer-based inventory management system in Kalukhali warehouse. MTaPS provided technical support to incorporate the new upazila in the DGFP eLMIS, install the UIMS, and build the capacity of users.

In the **Philippines**, to address current inadequate distribution practices, the NFP requested MTaPS to draft a policy on rational allocation and distribution that will standardize inventory rules and distribution recommendations for all programs under the DPCB. MTaPS is developing the rational allocation and distribution policy in consultation with the DPCB and PSCMT with the goal of improving rational distribution practice to avoid stock-outs and overstocking at the health facility level. Also in the Philippines**,** MTaPS completed and presented preliminary results of the Couple Years of Protection (CYP) analysis covering July 2019–June 2020. Using family planning commodities consumption and distribution data from both the public and private sectors, the CYP analysis provides estimated total protection achieved by the country during the reporting period and tracks progress toward family planning service delivery targets.

During this quarter, MTaPS/**Bangladesh** supported the NTP for the peripheral TB commodities storage assessment and plan for integration into the government management system. Preparatory work, including finalizing the scope of work and its implementation plan, has been done. The assessment is planned to be completed within the next quarter, but it may be delayed due to the COVID-19 situation in the country. The assessment will assist the NTP in profiling the peripheral TB storage status and identifying gaps in light of the recent changes in human resources of key partners and upcoming changes in storage sites. The transition and optimization plans will also help the program to explore opportunities in the integration and optimization of TB storage within the government system, ensure better management of stock, and enhance performance for an uninterrupted supply of TB commodities.

IMPROVED PATIENT SAFETY AND THERAPEUTIC EFFECTIVENESS

In **Bangladesh,** MTaPS supported the Pharmacovigilance and COVID-19 Safety Surveillance cell of the Directorate General of Drug Administration (DGDA). It is also facilitating bi-weekly workshops of the national Adverse Events Following Immunization (AEFI) Expert Review Committee for COVID-19 vaccines to help the DGDA in AEFI data management, analysis, and implementation of regulatory decisions. MTaPS supported the development of the PV protocol for COVID-19 vaccines as well as the online AEFI reporting system that is based on the DGDA's platform. It provided training on the protocol and the online reporting system country-wide.

Since PY1, MTaPS/**Mozambique** has been supporting the National Directorate of Pharmacy (DNF) and the national HIV program to establish an active surveillance system to monitor the safety of the new HIV dolutegravir (DTG)-based regimen tenofovir/lamivudine/DTG. To date, a study protocol has been

developed and approved, health care providers and DNF and national HIV program staff have been trained, data collection tools have been developed and deployed, and patient enrolment commenced in March 2020. As of December 2020, when patient enrollment was expected to stop, 3,034 patients had been enrolled into the cohort from nine participating facilities. During this quarter, 2,951 follow up visits were recorded for the enrolled patients, with 17 adverse events and 52 positive pregnancy outcomes recorded across facilities. A team of DNF and HIV program staff with support from MTaPS provided physical on-site support supervision to the site teams in four facilities for the first time since the program started. MTaPS hired two data entry clerks to support cleaning of the data entered into the Pharmacovigilance Monitoring System (PViMS) to improve quality issues related to inconsistent entry of drug names, incomplete data on patients' medical conditions, patient age/date of birth, laboratory tests, and adverse events.

The MTaPS team held several meetings with the USAID Mission and the Centers for Disease Control and Prevention (CDC) and its clinical implementation partners to plan and organize an active PV program for safety monitoring of the TB preventive treatment regimens (isoniazid [INH] and 3HP [once-weekly INH and rifapentine for 12 weeks]). During this quarter, MTaPS finalized and translated the protocol for active safety surveillance of the regimens. The protocol was shared with the DNF team for its review and submission to the institutional review board. In preparation for implementation, MTaPS drafted the standard operating procedures and the training outline that will support implementation. MTaPS also elaborated on the roles and responsibilities, including specific tasks of different stakeholders, that will support the activity, particularly CDC implementing partners.

The MTaPS/**Nepal** team is working on a situation analysis to identify the strengths, weaknesses, opportunities, and threats of the existing PV system. The situation analysis, WHO's best PV practices documents, and the WHO Global Benchmarking Tool assessment/institutional development plan (IDP) will form the basis for developing a detailed work plan to strengthen PV in Nepal. MTaPS is working closely with the Department of Drug Administration (DDA) PV focal person and other stakeholders, including Ministry of Health and Population disease-specific programs and referral hospitals, to clarify their roles in PV and adverse drug reaction monitoring. During this quarter, the IDPs to strengthen the maturity level of PV were reviewed. MTaPS analyzed the different electronic tools used in PV to guide decision making on the most suitable tool to be adopted by the DDA for PV.

In the **Philippines,** MTaPS, in collaboration with the DOH, organized a workshop to conduct a systems and capacity gap analysis of PSCM and PV functions to be performed by LGUs to implement the UHC Law. Input from the workshop is being used to develop a curriculum to train a pool of local technical assistance providers to support LGUs to set up required PSCM and PV systems to implement the UHC Law.

MTaPS continued to support the DOH with enhancements to PViMS in accordance with active drug safety monitoring (aDSM) requirements, including interoperability between PViMS and the country's national TB information system to eliminate duplication in encoding data in both systems. MTaPS identified gaps and outlined the steps for migrating aDSM data from a spreadsheet into PViMS to simplify the data generation process and enable the analysis of previously collected aDSM data. MTaPS also supported the PD to develop a nationwide PViMS roll out strategy involving all aDSM stakeholders (Lung Center of Philippines, FDA, NTP, KMITS, Philippine Business for Social Progress, and other implementing partners). Stakeholders agreed to implement PViMS first in selected facilities in at least two regions to strengthen aDSM reporting prior to scale up in other regions.

During this quarter, MTaPS/**Rwanda** supported finalization of the protocol and its implementation plan for active monitoring of patients on DTG-based antiretroviral therapy regimens in the country. Ten standard operating procedures and training materials have been developed and are undergoing internal review. MTaPS also finalized development of the draft National PV Plan as part of PV system strengthening. MTaPS finalized the information, education, and communication materials, which have

been submitted to the Rwanda FDA for approval prior to printing for dissemination and use. MTaPS supported the development of three eLearning modules with 12 mini-modules on PV. The PV eLearning course content scripts have been submitted to Rwanda FDA for review prior to finalization. It is expected that during Quarter 3, the first cohort training will be conducted. MTaPS is also supported the training of Rwanda FDA staff on the updated PViMS.

During this quarter, MTaPS held several meetings with the **Intergovernmental Authority on Development (IGAD)** to plan and discuss MTaPS/IGAD activities for Quarters 2, 3, and 4 and the implementation modalities. The activities planned for or implemented include:

- Planning for a baseline assessment of the PV system in Djibouti in April 2021
- The IGAD PV expert working group met March 30–31, 2021, to discuss risk management of COVID-19 vaccines in the region, validate the IGAD PV baseline assessment report, discuss a roadmap for developing the IGAD-PV curriculum, and provide an update on IGAD PV activities.
- Sensitization meetings on PV and safety monitoring were held with the Turkana County Health Management Team in February and March 2021 to strengthen PV at cross-border facilities within the county.
- A two-day sensitization workshop on PV and Medicines and Therapeutics Committees was held for cross-border health facilities in Mandera and Turkana counties as part of the support to implement the facility action plans developed in December 2020.
- Developing a PV and post-market surveillance (PMS) sensitization package for the cross-border facility and county focal persons to create awareness on PV/PMS as part of the action plan implementation within their facilities.
- MTaPS engaged and followed up with the East Africa Community (EAC) secretariat, the lead National Medicines Regulatory Authority on pharmacovigilance (Pharmacy and Poison Board-Kenya), and the EAC chairing partner state of Rwanda to plan a validation workshop for the draft harmonized EAC PV curriculum. The curriculum will be used for in-service training of health care workers and other stakeholders on PV and patient safety.

BETTER CONTAINMENT OF ANTIMICROBIAL RESISTANCE AND INFECTION PREVENTION AND CONTROL

Rwanda is finalizing its first national action plan on antimicrobial resistance (AMR) in collaboration with the UN Food and Agriculture Organization and the World Health Organization (WHO). MTaPS is collaborating with the Ministry of Health, Rwanda Food and Drugs Authority (FDA), and other stakeholders to provide technical support to develop a complementary national multisectoral communication strategy for AMR. During this quarter, MTaPS met the coordinator for the One Health approach to determine how to engage AMR stakeholders in putting the strategy together; in addition, MTaPS developed the scope of work for the consultant who will be hired to support the strategy's development.

Support to countries' achievement of Global Health Security Agenda (GHSA) objectives

In addition to AMR-related activities under Objective 5, MTaPS supports GHSA/AMR activities in **Bangladesh, Burkina Faso, Cameroon, Côte d'Ivoire, DRC, Kenya, Mali, Mozambique, Nigeria, Senegal, Tanzania,** and **Uganda**, focusing on promoting antimicrobial stewardship, infection prevention coordination, and multisectoral coordination. For more details GHSA portfolio progress, refer to the GHSA section of this report.

PROGRESS BY REGIONAL BUREAU PORTFOLIO

ASIA REGIONAL BUREAU

OBJECTIVE 1: CAPACITY TO CONDUCT AND USE HEALTH TECHNOLOGY ASSESSMENT TO SUPPORT THE INSTITUTIONALIZATION OF TRANSPARENT AND EVIDENCE-BASED DECISION MAKING IN ASIA REGIONAL COUNTRIES STRENGTHENED

In Q1, MTaPS held the global launch of the Health Technology Assessment (HTA) core roadmap document—"A Roadmap for Systematic Priority Setting and Health Technology Assessment (HTA): A Practical Guide for Policy Action in Low- and Middle-Income Countries". The focus for Q2 was to initiate the planning for regional dissemination and application of the roadmap in selected countries. The dissemination and application will be conducted through a regional workshop for participants from two or three selected countries in Asia. The objective of the workshop will be to support participating countries in developing country-level HTA roadmaps and provide targeted capacity building. MTaPS will leverage its HTA roadmap guidance document to provide a flexible planning and capacity building template and will also utilize the World Health Organization (WHO) HTA 101 guide should it be published during the period of implementation for this work plan and found relevant. By using a roadmap approach, countries will identify the steps and tools needed for HTA institutionalization. As a first step in the process, MTaPS has been collaborating with the USAID COR and Asia Bureau teams to engage with country Missions, as presented in the table below:

Table 3. MTaPS Mission engagement on HTA

COUNTRY	RESPONDENT(S)	RESPONSE	ACTION ITEM
Vietnam	USAID Mission	Government interest in HTA. Previous support received from iDSI (HITAP), Asian Development Bank, and French government to write guidelines and through training workshops. "Workshop fatigue"—interest in longer-term engagement and operationalization of HTA. Interest in peer learning in the workshop.	MTaPS to share the workshop concept note with Mission for feedback and buy-in (including potential longer-term engagement).
Kyrgyz Republic	USAID Mission	Government interest in HTA; however, very limited knowledge within the country. Interested in participating in workshop.	MTaPS to have a follow-on call with national health insurance stakeholders and Mission to gather further information, areas of interest, and next steps.
Philippines	MTaPS country team	Government interest in HTA. Ongoing support being provided from iDSI (HITAP), and Palladium (USAID PROTECT Health). However, significant gaps in institutionalization of an impactful HTA process. Potential for MTaPS to play a role in demonstrating linkages between HTA evidence and pricing of health technologies and strategic procurement. Interested in participating in the workshop.	MTaPS to share the workshop concept note.

COUNTRY	RESPONDENT(S)	RESPONSE	ACTION ITEM
India	Dr. Shankar Prinja at PGIMER (member of HTAIn network of HTA doers) David Wilson (BMGF Seattle, iDSI funder) Alexo Esparato (BMGF Asia/India, iDSI funder, Asia Lead)	Conversations held to assess potential role for USAID in India's HTA activities. BMGF also provided information on iDSI engagements in Asia, and India and Philippines are focal countries for iDSI. India has already made significant advancements in HTA scale up with a network of doers, institutional framework, and data repositories. Potential for MTaPS to discuss linkages between pricing and HTA.	Dr. Shankar to participate as a resource/facilitator in the regional workshop. MTaPS to continue liaison with BMGF to apprise each other on HTA scopes and areas for collaboration.

MTaPS is developing the concept note for the workshop with a detailed agenda based on the feedback received from Missions and country teams. A two-day workshop (two hours per day) is currently being targeted for June 2021 based on participants' availability. The learning agenda is split into two sections. The first day will be plenary sessions focusing on the stepwise approach of the HTA roadmap, country case studies, and developing country action plans. The second day will be focused on parallel sessions on topics that country stakeholders have expressed interest in. Country participants may choose to attend sessions of interest or may split up to attend all sessions. So far, these have included application of HTA for procurement decision making, risk sharing agreements, and pharmaceutical pricing. Countries are also interested in learning about HTA methods such as rapid reviews, multiple criteria decision analysis, use of real world data, and use of other country HTA reports. MTaPS will be sharing the concept note in April 2021 with Mission and local MTaPS teams for feedback and with government stakeholders to refine the agenda and session materials.

MTaPS is developing publications based on the HTA roadmap findings. The balanced scorecard analysis included in the Asia addendum of the roadmap has been accepted for a poster presentation at the ISPOR 2021 conference in May 2021. MTaPS is also developing a journal article based on the Asia addendum analysis that will be submitted to a peer reviewed journal in this project year.

OBJECTIVE 2: CAPACITY TO DEFINE AND COST EVIDENCE-BASED PHARMACEUTICAL COVERAGE AND PROMOTE SHARING OF PHARMACEUTICAL PRICES TO IMPROVE VALUE IN PURCHASING IN THE ASIA REGIONAL COUNTRIES STRENGTHENED

MTaPS held follow-up discussions with the country Missions that had expressed interest in the One Health Tool (OHT) training for costing pharmaceutical benefits packages. During these meetings, MTaPS answered the Missions' questions on how to nominate a delegation for participation, the desired participant profile, and the content of the training. Countries that have expressed interest in nominating a team to participate in the training include Bangladesh, Kyrgyzstan, Nepal, Philippines, and Vietnam.

MTaPS continued developing plans for the training, including a detailed timeline for preparation and draft slides. MTaPS will offer two virtual trainings for two or three countries. MTaPS has ensured the Mission's concurrence for the first virtual training with Kyrgyzstan, tentatively in mid-June.

The five-day training will be designed to build capacity in the use of the OneHealth costing tool among selected Ministry of Health staff, partner agencies, and consultants and to develop a pool of resource persons who will support countries in the region to use the OneHealth costing tool to plan and cost their pharmaceutical benefits package and health programs as part of the overall national health sector strategic planning.

The content of the workshop will include building capacity on the OHT and using the software supports integrated planning processes for pharmaceutical benefits package costing; using the OHT to inform the development of a costed plan for health system components, such as human resources and logistics; enabling integration across programs and system components into a broad national health plan; using the OHT to assess health system implications of a program plan (e.g., a five-year maternal and child health strategy, MNCH, TB) and enable discussions on the need for a common assessment of health system implications for harmonizing health sector objectives; and setting priorities by developing and comparing alternative scenarios for planning and examining the financial space implications and expected reduction in disease burden (mortality and morbidity).

As outcomes of the training, participants will be able to apply the OHT to estimate the cost of health activities in their country contexts and generate basic costing projections for components of a national health sector strategy; use the OHT to assess health system implications of a program plan/strategy; and develop and compare alternative scenarios for planning, considering financial implications and disease burden.

MTaPS submitted the final deliverables of the PY2 for activity 2.1.1a (Pharmaceutical Benefits and Benefits Packages in Asia: A Cross-Country Mapping of Coverage Arrangements) and activity 2.1.2b (Guidance for using OneHealth Tool to cost pharmaceutical benefits packages) to USAID. MTaPS also submitted to USAID the brief on defining pharmaceutical benefits packages (activity 2.1.1b) and the report on pricing policies within the Asia region (activity 2.2.1) for review and feedback.

OBJECTIVE 3: MEDICINES REGULATORY CAPACITY AND PHARMACEUTICAL-SECTOR GOVERNANCE IN ASIA REGIONAL COUNTRIES STRENGTHENED

Using a strategic approach to work through collaboration with existing networks, MTaPS continued dialogue with the ASEAN's Pharmaceutical Products Working Group and the South East Asian Regulatory Network (SEARN) to support regulatory systems strengthening in the Asia region. Due to the delay in receiving feedback from the networks, another option was proposed by MTaPS to use a bottom-up approach by working directly with countries to achieve a uniform impact across the Asia region. The approach was accepted by USAID Asia Bureau and subsequently more funding was obtained to support activities aimed at strengthening the regulatory capacity in the region. A modified work plan was developed and is under consideration by USAID.

MTaPS participated in several meetings with identified USAID Missions to present the proposals for support to strengthening regulatory systems in Kyrgyzstan, Kazakhstan, Bangladesh, Nepal, and Vietnam.

In Nepal, the proposal to support regulatory systems strengthening was well received, and the Mission was interested in implementing the planned activities working with the Directorate of Drug Administration as the key partner.

The areas for consideration included:

- Competency mapping activity using the updated WHO Global Competency Mapping Tool well suited to Nepal and complementary to the MTaPS country workplan
- Attendance at the current Good Manufacturing Practices (cGMP) course for both the public and private sectors
- Support implementation of harmonized technical standards and guidelines and facilitation of joint review sessions and capacity building to assess biologics and vaccines

MTaPS developed a brief document with information on the activities that was shared with the Mission, MTaPS country team, and government officials and received positive feedback.

MTaPS is following up the implementation of these activities in collaboration with partner CORE at Duke-NUS, Singapore.

MTaPS supported capacity building of pharmaceutical manufacturers in Asia through an online course on cGMP. MTaPS, in collaboration with PQM+, worked to finalize the report on the online cGMP course piloted in India. The report provides insight into the impact created during the capacity building sessions and the benefit to the pharmaceutical industry in India.

The course modules facilitated by MTaPS included stability testing and comparative GMP frameworks, and a comparative review of international norms imparted the following key learning outcomes:

- Understanding of selected existing international GMP norms and standards from the US Food and Drug Administration, European Medicines Agency, and WHO
- Knowing the differences between international standards and Indian GMP
- Acquiring knowledge and strategies to apply international GMP norms to the manufacture of medicines in India
- Recognizing and communicating the importance of stability testing for active pharmaceutical ingredients and finished pharmaceutical products in pharmaceutical industry and regulatory practices, as well as how studies are conducted, including study types and designs
- Summarizing and conveying stability data and extrapolating results from stability studies
- Defining stability commitments and understanding how these commitments are used for marketing authorization purposes and post-marketing surveillance

The course was followed up with a mentorship program administered by the Pharmaceutical Manufacturers Association of India. MTaPS did not participate directly in the exercise but plans to expand the support provided in India to other countries such as Indonesia and Bangladesh after gaining consensus from SEARN/SEARO. The report on the capacity building program is under development and planned to be finalized in the next quarter.

OBJECTIVE 4: PHARMACEUTICAL-SECTOR GOVERNANCE IN ASIAN COUNTRIES STRENGTHENED

Data collection was completed for the study that WHO SEARO's Department of Health System Development, WHO Geneva's Department of Health Products Policy and Standards, and MTaPS are conducting as a first step to developing a how-to manual on conflict of interest (COI) management. The objective of the study is to identify what COI management policies are in place in 10 countries in the South-East Asia Region; explore if and how policies are implemented, particularly in low-resource countries; and collect copies of what exists and examples of good practices. Following the first phase of data collection, which involved an online search and webpage scan, 16 interviews were conducted with 21 key informants working in government, the health system, civil society, and academia in eight countries. The key informant interviews focused on informants' experience with COI policies, including the need for such policies where they are missing and, where they exist, enablers, challenges, and best practices. The first draft of the report, which presents the study findings and recommendations that will inform the development of the how-to manual, was reviewed by WHO SEARO, WHO Geneva, and MTaPS. The consultant is now revising the report to address these comments, after which it will be shared with the country ministries of health for verification of the findings.

The survey results are also being used to inform the development of a section on COI policies that will be included in the next WHO SEARO annual publication that reviews progress in improving access to medical products in the South-East Asian region. The report currently does not include any parameters on governance. The inclusion of study findings in this annual report is intended to raise awareness on the need for policies to guide the management of COIs of members of pharmaceutical committees that make decisions on medicine registration, selection, pricing, and procurement and to motivate countries to give this area more attention.

The WHO Collaborating Center for Governance, Transparency, and Accountability in the Pharmaceutical Sector finalized the report of the literature search, which was conducted to identify model guidance, policies, and procedures on managing COIs in the pharmaceutical sector that can be applied to or adapted for the Asian region. Discussion began on the planning for a proposed joint publication that combines the situation analysis findings and literature review.

Work began on the development of the manual in this reporting period. MTaPS prepared a detailed outline of the how-to manual based on the literature review report and survey findings, which is now being reviewed by WHO and the WHO Collaborating Center for Governance, Transparency, and Accountability in the Pharmaceutical Sector.

ACTIVITIES FOR NEXT QUARTER

ACTIVITY AND DESCRIPTION	DATE
Objective 1: HTA regional workshop	June 2021
Objective 1: Publications for peer-reviewed journals based on HTA roadmap	May 2021 (ISPOR conference) July 2021 (peer reviewed papers)
Objective 2: Build capacities related to the use of OHT to cost pharmaceutical benefit packages: Finalize training materials, determine which countries will be targeted for each of the trainings, and confirm logistic plans for trainings Deliver first virtual training on using the OHT to cost pharmaceutical benefit packages	April–June 2021
Objective 4: Circulate the draft report of study findings and the WHO SEARO regional medicines report to the 11 SEAR countries for review and approval; begin development of a publication that combines the situation analysis findings and literature review; and revise the detailed outline of a "how to manual" for review by experts nominated by WHO and develop a first draft.	April–June 2021

INTERGOVERNMENTAL AUTHORITY ON DEVELOPMENT (IGAD) AND EAST AFRICAN COMMUNITY (EAC)

IGAD countries

Djibouti
Eritrea
Ethiopia
Kenya
Somalia
South Sudan
Sudan
Uganda

EAC countries

Burundi
Kenya
Rwanda
South Sudan
Tanzania
Uganda

HIGHLIGHTS FROM PROGRAM YEAR 3 (Q2)

Cross-border PV/MTC sensitizations

The MTaPS Program, in collaboration with the Intergovernmental Authority on Development (IGAD) Secretariat and the Pharmacy and Poisons Board (PPB), which is the national medicines regulatory authority (NMRA) for Kenya, trained health care workers from facilities within MTaPS/IGAD priority cross-border areas of Kenya/Uganda (Turkana County) and Kenya/Somalia (Mandera County) on pharmacovigilance (PV) and Medicines and Therapeutics Committees (MTCs) as part of facility action plan implementation.

QUARTER PROGRESS FOR FY21Q2

OBJECTIVE 1: IMPROVE PHARMACEUTICAL-SECTOR GOVERNANCE

IGAD Activity 1.1.1: Support IGAD to establish and operationalize governance structures for PV

MTaPS continually engaged the IGAD Secretariat and the member state of Djibouti to plan for the baseline assessment of the PV system in Djibouti. The assessment of the PV system in IGAD member states aims to identify gaps and aid the development of regional interventions to strengthen patient safety and enhance harmonization. The assessment is planned for April 2021.

MTaPS held meetings with the IGAD Secretariat, including on January 22 and 29, 2021, to plan and discuss MTaPS/IGAD activities for Quarters 2, 3, and 4 and the implementation modalities. The planning meeting was important to ensure seamless implementation of activities in the IGAD region. At another meeting on February 11, 2021, participants discussed and agreed on the implementation approach for the baseline assessment of the PV system in Djibouti.

In collaboration with the IGAD Secretariat, MTaPS organized and held an IGAD PV Expert Working Group meeting March 30–31, 2021, to discuss risk management of the COVID-19 vaccine in the region, validate the IGAD PV baseline assessment report, discuss a roadmap for the development of an IGAD-PV curriculum, and provide an update on IGAD PV activities.

OBJECTIVE 2: STRENGTHEN INSTITUTIONAL AND HUMAN RESOURCE CAPACITY TO MANAGE PHARMACEUTICAL SYSTEMS

IGAD activity 2.1.1: Build capacity of selected NMRAs and cross-border sites in IGAD and EAC to analyze and use PV data for regulatory decision making

No activities were planned or held this quarter.

IGAD activity 2.2.1: Support PV activities along IGAD cross-border points to promote patient safety

MTaPS, in collaboration with the IGAD and in conjunction with the PPB, which is the NMRA for Kenya, held a sensitization meeting on PV and safety monitoring for the Turkana County Health Management Team February 19, 2021. The sensitization focused on strengthening PV at cross-border facilities within the county, which borders Uganda, Ethiopia, and South Sudan, to enhance patient safety.

MTaPS continually engaged the cross-border facility and county focal persons to follow up and offer guidance and technical assistance on the implementation of the facility/sub-county/county action plans developed during the PV training and sensitizations for the IGAD/MTaPS priority cross-border areas of Turkana, West Pokot, Moyale, and Mandera in November and December 2020, including:

- A planning meeting with Turkana County on March 3, 2021, to plan for PV and safety monitoring sensitizations for cross-border health facilities and review implementation of facility action plans developed during cross-border PV trainings carried out in Q1. The sensitizations are geared toward creating awareness and equipping health workers with skills on adverse drug reaction (ADR) minimization, identification, management, and reporting. The sessions will also facilitate follow-up and supporting of the implementation of the facility action plans.

Mandera participants reviewing and updating their workplans to incorporate MTCs (Photo credit: Julie Ngaira-MTaPS)

- Technical assistance using a continuous quality approach and mentorship to the cross-border health facilities in Mandera and Turkana counties by holding two-day sensitization workshops on PV and MTCs March 15–16, 2021, and March 25–26, 2021, as part of the support to implement the facility action plans developed in December 2020. The sensitizations were attended by 58 facility staff (the medical officer in-charge, nursing officer in-charge, and pharmacist in-charge from each facility) and evaluated the implementation of the developed workplans and equipped the facilities with the skills to report ADRs, particularly adverse events following immunization in the face of the COVID-19 vaccine roll-out, and how to institutionalize patient safety activities through establishment of MTCs.
- Development of a PV and post-market surveillance (PMS) sensitization package for cross-border facility and county focal persons to carry out awareness on PV/PMS as part of the action plan implementation within their facilities.

Throughout the quarter, MTaPS provided technical assistance and support to the IGAD Secretariat and NMRA PV experts on finalization of PV baseline assessment reports and drafting of a regional report on the baseline assessment. This included engagement with the Secretariat and the member state of Djibouti to plan and facilitate the PV baseline assessment, which is scheduled for April 3–9, 2021.

Participants in Turkana County presenting their PV/MTC workplans (Photo credit: Julie Ngaira-MTaPS)

IGAD/EAC activity 2.1.2: Support local manufacturers in the IGAD/EAC regions to better comply with regional and national pharmaceutical regulatory standards and requirements

During the quarter, MTaPS worked on and finalized the report on the assessment of local pharmaceutical manufacturers to adhere to good regulatory practices. The report is awaiting final editorial review before dissemination to stakeholders.

OBJECTIVE 3: STRENGTHEN SYSTEMS FOR PROVIDING PATIENT-CENTERED PHARMACEUTICAL CARE AND SERVICES

IGAD/EAC activity 3.1.1: Strengthen and harmonize PV processes and tools in IGAD and EAC regions and support uptake by border sites and regional stakeholders

MTaPS engaged the IGAD Secretariat and the member state of Djibouti to provide technical support for implementing the PV baseline assessment using the harmonized indicator-based PV assessment and monitoring tool. Implementation of the assessment has been delayed by changes within the Ministry of Health structure in Djibouti, but implementation is slated for Quarter 3.

During the quarter, MTaPS developed a PV/PMS sensitization package for cross-border facility and county focal persons to create awareness on PV/PMS as part of the action plans implementation within their facilities with the expected outcome of improved patient safety, increased reporting, and improved patient outcomes.

MTaPS engaged and followed up with the EAC Secretariat, the lead NMRA on PV (PPB-Kenya), and the EAC chairing partner state of Rwanda to plan for a validation workshop for the draft harmonized EAC PV curriculum. The curriculum is to be used to train in-service health care workers and other stakeholders on PV and patient safety.

ACTIVITIES FOR NEXT QUARTER		
ACTIVITY	DESCRIPTION	DATES (2021)
Support PV activities along IGAD cross-border points to promote patient safety	Cross-border focal persons trained during the PV trainings are equipped with the necessary skills on PV/MTC	April–June
Support local manufacturers in the IGAD/EAC regions to better comply with regional and national pharmaceutical regulatory standards and requirements	Local Manufacturers Stakeholders Forum (IGAD-led): undertake joint planning and preparation for the forum with IGAD	April–June
Strengthen and harmonize PV processes and tools in IGAD and EAC regions and support uptake by border sites and regional stakeholders	Prepare material/review existing documents from other regions for adoption Disseminate PV curriculum/guidelines/compendium	April–June

PROGRESS BY COUNTRY

BANGLADESH

For progress on MTaPS/Bangladesh's COVID-19 activities, click here.

MISSION-FUNDED ACTIVITIES

OBJECTIVE 1: PROCUREMENT AND SUPPLY CHAIN SYSTEMS IMPROVED AND MODERNIZED

As part of capacity building and sustainability, MTaPS facilitated training sessions organized by the Directorate General of Family Planning (DGFP) on computerized inventory management systems (Upazila Inventory Management System [UIMS]) for 133 government officials from Dhaka, Pirojpur, Jhalokathi, Barishal, and Narshingdi districts (47 female; 86 male). The training also featured a live demonstration on the inventory software and data from the DGFP electronic logistics management information system (eLMIS), which tracks contraceptive stock data at all facility levels in five districts so that DGFP officials can easily access data and make immediate decisions with minimal support. Contraceptive stock status at service delivery points was satisfactory except for implants. The secretary of the Ministry of Health and Family Welfare's (MOHFW) Medical Education and Family Welfare division opened the session in Dhaka district as chief guest. His remarks acknowledged USAID's contribution to strengthening the family planning supply chain management system, which has increased contraceptive availability at service delivery points in the country. The director general of the DGFP and the director (logistics and supply) instructed those responsible to shift the implant supplies among the service delivery points to address the sporadic implant shortages.

MTaPS produced a stock analysis status report of contraceptives that highlighted an implant shortage and an injectable overstock in the country. MTaPS shared the report officially and organized a formal meeting with the director general of the DGFP and relevant directors to make informed decisions on understocked and overstocked contraceptives. MTaPS proposed redistributing some implants among the subdistricts and recommended against procurement of additional injectables in FY2021–22. The director general and directors accepted the proposal and immediately instructed the relevant officials to begin the redistribution of contraceptive implants according to the proposed plan. The DGFP will further analyze the injectable overstock and will make decisions accordingly.

An MTaPS representative was invited to provide technical assistance and demonstrated the DGFP eLMIS and the use of data for decision making during a series of supply chain management workshops organized by the DGFP in Moulvibazar, Sylhet, and Cumilla districts. The MTaPS technical advisor explained how the information generated through the eLMIS can play a vital role in the decision making process. Participants learned how to review the stock status of contraceptives and other maternal, newborn, and child health (MNCH) commodities at different levels of the system and make informed supply chain decisions. The director general of the DGFP instructed all participants to monitor the stock situation of contraceptives at different levels and take necessary precautions to reduce stock-outs and overstock at the service delivery level.

The DGFP started distributing commodities in Kalukhali upazila in Rajbari district. MTaPS technical advisors worked closely with the DGFP central warehouse, Faridpur Regional Warehouse, and Pangsha upazila store to set up a computer-based inventory management system in Kalukhali warehouse. MTaPS provided technical support to incorporate the new upazila in the DGFP eLMIS, installed the UIMS, and

build the capacity of users. As a result, the DGFP will have an additional 1,600 square feet of storage space at Kalukhali warehouse to safely store contraceptives and other MNCH products.

As part of partners' collaboration, a meeting with MTaPS, MaMoni Save the Children, and USAID was held to discuss the current situation of MNCH commodities supply chain and eLMIS implementation under the Directorate General of Health Services (DGHS). During the meeting, it was decided to hold a technical working group meeting to review the MNCH product list. MTaPS will provide technical support for that meeting as soon as the COVID-19 situation improves.

MTaPS also provided technical assistance to the United Nations Fund for Population Assistance (UNFPA) in scaling up the DGHS eLMIS for MNCH commodities in seven districts (Bhola, Netrakuna, Kishoregonj, Khagrachari, Gaibandha, Bogura, and Sunamgonj). A one day-training of trainers (TOT) was organized by the UNFPA in those seven districts and was facilitated by MTaPS technical advisors. Sessions in the training included:

- Knowledge assessment on DGHS eLMIS
- Importance of DGHS eLMIS on MNCH with background and objectives
- Basic concepts of DGHS eLMIS, tool, and reporting format
- Hands-on exercise for proper data collection and calculation
- Live demo of DHiS2 platform to show report entry form
- Hands-on exercise for DHiS2 to enter the monthly data
- Live demo of dashboard for data visualization

This TOT will help local trainers roll out the system in the health facilities in their districts. As a result, the DGHS will have more visibility of information on the stock of MNCH products, which will be helpful for program managers in making decisions for program planning and procurement of MNCH products.

To follow up on USAID's commitment to the DGHS in the MOHFW Technical Assistance Committee meeting, MTaPS worked with the DGHS to assign embedded staff to provide continuous technical assistance. These staff will strengthen the efficiency of the government by providing onsite mentoring and continuous knowledge transfer to better function as the procuring entity as well as the oversight body in complex procurement situations.

The committee constituted by the MOHFW for updating the list of Medical and Surgical Requisites (MSR) of the DGHS met February 3 and 10, 2021. MTaPS assisted in organizing and facilitating the meeting. The committee discussed adding COVID-19-related items as well as medical waste management items (with indicated prices) to the list. The committee agreed to approve the list once feedback from the meeting is addressed. The final list, with input incorporated, is in the process of approval from the MOHFW. When finalized and approved, the list will be used by the procuring entities of the hospital facilities to support efficiency in the procurement process and equitable acquisition of MSR to render diagnosis and treatment services. During this quarter, no meeting of the Procurement and Logistics Management Cell was held because of the worsening COVID-19 situation in the country.

MTaPS continued to collaborate with the Access to Information (a2i) program, which led the development of the national eLearning platform in Bangladesh. MTaPS is planning to assist the MOHFW and its directorates to develop eLearning courses and incorporate them into the platform. MTaPS held a meeting with the a2i eLearning platform focal point and the platform development team to clarify shared goals and objectives. MTaPS and a2i also detailed the collaboration approach, requirements, and next steps. Incorporating the MOHFW's courses with a2i's platform promotes sustainability and will save MOHFW resources in the future, as more government health staff receive training online.

MTaPS has made progress in the preparatory work, including finalizing the scope of work and its implementation plan, for the peripheral TB storage assessment and planning for optimization and transition during this quarter. The service procurement of the subcontracting is in the final stage. The assessment is planned to be completed within the next quarter, but it may be delayed due to the

COVID-19 situation in the country. The assessment will assist the National TB Control Program (NTP) in profiling the peripheral TB storage status and identifying the gaps in light of recent changes in human resources of key partners and upcoming changes in storage sites. The transition and optimization plans will also help the program to explore opportunities in the integration and optimization of TB storage within the government system, ensure better management of stock, and enhance performance for an uninterrupted supply of TB commodities.

OBJECTIVE 2: PHARMACEUTICAL REGULATORY SYSTEMS STRENGTHENED

MTaPS is collaborating with the Better Health in Bangladesh (BHB) project to develop an electronic inspection and licensing system for retail drug outlets. An early version of the system was demonstrated to the Directorate General of Drug Administration (DGDA) for its feedback during this quarter. The system has been accepted by the DGDA for piloting in two subdistricts, followed by a planned countrywide scale-up. MTaPS reviewed the system and advised BHB to expand the inspection section to cover detailed critical features of the inspection process, including an inspection template. The added feature would facilitate consistency when conducting inspections and generating informative reports. Overall, the inspection and licensing system will help optimize pharmacy inspection and licensing to provide better regulatory and quality outcomes from the DGDA in a cost-effective way.

The Coalition of Interested Partner's Bangladesh meeting on the World Health Organization (WHO) benchmarking report was held on March 1, 2021. Representatives from WHO, UKAID, USAID, World Bank, UNICEF, MTaPS, PQM+, BHB, and the DGDA participated in the meeting. MTaPS presented the status of the support given to the DGDA, including activities accomplished, ongoing, and planned along with the success achieved. The DGDA acknowledged the support provided by MTaPS and expected that it would continue strengthening regulatory functions. This meeting helped to clarify the areas supported by each development partner to avoid duplication and work in a concerted way toward achieving WHO prequalification of the DGDA.

MTaPS worked with the DGDA to restructure the 10 working teams for the 9 functional areas according to the WHO Global Benchmarking Tool (GBT) and the overall regulatory system, with a particular focus on regulation of vaccines. MTaPS is continuing its technical assistance to the DGDA following the implementation of the WHO GBT in 2018 with a view to strengthening four functional areas identified in the Institutional Development Plan (IDP): registration and marketing authorization, pharmacovigilance, regulatory inspection, and licensing of establishments. Quality management systems is another functional area identified by the DGDA where MTaPS is providing technical assistance. MTaPS worked with the DGDA to map out areas for improvement in the five regulatory functions aimed at efforts to increase the GBT score and achieve maturity level 3.

The final report on the survey conducted on registration systems of MNCH products in Bangladesh was shared with the DGDA and the USAID mission and disseminated through MTaPS global webinars. The survey involved the DGDA, manufacturers, and other stakeholders to identify improvements in the legal framework, processes, staffing, and expertise and the costs involved in the registration process for MNCH medical products. It will help to optimize and streamline MNCH product registration and to improve processes for other medicines and medical devices.

MTaPS has been providing full-time technical assistance to the Pharmacovigilance and COVID-19 Safety Surveillance cell of the DGDA and is a member of the cell. MTaPS is also facilitating bi-weekly workshops of the national Adverse Events Following Immunization (AEFI) Expert Review Committee for COVID-19 vaccines to help the DGDA in AEFI data management, analysis, and implementation of regulatory decisions. MTaPS was part of the development of a pharmacovigilance protocol for COVID-19 vaccines as well as the online AEFI reporting system based on the DGDA's own platform and provided training countrywide. This protocol and the online reporting system are being used in the country. MTaPS is also supporting the DGDA to publish the protocol. This effort helps to improve the

awareness of pharmacovigilance, increase the number of AEFI reports, make regulatory recommendations/decisions on AEFI of COVID-19 vaccines, and strengthen the pharmacovigilance system in the country.

OBJECTIVE 3: SYSTEMS FOR EVIDENCE-BASED DECISION MAKING INSTITUTIONALIZED

MTaPS is actively engaged with the government's a2i program and the United Nations Development Program to integrate the electronic asset management system (eAMS) into the disbursement-linked indicators tracker dashboard. This integration will help the DGHS Health Service Management section, as well as the MOHFW, monitor eAMS functions and assist district-level hospitals to maintain their efficient management of medical equipment, which contributes to improved health care services.

MTaPS organized trainings on e-TB Manager at Rajshahi Division, Sylhet Division, and Faridpur region for users to refresh their knowledge and practices as well as introduce the new features. A total of 375 participants (67 female; 308 male) attended the refresher training, including the government TB leprosy control assistant (TLCA), program organizer of civil surgeon (CS) office and supervisors, and other staff from implementing organizations. These refresher trainings will improve the quality of TB patient data as well as increase the availability and completeness of those data.

Regular training on e-TB Manager, as part of the roll out to Dhaka Division, began on February 14, 2021. A total of 209 participants (38 female; 171 male), including the government TLCA, program organizer of CS office and supervisors, and other staff from implementing organizations, were trained in this reporting period. The training will improve the quality of TB patient data that are routinely uploaded into the system with the objective of improving the availability of individual TB patient information.

Users during e-TB Manager training in Dhaka Division (Photo Credit: Md. Riaz, MSH Bangladesh)

MTaPS participated in the M&E Working Group Meeting of the NTP on February 25, 2021. MTaPS is a member of the group. The meeting discussed the implementation status of the various activities in progress by the NTP and its partners.

MTaPS attended the quarterly TB monitoring meetings of health managers (CSs, upazila health and family planning officers); program organizers; TLCA; and representatives from NTP implementing partners in the districts of Netrokona, Rangpur, Jheneidah, Kushtia, Tangail, Sherpur, Khulna, and Gazipur. TB program monitoring using e-TB Manager was an important agenda items in these coordination meetings. These meetings will contribute to increase the monitoring and availability of TB patient information to the district managers for evidence-based decision making.

The NTP has issued a letter to replace manual reporting for all drug-resistant TB sites with digital reporting using e-TB Manager effective from this quarter. This is the first step in digital reporting of individual TB patient information for better management.

OBJECTIVE 4: PHARMACEUTICAL SERVICES THAT PROMOTE APPROPRIATE MEDICINES USE AND ANTIMICROBIAL RESISTANCE CONTAINMENT IMPROVED

MTaPS has been requested to align the National Action Plan (NAP) on Antimicrobial Resistance (AMR) with the update of the National Strategy for Antimicrobial Resistance Containment (ARC). USAID concurrence was received for this activity. The new document will be renamed the National Strategy and Action Plan on ARC in Bangladesh (2021–2026).

OBJECTIVE 5: PHARMACEUTICAL FINANCIAL RESOURCE ALLOCATION AND USE OPTIMIZED

This activity started with discussions with the Health Economics Unit of the MOHFW.

ACTIVITIES FOR NEXT QUARTER

ACTIVITY AND DESCRIPTION	DATE
Activity 1.1.1: Work with the DGHS to develop a standardized price list for MSR in line with updated specifications	April–June 2021
Activity 1.1.2: Update the medical equipment price guide and align it with the revised TOE	April–June 2021
Activity 1.1.3: Provide technical assistance to MOHFW procuring entities and directorates to track procurement performance	April–June 2021
Continue technical assistance to the DGFP in supply chain management of FPRH and other MNCH commodities, including warehousing, distribution, and analyzing data for decision making	April–June 2021
Activity 1.2.1: Enhance the capacity of national- and subnational-level managers on using data for decision making and compliance with monitoring the functionality of existing systems	April–June 2021
Activity 1.2.2: Assist the NTP to assess the peripheral TB storage system and develop an integration plan Field implementation, analysis, and report preparation of the peripheral TB store assessment	April–June 2021
Activity 1.3.2: Develop eLearning courses on procurement basics, generic logistics management, and e-TB Manager and introduce them within the MOHFW and its directorates to contribute to institutional capacity building	April–June 2021
Activity 2.1.1: Assist the DGDA to institutionalize periodic monitoring systems through implementation of IDP to contribute to attaining WHO GBT maturity level 3 • Group work for addressing IDPs in the areas of marketing authorization, licensing, and regulatory inspection • Drafting and finalizing procedures and TOR	May 2021
Activity 2.1.2: MTaPS will work with the DGDA in collaboration with BHB to develop an electronic pharmacy inspection and licensing system • Dissemination and piloting of electronic system	May 2021

ACTIVITIES FOR NEXT QUARTER	
ACTIVITY AND DESCRIPTION	DATE
• Drafting report	
Activity 2.2.1: Work with the DGDA to address relevant GBT IDPs (e.g., development of investigation and risk-based management procedures for PV activities) and continue to support ongoing PV activities • Workshop on Technical Subcommittee and Adverse Drug Reaction Advisory Committee for adverse drug reaction evaluation and regulatory recommendations • Addressing IDPs	June 2021
Activity 3.1.1: Collaborate with different USAID partners and other development partners to scale up DGHS eLMIS for MNCH commodities in selected districts	September 30, 2021
Activity 3.2.1: In collaboration with partners, assist the NTP in conducting a feasibility assessment of interoperability between e-TB Manager and GxAlert and between e-TB Manager and the Janao app for better diagnostic report generation and increased notification	September 30, 2021
Activity 3.2.2: Enhance and integrate the existing eLMIS for DGHS and conduct a user acceptance test on TB logistics system	April–June 2021
Activity 3.2.3: Assist the NTP to address new requirements and fix bugs in e-TB Manager identified by the donor, NTP, and end users and transfer knowledge to the local IT vendor	September 30, 2021
Activity 4.1.1: Support national counterparts to update the National Strategy for AMR Containment in Bangladesh • Hire consultant (human and animal health on AMR) to update national strategy for ARC and NAP • Review existing strategy and identify areas for potential inclusion • Stakeholder workshop and generating recommendations • Draft reports	June 2021

GLOBAL HEALTH SECURITY AGENDA ACTIVITIES

RESULT AREA 1: EFFECTIVE MULTISECTORAL COORDINATION ON AMR

The National Technical Committee (NTC) on ARC is the highest multisectoral and multidisciplinary executive technical body at the directorate level. The committee is headed by the director general of Health Services, and the director of Disease Control and line director of Communicable Disease Control serve as the member secretary. An NTC meeting was held on January 31, 2021, with the active participation of the director general of the DGHS; former and present high officials of the DGHS; representatives from the DGDA, Department of Livestock Services, Department of Fisheries, Department of Environment, Institute of Epidemiology, Disease Control and Research, and Institute of Public Health; leaders of professional bodies of different disciplines; and development partners, including MTaPS, WHO, FAO, Fleming Fund Country Grant, and icddrb. In the meeting, the proposed revision and update of the national strategy on ARC and a costed NAP developed with technical assistance from MTaPS and the Fleming Fund was recommended by the representative from USAID. Representatives from MTaPS and the Fleming Fund Country Grant also expressed their commitment to provide the necessary support. In the meeting, it was also decided to involve other organizations that provide technical support to the CDC, DGHS. The national AMR surveillance strategy and the NAP for ARC in Bangladesh monitoring and evaluation framework were shared with NTC members for their feedback, and members approved the monitoring and evaluation framework within one week. MTaPS will continue to work with the CDC, DGHS to implement the framework.

RESULT AREA 2: INFECTION PREVENTION AND CONTROL

MTaPS facilitated a TOT on infection prevention and control (IPC) based on the updated national IPC guidelines and modules for members of the IPC Committee and some members of the IPC team in Munshiganj District Hospital (MDH) and Cumilla Medical College Hospital (COMCH). Through the TOT, MTaPS facilitated the availability of a set of master trainers who can train additional health care providers, including new staff at their own hospitals. As per the developed IPC action plan, 40 participants (23 female; 17 male) from IPC teams of triage areas and all departments of the MDH hospital and 33 participants (18 female; 15 male) of COMCH attended the cascading training sessions. At both hospitals, IPC teams are now aware of and confident in implementing the IPC action plan as developed by the IPC committee. They are monitoring the IPC situation of their hospitals using the developed national IPC tool and reporting the progress of the implementation of the action plan and IPC practices of different departments to the hospital focal person and IPC committee on a monthly basis. It is expected that this practice will continue at the facilities and will contribute to strengthen IPC practices.

Training on IPC at Cumilla Medical College Hospital (Photo Credit: Amany Ayub, MTaPS)

RESULT AREA 3: USE OF ANTIMICROBIAL MEDICINES OPTIMIZED

CDC, DGHS established a core working group (CWG) with MTaPS support to provide input in the methodology and develop the "Standard Treatment Guidelines (STG) for Antibiotic Use in Common Infectious Diseases". The CWG met virtually five times. During this quarter, the sixth meeting of the CWG was held in person to share the draft of the developed STG for review and collect feedback. After correction of all chapters according to their recommendations, the CWG shared the developed

STG with senior staff of professional associations for review and feedback. To finalize this document, a workshop will be held for CWG members. MTaPS will support the CDC, DGHS to develop the printable version and the app version of the STG and to move from the mobile phone app to the nationally recognized STG app to increase the use of the WHO AWaRe (Access, Watch, and Reserve) classification of antibiotics among physicians.

ACTIVITIES FOR NEXT QUARTER

ACTIVITY AND DESCRIPTION	DATE
Activity 1.1.1: Continue strengthening national level multisectoral coordination mechanisms to facilitate operationalization of the NAP-AMR and its roadmap • One joint stakeholder meeting will be held in collaboration with the CDC, DGHS and other stakeholders that was not possible during the NTC meeting in the previous quarter	April 2021
Activity 2.2.1: Develop training materials based on the Hospital IPC Manual and other guidelines and checklists issued by QIS/MOHFW and train health care workers using those materials • Adapt and update IPC and AMS training materials in collaboration with CDC, DGHS and QIS/MOHFW, as well as stakeholders for eLearning platforms	May 2021
Activity 2.5.1: Continue to strengthen IPC activities in the two participating facilities; scale up similar initiatives in two new facilities; and support the CDC, DGHS to develop/execute nationwide roll-out plans • Selection and assessment of IPC and AMS status of two facilities for scaling up IPC strengthening interventions in one district hospital and one upazila health complex	May 2021
Activity 3.5.1: Support the finalization of the national-level STG for common infectious diseases, including converting it into an app, and facilitate its dissemination and training • Progress from developed STG to app version STG	April 2021

BURKINA FASO

GLOBAL HEALTH SECURITY AGENDA ACTIVITIES

RESULTS AREA 1: EFFECTIVE MULTISECTORAL COORDINATION ON AMR

Activity 1.1.1: Support the Technical Secretariat of the One Health Platform

In 2017, Burkina Faso developed a three-year, national multisectoral antimicrobial resistance (AMR) action plan, which ended in December 2020. MTaPS, in collaboration with the AMR Technical Thematic Committee (TTC), developed the terms of reference (TOR) for the review of the plan in February 2021. The World Health Organization, with MTaPS' contribution, will lead a situational analysis of the 2017–2020 national action plan implementation April 7–9, 2021. Following the analysis, MTaPS will support its review.

RESULTS AREA 3: USE OF ANTIMICROBIAL MEDICINES OPTIMIZED

Activity 3.2.1: Support the General Directorate of Veterinary Services (DGSV) to develop and validate an AMS training toolkit for the animal sector and organize a national training of trainers of veterinarians and livestock technicians on AMS guidelines

MTaPS, in collaboration with the DGSV, organized a virtual meeting on December 9, 2020, to finalize the draft guidelines for rational use of antimicrobials in the animal sector. Following this meeting, MTaPS drafted training modules in March 2021 based on the guidelines and emphasizing the roles and responsibilities of veterinarians, livestock technicians, and livestock producers. The training modules are currently under review and will be finalized and validated in April 2021.

Activity 3.2.2: Support the National Drug Regulatory Agency (NDRA) to print and disseminate the standard treatment guideline annexes and the national essential medicines list

MTaPS/Burkina Faso, in collaboration with the NDRA, printed and disseminated 500 copies of the essential medicines list and other health products. The dissemination workshop took place January 27–28, 2021, in Bobo-Dioulasso and targeted 25 heads of health care facilities at the peripheral level, providing them with an important tool for prescribing as the medicines on the list are those recognized at the country level for use by all practitioners in the health sector. An additional 1,000 copies were printed and will be disseminated at two upcoming workshops.

Activity 3.5.1: Support implementation of guidelines and policies at the peripheral level

Establishing drug and therapeutics committees (DTCs) is critical for the optimized use of antimicrobial medicines. MTaPS, in collaboration with the Directorate of Hospital Pharmacy of the Ministry of Health, established DTCs in five health care facilities—Zorgho, Gaoua, Tenkodogo, Boulmiougou, and Ziniare—during this quarter. Following the establishment of the five DTCs, MTaPS, in collaboration with the Directorate of Hospital Pharmacy, developed and finalized the TOR and budgets for the training of the DTCs. The DTC of Gaoua was trained March 10–12, 2021. The main objectives of the training were to ensure that participants:

- Understand what is at stake with AMR
- Are familiar with antimicrobial management strategies
- Understand the role of pharmacovigilance in improving the proper use of antimicrobials

The training ended with the development of an implementation work plan for the DTC. The trainings for the remaining health care facilities are scheduled for April 2021.

ACTIVITIES FOR NEXT QUARTER	
ACTIVITY AND DESCRIPTION	DATE
Activity 1.1.1: Support the Technical Secretariat of the One Health Platform • Task 1.1.1.a: Convene an induction meeting of the presidents and vice presidents of the seven TTCs to finalize the ministerial order • Task 1.1.1.b: Review and finalize the national multisectoral AMR action plan • Task 1.1.1.c: Contribute to the review of the ministerial order to be signed	March–June 2021
Activity 3.2.1: Support the General Directorate of Veterinary Services (DGSV) to develop and validate an AMS training toolkit for the animal sector and organize a national training of trainers of veterinarians and livestock technicians on AMS guidelines • Task 3.2.1.a: Develop an AMS training toolkit, including a training manual, facilitator guide, training sessions, and training assessment (beginning and end) questionnaires • Task 3.2.1.b: Finalize the AMS training toolkit, including a training manual, facilitator guide, training sessions, and training assessment (beginning and end) questionnaires • Task 3.2.1.c: Validate the AMS training toolkit, including a training manual, facilitator guide, training sessions, and training assessment (beginning and end) questionnaires • Task 3.2.1.d: Train 15 veterinarians and 30 livestock technicians	March–June 2021
Activity 3.5.1: Support implementation of guidelines and policies at the peripheral level • Task 3.5.1.a: Train the five established DTCs in health care facilities and assist them to develop action plans	March–June 2021

PRESIDENT'S MALARIA INITIATIVE (PMI) ACTIVITIES

USAID through PMI has decided to fund the implementation of an activity related to the pharmacovigilance of a malaria medicine called Pyramax (pyronaridine-artesunate). On February 24, the MTaPS team submitted a narrative work plan to assess the medicine, including monitoring adverse effects and reporting to the health system. MTaPS has submitted the work plan to the activity manager at USAID Burkina Faso for review.

CAMEROON

RESULT AREA 1: EFFECTIVE MULTISECTORAL COORDINATION (MSC) ON AMR

Activity 1.1.1: Support MSC of AMR activities through regular meetings of the AMR governance committee

MTaPS supported organization of the bimonthly coordination meeting of the IPC and AMS technical working groups (TWGs). The meeting, which was held on February 8, 2021, brought together 20 participants from the following ministries:

- Ministry of Public Health (MOPH): Department for the Control of Epidemics and Pandemics (DLMEP); Department for Health Promotion (DPS); Department of Pharmacy, Medicines, and Laboratory (DPML); and Yaoundé University Teaching Hospital
- Ministry of Livestock, Fisheries, and Animal Husbandry
- Ministry of Rural Development
- Ministry of Environment and Nature Protection
- AMR focal persons from each of the aforementioned ministries

The main objective of this meeting was to monitor implementation of AMR activities, especially on IPC and AMS. The meeting began with an MTaPS presentation on WHO benchmark actions in MSC, IPC, and AMS. After discussing how to effectively measure progress made by the country on AMR containment, participants resolved to focus on implementing all benchmark actions in one level before moving to the next level, rather than selecting actions from different levels of the WHO benchmark tool haphazardly.

Second, the TWGs assessed the implementation of MTaPS-supported activities for 2020 and reviewed the implementation plan for activities planned for 2021. Participants resolved to monitor the implementation of planned activities despite being busy with the COVID-19 response. It was recommended that the TWGs ensure appropriate archiving of reports of all implemented activities.

Last, participants discussed the need to update the AMR national action plan, which expired in December 2020, taking into consideration actions in the WHO benchmark tool for AMR containment. Participants expressed appreciation for the work MTaPS is already doing in the country and advocated for MTaPS to support the country to achieve this milestone. MTaPS pointed out that, given the magnitude of this activity, it will be important to collaborate with other supporting partners, such as FAO, IDDS, CDC-Metabiota, and WHO. Consequently, national stakeholders must also advocate for funding from other AMR supporting partners, such as FAO, IDDS, and CDC-Metabiota.

Because of conflicting schedules on the part of the Technical Secretariat of the Multisectoral Coordination Committee (TS-CCM), the quarterly meeting initially scheduled for March has been postponed to the first week of April. The organization of regular coordination meetings of the AMR governance committees is important for monitoring implementation of AMR activities.

Activity 1.2.1: Strengthen technical capacity of key government AMR stakeholders

There has been a paradigm shift in capacity-building approaches, as the establishment of eLearning platforms to complement face-to-face training cannot be overstated in an era plagued by the ongoing COVID-19 pandemic, with the ensuing restrictions on gatherings as a measure to curb the spread of the disease. MTaPS held a virtual meeting with staff from the DPML, under the leadership of the home office subject-matter expert, to discuss the possibility of setting up an eLearning platform. At the end of the meeting, a roadmap for establishing the platform was agreed upon and an implementation timeline

developed. Following the roadmap, on March 19, 2021, MTaPS facilitated installation of the Moodle eLearning platform on the DPML's website. MTaPS also supported the training of resource persons from the DPML and the National Center for Provision of Essential Medicines on managing the Moodle platform. The next phase will consist of adapting training modules to the platform. The platform will go a long way to complement in-person training of national experts on AMR-related topics.

RESULT AREA 2: INFECTION PREVENTION AND CONTROL

Activity 2.1.1: Support the development, validation, and dissemination of IPC guidelines for the human sector

After the national IPC guidelines were validated, MTaPS supported translation of the guidelines into English as requested by the MOPH. Under the technical leadership of the DPS, MTaPS hired a firm to translate the guidelines. The next step is printing and disseminating the guidelines, scheduled for April 2021. The IPC guidelines will improve IPC practices in health facilities in Cameroon.

Activity 2.5.1: Improve IPC practices at designated health care facilities.

Building on the lessons learned from establishing IPC committees in six health facilities during year 2, MTaPS proposed scaling up this activity to six additional health facilities. As the first step, MTaPS supported a four-day TOT workshop for 10 participants on IPC on January 19-22, 2021. The 10 participants included 6 champions and 4 staff from the DPS. The champions represented the following health facilities: Sangmelima Reference Hospital (South); Obala (Center) and Mbouda and Bangangte (West) District Hospitals; and Edea Regional Hospital Annex and Nkongsamba Regional Hospital (Littoral).

The participants were trained using the national IPC curriculum as well as modules on leadership and managing an IPC program in a health facility. At the end of the training, the participants were encouraged to carry out an IPC evaluation in their respective health facilities, propose an IPC improvement/action plan, and advocate for formalizing an IPC committee via a signed service note.

Following the training of IPC champions, MTaPS supported the DPS in carrying out onsite training from February 22 to March 3, 2021, for members of the IPC committees in the six additional health facilities; 62 persons were trained from the 6 health facilities as shown.

HEALTH FACILITY	GENDER		TOTAL TRAINED
	MALE	FEMALE	
Bangangte District Hospital	7	6	13
Mbouda District Hospital	4	5	9
Obala District Hospital	4	6	10
Sangmelima District Hospital	7	3	10
Edea Regional Hospital Annex	4	6	10
Nkongsamba Regional Hospital	6	4	10
TOTAL	32	30	62

The participants were trained using the modules on leadership and managing an IPC program in a health facility. At the end of the training, the participants assessed IPC practices in their health facilities by using the WHO standardized tool (IPCAF). A strength, weakness, opportunity, and threat analysis was performed, followed by the drafting of six-month action plans identifying activities to improve IPC in health facilities. The next step will be field supervision of health facilities to assess the implementation level of the IPC activities in the action plans as part of continuous quality improvement. The resilience of the health facilities with functional established IPC committees during the ongoing COVID-19 pandemic, which have a relatively smaller number of confirmed cases among health care workers, has prompted

the Minister of Public Health to instruct all health facilities to establish IPC committees. This is a success for the MTaPS project in Cameroon.

RESULT AREA 3: USE OF ANTIMICROBIAL MEDICINES OPTIMIZED

Activity 3.5.1: Support the establishment of effective and functional drug and therapeutics committees in 12 selected health facilities

One of the factors associated with the burden of AMR is the irrational use of antimicrobials, especially antibiotics in health care settings. Drug and therapeutics committees (DTCs), which are an essential component of a health care system, can provide the leadership and structure to select appropriate medicines, identify medicine use problems, promote their rational use, and help reduce pharmaceutical costs. In light of this challenge, on November 13, 2020, MTaPS supported a one-day meeting of MOPH experts from the DPML and some referral health facilities to define a roadmap for revitalizing or establishing DTCs in health facilities. As a first step, following this roadmap, MTaPS supported the DPML in organizing a workshop on March 2-5, 2021, to train DTC champions (focal persons) in 12 health facilities, as shown below.

REGION	HEALTH FACILITY	GENDER		TOTAL TRAINED
		MALE	FEMALE	
Adamawa	Ngaoundere Regional Hospital	1	0	1
Center	Yaounde Jamot Hospital	0	1	1
	Mbalmayo District Hospital	1	0	1
	Yaounde Emergency Center	0	2	2
East	Bertoua Regional Hospital	0	1	1
Littoral	Douala Laquintini Hospital	0	1	1
	Bonassama District Hospital	0	1	1
West	Bafoussam Regional Hospital	1	1	2
	Foumbot District Hospital	0	1	1
South West	Limbe Regional Hospital	2	0	2
South	Ebolowa Regional Hospital	2	0	2
	Sangmelima Reference Hospital	0	1	1
TOTAL		7	9	16

The participants were trained using the following modules:

- Overview of a DTC
- Understanding medicine use
- Situational analysis of DTCs in Cameroon
- Evaluation studies on medicine use
- Medicine use improvement strategies
- AMR
- AMS
- AWaRe classification
- AMS quality
- AMS interventions
- AMS action plan
- Organization of medicine use monitoring system at the health facility
- Notification of adverse drug effects

The next phase will consist of onsite training for members of DTCs in the above-mentioned health facilities, scheduled for April 2021.

ACTIVITIES FOR NEXT QUARTER

ACTIVITY	DESCRIPTION	DATES
Support the IPC and AMS TWG in organizing monthly coordination meetings	MTaPS will continue to support the organization of these routine meetings.	April 2021
Support the technical secretariat of the AMR-MSC in organizing quarterly coordination meetings	MTaPS plans to support the organization of this routine meeting to improve the governance of AMR activities.	April 2021
Support printing and dissemination of the national IPC guidelines	MTaPS will support the DPS in printing 500 copies of the IPC guidelines. MTaPS will thereafter support the DPS in organizing a three-day workshop to disseminate the guidelines.	April-June 2021
Support drafting of the national IPC action plan	MTaPS will support the DPS in hiring a consultant to draft a national IPC action plan, which will subsequently be finalized and validated in a workshop.	April-June 2021
Provide onsite training of DTC members in 12 health facilities	MTaPS will work with DPML to establish/strengthen DTCs in MTaPS-supported health facilities and will support DPML in developing tools to build the capacity of these DTCs.	April-June 2021
Supervise IPC committees and DTCs in health facilities	MTaPS will support the DPS and DPML in carrying out field supervision of IPC committees and DTCs in health facilities.	April-June 2021
Train national experts on AMR-related topics	MTaPS will support the AMR Technical Secretariat in training 15 national experts on AMR-related topics.	April-June 2021

CÔTE D'IVOIRE

RESULT AREA 1: EFFECTIVE MULTISECTORAL COORDINATION ON AMR

Activity 1.1.1: Support the AMR-TWG in reviewing plans and progress on implementing the NAP-AMR with a view to defining priorities for 2021-2025

MTaPS supported the AMR-TWG in organizing a three-day workshop of the AMR Secretariat-National Observatory on Microorganism Resistance (ORMICI) on March 17-19, 2021, in Jacqueville. The workshop, attended by 28 stakeholders from the human, animal, environmental, and agricultural sectors, helped the AMR-TWG hold the AMR Secretariat's quarterly coordination meeting, enabling the analysis and update of major risks for developing and transmitting AMR.

With the upcoming review of the NAP-AMR (2019-2020) and development of the new NAP-AMR 2021-2025, the AMR-TWG conducted a situational analysis to identify gaps and guide revision of the action plan for better management of risks related to AMR.

A group of seven experts from the human, animal, and environmental sectors conducted the analysis, and showed that resistance is a major public health threat in Côte d'Ivoire. The situational analysis particularly focused on resistance to antibiotics, which is a concern in the country. The group of experts listed: (1) bacteria most often identified as representing a major risk for the emergence of antibiotic resistance, (2) factors that promote resistance, (3) consequences and impact of resistance for human and animal health, and (4) risk management. The group recommended that initiating studies to collect data on the socioeconomic and epidemiological impacts of AMR would contribute to a greater understanding of the risks for AMR development and transmission.

As a next step, a workshop will be organized in May 2021 to revise the NAP-AMR, followed by a workshop to identify and map sustained funding for planned activities in the NAP-AMR.

Activity 1.1.2: Strengthening functionality of the MCC—organize effective coordination through regular meetings of the AMR-TWG

MTaPS supported the AMR-TWG in holding the following meetings on multisectoral coordination:

- A meeting between the MTaPS Côte d'Ivoire team and the AMR national focal point on February 5, 2021, to discuss multisectoral coordination activities: Highlights from the meeting included:
  - Preparation for the AMR Secretariat's coordination meeting to: (1) identify priorities for 2021, (2) finalize the AMR-TWG's annual report, (3) develop a roadmap for the AMR Secretariat, and (4) establish a schedule for the NAP-AMR's review
  - Meetings with the director of the Directorate of Pharmaceutical Activities (DPA) and the director of the National Institute of Public Hygiene (NIPH) to accelerate set up of an eLearning platform
  - Collaboration with FAO, WHO, Breakthrough Action, BioMérieux, and Pfizer to share implementation plans and identify areas of synergy for cost sharing and joint field visits for implementing AMR activities
- A meeting of the AMR Secretariat on February 15, 2021, with eight participants to develop TOR, set tentative dates, and select participants for the next meeting of the AMR Secretariat
- A meeting with the director of DPA and the AMR focal point on February 22, 2021, at the DPA to work on eLearning activities. The meeting focused on the governance of the AMR-TWG, MTaPS program's objectives, and collaboration between the three structures on eLearning activities
- A meeting with NIPH representatives on February 24, 2021, to introduce the MTaPS program and discuss launching the eLearning program and NIPH's technical offer

- An online coordination meeting of the IPC-TWG on February 26, 2021, with 13 participants from MTC 4; during the meeting, participants provided updates on implementing the activities planned for the first quarter of 2021 and discussed information relating to the Ebola outbreak.
- An online meeting of the AMS-TWG on February 26, 2021, with nine participants to review progress made on activity implementation. The following points were discussed:
    - Assessment of capacities and functionality of the DTCs in six human health facilities and two animal health facilities through joint visits
    - AWaRe categorization of antibiotics on the Essential Medicines List

RESULT AREA 2: INFECTION PREVENTION AND CONTROL

Activity 2.1.1: Support the AMR-TWG to assess the IPC program at the national and facility levels.

MTaPS supported the IPC-TWG (MTC 4) in organizing site visits at eight health facilities on January 11-16, 2021, to conduct a baseline IPC assessment using the WHO IPCAF. Four teams, each composed of three MTC 4 members (including one each from the human health, animal health, and environment sectors), conducted these assessments for two days per site. The scores obtained from the IPC baseline assessment using WHO IPCAF were:

- University Hospital (CHU) of Treichville: 507.5/800 (intermediate level)
- CHU of Angre: 572.5/800 (intermediate level)
- Clinic Grand Centre Yopougon: 580.5/800 (intermediate level)
- Polyclinique Internationale Sainte Anne Marie (PISAM): 660/800 (advanced level)
- Regional Hospital (CHR) of Abengourou: 452.5/800 (basic level)
- CHR of Daloa: 312.25/800 (basic level)
- CHR of Yamoussoukro: 590/800 (intermediate level)
- CHR of Aboisso: 380/800 (basic level)

The respective assessment teams presented the results of these evaluations to health workers in the presence of the health facility managers. The assessment results will inform the development of an action plan for each facility—to be evaluated using a participatory approach—to improve IPC practices.

Activity 2.5.1: Strengthen the functionality of IPC committees in the human health sector and the capacity of health care providers to implement IPC

The scores obtained from the assessments of the IPC committees were:

- CHU of Treichville: 61.5/100 (intermediate level)
- CHU of Angre: 59/100 (basic level)
- Clinic Grand Centre Yopougon: 51/100 (basic level)
- PISAM: 35/100 (inadequate level)
- CHR of Abengourou: 53/100 (basic level)
- CHR of Daloa: 42/100 (inadequate level)
- CHR of Yamoussoukro: 67/100 (intermediate level)
- CHR of Aboisso: 51.5/100 (basic level)

The results of these evaluations were presented to health workers in the presence of the health facility managers and will inform the development of an action plan for each facility to improve IPC practices.

MTaPS supported MTC 4 in organizing site visits at eight health facilities on February 15-20, 2021. The visits aimed to establish IPC committees in the eight facilities and to develop action plans based on the results of the evaluations conducted during the previous site visits. The visits were conducted by four

teams, composed each of two MTC 4 members (one member each from the human health and environment sectors). The visits consisted of two days per site.

Four IPC committees were established with memos developed by the head of the establishment. The members of the other four committees have been appointed, and the memos are being drawn up. IPC action plans were developed in each of the eight facilities by using a participatory approach with the members of the IPC committees, who were oriented on their roles and responsibilities and on IPC standard precautions. The IPC committee, through its president, received the IPC activities report template and the electronic versions of the WHO IPCAF tool and the tool for evaluating the functionality and capacity of IPC committees.

MTaPS supported the MTC 4 on March 23-25, 2021, and on March 29-31, 2021, in conducting onsite trainings of health workers (doctors, nurses, pharmacists, screening staff, etc.) on IPC at the CHUs of Treichville and Angre, PISAM, and the Clinic Grand Centre Yopougon. Four teams of IPC master trainers, each made up of three people from the MTC 4, visited the three targeted health facilities. The health care providers participated in 14 sessions related to IPC:

- Introduction to hygiene in the health care environment
- Health care associated infections: Prevention and surveillance
- Notions on detergents, antiseptics, and disinfectants
- Hand hygiene
- Treatment of reusable medical devices
- Maintenance of premises, furniture, and vehicles
- Management of sanitary waste
- Accidental exposure to blood and other biological products
- Control of disease vectors
- National Infection Prevention and Control Plan
- AMR
- WHO multimodal strategy for IPC
- Injection safety
- Standard precautions

Practical sessions and demonstrations were given to allow learners to consolidate the learning outcomes (hand hygiene, treating reusable medical devices, maintaining premises, managing sanitary waste, viewing IPC films). At the end of these workshops, 21 participants had been trained at the CHU of Angre, 20 at the CHU of Treichville, 15 at PISAM, and 15 at the Clinic Grand Centre Yopougon, for a total of 71 people trained on IPC.

RESULT AREA 3: USE OF ANTIMICROBIAL MEDICINES OPTIMIZED

Activity 3.1.3: Support the AMR-TWG in establishing SOPs and tools for monitoring antimicrobial use in humans and animals

A meeting took place at the DPA on March 16, 2021, to (1) start discussions on assessing surveillance of antimicrobial use, (2) look for information on the existing data collection platform at the DPA and the type of data already collected on a routine basis, and (3) discuss the methodology for assessing antimicrobial use surveillance. Three participants (two from DPA and one from MTaPS) attended this meeting and agreed to establish a multisectoral group of experts for the situational analysis. Routine data are collected using Logistic Management and Information System software named e-SIGL for national programs (National Program for the Fight Against Malaria and the National Program for the Fight Against HIV). However, data collection on antibiotic use was not requested, so those data were not systematically collected by health facilities.

As a next step, the DPA will analyze available data on antimicrobials, identify gaps, and organize a meeting to present the results of the analysis to the experts group. This activity will produce an assessment report, including information on monitoring antimicrobial use, which will help the country complete the missing requirements and inform decision making on the implementation of a national system to monitor antimicrobial use and consumption in the country.

Activity 3.5.1: Support the AMR-TWG in establishing a governance and oversight system for AMS in health facilities, including monitoring implementation of related policies, guidelines, and standards

MTaPS supported the AMR-TWG in evaluating the capacities and functionality of DTCs in six health facilities.

Joint visits were conducted from January 25 to March 15, 2021, at two university teaching hospitals, four regional hospitals, and two private clinics:

- CHR of Yamoussoukro (January 25-26, 2021)
- CHR of Daloa (January 28-29, 2021)
- CHR of Aboisso (February 8-9, 2021)
- CHR of Abengourou (February 11-12, 2021)
- CHU of Angre (February 18 and March 22, 2021)
- CHU of Trechville (March 1 and 15, 2021)
- PISAM (March 10-11, 2021)
- Clinic Grand Centre of Yopougon (March 10-11, 2021)

At the regional hospitals, teams composed of four people (two members of the AMR-TWG, a regional pharmacist, and one MTaPS representative) conducted the assessment in each hospital. Findings from the assessment showed that DTCs exist and meet regularly at each of the four regional hospitals. Areas for improvement are mainly related to the promotion of rational drug use, especially antimicrobials. AMS activities are not implemented at any of the hospitals.

The assessments in the CHUs and two clinics were conducted by teams of two members each. Findings from the assessment showed that there is no DTC in the four health facilities. At the CHU of Angre and the Clinic Grand Centre of Yopougon, the DTCs are not yet established, whereas the DTCs of the CHU of Treichville and PISAM have not been active for about 10 years. Plans were developed to help facilities set up, revitalize, and/or improve capacities of the DTCs. These plans will be monitored to ensure missing DTCs are established. As a next step, MTaPS will support the AMR-TWG to reinforce DTCs' capacity to implement AMS activities through competency-based training and tools for self-assessment, activity reporting, and antimicrobial use surveillance.

MTaPS used the joint visits as an opportunity to collect baseline data on pharmaceutical services for the MTaPS program in three randomly selected regional hospitals. The survey is related to the collection of data on indicator GH-IO 3: "Percentage of patients surveyed that know correct information about their (prescribed) antimicrobials".

Results show that among surveyed patients:

- At the Regional Hospital of Yamoussoukro, 94% knew the number of units of the drug per dose; 89% knew how often to take their medication.
- At the Regional Hospital of Daloa, 80% knew the number of units of the drug per dose; 88% knew how often to take their medication.
- At the Regional Hospital of Abengourou, 92% knew the number of units of the drug per dose; 92% knew how often to take their medication.

MTaPS also supported the AMR-TWG in evaluating the capacities and functionality of the unit responsible for managing veterinary medicines in the Antirabic Center of Cocody, on March 10-11, 2021. In this facility, the unit responsible for managing veterinary medicines has not yet been established.

The decision to establish those units was made by the Directorate of Veterinary Services following OIE guidelines, but this has not yet been implemented in the field. Monitoring of this activity will be done by both the AMS-TWG and the Directorate of Veterinary Services.

Activity 3.5.2: Support the AMR-TWG in strengthening capacities of pharmacists to implement stewardship activities in the private sector

A meeting took place on March 9, 2021, at the main office of the National Association of Pharmacists (NAOP) with five attendees (three from the executive board of NAOP, one from the AMS-TWG, and one from MTaPS). The meeting was chaired by the president of the NAOP. The aim of the meeting was to provide information on the AMR program to the association, discuss opportunities for collaboration between the association and the AMS-TWG, and discuss implementation of planned activities with private pharmacists in 2021. Highlights from the meeting included:

- The interest of the executive board in the fight against AMR and stewardship activities is needed in all sectors to combat resistance.
- The executive team noted that continuous education has become mandatory for pharmacists; 20 hours of continuing education are required each year for pharmacists. The association would like to collaborate with the AMR-TWG to strengthen the capacity of pharmacists in AMS and allocated four hours to the AMR-TWG to train the pharmacists (private and public) in 2021.
- The need for the AMS-TWG to develop TOR and training materials for awareness raising and capacity building through trainings on the rational use of antimicrobials (in-person and/or virtual trainings).

As a next step, a meeting is planned for April to review the draft TOR and plan for capacity building.

ACTIVITIES FOR NEXT QUARTER	
ACTIVITY AND DESCRIPTION	DATES (2021)
Support the AMR-TWG in drafting an updated version of the NAP-AMR 2021-2025 • Organize a five-day workshop to revise the NAP-AMR	May 10-14
Support the National AMR Secretariat in establishing and building capacity within the AMR, IPC, and AMS technical working sub-groups • One quarterly meeting of the AMR Secretariat • One meeting of the IPC-TWG • One meeting of the AMS-TWG	June 3 April 29 April 22
Support the AMR-TWG in identifying potential partners, including from the private sector, to fund the updated NAP-AMR • One day meeting of the AMR TWG	June 30
Organize competency-based trainings on IPC in the eight facilities • 4 3-day onsite training sessions, with 15 participants each, conducted in 4 regional health facilities by 2 IPC regional trainers and 1 IPC master trainer; if needed, MTaPS will provide virtual support	April-May 2021
Conduct quarterly supervision of IPC committee members in the 12 selected intervention facilities/hospitals (4 from FY2019 and FY2020 and 8 from FY2021) during 2 days at each site • Site visits in 12 health facilities to conduct supervision of IPC committee members	June 2021
Support the AMR-TWG in improving the national EML by using WHO antibiotic AWaRe categorization • Hold a preliminary, one-day stakeholders' meeting attended by National Therapeutic Commission (NTC) members, Ivorian Pharmaceutical Regulatory Authority (IPRA), and DPA to review and validate protocol for data collection • Hold a preliminary, one-day stakeholders' meeting attended by NTC members, IPRA, and DPA, to review and validate the report of expert group 1 • Through DPA, organize a three-day workshop to categorize antimicrobials	April 8 April 20 June 16-18
Conduct a national-level assessment of systems to monitor antimicrobial use by using a multisectoral approach • Hold two one-day stakeholders' meetings attended by IPRA and DPA to conduct the assessment and draft the report • Organize a two-day workshop to review and validate the assessment report drafted by the group of experts	April 13, April 27 June 29-30
Conduct joint site visits to assess the existence and functionality of DTCs • Organize four onsite competency-based trainings for DTC members in four regional hospitals (Yamoussoukro, Daloa, Aboisso, and Abengourou) • Organize onsite competency-based trainings for DTC members in two university teaching hospitals and two private clinics (CHU Treichville, Angre, PISAM, and Grand Centre)	May 3-6 June 4
Support the AMR-TWG in building capacity and raising awareness among pharmacists on AMS • Organize a one-day training in collaboration with the NAOP Board to train pharmacists on AMS	May 26

DEMOCRATIC REPUBLIC OF CONGO

GLOBAL HEALTH SECURITY AGENDA ACTIVITIES

RESULT AREA 1: EFFECTIVE MULTISECTORAL COORDINATION ON AMR

Activity 1.1.1: Provide technical and logistical support to the NC-AMR for effective monitoring and planning of AMR interventions

From March 30-31, MTaPS, in collaboration with WHO, supported the National Commission on Antimicrobial Resistance (NC-AMR) in holding a two-day multisectoral coordination meeting; 50 people from the Ministries of Health, Agriculture, Fishing and Livestock, and Environment attended the meeting.

During the meeting, progress on implementing the NC-AMR's action plan was assessed, the reports of sub-committees (AMS and IPC) meetings were discussed, the WHO benchmark capacity level and related actions were reviewed, and the calendar for planned activities was discussed.

Regarding the animal sector's engagement and efforts to combat AMR, meeting participants agreed to assess IPC practices in both the human and animal sectors by using the WHO's Infection Prevention and Control Assessment Framework (IPCAF) tool. MTaPS will work with the General Directorate for Health Services Organization and Management (DGOGSS) and the Direction de la Pharmacie et du Médicament (DPM) to administer the IPCAF in three selected human health and three selected animal/veterinary facilities to provide a baseline for IPC interventions in both sectors. The assessment is expected to be completed by the end of April 2021 under the leadership of the DGOGSS.

Activity 1.2.1: Support the AMS and IPC TWGs (subcommittees) of the NC-AMR in coordinating AMR interventions at the national, provincial, and facility levels

In February 2021, MTaPS, in collaboration with WHO, supported the NC-AMR to hold the first thematic subcommittee meetings. As planned, the two MTaPS-supported subcommittees (rational use of medicines and IPC) held their two-day meetings from February 16-17 and February 18-19, respectively.

During each of these meetings, the participants:

- Discussed progress implementing the respective subcommittees' action plans
- Conducted a stocktaking of WHO benchmark capacity-level actions and assessed progress on implementing those actions
- Assessed the readiness for the next meeting of the NC-AMR

The meetings involved 24 participants, with representatives from the Ministries of Health, Agriculture, Fishing and Livestock, and Environment.

Evaluation of the progress of the action plan's implementation revealed that, out of the 30 planned activities for AMS, 2 activities (6%) have been completed, 11 (35%) are in progress, and 17 (55%) have not yet been started. Of the 14 planned IPC activities, 2 have been completed, 9 are still underway, and 3 have not yet been started.

RESULT AREA 2: INFECTION PREVENTION AND CONTROL

Activity 2.1.1: Support the NC-AMR in conducting a rapid assessment of IPC practices, including the implementation of guidelines and regulations in both the animal and human health sectors

In February 2021, MTaPS collaborated with DGOGSS to start the assessment by using the IPCAF tool in three MTaPS-supported health facilities (Hôpital Monkole, Hôpital Saint Joseph, and Cliniques Universitaires de Kinshasa). After further discussion, it was agreed that the assessment should cover both the human and animal sectors. It was also agreed that MTaPS should coordinate with FAO to ensure good collaboration. To this end, a meeting between MTaPS and FAO is scheduled for the beginning of April 2021, and the assessment in the animal sector is scheduled to start in mid-April 2021.

RESULT AREA 3: USE OF ANTIMICROBIAL MEDICINES OPTIMIZED

Activity 3.5.1: Establish/strengthen DTCs to oversee the implementation of AMS interventions and conduct stewardship practices at designated health care facilities

During this quarter, MTaPS, along with WHO and the DRC Pharmacovigilance Center (CNPV), discussed ways to collaborate during this project year to support the scale-up and strengthening of the previously established DTCs. A two-day retreat was organized in February 2021, bringing together DTC members from the three MTaPS-supported health facilities (Hôpital Monkole, Hôpital Saint Joseph, and Cliniques Universitaires de Kinshasa) and one WHO-supported facility (Hôpital Kisantu) to share their experiences, including challenges and lessons learned, to ensure that the DTCs are functioning in their respective health institutions.

Between March 5 and 19, 2021, MTaPS, in collaboration with the CNPV, established four additional DTCs in two health institutions in Nord Kivu province (Heal Africa and Kyeshero Hospitals) and in two health institutions in Ituri province (Provincial General Hospital of Bunia and Nyankunde hospital).

The DTC establishment process consisted of a baseline study to assess the extent to which medicines are utilized in the health institutions before AMS interventions. It also included the nomination and training of approximately 80 DTC members. At the end of the training, each DTC developed a 12-month action plan, including a continuous quality improvement plan.

ACTIVITIES FOR NEXT QUARTER

ACTIVITY AND DESCRIPTION	DATE
Provide technical and logistical support to the NC-AMR to effectively monitor and plan AMR interventions	April 2021
Support the NC-AMR in conducting a rapid assessment of IPC practices, including implementation of guidelines and regulations in both the animal and human health sectors	April 2021
Conduct field support supervision to assess implementation of DTC activities in the seven MTaPS-supported facilities where DTCs have been established	April 2021

MATERNAL, NEWBORN, AND CHILD HEALTH ACTIVITIES

OBJECTIVE 1: PHARMACEUTICAL SECTOR GOVERNANCE STRENGTHENED

Activity 1.1.2. Improve the functioning of provincial TWGs on medicines in Nord Kivu and Ituri

To improve coordination among partners in Nord Kivu and Ituri and as a first step to strengthen DPS' (Division Provinciale de la Santé) capacity to better steward the pharmaceutical system at the provincial level, MTaPS supported DPS in conducting provincial technical working group (TWG) meetings in Nord Kivu and Ituri on February 3 and 23, respectively. In Nord Kivu, 25 participants attended the meeting, and in Ituri, 31 participants attended.

These meetings included:

- Review and validation of the provincial forecast results and the 2020 annual supply report
- Updating the medicines' distribution calendar
- Validation of medicine stock status
- Analysis and validation of quarterly orders from health zones (HZs)
- Analysis of LMIS data by participants

Activity 1.3.1. Enhance the role of comités de développement de l'aire sanitaire (CODESAs) and cellules d'animation communautaire (CACs) in medical product management at the health center and community levels

As a first step to increase engagement of communities and civil society groups in managing medical products and increase their capacity to participate effectively in oversight and other activities, such as transportation and distribution of medicines, MTaPS worked with DPS in Nord Kivu and Ituri provinces to organize a one-day training in each HZ March 10-16. This training aimed to engage community members (CODESAs) in overseeing medicines management. Participants included members of the CODESAs from five HZs in each province.

The training was an opportunity to clarify the roles and responsibilities of CODESAs in medical product management. To this end, MTaPS also supported development of a summary module, which has been approved by the DPS. In total, 178 community members were briefed in Ituri, and 80 have been briefed so far in Nord Kivu (172 community members are expected to be briefed in Nord Kivu by early April). The terms of reference on CODESA responsibilities were also drafted, as well as a post-training plan to engage CODESAs in medicine management.

The next step will include organizing a one-day quarterly meeting for community members/ organizations (RECOs, CODESA, CAC, including civil society organizations as appropriate). These meetings will provide opportunities for community members to discuss issues pertaining to transportation and distribution of medicines, findings from taking inventory, and any other issues related to medicine management.

OBJECTIVE 2: INSTITUTIONAL AND HUMAN RESOURCE CAPACITY FOR PHARMACEUTICAL MANAGEMENT AND SERVICES INCREASED, INCLUDING REGULATION OF MEDICAL PRODUCTS

Activity 2.4.1. Assist DPS, inspectors, and customs officers in accessing and using the updated list of registered medical products for inspections and import control

During the previous quarter, MTaPS supported dissemination of the Directory of Registered Medicines in Nord Kivu and Ituri provinces to facilitate identification and confiscation of unregistered medical products that may compromise treatment outcomes or even harm patients.

On March 15-17, with MTaPS' support, pharmacist inspectors conducted field visits to three pharmaceutical wholesale companies in Ituri to ensure that imported products are registered and authorized in the DRC. The companies visited include the CDR CADIMEBU, Shalina, and Moon Pharma warehouses. These inspection visits consisted of identifying:

- Unregistered medical products that are being imported by local companies
- Products with marketing authorization (MA) expiring in the next six months and alerting the wholesalers to renew their registration

Key findings include:

- 150 products, including some HIV, TB, and malaria products procured by the Global Fund, do not have MAs
- MAs granted in 2021 are not yet included in the directory

Based on these findings, the following actions were taken by the Provincial Health Inspectorate (IPS):

- Three wholesalers visited in Bunia (CDR CADIMEBU, Shalina, and Moon Pharma) were requested to renew the registration for all products with an MA expiring in the next six months.
- All products without MAs have been provisionally withdrawn from the companies' warehouses in Bunia until the new MAs are issued.

The next steps will include raising awareness among implementing partners and helping them select only registered and authorized products, as well as supporting DPM in updating and disseminating a more recent Directory of Registered Medicines.

OBJECTIVE 5: PHARMACEUTICAL SERVICES, INCLUDING PRODUCT AVAILABILITY AND PATIENT-CENTERED CARE TO ACHIEVE DESIRED HEALTH OUTCOMES, IMPROVED

Activity 5.1.1: Assist DPS with establishing and increasing the technical capacity of provincial medicine quantification committees

To address quantification weaknesses at the provincial and HZ levels in Nord Kivu and Ituri, MTaPS continued supporting the DPS in finalizing the provincial forecasts for HIV, malaria, TB, family planning, and MNCH commodities that were developed after the quantification training workshop in December 2020. To date, the final forecasts are available and have been validated by the TWGs in provinces. The gap analysis has also been completed at the national level, in collaboration with the National Supply Program (PNAM), the USAID/Global Health Supply Chain-Technical Assistance (GHSC-TA) Project, Global Fund, and other MOH-specific programs.

MTaPS also submitted the TOR for the Provincial Quantification Committees to the MTaPS regional and home office teams for review, which has now been completed.

The supply planning process is underway in collaboration with PNAM, USAID/GHSC-TA, and the Global Fund.

ACTIVITIES FOR NEXT QUARTER

ACTIVITY AND DESCRIPTION	DATE
Conduct joint field support supervision visits with HZs and DPS to monitor logistics data collection and reporting activities at health centers; coach staff as needed; and work with them to take appropriate action to address issues	April 2021
Support DPS in conducting provincial TWG and sub-group meetings in Nord Kivu and Ituri	April 2021
Advocate that new maternal health medicines for managing postpartum hemorrhage be considered and evaluated as part of the review of treatment guidelines	May 2021
Support DPM in updating and disseminating a more recent Directory of Registered Medicines	June 2021

JORDAN

For progress on MTaPS/Jordan's COVID-19 activities, click here.

OBJECTIVE 1: STRENGTHEN PHARMACEUTICAL-SECTOR GOVERNANCE

During this quarter, MTaPS initiated technical support to the National Vaccine Procurement Modernization Committee (NVPMC) based on the five points defined by USAID in the Conditions Precedent (CP) submitted to the Government of Jordan to ensure continuation of the efforts to improve efficacy and effectiveness in vaccine planning and procurement. The five action points included in the CP were as follows:

To institutionalize vaccine procurement best practices:

- Amend the new government procurement bylaw to extend the maximum limit of the framework agreement to from two years to three years, to be completed by the Ministry of Health (MOH), Ministry of Finance (MF), and Government Procurement Department (GPD)
- Institutionalize partial prepayment for vaccines through activation of Government Procurement Bylaw, article 93, with further amendment to allow additional prepayment for vaccines, to be completed by the MOH, MF, and GPD
- Modify the principles of drug registration to include pricing of vaccines to provide a reference for their costs, to be completed by the Jordan Food and Drug Administration (JFDA)
- Add an article in the new government procurement bylaw or in its instructions permitting the development of exceptional provisions to deal with the procurement of pharmaceuticals, especially vaccines, under instructions permitting negotiations to take place, to be completed by MOH, Ministry of Industry and Trade, and GPD

To facilitate market entry and increasing competitiveness:

- Amend JFDA bylaws to ensure that World Health Organization prequalified registered vaccines are accepted for fast-track registration, regardless of their registration status in reference countries, such as the US or the European Medical Agency, to be completed by the JFDA

MTaPS recruited two consultants, a legal expert and a procurement and regulatory expert, and a senior technical advisor who will lead these activities to ensure adequate implementation and timely completion of deliverables.

MTaPS coordinated with the MOH and stakeholders to resume meetings of the NVPMC in February 2021. The first meeting was attended virtually by representatives of all entities that are members of the committee. The meeting was aimed to orient committee members on the CP and terms of reference (TOR); confirm/update the committee's priority operational plan, which includes five actions, executing partners, deliverables, and due dates; and discuss the secretariat and technical roles of MTaPS. The committee agreed that a new implementation plan will be issued with the five priority activities to be completed by September 2021; the need to follow up with the GPD and the Legislation and Opinion Bureau regarding any proposed amendments to the government procurement bylaw; and the need arrange specific meetings with relevant authorities, particularly the GPD and JFDA.

Based on the agreed action points from the committee meeting, MTaPS conducted several one-on-one meetings with MOH directorates, including communicable disease, finance and administration, and the project management. MTaPS agreed with the MOH to develop a brief legal summary to explain the needed legislative reforms on the new procurement bylaw to be discussed with GPD management and sent to the Legislation and Opinion Bureau to be considered while revising the procurement bylaw.

As part of the intervention to expedite the registration process for vaccines in general and for the WHO prequalified vaccines in particular requested in the NVPMC operation plan, MTaPS started developing a report to discuss the legal mechanisms available to expedite the registration of vaccines. The report will be finalized in April 2021 and will cover WHO prequalified vaccines, tools used worldwide to accelerate registration of drugs and vaccines, process of registration of medicine and vaccines in Jordan, JFDA regulatory pathways that accelerate and fast-track registration procedures, vaccine pricing, drug security as the most important justification for expediting registration procedures, and legal mechanisms for amending the legislation related to the vaccines registration process.

As a continuation of the one-on-one meetings with the main stakeholders involved in the NVPMC operation plan implementation, MTaPS will be holding a meeting with the JFDA director in April to discuss the two interventions related to JFDA legislation reforms that are fast tracking the WHO prequalified vaccines registration and vaccines pricing.

In separate meetings, MTaPS discussed with the director of the MOH Finance and Administration Directorate and the GPD director and his team the three points that needed to be modified in the procurement bylaw to achieve what the CP identified as main interventions in this area—institutionalize the prepayment practice for vaccine procurement (activating article 93 in the procurement bylaw); extend the framework agreement from two to three years (modifying articles 57 and 58 in the procurement bylaw); and add an article in the new government procurement bylaw or in its instructions permitting the development of exceptional provisions to deal with the procurement of pharmaceuticals, especially vaccines, under instructions permitting negotiations to take place. There was general agreement among the parties on the importance of these points. For the prepayment, all parties agreed that it is reflected in the procurement bylaw and can be activated whenever the buyer needs it. MTaPS agreed with the GPD to arrange a meeting between them and MOH to find the best mechanism to institutionalize this practice. With regard to the framework agreement, the GPD, with the assistance from MTaPS, will send to the Legislation and Opinion Bureau the needed article to be adopted to extend the framework agreement to five years rather than to three as originally suggested. The point regarding an article that allows negotiation is still under discussion as the GPD mentioned that the World Bank was not in favor of adding this article to the procurement bylaw, so USAID with MTaPS' assistance will discuss this issue with the World Bank to find the best solution to serve this purpose.

OBJECTIVE 2: INCREASE THE INSTITUTION'S CAPACITY TO MANAGE PHARMACEUTICALS AND SERVICES, INCLUDING REGULATION OF MEDICAL PRODUCTS

MTaPS discussed with the MOH epidemiology manager the proposed activities to support the Government of Jordan on the COVID-19 vaccines introduction. The feedback was positive to move forward with most of the proposed activities. As next steps, it was agreed to arrange a meeting with the MOH secretary general assistant for primary health care and the communicable disease directorate manager to discuss in more detail the actionable steps to move forward in implementing the agreed upon activities. This meeting is planned for April 2021.

OBJECTIVE 3: OPTIMIZE PHARMACEUTICAL-SECTOR FINANCING, RESOURCE ALLOCATION, AND USE

MTaPS will conduct a comprehensive analysis on the most appropriate funding modality to facilitate timely and sustainable financing for vaccines (one of these modalities will be the commercial account for the vaccination program). A holistic analysis report will be produced with clear recommendations on the best modality for the Jordanian context.

OBJECTIVE 4: IMPROVE PHARMACEUTICAL SERVICES, INCLUDING PRODUCT AVAILABILITY AND PATIENT-CENTERED CARE, TO ACHIEVE DESIRED HEALTH OUTCOMES

MTaPS, in close coordination with the central AMS technical working group (TWG), started rolling out the national AMS implementation program by visiting six of the seven targeted hospitals and holding meetings with the AMS committees and the hospitals' administration. All targeted hospitals reported having established an active AMS committee according to the new TOR and a new AMR team and have been writing their goals for this year's AMS action plan according to the SWOT analysis previously conducted.

The central AMS committee held its 20th TWG meeting on March 30, which was the first meeting since the beginning of 2020. For the AMS work, the central AMS committee is the second example of multisector coordination after the steering committee for implementation of the AMR national action plan. MTaPS provided support in preparing the agenda and prioritizing discussion points and will participate in the meeting as a committee member to provide technical support and guidance. The meeting was attended by the MOH secretary general for infectious diseases and pandemics affairs and the deputy secretary general for technical and administrative affairs. Achievements in AMS work were presented and reviewed, and all committee members expressed their support and praised the excellent work and milestones achieved so far. Two technical guidelines were discussed and received preliminary approval, but the committee decided they will not be fully approved and disseminated until they had been reviewed by an adult infectious disease specialist. The committee noted that the approved COVID-19 guidelines need additional review. The committee will contact the epidemiological committee to clarify some aspects regarding the treatment of secondary infections in COVID-19 patients, and supply issues regarding some antibiotics will be addressed with the Procurement and Supply Management Directorate. Regarding dispensing restrictions on intravenous antibiotics from community pharmacies, it was discussed and found to be nonapplicable as JFDA and Jordan Pharmacists Association representatives denied such recommendations.

As a transition from the MTaPS support to national COVID-19 efforts, which ended this quarter, MTaPS was requested to assist in improving IPC conditions at the recently established COVID-19 field hospitals in a more comprehensive manner, such as expanded training contents, monitoring/mentoring follow-up visits, and on-the-job training. After discussions with the MOH Nursing Department, which is in charge of managing IPC in the new hospitals, it was agreed to train IPC officers (mostly nurses) at each of the four hospitals. A draft plan of the training material was plotted, contracts of the MTaPS IPC consultants were extended, and MTaPS continued discussions with MOH officials to finalize the training plan and learning modules. This approach to support the strengthening of IPC conditions at MOH hospitals was prioritized over the continuous quality improvement approach (CQI) initially proposed in the PY3 work plan as a result of the emergency nature of the epidemiological situation still facing the country and in close coordination and alignment with MOH priorities and support requirements. CQI activities will be put on hold until the situation and priorities at the MOH are appropriate to resume.

ACTIVITIES FOR NEXT QUARTER

ACTIVITY AND DESCRIPTION	DATE
Continue holding meetings and follow up with key stakeholders, including the JFDA, to discuss critical aspects of the CP for vaccine procurement modernization	April–June
Develop a short legal summary to explain the needed legislative reforms on the new procurement bylaw	April–May
Finalize the report to discuss the legal mechanisms available to expedite the registration of vaccines	April
Organize the second meeting of the NVPMC in coordination with the MOH	April–May
Hold a meeting with the MOH secretary general to endorse COVID-19 vaccine introduction activities and priority setting	April
Continue supporting the targeted hospitals, provide training, and collect key performance indicators	April–June
Finalize the training material for field hospitals and start training and support	April–June

KENYA

RESULT AREA 1: EFFECTIVE MULTISECTORAL COORDINATION ON ANTIMICROBIAL RESISTANCE

Activity 1.1.1: Continue strengthening the National Antimicrobial Stewardship Interagency Committee's capacity for coordination, policy direction, and M&E of the national AMR plan

MTaPS, in collaboration with the Ministry of Health's (MOH) national AMR secretariat, finalized the monitoring and evaluation (M&E) framework for the antimicrobial resistance (AMR) national action plan (NAP). Implementation of the M&E framework at national and county levels is set to commence in Q3 of Y3.

MTaPS participated in the National Antimicrobial Stewardship Interagency Committee's (NASIC) AMS technical working group's (TWG) quarterly meeting to review progress of its annual work plan.

The NASIC calendar of meetings has not been updated. The infection prevention and control (IPC) and AMS TWG meeting dates are as follows:

- IPC TWG – quarterly (dates are as agreed by the team)
- AMS TWG – second Thursday of the first month of each quarter

MTaPS held meetings with top county health officials in Kilifi and Kisumu counties on February 10 and 25, 2021, respectively, where discussions on establishing County Antimicrobial Stewardship Interagency Committees (CASICs) began. Formal appointments and inauguration of the CASICS are planned to take place in Q3 of Y3. Murang'a CASIC was established and inaugurated in 2019. Preparations have begun to hold a two-day workshop to sensitize its members on its mandate using the CASIC orientation package and to assist in finalizing its two-year work plan. The workshop will be held April 12-14, 2021.

MTaPS, in collaboration with the MOH, disseminated core AMR containment documents, namely the National Antimicrobial Stewardship Guidelines for Healthcare Settings and the Kenya Essential Medicines List (KEML) in Nyeri County. This virtual event took place on January 14, 2021, and was graced by Dr. Rachel Kamau, County Executive Committee Member, Health (County Minister for Health) and County Director for Health. Participants received soft copies of the documents via e-mail and WhatsApp while the eight MTaPS-supported health care facilities received hard copies.

RESULT AREA 2: INFECTION PREVENTION AND CONTROL

Activity 2.1.1: Continue strengthening governance for IPC at the national, county, and facility levels

MTaPS, in collaboration with the Division of National Patient and Healthcare Worker Safety within the MOH, participated in the National IPC TWG meeting held February 24, 2021. The TWG that embraces the One Health approach saw IPC implementing partners in attendance, including WHO, Centers for Disease Prevention and Control (CDC), among others.

MTaPS held three meetings with the county minister for health in Kisumu county and chief executive officer (CEO) at Jaramogi Oginga Odinga Teaching and Referral Hospital (JOOTRH), an MTaPS-supported health facility, for containment of AMR on February 11, 2021. These meetings were held concurrently with trainings on health care-associated infections (HAIs) in support of IPC and promoting good AMS practices in Kisumu County which were held February 9-11, 2021. Further, the program also met with the IPC and AMS focal contacts at the county and facility levels to strengthen collaborations and to foster a defined and common purpose geared toward streamlining AMS/IPC governance and coordinating structures at the county and facility levels.

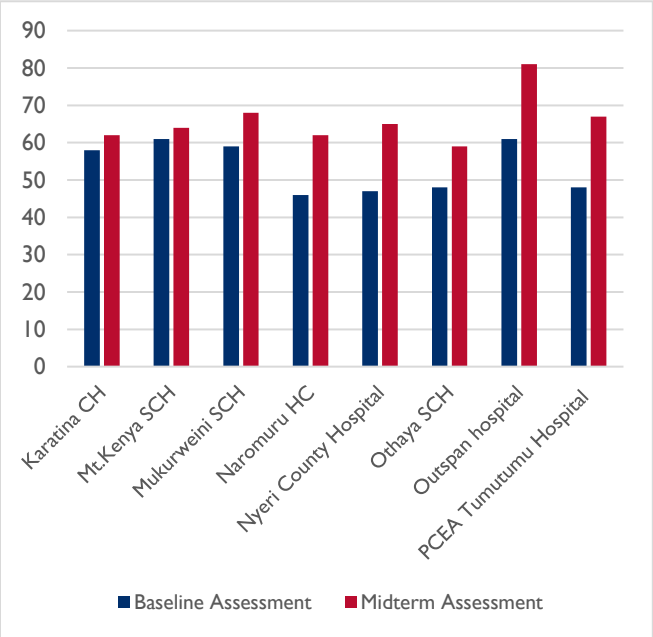
In addition, MTaPS coordinated and provided technical assistance during the meeting to validate the national IPC curriculum held February 10, 2021, attended by 32 members representing counties, implementing partners, the TB program, among others. The national curriculum will provide the principles and content necessary to standardize in-service IPC trainings for health care workers (HCWs) across different levels of health care delivery. It will also set an outline and reference point for learning institutions to identify IPC components relevant for preservice training of students.

Activity 2.2.1: Provide technical assistance to implement a continuing professional development- and relicensure-linked in-service IPC training course for delivery through the relevant professional associations.

MTaPS, in collaboration with the IPC Continuing Professional Development (CPD) Education Committee, held a one-day IPC meeting on March 16, 2021, with 17 members of 5 professional associations (Kenya Society of Physiotherapists, National Nurses Association of Kenya, Kenya Medical Association, Association of Kenya Medical Laboratory Scientific Officers, and Kenya Pharmaceutical Association) in attendance as well as one regulatory body (Nursing Council of Kenya). The team discussed the status of the IPC CPD training course, lessons learned, and areas of improvement. Further, the team discussed strategies to facilitate implementing sustainable IPC interventions among professional association members across all levels of health care.

Activity 2.5.1: Support county-, sub-county-, and facility-level IPC/OSH/WASH activities

MTaPS, in collaboration with Nyeri County Health Department, conducted an IPC midterm assessment in Nyeri County on January 18-22, 2021, targeting eight MTaPS-supported facilities and the IPC program at the county level (figure 14 and 15).



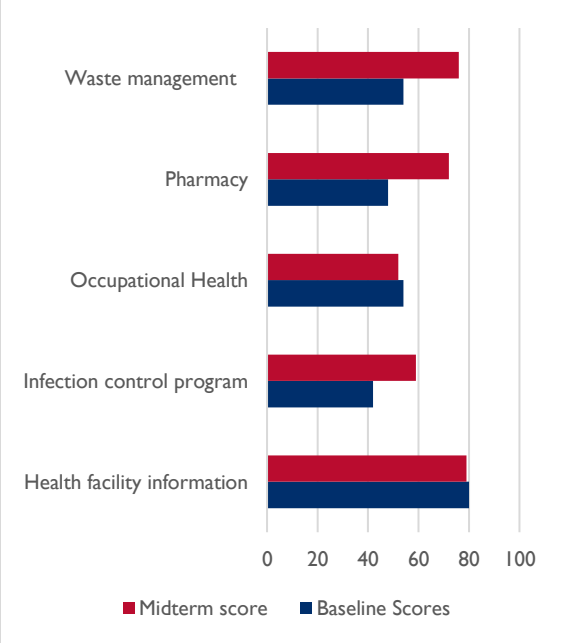


Figure 14 (left) IPC baseline and midterm assessment and Figure 15 (right) progress on IPC continuous quality improvement (CQI) mean scores per module, both in Nyeri County

MTaPS, in collaboration with the Nyeri County Health Department, supported training of 20 HCWs (2 males, 18 females) from 8 MTaPS-supported facilities on surgical site infections. The goal was to build the capacity of county- and facility-level IPC teams on care bundles and strategies for management of HAIs and to collect, analyze, and interpret data, which is essential for planning, implementing, and evaluating health practices.

MTaPS supported and provided technical assistance during CQI training in surgical site infections for 21 HCWs (10 males, 11 females) drawn from 8 MTaPS-supported facilities and county IPC champions in Kisumu County. The training aimed at building the capacity of the team (nurses, clinicians, pharmacists, and laboratory officers) at county and facility levels on care bundles and strategies to prevent HAIs and to further collect, analyze, and interpret data, which is essential for planning, implementing, and evaluating health practices. The training was held February 9-12, 2021.

MTaPS facilitator taking the participants through a practical data entry session during the CQI training on SSI in Kisumu county (Photo credit: Doris Bota/USAID MTaPS).

MTaPS, in collaboration with the Kilifi County Health Department, conducted a baseline assessment to support containing AMR in Kilifi County at two hospitals on February 24-25, 2021, focusing on IPC and AMS. Also, MTaPS, in collaboration with the Murang'a County Health Department, conducted a baseline assessment to support containing AMR in Murang'a County at two hospitals on February 16-18, 2021, focusing on IPC. Meetings were held to share the findings with the management teams at the four hospitals, including the medical superintendents and the county directors for health. The findings will help the program target areas of support and provide a reference starting point for measuring progress after instituting IPC and AMS interventions.

Furthermore, MTaPS, in collaboration with Murang'a and Kilifi County Health Departments and represented by the county IPC and AMS focal contacts, disseminated national IPC guidelines, posters, and the national AMR communique to MTaPS facilities in the counties to enhance compliance with IPC and AMS standards at the relevant points of care. Four different types of IPC posters were distributed, including Your 5 Moments of Hand Hygiene, techniques for hand washing and using alcohol-based hand rub, and steps for donning personal protective equipment, among others. MTaPS, in

(Left) During dissemination of the IPC guidelines and posters and (Right) HCWs filling questionnaires during baseline assessment, both at Murang'a County Hospital (Photo credit: Doris Bota/USAID MTaPS).

collaboration with the Murang'a County Department of Health, supported a 5-day IPC training on March 8-12, 2021, for 21 officers (9 males, 12 females), including pharmacists, clinicians, nurses, laboratory officers, and others. In Kilifi, MTaPS, in collaboration with the Murang'a County Health Department, supported a 5-day IPC training of trainers (TOT) on March 22-26, 2021, for 15 officers (9 females, 6 males), including pharmacists, clinicians, nurses, laboratory officers, and others drawn from 6 health care facilities. The aim of the trainings was to build the capacity of the workforce to prevent HAIs and to institutionalize IPC programs, an important component of containing AMR.

MTaPS participated in and moderated an IPC stakeholder meeting organized by the Infection Prevention Network Kenya on January 29, 2021. The meeting, attended by more than 100 IPC implementing partners and representatives from the MOH and health facilities, used a hybrid of face-to-face and virtual platforms.

During a three-day workshop held from January 28 to February 3, 2021, MTaPS participated in the development of a hospital epidemiology and IPC curriculum, which will be implemented by the MOH, in collaboration with Kenyatta University with funding from CDC, to train experts at the national and county levels in IPC competencies during a two-year master's degree program.

RESULT AREA 3: USE OF ANTIMICROBIAL MEDICINES OPTIMIZED

Activity 3.1.1: Strengthen national and county AMS governance structures

During NASIC AMS TWG's quarterly meeting held on February 4, 2021, it was agreed that a two-day workshop would be held on March 30-31, 2021, to validate and finalize the draft national AMS training curriculum and tools. The training curriculum will be used to develop the capacity of HCWs countrywide on establishing AMS programs in health care settings. NASIC's AMS TWG quarterly meeting reviewed the progress of its annual work plan. MTaPS gave an update on the activities it is supporting, which are:

- Disseminating national AMS guidelines to health care staff and health facilities in MTaPS-supported counties (Kilifi, Kisumu, Murang'a, and Nairobi)
- Developing a national training curriculum for AMS programs in health care settings
- Establishing AMS programs in hospitals in the four MTaPS-supported counties

MTaPS held meetings with top county health officials in Kilifi and Kisumu Counties on February 10 and 25, 2021, respectively, where discussions on establishing CASICs and AMS TWGs were held. Formal appointments with terms of reference and inauguration of CASICs are planned for in Q3 of Y3. The Murang'a CASIC was inaugurated in 2019; preparations have begun for a two-day workshop to sensitize its members on its mandate, establish an AMS TWG, and assist it in finalizing its two-year work plan. The workshop will be held April 12-14, 2021.

MTaPS held a meeting with the AMS focal person for Nyeri County on March 18, 2021, to discuss priority activities to be implemented in Q3. Some of the activities proposed were sensitizing county officials (non-health) on AMR/AMS, radio talks on AMR/AMS in local dialects, implementing strategies to increase availability of antimicrobials in health care facilities, and developing an AMR bulletin. The focal persons representing the four strategic objectives of the CASIC work plan met in February 2021 to review progress in implementing the workplan.

Activity 3.1.2: Support national Medicines and Therapeutics Committees (MTC) in institutionalizing and implementing access, watch, and reserve categorization of antibiotics

MTaPS, in collaboration with the Pharmacy and Poisons Board (PPB), developed two regulatory guidance documents targeting the public and HCWs on appropriate use of antimicrobials, including the access, watch, and reserve (AWaRe) categorization of antibiotics as a key strategy to optimize prescribing antibiotics. The two documents were approved by the PPB's CEO and are being published in one local

daily newspaper and on social media. Press releases will come out in April 2021. MTaPS, in collaboration with PPB, held a series of meetings and workshops to develop the national scheduling guidelines and lists for health products and technologies in Kenya. The new schedules of medicines incorporate AWaRe categorization to promote optimal prescribing and contain AMR.

MTaPS is collaborating with the National Medicines and Therapeutics Committee to develop a national medicines formulary (NMF) that incorporates the AWaRe categorization of antibiotics. The AWaRe categories underscore the importance of their optimal use and potential for AMR. The NMF TWG has officially been appointed by the director general, MOH, and a consultant has been recruited to oversee the process (work will commence in April 2021).

Nyeri County has a costed AMS TWG work plan and implementation of same is underway.

Activity 3.2.1: Develop health care human resource capacity to manage AMS through pre- and in-service trainings

MTaPS held two meetings with University of Nairobi, School of Pharmacy representatives to plan the official launch of the pre-service AMS curriculum scheduled for April 2021. The AMS pre-service curriculum was developed with technical and financial support from MTaPS. Implementation of the curriculum will commence in April with postgraduate pharmacy students, followed by undergraduate students, as advised by the School of Pharmacy representatives.

Activity 3.5.1: Support county, sub-county, and facility-level AMS activities

MTaPS, in collaboration with the Kilifi County Health Department, conducted a baseline assessment of the county's AMS and IPC activities on February 24-25 to support containment of AMR. The assessment was conducted at Kilifi County Referral Hospital and Malindi Sub-County Hospital. Meetings were held at health facility and county levels to share preliminary findings of the assessment with hospital and county health management teams, including county health directors. During the hospital visits to conduct the assessment, MTaPS distributed the National AMS Guidelines for Healthcare Settings, National AMR Communique, National IPC Guidelines, and IPC posters. These documents are aimed at enhancing compliance with AMS and IPC standards at the relevant points of care.

MTaPS, in collaboration with the Kisumu County Department for Health and Sanitation, held a training for HCWs from target health care facilities on AMS and MTCs on February 8-9, 2021. This was part 3 and the final phase of the trainings to develop the capacity of AMS and MTC teams. Previous trainings were held in October 2019 and July 2020. At the end of the training, participants updated their work plans to incorporate lessons learned, largely focusing on reducing inappropriate use of specific antibiotics in their health care facilities, medication safety, and pharmacovigilance. The training was attended by 30 participants (19 female and 11 male).

On February 10, 2021, MTaPS paid a courtesy call to the county executive committee member (CECM) for health in Kisumu County. The CECM appreciated the support MTaPS was providing in the county, and MTaPS committed to continue collaborations with the county in efforts to strengthen its health systems. On February 11, 2021, MTaPS held meetings with the CEO of JOOTRH and AMS and IPC focal persons at the county and facility levels with the aim of strengthening existing collaborations and to foster a defined, common purpose geared to streamlining AMS/IPC programs at the county and facility levels.

MTaPS continued engaging health care facilities implementing AMS interventions to monitor progress with their respective CQI action plans.

USAID MTaPS representative handing over national AMS guidelines and the Kenya Essential Medicines List to the nurse in-charge, Ahero County Hospital, Kisumu County (Photo credit: Doris Bota/USAID MTaPS).

MTaPS, in collaboration with the Murang'a County Health Department, conducted a baseline assessment on February 16-18, targeting the county level and two of its health care facilities to focus on AMS and IPC. Meetings were held to share the findings of the assessment with hospital management teams at the two hospitals, including the medical superintendents and the county director for health. The findings will support the program in identifying targeted areas of support while providing a reference starting point for measuring progress after instituting AMS and IPC interventions. During the hospital visits to conduct the baseline assessment, MTaPS distributed the National AMS Guidelines for Healthcare Settings, National AMR Communique, National IPC Guidelines, and IPC posters. These documents are aimed at enhancing compliance with AMS and IPC standards at relevant points of care.

In Nairobi County, MTaPS offered technical and financial support to Kenyatta National Hospital (KNH) to analyze its antimicrobial use and consumption data for 2019 to 2020. The hospital's AMS team will use the results of the analysis to inform antimicrobial prescribing guidelines. Evidence-based antimicrobial prescribing guidelines will contribute to containing AMR in the hospital and community at large. MTaPS is reviewing KNH's guidelines on surgical antimicrobial prophylaxis. Once completed, seed copies will be printed and launched, and adherence to the guidelines will be monitored. Efforts to improve adherence to the guidelines will also contribute to preventing and containing AMR in the hospital and community.

MTaPS, in collaboration with the Nyeri AMS and IPC focal persons, conducted a mid-term assessment of AMS and IPC activities that have been implemented in MTaPS-supported health care facilities over the last year. The assessment, conducted January 18-22, 2021, revealed progress made to date and will guide the direction interventions take going forward. Also, MTaPS, in collaboration with the Nyeri County Health Department, held a joint distribution exercise for the National AMS Guidelines for Healthcare Settings, KEML, national IPC guidelines, and the Nyeri County strategic plan in eight MTaPS-supported health care facilities on January 18-22, 2021. The documents were received by health facility in-charges or their representatives.

MTaPS continued engaging health care facilities implementing AMS interventions to monitor progress with their respective CQI action plans.

ACTIVITIES FOR NEXT QUARTER

ACTIVITY AND DESCRIPTION	DATE
Activity 1.1.1: Continue strengthening the NASIC's capacity for coordination, policy direction, and M&E of the national AMR plan	
Publishing quarterly or biannual AMR bulletins or newsletters	April – June 2021
Reviewing and updating CASIC orientation package	
Establishing and institutionalizing CASICs in target counties	
Disseminating Government of Kenya core AMR-related documents	
Activity 2.1.1: Continue strengthening governance for IPC at the national, county, and facility levels	
Establishing Kisumu, Kilifi, and Murang'a County IPC Advisory Committees (CIPCACs)	April –June 2021
Coordinate quarterly CIPCAC meetings	
Support CIPCAC in documenting and packaging progress reports	
Strengthen capacity of county health leadership and/or IPC committees to mobilize additional and sustainable financial resources for IPC/OSH/WASH activities	
Developing a National IPC M&E Framework	
Develop a dissemination and implementation package for the National IPC M&E Framework	
Reviewing IPC guidelines	
Develop a dissemination and implementation package for national IPC policy, guidelines, and standards	
Developing an orientation package for IPC programs	
Developing a national, high-level communique/brief on IPC to enhance implementation of IPC guidelines	
Developing an OSH flier	
Activity 2.2.1: Provide technical assistance to implement a CPD- and relicensure-linked in-service IPC training course for delivery through relevant professional associations	
Training a core team from the professional associations as TOTs	April –June 2021
Scaling up of IPC CPD courses through a blended approach (in-person and e-learning)	
Activity 2.5.1: Support county-, sub-county-, and facility-level IPC/OSH/WASH activities	
Supporting implementation of IPC CQI activities in MTaPS-supported facilities in Kilifi, Murang'a, Nyeri, and Kisumu Counties	April –June 2021
Activity 3.1.1: Strengthen national and county AMS governance structures	
Developing national AMS training curriculum and tools	April – May 2021
Developing national AMS TWG's work plan	April – June 2021
Developing county AMS governance structures	April – June 2021
Planning and implementing county AMS TWG activities	April – June 2021
Holding county AMS TWG quarterly meetings	May 2021
Developing biannual AMS publications	June 2021

ACTIVITIES FOR NEXT QUARTER

ACTIVITY AND DESCRIPTION	DATE
Activity 3.1.2: Support the national MTC in institutionalizing and implementing AWaRe categorization of antibiotics	
• Developing regulatory brief on AWaRe concept implementation	April 2021
• Developing NMF incorporating AWaRe concept	April – Sept. 2021
• Developing costed county AMS TWG work plans incorporating implementation of AMS guidelines and AWaRe concept	April – June 2021
• Scheduling of medicines by PPB	April – May 2021
Activity 3.2.1: Develop health care human resource capacity to manage AMS through pre- and in-service trainings	
Implementing pre-service AMS curriculum Implementing AMS CPD course with professional associations	April – June 2021
Activity 3.5.1: Support county, sub-county, and facility-level AMS activities in the following counties: Kilifi, Kisumu, Murang'a, Nairobi counties	April – June 2021

MALI

RESULT AREA 1: EFFECTIVE MULTISECTORAL COORDINATION ON AMR

Activity 1.1.1. Provide technical and operational support to the National Multisectoral AMR Coordination Working Group (GCMN-RAM) and its two subcommittees (IPC and AMS)

As part of the International Health Regulations (IHRs) internal evaluation process, the Ministry of Health (MOH) organized a validation workshop on February 1-5, 2021, in Selingue to present the results of the internal assessment of IHR implementation capacities (2005) in Mali, validate the data collected, and fill in the e-SPAR tool. MTaPS, as part of the AMR sub-group, supported the IHR focal point and technical working group to collect, review, and document the indicators of the IHR related to AMR and informed the e-SPAR tool. MTaPS also organized or participated in the following meetings:

- January 11: Meeting with the president of the GCMN to plan upcoming activities
- January 13: One Health platform meeting, 11th session
- January 26-27: Workshop to validate policy documents and the manual of emergency response procedures in biosafety and biosecurity
- February 8-24: Meeting with the national counterpart to prepare for the launch of the eLearning platform

RESULT AREA 2: INFECTION PREVENTION AND CONTROL

Activity 2.5.1: Support the GCMN and Direction Générale de la Santé et de l'Hygiène Publique (DGSHP) in implementing IPC programming at four new health facilities

MTaPS supported the DGSHP and Agence Nationale d'Evaluation des Hôpitaux (ANEH) to establish IPC committees in four new facilities (CHU Gabriel Touré, Dermatological Hospital, Mali Gavardo Hospital, and Segou Regional Hospital). This support included:

- Developing and sharing the TOR with the four facilities
- Sharing the letter for establishing committees in the designated facilities
- Providing logistical support for the workshop to prepare field visits to establish the committees
- Training members of the IPC committees
- Assessing IPC and hand hygiene components in the four facilities using WHO tools (IPCAF and HHSAF tools)
- Developing an action plan for IPC committees at the facility level

In the four health establishments evaluated, the components most affected by poor performance are IPC guidelines; IPC education and training; health care associated infection (HCAI) surveillance; multimodal strategies; monitoring/audit of IPC practices, feedback, and workload; and staffing and bed occupancy (Table 4).

Table 4: IPCAF score according to facility

COMPONENTS	TOTAL	SCORE HÔPITAL GABRIEL TOURE	SCORE HOPITAL DERMATOLOGIQUE DE BAMAKO	SCORE HÔPITAL MALI GAVARDO	SCORE HÔPITAL DE SÉGOU
IPC program	100	67.50	80.00	62.50	72.50
IPC guidelines	100	85.00	67.50	2.50	87.50
IPC education and training	100	90.00	35.00	65.00	70.00
HCAI surveillance	100	15.00	67.50	52.50	42.50
Multimodal strategies	100	52.50	37.50	35.00	20.00
Monitoring/audit of IPC practices and feedback	100	10.00	72.50	50.00	25.00
Workload, staffing, and bed occupancy	100	35.00	70.00	95.00	50.00
Built environment, materials, and equipment for IPC at the facility level	100	62.50	85.00	92.50	50.00
TOTAL	800	417.50	515.00	455.00	417.50

These results showed that all facilities are at the intermediary level.

For the hand hygiene tool, three of four facilities were found to be at the intermediary level and one at the basic level. The components most affected by poor performance are:

- Evaluations and feedback of results
- Reminders in the workplace
- Institutional culture of security
- In these four facilities, data were collected on HCAIs.

Activity 2.5.3: Strengthen institutional capacity building for local training institutions to manage eLearning on IPC and AMS for both pre- and in-service health care workers

On February 25, 2021, with the financial and technical support of MTaPS and in collaboration with Institut National de Santé Publique (INSP), DGSHP, Faculté de Médécine et d'Odonto-stomatologie (FMOS), and Institut National de Formation en Sciences de la Santé (INFSS), the Minister of Health and Social Development, Dr. Fanta Siby, officially launched the online learning platform on IPC; 91 people participated in the launch ceremony. Participants included representatives from human health, animal health, environment, agriculture, education, USAID, WHO, UNICEF, FAO ECTAD, Terre des Hommes, USAID Breakthrough Action, and World Vision. The launch ceremony used a blended approach, allowing both in-person and remote participation. Professor Akory AG Iknane, Director General of INSP and the National Focal Point for IHR, moderated the launch of the platform. The ceremony included two major sessions: a presentation on the eLearning platform installation process and live demonstrations of the DGSHP's and FMOS' Moodle platforms with IPC standard and IPC COVID-19 courses, followed by a Q&A session.

RESULT AREA 3: USE OF ANTIMICROBIAL MEDICINES OPTIMIZED

Activity 3.5.1: Support the GCMN-RAM, DPM, and ANEH to establish drug and therapeutics committees (DTCs) in 11 new sites

On January 28-29, 2021, MTaPS supported the DPM in holding a workshop to prepare for establishing DTCs in the 11 health facilities. During the workshop, participants finalized the TOR for the DTCs, reviewed the training modules and tools for training the DTC members, and agreed on a schedule for site visits. The DPM shared the TOR with the 11 facilities for the formal designation of DTC members. MTaPS is also following up on the letter sent by DPM to targeted facilities and instructed them to nominate their respective DTC members. The site visits to train DTC members and collect AMS data are set to begin in April 2021.

ACTIVITIES FOR NEXT QUARTER

ACTIVITY AND DESCRIPTION	DATE
Activity 1.1.1. Provide technical and operational support to the GCMN-RAM and its two subcommittees (IPC and AMS).	March-June 2021
Activity 2.5.2: Support the GCMN and DGSHP in monitoring implementation of IPC practices at health facilities	April-June 2021
Activity 2.5.3: Strengthen institutional capacity building for local training institutions to manage eLearning on IPC and AMS for both pre- and in-service health care workers	April-May 2021
Activity 3.5.1: Support the GCMN-RAM, DPM, and ANEH in establishing DTCs in 11 new sites	April-June 2021

MOZAMBIQUE

MISSION-FUNDED ACTIVITIES

OBJECTIVE 1: PHARMACEUTICAL SECTOR GOVERNANCE STRENGTHENED

1.1.1: Support transformation of DNF to an autonomous authority, ANARME, by establishing an effective regulatory framework (activity continuing from FY20)

Development of regulations and guidelines to operationalize law 12/2017

Based on the National Directorate of Pharmacy's (DNF) priorities, MTaPS reviewed the Regulation of Good Distribution Practices (GDP) and Import and Export of Medical Products. MTaPS translated and shared the draft regulation with the DNF and collected information from DNF to improve the document. MTaPS is working with a consultant to adapt the document to implement the DNF request in the best way possible. The document contains important provisions for distribution, storage and transportation practices, and requirements for people and materials that are critical to establishing an effective regulatory framework to control the medical product distribution chain and to guarantee the quality of drugs. The draft regulation will enable elaboration of law 12/2017 and further allow Autoridade Nacional Reguladora de Medicamentos de Moçambique (ANARME), the national medicine regulatory agency, to regulate the pharmaceutical sector in terms of securing the pharmaceutical supply chain to ensure the quality and safety of medical products from manufacture through distribution to the end user.

As a means of best practices and as a matter of procedure, stakeholder consultations must be carried out to clarify the direction that medicine regulation is going to gain consensus on draft regulations. When stakeholders are engaged and come to consensus, compliance is achieved and expectations on regulatory requirements clarified. MTaPS worked to develop the terms of reference (TOR) for conducting stakeholder consultation on the regulations drafted for regulatory inspections and pharmacovigilance (PV). The exercise is pending DNF confirmation of a date.

Support DNF to develop a QMS leading to ISO 9001:2015 accreditation

Among other efforts to implement a functional quality management system (QMS) at DNF is establishing an internal audit system to monitor the management system for regulating medical products. According to the International Organization for Standardization (ISO) 9001:2015 standard and ISO 19011:2018, internal audit is a requirement to be fulfilled to achieve an effective QMS. MTaPS provided technical assistance to train DNF (February 23-26, 2021) in the essential requirements for QMS internal audit. The capacity-building session was part of a broader plan to update selected DNF personnel as quality internal auditors of the QMS and provide knowledge and practical illustration on the principles and activities for conducting of internal audits based on ISO 19011:2018.

GTM sub-group for regulatory systems strengthening

In the previous quarter, MTaPS, in collaboration with the Mission, proposed to the DNF the creation of a Grupo de Trabalho de Medicamentos (i.e., Medicines Working Group [GTM]) sub-group for regulatory systems strengthening to promote coordination and collaboration of partners working in medical product regulation; maximize opportunities for knowledge sharing and financial and technical support; and promote exchange of updated regulatory trends. In this quarter, MTaPS drafted the TOR for the sub-group. The TOR propose that this sub-group comprise the DNF, donors (USAID, Global Fund, the World Bank), and regulatory implementing partners (Promoting the Quality of Medicines Plus [PQM+], MTaPS, WHO). The sub-group TOR will be shared with the Mission and PQM+ for their

inputs and will then be presented to DNF for validation before submission to the GTM for final approval.

OBJECTIVE 2: STRENGTHEN INSTITUTIONAL CAPACITY TO MANAGE PHARMACEUTICAL SYSTEMS

2.1.1: Enhance DNF management information systems by modifying Pharmadex to improve medicine registration and regulatory inspection processes (activity continuing from FY20)

Moving to a cloud-based solution to establish an online version of Pharmadex for medicine registration

MTaPS continued to work with DNF counterparts to get approval from DNF to deploy the existing internet-ready version of Pharmadex used for medicine registration and to transfer data from the DNF server to a cloud-based solution for optimal performance. In the previous quarter, DNF colleagues from the Inspection, Registration, and Administration departments proposed the following way forward:

- Step 1: Modify Pharmadex to fully align with the common technical document (CTD) format for review of medical product dossiers
- Step 2: Provide internet upgrades (new physical infrastructure, new provider, and higher bandwidth)
- Step 3: Install the new version of Pharmadex on the government cloud environment

This quarter, MTaPS continued to work with DNF to determine how best to respond to DNF's proposals.

Step 1: Modify Pharmadex to fully align with the CTD format for review of product dossiers

During this quarter, MTaPS continued to work on the requirements for enhancing Pharmadex to follow the CTD format for marketing authorization dossiers. This would allow Pharmadex to better comply with international standards, guided by WHO and Southern African Development Community (SADC) guidelines as desired by DNF and will facilitate higher quality in the management of medical product applications filed for marketing authorization. MTaPS requested that DNF provide the current medicine registration standard operating procedures (SOPs), which would provide information on the work procedures that would inform software development. However, obtaining the SOPs from DNF has been a challenge, as DNF had concerns on confidentiality. DNF suggested getting the information via interviews of the registration staff; however, this is a slow process with a huge risk of missing critical information, and it does not take into consideration that the SOPs may require updating, as MTaPS hoped to support. MTaPS and DNF have agreed to hold further meetings to discuss options. Once Pharmadex is following CTD format, the main challenge will be to migrate existing DNF data to the new structure.

Step 2: Provide internet upgrade

In the previous quarter during the meetings with MTaPS and DNF, the Ministry of Health's (MISAU) Information Technology (IT) Department promised to install optical fiber at DNF to solve internet problems, however this has yet to be achieved. Compared to common internet cable, optical fiber is better for delivering the fastest speeds, especially for upload bandwidth, and is less prone to high-traffic slowdowns, a very important advantage that allows high performance of Pharmadex. Due to delays in the process, MTaPS conducted a meeting with DNF leadership and technical staff to discuss the way forward. MTaPS and DNF agreed that DNF will be responsible for installing optical fiber, and that MTaPS will be responsible for training the new DNF IT staff to maintain the technology that will be implemented. If DNF provides fiber connection as promised, the cost to MTaPS will be that of training the DNF IT staff, which is already covered in the current MTaPS budget. The online Pharmadex platform will allow improved customer service and efficiency because applicants will no longer be required to travel to the DNF to apply for marketing authorization.

Step 3: Install the new version of Pharmadex on the government cloud environment

MTaPS prepared an analysis showing infrastructure options and the pros and cons of each option to help DNF in decision making. DNF chose the option to implement Pharmadex on its local server for the go-live environment and agreed to use Amazon Web Services (AWS) server to host the test version before it is transferred to the live environment. The use of the AWS server to host the test version will allow the ongoing development of Pharmadex with lower costs and without the need for experts to travel to solve major development and test problems, hence fitting in with the current context of COVID-19 in-country and globally. Beyond the financial benefits, AWS also offers significant operational advantages, such as the ability to rapidly set up a development and test infrastructure that will reduce the length of the development and test process and to scale capacity up and down to provide the IT resources needed for development and testing. For the development phase, AWS provides source-code repository project-management tools and on-demand development environments. For the test phase, it provides several test environments and runs various tests, including load testing, acceptance testing, and fault tolerance testing.

Support for developing an import module for Pharmadex

In previous quarters, MTaPS developed the main functions of the import module for Pharmadex, conducted user acceptability testing sections, and implemented changes requested by DNF to improve the system. However, during the quarter, DNF revealed that it had allowed development of a parallel import module by another developer using funds under the Global Fund. DNF requested that MTaPS integrate this parallel import module software into Pharmadex. To ensure informed decision making by DNF and a realistic way forward, in this quarter, MTaPS prepared an analysis of two options:

- Option 1: MTaPS to supply information (database dictionary and other information regarding database structure) to DNF who would instruct the other developer to integrate the parallel import module into Pharmadex
- Option 2: DNF to accept the import module developed by MTaPS, which is already part of the current Pharmadex version

Although the import module within Pharmadex has more advantages, DNF preferred to stay with the Global Fund-supported import module. MTaPS and DNF agreed that DNF will facilitate discussion with the developer of the parallel system on how to coordinate efforts and integrate the parallel import module into Pharmadex.

OBJECTIVE 3: STRENGTHEN SYSTEMS FOR PROVIDING PATIENT-CENTERED PHARMACEUTICAL CARE AND SERVICES

3.1.1 Provide technical assistance to establish an active surveillance system for newly introduced medicines in HIV and TB programs (activity continuing from FY19)

Support the DNF and HIV program in conducting supervision to supported health care facilities

The DNF and the national HIV program, with technical support from MTaPS, have established an Active Safety Monitoring (ASM) System for HIV patients treated with a regimen of tenofovir/lamivudine/ dolutegravir (TLD). Patient enrollment started in March 2020. Because of travel restrictions to limit the spread of COVID-19, the central-level supervisory team has not been able to physically visit the nine participating health facilities (HFs), hence supervision has been done through remote means (phone calls, online meetings).

During the quarter, the government eased some of the travel restrictions, making it possible for the team to undertake physical supervision visits. The DNF and the HIV program, with the support of MTaPS, prepared TOR to guide the activity and ensure that the objectives of the visit were achieved;

coordinated with the provinces to be visited; and developed a supervision plan and budget. The purpose of this supervision was to monitor provincial teams and the implementing HFs to verify compliance with the recommendations in the active surveillance protocol; provide local support; and work with the local team to address immediate concerns. Round I of the supervision visits was scheduled between February and April. The activity was coordinated with the Provincial Directorate of Health (DPS). The supervision team visiting the sites comprised national focal persons (DNF's PV department and HIV Program) and provincial focal persons (HIV and PV).

During the quarter, four HFs were visited, Cuamba HF in Niassa, Gondola DH in Manica, Ndlavela HF in Maputo province, and Namacurra HF in Zambezia. Supervision visits to Machava II HF in Maputo province, Macia HF and Carmelo HF in Gaza, Mavalane HF in Maputo City, and Marrere GH in Nampula are planned for April. Table 5 discusses the main findings from the supervision visits.

Table 5: Main findings from the supervision visits

Challenges	Mitigation plan	Responsible person
Missing data, such as age, ASM code, lab results	Gather the clinicians involved in the study to correct errors and input missing information into forms A and B	Clinicians
Illegible forms	Meet with clinicians and request they improve the handwriting on the forms to facilitate reading and interpretation of data	Clinicians
Entry of one patient's data into the PViMS record of another patient	Correct the data in the PViMS	PV focal person
ASM codes wrongly attributed to a patient	Correct the ASM codes in the physical and electronic forms to allow PViMS synchronization	HF HIV and PV focal persons
Photos of the forms in PViMS not captured	Work with PV focal points to load missing forms into PViMS	PV focal person
Problems with data synchronization in PViMS	Contact the PViMS system administrator to resolve data synchronization issues	MTaPS

Table 6 provides some of the data on patients enrolled into the study since the start of the active surveillance system.

Table 6: Patients enrolled since start of active surveillance system as of December 2020

HF	Date enrollment commenced (2020)	No. of enrolled patients (form A)	No. of patients with follow-up visit (form B)	No. of patients with a documented pregnancy outcome (form C)	No. of adverse events reported
Carmelo	April 27	305	450	1	5
Cuamba	April 03	296	97	6	1
Machava II	April 04	362	439	0	0
Macia	April 02	412	100	15	0
Mavalane	April 20	331	413	3	0
Namacurra-Sede	March 19	375	153	3	0
Ndlavela	May 03	288	146	1	3
Gondola DH	March 17	338	895	11	4
Marrere GH	March 23	327	258	12	4
Total		3,034	2,951	52	17

To ensure the adequate collection, management, and analysis of the security data generated from the active monitoring of TLD, MTaPS provided an electronic data entry tool, that is, the PV monitoring System (PViMS), which supports the collection and analysis of patient longitudinal data, including analysis of the causality of the collected data. To review the integrity and quality of the data entered in PViMS, MTaPS developed a data quality-check routine. Data quality problems observed with the data already in PViMS included inconsistent entry of drug names, incomplete data on patients' medical conditions, and incorrect patient data (age/date of birth, laboratory tests, and adverse events [AEs]). MTaPS addressed this by hiring two data clerks to clean, correct, and complete the PViMS data with respect to the following: clinical conditions, AEs, medicines, laboratory results, and birth dates. To date, birth dates and AEs in PViMS have been cleaned. The cleaning process will ensure that high-quality data is in the PViMS. This data is crucial to characterizing and quantifying AE profiles, estimating the incidence rate of AEs, assessing the causality between the observed AEs and the use of TLD, and providing quantitative evidence for risk factors for the development of serious events and adverse drug reactions.

3.1.2: Develop and implement an active PV program for safety monitoring of TB preventive treatment (TPT) scale-up in Mozambique (new activity)

During the current quarter, several planning meetings were held with USAID and CDC to discuss the TPT activity implementation plan, protocol preparation, and budget for implementation. Coordination meetings between DNF, TB and HIV programs, and MTaPS were held to familiarize the teams with the protocol and its implementation and budget. So far, DNF has revised the protocol and budget to align with TB and HIV programs' concerns and identified the lessons learned from implementing the TLD protocol that can improve TPT protocol implementation. The protocol is expected to be reviewed by the HIV and TB programs prior to submission for bioethics approval.

MTaPS has undertaken advance activities while awaiting the approved protocol, including:

- Initiated updates to PViMS that will be used as a tool for data entry
- Developed a list of required SOPs and training materials
- Planning for training of trainers (TOT) for national-level focal persons
- Developed roles and responsibilities for the MISAU, DPS, DNF, programs, and facility-level health workers

- Held several coordination meetings with CDC implementing partners (EGPAF, CCS, and AURUM Institute) to clarify implementation and responsibilities of each partner at different levels (DNF, MISAU, programs, DPS, and facility)

ACTIVITIES FOR NEXT QUARTER

ACTIVITY AND DESCRIPTION	DATE (2021)
Activity 1.1.1: Support the MISAU in operationalizing new legislation for establishing ANARME, a semi-autonomous regulatory authority • Develop drafts of regulations on price controls and policies • Finish the draft for GDP to be inserted into the Regulation of Good Distribution Practices and Imports & Exports of Medical Products • Prepare for the training on good regulatory practices for DNF and review the guidelines for good regulatory practices • Plan workshops to explain the main provisions included in the newly established regulations/ guidelines • Start developing how-to materials to facilitate implementation of and compliance with the newly established regulations/guidelines	April–June
Activity 2.1.1: Strengthen use of electronic IT solutions for efficient and transparent medicine regulatory processes • Implement AWS server to host the test version of Pharmadex as agreed with DNF • Train DNF's new IT staff on the optical fiber, internet, and system configuration for maximum performance • Complete requirements to update Pharmadex to meet the CTD format • Conduct a risk analysis and develop a plan to migrate the existing data to the new structure	April–June
Activity 3.1.1: Provide technical assistance to establish an active surveillance system for newly introduced medicines in HIV and TB programs • Continue to support staff at participating sites in following up with enrolled patients to record any AEs that may occur • Start causality assessment • Continue data cleaning • Support DNF in performing on-site supervisions at the remaining five HFs (balance from this quarter) and start preparation of round 2 of supervision visits • Finalize eight-month progress report (April-December 2020) to summarize the number of patients enrolled, their characteristics, number of follow-up visits, and AEs so far recorded in the enrollment phase of the ASM program • Prepare quarterly progress update report showing number of patients enrolled and followed up and AEs reported from the nine implementing HFs with interpretation of results	April–June
3.1.2: Develop and implement an active PV program for safety monitoring of TPT scale-up (new activity) • Submit the protocol to MISAU for approval, then for Institutional Review Board approval • Review/draft data collection tools, SOPs, and training materials; finalize and translate all materials • Plan TOT for national-level focal persons and training of health care providers on the protocol and their roles and responsibilities • Plan deployment of data management system (PViMS)	April–June

GLOBAL HEALTH SECURITY AGENDA ACTIVITIES

RESULT AREA 1: EFFECTIVE MULTISECTORAL COORDINATION ON AMR

The first AMR multisectoral coordination workshop was successfully held virtually on March 24-25, 2021. The workshop was organized by MTaPS and MISAU in collaboration with the UN Food and Agriculture Organization (FAO) and representatives of the Ministry of Agriculture. The workshop was attended by 26 participants from 16 different institutions, including the government, donors, implementing partners, and universities**.** During the workshop, government representatives made presentations on the One Health approach, the AMR action plan in Mozambique, and use of antimicrobials in animal health, which highlighted the linkage and roles of human and animal health as well as the environment in the emergence and spread of AMR. The implementing partners MTaPS, FAO, and CIRAD (La Recherche Agronomique pour le Développement) presented their GHSA work plans, explained how their work will be aligned to the national action plan (NAP), and provided an update. During the workshop, the general AMR governance structure and the proposed TOR for technical working groups were discussed, and the mapping of AMR stakeholder roles was initiated. The proposed AMR governance structures comprise the MCC, MCC secretariat, and six TWGs, among them the AMS and IPC TWGs. This workshop is a first step toward AMR MCC establishment and will aid in operationalizing the NAP-AMR and track progress, which will contribute to addressing the WHO JEE benchmark action 3.1 for multisectoral coordination on AMR (P.3.1).

RESULT AREA 2: INFECTION PREVENTION AND CONTROL

At the start of the quarter, MTaPS worked with the national IPC committee to review and validate its TOR and membership structure. The IPCAT2 and IPCAF tools were introduced to the MISAU IPC team. Following this, MTaPS worked with the MISAU/IPC team to nominate members from the national IPC committee to undertake IPCAT2 assessment with support from MTaPS. IPCAT2 assessment was conducted on March 2, 2021, at MISAU, and the assessment report is being compiled. The results of the IPCAT2 assessment will help the members of the national IPC TWG gain knowledge, skills, and experience on overseeing IPC activities at the national level.

MTaPS had meetings with MISAU to plan the visits for the assessment using the IPCAF tool in Gaza, Inhambane, and Tete provinces. The assessment in Gaza was held the week of March 14 in Xai-Xai Provincial Hospital and the week of March 21 in Tete Provincial Hospital. The IPCAF findings informed the development of the HF IPC action plan developed by MTaPS, MISAU IPC, and HF staff. The hospitals will use the IPCAF assessment tool to assess other HFs within their provinces. With this exercise, HF staff will be able to periodically utilize the data collected from their IPCAF self-assessment to identify intervention areas and address them.

ACTIVITIES FOR NEXT QUARTER

ACTIVITY AND DESCRIPTION	DATE (2021)
Result area 1: Effective multisectoral coordination on AMR • Organize the first quarterly meeting of the AMR MCC • Organize and facilitate periodic TWG meetings in line with NAP-AMR, in collaboration with the AMR MCC secretariat • Finalize mapping of AMR stakeholder roles • Identify other implementing partners who can support the AMR MCC in other activities	April–June
Result area 2: Infection prevention and control • Develop national IPC action plan in collaboration with other implementing partners (e.g., Jhpiego) • Provide training and mentoring to national IPC committee members to enable expansion of IPC interventions in various HFs in the country • Conclude IPCAF HF assessment in Inhambane and write the report	April–June
Result area 3: Use of antimicrobial medicines optimized • Ensure that national AMS committee members are oriented on TOR and understand their roles and responsibilities • Undertake rapid assessment of stewardship policies and activities, including regulatory framework and supply chain management of antimicrobials, using a multisectoral approach • Support Hospital Pharmacy Department in following up and monitoring implementation of AMS action plans in the hospitals trained in February 2020	April–June

NEPAL

OBJECTIVE 1: PHARMACEUTICAL-SECTOR GOVERNANCE STRENGTHENED

MTaPS worked on the following key activities during the reporting quarter:

- Reorganize the Department of Drug Administration (DDA) structure to include more roles and responsibilities and to address autonomy and decentralization
- Update and revise the drug law to increase the Global Benchmarking Tool (GBT) maturity level
- Update regulations and policies

The DDA reorganization workshop was held March 5–6 with high-level staff from the Ministry of Public Health (MOHP), DDA central and provincial levels, National Medicines Laboratory (NML), MOHP's Food and Drug Administration Drafting Committee, Pharmacy Council, World Health Organization (WHO), and PQM Plus and USAID's Dr. Jaganath Sharma. Participants debated the principles for the DDA's structure and how best to consider food, cosmetics, new roles and responsibilities, decentralization, and autonomy. A revised organogram for the DDA and NML was discussed and drafted. Tanzania WHO GBT Assessor Sunday Kisoma and MTaPS Technical Director Javier Guzman presented on different degrees of autonomy. A degree of autonomy seems unreachable at this time, although many arguments favored moving toward this. The group found the topic of the inclusion of food challenging and left it for later discussions at the MOHP. Time did not allow participants to finalize the organogram or agree on the increase in staffing norms. Those issues will be covered in a follow-on meeting in early April before presenting the reorganization with staffing norms and critical legislative revisions at a high-level meeting with the government agencies responsible for reviewing and/or approving the organograms and staffing norms. Once in effect, the revised organogram will contribute to the DDA performing its key regulatory functions more efficiently, taking on new roles and responsibilities, and becoming a better staffed and more mature regulatory body.

The technical working group (TWG) on policy, law, and reorganization was established and held a meeting to manage the reorganization process and the regulatory legal revision. The WHO GBT assessment made it evident that the legal framework (law and regulations) is not aligned to current mature regulations for medicines and medical supplies. Incorporating all GBT legal recommendations into the new drug law will be critical, and MTaPS has been collaborating with International Law Institute-Africa Centre for Legal Excellence (ILI-ACLE) to include all GBT recommendations in the zero-draft law. The DDA draft law has been translated to English and shared with ILI-ACLE to compare with the zero-draft with the aim to prepare the final draft for submission to the MOHP and parliament. MTaPS held meetings with the MOHP to clarify how the program can best facilitate the process. MTaPS finalized the mapping report that lists the regulations prioritized for revision and drafting, which will be submitted to the TWG on policy, legislation, and reorganization. The new drug law will serve as the foundation for increasing the DDA's WHO GBT maturity level, bringing regulatory practices in line with WHO best practices, and enabling the DDA to take on important new roles.

To support the Government of Nepal to develop an evidence-based policy on a price control mechanism for pharmaceutical products and to build sufficient levels of capacity and information at the MOHP to revise the medicines pricing policy, MTaPS shared with the DDA and the MOHP two important resources: the MTaPS study "Review of Pricing Policies and Price Lists Available in Asia

Regional Countries"[4] and the reference document "Pharmaceutical Prices in the 21st Century".[5] A number of studies already document Nepal's current challenges with implementing the existing pricing policy (e.g., the UK Foreign Council & Development Office study found price variations of up to 4,000%). MTaPS identified a WHO online course on pharmaceutical pricing and reimbursement policies scheduled for July 2021, and three DDA staff members and one MOHP staff person have applied for the course. The organizers were informed about the training's relevance for Nepal in view of the ongoing pricing policy revision. Pharmaceutical expenditures are a significant driver of increasing health care costs, especially in countries such as Nepal where out-of-pocket expenditures play a significant role. The revision of the price policy from being a maximum price to future potential pricing interventions is important to reach universal health coverage, ensure equity, reduce out-of-pocket expenditures, and ensure affordability.

A meeting was held with Dr. Dipendra Raman Singh, Director General, Department of Health Services, to inform him of the MTaPS Asia Bureau activity on building capacity in the use of the One Health tool for pharmaceutical expenditure tracking and costing of benefits packages, and the MOHP indicated interest in taking part.

OBJECTIVE 2: INSTITUTIONAL AND HUMAN RESOURCE CAPACITY TO REGULATE MEDICINES, FAMILY PLANNING COMMODITIES, AND HEALTH TECHNOLOGIES INCREASED

MTaPS worked on the following key activities during the reporting quarter:

- Develop a year 1 action plan based on the detailed Institutional Development Plan (IDP)
- Implement a quality management system (QMS) at the DDA to prepare for International Organization for Standardization (ISO) certification
- Strengthen the regulatory system for product registration, pharmacovigilance, good pharmacy practices (GPP), and good dispensing practices (GDP)
- Implement GPP and GDP as per WHO best practices in private- and public-sector dispensing outlets

With assistance from two WHO assessors, Sunday Kisoma and Andrea Keyter, the DDA finalized the WHO GBT assessment that measures its regulatory maturity level. Daily three-hour virtual meetings held six days a week from the end of February through mid-March included participation from WHO Geneva (Razieh Ostad Ali) and Nepal (Sushma Shakya) offices, two assessors (Sunday Kisoma and Andrea Keyter), staff from the DDA, including managers for relevant DDA departments, PQM+, and MTaPS. The group discussed status and scoring for all indicators and described the actions needed to pass the indicators in the IDP. The DDA clearly demonstrated its commitment to improving its regulatory maturity level, which included 198 recommendations/actions to reach maturity level 3. The cross-cutting issues included the need to revise and amend the legal framework, formalize the QMS, increase and reorganize the DDA and staffing norms, and develop SOPs and documentation for all DDA regulatory activities (MTaPS has started preparing a prioritized list of SOPs needed). The final assessment report with the complementary IDP has been shared with involved parties but is confidential and will not be shared publicly. MTaPS produced a summary of the process and some findings to document the assessment. MTaPS will assist the DDA to develop a year 1 implementation plan to reach maturity level 2 for all indicators.

[4] Asia Bureau report on Review of Pricing Policies and Price Lists Available in Asia Regional Countries, Management Sciences for Health; Medicines, Technologies, and Pharmaceutical Services (MTaPS) Program, March 2021

[5] Zaheer-Ud-Din Babar. Pharmaceutical Prices in the 21st Century. ISBN 978-3-319-12168-0 ISBN 978-3-319-12169-7 (eBook); DOI 10.1007/978-3-319-12169-7, Springer Cham Heidelberg New York Dordrecht London.

MTaPS Technical Advisor Samrat Baral (left) assessing labeling quality in Government Primary Health Care Facility Dakshinkali municipality and entering results into the electronic GPP inspection tool. (Photo credit: Bigyan Tamang)

MTaPS and the DDA discussed taking part in MTaPS Asia Bureau activities to harmonize technical standards and guidelines; facilitate joint review sessions; and build capacity in assessing biologics and vaccines, potentially through the Association of Southeast Asian Nations and South-East Asia Regulatory Network member states. The DDA is very interested in participating.

DDA and NML staff attended the virtual QMS training, and more than 40 attendees passed the three basic sessions. Eight DDA and NML staff and one MTaPS staff finished the QMS assessor training and passed the audited exam in early February. After verification by auditors in India, participants will receive a certificate. The Quality Forum from the Federation of Indian Chambers of Commerce and Industry, which was previously involved in ensuring accreditation of the Rwandan drug authority, delivered the training, and participants found it to be excellent and practical. The QMS training was required to establish a primary understanding of a QMS and to interpret and correlate ISO 9001:2015 requirements into the DDA's daily activities and procedures. The QMS TWG held its first meeting, and development of the QMS manual is ongoing. MTaPS developed a detailed implementation plan that is awaiting QMS TWG approval. In mid-March, MTaPS hired a technical advisor with extensive quality assurance expertise to guide the DDA's QMS work. Development and implementation of the QMS will ensure that the DDA has consistent quality of regulatory functions and continued improvement in regulation responsibilities.

The DDA Senior Drug Administrator, Head Inspection Division, Ms. Usha Tandukar; the newly appointed focal point for inspectorate, Mr. Arbind Baniya; and MTaPS had several meetings during the quarter to discuss how to strengthen the inspectorate and bring the inspection requirements in line with WHO best practices, including the needed legal revisions; inspection tools; guidelines for complaints, prosecution, and recall; and requirements for online pharmacies. Based on the discussions and a review of the Nepal Sales and Distribution code, MTaPS prepared a detailed activity plan to strengthen GPP and GDP, which is awaiting the DDA Director General's approval. The electronic GPP inspection tools for private- and public-sector pharmacies and health facilities were tested, and some indicators need further discussion and classification as critical, major, or minor. As indicated in many studies, known practices, and GPP inspections, the dispensing of medicines without a prescription, poor labeling, and pharmacy ownership are challenging in Nepal's context, where a high number of pharmacies are not owned or managed by qualified pharmacists, prescription medicines are dispensed without prescription, and few pharmacies provide appropriate labels. These radical changes will influence the number of pharmacies allowed to operate, and more discussion with the DDA and MOHP is needed to identify the most feasible strategy for implementing the WHO GPP/GDP requirements in Nepal. MTaPS has planned a virtual meeting to learn about Uganda's experiences in strengthening GPP and GDP requirements. Multipronged strategies for GPP implementation in both the private and public sectors will be developed based on the evidence gathered by end of April.

MTaPS' home office pharmacovigilance expert and the new technical advisor for pharmacovigilance meet weekly and are developing a situation analysis that will identify strength, weaknesses, opportunities, and threats to establishing a pharmacovigilance program. The situation analysis along with WHO's best

pharmacovigilance practices documents and the WHO GBT assessment/IDP are the basis for developing a detailed DDA work plan to strengthen pharmacovigilance in Nepal. The MTaPS technical advisor works closely with the DDA pharmacovigilance focal person and other stakeholders, including MOHP disease-specific programs and referral hospitals, to clarify their roles in pharmacovigilance and adverse drug reaction monitoring. The IDP to strengthen the maturity level of pharmacovigilance was reviewed and prioritized. Many IDP activities will need a legislative revision and an increase in staffing norms at the central and provincial levels, where pharmacovigilance is to be decentralized. MSH's comparative analysis of electronic pharmacovigilance data systems will guide discussion on the best solution for Nepal. Implementation of these activities will ensure the establishment of a stronger pharmacovigilance set up in Nepal in line with WHO best practices, increase the WHO GBT maturity level in in the area of pharmacovigilance, and strengthen medicines information and medicines safety.

OBJECTIVE 3: AVAILABILITY AND USE OF PHARMACEUTICAL INFORMATION FOR DECISION MAKING INCREASED AND GLOBAL LEARNING AGENDA ADVANCED

MTaPS worked on the following key activities during the reporting quarter:

- Implement Pharmadex to strengthen the regulatory management information system (MIS) and registration processes
- Detail the data transition plan based on the finalized Pharmadex implementation plan
- Finalize the system requirements for Pharmadex and initiate Pharmadex reprogramming and customization

The DDA's Director General approved the scope of work and members for the MIS TWG, which will meet regularly to manage the Pharmadex implementation process. MTaPS revised the detailed implementation plan for Pharmadex to include data cleaning because data quality was recognized as a challenge. A revised and detailed data transition plan was also drafted that included data cleaning processes. DDA approval is needed for the MTaPS advisor to obtain administrator access to DAMS to transfer the data and implement Pharmadex. A workshop in January with DDA staff discussed the System Requirement Specifications (SRS) for product, pharmacy, and manufacturer registration. The SRS describes the processes and requirements for the system, including the registration dossiers, and compares the existing management information system (DAMS) with the new system (Pharmadex), particularly in terms of good practices and legal requirements. The comparison concluded that Pharmadex needs to be customized for Nepal. The SRS for pharmacy registration was finalized and will be approved at the next MIS TWG meeting. The SRS for all registration processes is close to final, and MTaPS has started drafting the SRS for the inspection modules. The inspection module will consider the module used in Bangladesh that will be integrated into Pharmadex in Nepal and other countries. The workshop to discuss the SRS for inspection was postponed until next quarter to prioritize GBT implementation. Weekly support meetings with the MTaPS home office are ongoing, and updates on activities and the customization efforts of an external programmer are shared. In addition, the DDA approved its website update, and DDA staff were trained in managing the website. MTaPS completed a scope of work for a short-term technical assistant/consultant to help transfer quality data into Pharmadex. With the implementation of Pharmadex, the DDA will be able to improve data quality, have more functions supported by an MIS, improve data use, and strengthen documentation and management to ensure optimal use of limited resources.

MATERNAL, NEWBORN, AND CHILD HEALTH ACTIVITIES

MTaPS/Nepal shared with the USAID Mission, the MOHP, and the DDA two final reports: "Improving Access to Maternal, Newborn, and Child Health Products in Low- and Middle- Income Countries" and "Considerations for Effective Registration Systems and the Mapping of Registration of Maternal, Newborn, and Child Health Medical Products in Nepal". Nepal's inadequate performance identified in the studies is linked to the poor quality of the DAMS data and a weak drug regulatory set-up, and the studies clearly demonstrate the need to strengthen the DDA in all areas. MTaPS/Nepal has taken part in several virtual presentations and discussions of the study findings.

To study problems around decentralized procurement and the establishment of appropriate regulations, procedures, and systems for subnational procurement of maternal, newborn, and child health medicines, USAID proposed conducting a sub-national procurement study in Nepal. MTaPS helped draft the scope of work for the study and started hiring a procurement consultant.

ACTIVITIES NEXT QUARTER

ACTIVITY AND DESCRIPTION	DATES
Assist DDA in organizational restructuring (Sub. Obj. 1.1; Activity 1.1.1) • Implement follow-on meeting to finalize organogram and staffing norms • Finalize reorganization report with reorganized structure, staffing norms, and terms of reference for coordination and oversight structure • Support DDA/Food and Drug Administration and MOHP to implement the new organizational structure with revised roles and responsibilities at all levels	April–June
Update drug law, regulations, rules, and guidelines (Sub. Obj. 1.2; Activity 1.2.1) • Finalize discussion on the DDA draft law that was updated to include all GBT legislative recommendations and brought in line with the zero-draft law • Prepare concept note and present on the follow-on meeting to be attended by high-level officials from the ministry for better understanding and way forward • Finalize mapping report • Initiate revision and update of priority regulations, rules, and guidelines needed to implement the revised drug law	April–May
Explore feasibility and prepare background documents to update the Nepal National Drug Policy (Sub. Obj. 1.2; Activity 1.2.2) • Organize meeting with ILI-ACLE and MSH home office to discuss update of the Nepal National Drug Policy • Assist in updating Nepal price regulation • Implement WHO training course for DDA/MOHP staff • Draft concept note to revise the drug policy	April–June
Develop a five-year strategic plan for strengthening functionality of medicines regulation (Sub. Obj. 2.2; Activity 2.2.1) • Support the draft and implementation of the year 1 DDA strategic plan. • Assist DDA in developing a five-year strategic plan based on the IDP	April
Strengthen regulatory systems for medical products registration and good distribution and good pharmacy practices (GXP) (Sub. Obj. 2.2; Activity 2.2.2) • Strengthen, develop, and update guidelines for drug registration and good review practices • Finalize situation analysis and develop the Nepal pharmacovigilance strategy and work plan • Develop pharmacovigilance guidelines, including reporting by market authorization holders • Implement appropriate MIS • Finalize the GPP inspection tool for private and public sectors	April–June

ACTIVITIES NEXT QUARTER	
ACTIVITY AND DESCRIPTION	DATES
• Employ short-term assistance • Finalize inspection and tool guidelines, codes, and regulations in Nepali and English • Train inspectors in GPP • Develop implementation strategy for private sector and initiate implementation • Strengthen data use and reporting • Initiate integration of inspection reports into Pharmadex • Finalize GDP inspection tool • Develop inspection and tool guidelines in English and Nepali • Train inspectors in GDP • Develop implementation strategy • Strengthen data use and reporting • Initiate integration into Pharmadex	
Assist DDA in developing a QMS (Sub. Obj. 2.2; Activity 2.2.3) • Finalize quality management manual • Prepare a standard format for an SOP • Develop SOP and documentation requirements	April–June
Develop system requirements specifications for selected regulatory modules of an integrated electronic MIS (Sub. Obj. 3.1; Activity 3.1.1) • Finalize system requirements and technical specifications for registration module • Finalize system requirements for inspection, importation, and pharmacovigilance modules	April–June
Assist strengthening MIS for registration, inspection, importation and exportation, and pharmacovigilance (Sub. Obj. 3.1; Activity 3.1.2) • Employ short-term assistance to assist in data cleaning and data transition • Approve detailed data transitioning plan • Finalize Pharmadex customization and install registration modules • Finalize design of inspection module and implement	April–June
Explore strategies to strengthen GPP/GDP and medicines management in government and private-sector health facilities and pharmacies (Sub. Obj. 5.1; Activity 5.1.1) • Make field visit to collect baseline data and test GPP tools • Analyze and finalize report on GPP findings • Present results at MOHP and develop strategy to address challenges • Draft article for peer review	April–June
Assist in implementation of maternal, newborn, and child health procurement study • Identify and hire short-term consultant • Assist in tools development • Assist in data collection and analysis	April–June
Collaborate on Asia Bureau activities • Help implement registration harmonization • Assist in joint dossier review of vaccines and biologicals • Help select candidates for capacity building in One Health tool	April–June

NIGERIA

RESULT AREA 1: EFFECTIVE MULTI SECTORAL COORDINATION ON AMR

Activity 1.1.2: Strengthening multisectoral coordination (MSC) and functionality of the AMR-TWG and its subcommittees

As part of the MTaPS work plan to support the Nigeria Center for Disease Control (NCDC) and the National AMR Secretariat in establishing and building capacity within the Antimicrobial Resistance Technical Working Group (AMR-TWG) and its subcommittees for infection prevention and control (IPC) and antimicrobial stewardship (AMS), MTaPS supported a two-day residential retreat for members of the AMS and IPC subcommittees. The main objectives of the retreat were to develop and review terms of reference (TOR), develop a one-year plan of action for the sub-committee and identify capacity needs for the members. The IPC and AMS sub-committee retreats had 25 participants each, representing multisectoral groups of human health, animal health, the environmental sector, civil society, AMR-TWG Secretariat, representatives of academia, and professional and regulatory organizations.

At the end of the first two-day retreat for members of the AMS sub-committee (March 24-25, 2021), followed by another two-day retreat for IPC sub-committee members (March 26-27, 2021), the TOR for both sub-committees were developed. Each of the sub-committees developed a one-year plan of action after a comprehensive review of the 2017-2022 National Action Plan. Similarly, areas of focus for capacity strengthening for the members of the IPC and AMS subcommittees were highlighted. The AMR-TWG Secretariat was tasked with producing the final version of the TOR which would be circulated to all participants for concurrence.

The retreat provided an opportunity for the first physical meeting of members of the AMS and IPC sub-committees. The participants were unanimous that the retreat was the best activity that has come out of the sub-committees since their inauguration in 2020. One of the participants wrote, "Thank you again for the retreat this weekend. It was very productive and I'm looking forward to our next steps."

Next Steps:

- The TOR of both sub-committees should become operational.
- The sub-committees are expected to be better focused as a result of developing an annual work plan to guide their activities.
- MTaPS will support quarterly meetings of the sub-committees prior to having the larger AMR-TWG meeting. MTaPS and other partners would provide capacity building for members of the AMS subcommittee in the next quarter.

RESULT AREA 2: INFECTION PREVENTION AND CONTROL

Activity 2.1.1: Support IPC governance at the national and state levels

An effective IPC program is fundamental to the quality of care because it could potentially reduce the disease burden on patients, health facilities, and the nation in general. The 2013 National IPC Policy encountered major challenges after it was produced and thus suffered neglect at the implementation phase.

To provide a clear roadmap for addressing these challenges, the 2013 National IPC Policy and Implementation Framework must be reviewed. By virtue of the widely published MTaPS capacity in supporting LMICs to strengthen IPC activities and programs, MTaPS/Nigeria was invited to join other experts in developing a new IPC policy for Nigeria. Consequently, MTaPS/Nigeria supported inauguration of the IPC policy review working group and its maiden review meeting held March 9-10, 2021. The TOR of the working group were:

- To guide the review process, secure stakeholders' engagement and recommendations on actionable steps, including input on the IPC policy and framework outlines
- Document all submissions and suggestions from stakeholders before ratification by the director general of NCDC and the honorable minister for health
- Disseminate to states, federal health facilities, and partners

Fifteen participants from academia, Centre Disease Control, Africa Centre Disease Control, NCDC, WHO, the MOH, tertiary health institutions, and professional organizations attended the two-day workshop. The meeting achieved its objective of setting up a policy review working group and developing the outline for the new IPC policy document.

MTaPS provided useful comments on the zero draft of the new IPC policy document shared with the working group.

Next Steps	Responsible person	Timeline
Provide zero draft following the agreed outline	NCDC	March 17, 2021
Review of zero draft by working group via Google docs or hard copy	Working group	March 29, 2021
Tentative zoom meeting based on outcome of zero draft review by the working group	NCDC	TBD
Drafting one-pager on IPC	Prof. Ogunsola and Josephine	Before the week of April 12, 2021
Physical meeting of the working group to review the finalized zero draft	All	Week of April 12, 2021
Institutional buy-in	Working group reps of institutions	April 30, 2021
Wider stakeholder engagement	NCDC	TBD
Graphic design and printing	NCDC	TBD
Launching and dissemination	National Council of Health and NCDC	TBD

RESULT AREA 3: USE OF ANTIMICROBIAL MEDICINES OPTIMIZED

No activity was scheduled for this quarter

ACTIVITIES FOR NEXT QUARTER	
ACTIVITY AND DESCRIPTION	DATE
Support the establishment/strengthening of AMR multisectoral coordination at the State level in one targeted state	Starting 2nd week in May 2021
Develop a framework and TOR for the functionality of the state AMR committee mirroring the National level organization	Starting 2nd week in May 2021
Conduct a baseline survey at the state to obtain baseline values for selected MTaPS indicators	Starting 3rd week in May 2021
Conduct baseline assessment using WHO IPCAF, evaluate the functionality of the IPC committee at the three facilities, and draft TORs and feedback mechanisms for monitoring progress	Starting 3rd week in May 2021
Organize a workshop to identify gaps and develop interventions and finalize feedback reporting to measure progress	Starting 3rd week in May 2021
Develop facility specific plan of action to establish and strengthen oversight capacity of IPC committee and improve IPC at the identified sites	Starting 3rd week in May 2021
Carry out rapid assessment of AM stewardship activities in Nigeria and provide a report with gap analysis	Starting 2nd week in May 2021
Conduct baseline assessment of AMS at the three facilities using the WHO assessment tool	Starting 3rd week in May 2021
Reactivate/establish DTC/AMS committee in the three selected facilities	Starting 3rd week in May 2021
Training for DTC/AMS committee members	Starting 1st week in June 2021

THE PHILIPPINES

OBJECTIVE 1: PHARMACEUTICAL-SECTOR GOVERNANCE STRENGTHENED

MTaPS continues working with the Department of Health's (DOH) Disease Prevention and Control Bureau (DPCB) and Procurement and Supply Chain Management Team (PSCMT) to establish the PSCMT's technical stewardship role for a centrally integrated procurement and supply chain management (PSCM) system.

In February, MTaPS met with the DPCB to understand the bureau's current restructuring initiative and the implications of restructuring for performing PSCM functions. It was agreed that while public health programs under the DPCB would continue performing high-level planning and monitoring related functions for health commodity supply (such as procurement budget allocation and monitoring of stock availability at service delivery points), other functions, including quantification and distribution allocations, should ideally be transferred to the PSCMT. It was also agreed that externally-funded PSCM support units, such as the Drug Supply Management (DSM) Unit of the National Tuberculosis Program (NTP) and the Logistic Management Unit of the National AIDS and STD Prevention and Control Program (NASPCP), could perform their roles under the supervision of the PSCMT. The DPCB agreed in principle to support the PSCMT in taking a leadership role on the forecasting and supply planning functions. The DPCB also agreed to transfer the DSM units of donor-funded programs to the PSCMT for better coordination and stronger stewardship. MTaPS will continue working with the DPCB and PSCMT to support integration of DSM units with the PSCMT so that the PSCMT can take on PSCM governance and leadership roles in close coordination with the DOH's public health programs and regional counterparts to avoid duplication and fragmentation of PSCM functions at the central level.

MTaPS is working with the DOH and the Food and Drug Administration (FDA) to establish active drug safety monitoring (aDSM) for public health programs. MTaPS organized meetings with the NASPCP, DOH's Pharmacy Division (PD), FDA, and World Health Organization (WHO) to discuss requirements and plan for establishing aDSM programs, especially for new antiretroviral (ARV) regimens and pre-exposure prophylaxis (PrEP). The NASPCP has decided to set up aDSM for new ARV regimens and PrEP and requested MTaPS to support implementation of the aDSM using the Pharmacovigilance Monitoring System (PViMS).

To promote greater understanding of active and spontaneous pharmacovigilance (PV) systems for ensuring patient safety and pharmaceutical governance, MTaPS is organizing a lessons learned forum on April 6, 2021, to capture the lessons learned from two operational research activities that used active surveillance methods for monitoring the safety features of a new TB drug and noble treatment regimen. Building on the lessons learned and experience of setting up aDSM for the NTP and NASPCP, MTaPS will work with the FDA to establish a National Medicine Safety Advisory Committee to further institutionalize pharmaceutical governance to ensure safety and efficacy of medical products.

OBJECTIVE 2: INSTITUTIONAL AND HUMAN RESOURCE CAPACITY FOR PHARMACEUTICAL MANAGEMENT AND SERVICES INCREASED, INCLUDING REGULATION OF MEDICAL PRODUCTS

In addition to previously launched eLearning courses on infection prevention and control (IPC), health care waste management (HCWM), and emergency supply chain management, MTaPS has taken steps to develop and upload new eLearning modules in the DOH Academy to help professionalize and capacitate the PSCM workforce. MTaPS has adapted two modules on pharmaceutical system strengthening (PSS)—Overview of Pharmaceutical System Strengthening and Organization of Pharmaceutical System—and another module on warehouse operations management and shared them with the DOH for review and comments. Development of another module on PSCM in the context of PSS and universal health

coverage (UHC) is under way. Following a content review and quality check by the PSCMT and Health Human Resources Development Bureau, these new eLearning modules will be uploaded to the DOH Academy. The modules will help the PSCM workforce to complete the courses at their own time and pace, earn continuous professional development credits awarded by the Professional Regulation Commission, and further develop their capacity to perform PSCM functions efficiently.

In collaboration with the DOH, MTaPS held a workshop to conduct a systems and capacity gap analysis of PSCM and PV functions to be performed by local government units (LGUs) to implement the UHC Law. The workshop aimed to gather information on the technical assistance needs of LGUs to design a Local Technical Assistance Provider (LTAP) program for setting up well-functioning PSCM and PV systems in LGUs. Workshop participants included representatives from selected LGUs and their Center for Health Development (CHD) partners. Participants provided valuable input on the needs of the LGUs and what has to be done to carry out the desired PSCM and PV functions. MTaPS is currently analyzing input from the workshop and developing a curriculum to identify and train a pool of local technical assistance providers who will support LGUs to set up required PSCM and PV systems to implement the UHC Law.

In the area of regulatory system strengthening, MTaPS held two alignment meetings with the FDA to discuss potential areas of collaboration to improve the efficiency of the FDA's regulatory processes, including product registration. MTaPS facilitated a discussion with the FDA to understand the challenges faced by the agency and its vision for regulatory systems strengthening. MTaPS also presented Pharmadex, a web-based tool with the potential to help the FDA streamline its product registration system, optimize the registration process, and track the registration of essential medicines. The FDA acknowledged an opportunity to integrate Pharmadex with its current initiative for setting up an electronic services mechanism. MTaPS also presented the concept of a coalition of interested partners to the FDA to harmonize and align potential support from several technical assistance providers, including the World Bank, WHO, and the Global Fund, for regulatory systems strengthening. The FDA welcomed the support from USAID and MTaPS, agreed with the collaborative approach, and committed to work with USAID and MTaPS to identify the next steps. Having a well-functioning regulatory system supported by an efficient information management system will help the FDA streamline the medicine registration process, lessen its backlog, and facilitate the registration of essential medicines so that the public will have uninterrupted access to safe, efficient, and quality products.

OBJECTIVE 3: AVAILABILITY AND USE OF PHARMACEUTICAL INFORMATION FOR DECISION MAKING INCREASED AND GLOBAL LEARNING AGENDA ADVANCED

MTaPS continues to support the DOH as it completes the requirements for developing the electronic logistics management information system (eLMIS) implementation roadmap by providing technical assistance to the eLMIS technical working group (TWG). Meetings with the eLMIS TWG were temporarily postponed by the DOH in January 2021 due to COVID-19 vaccine roll out activities, causing potential delays in the finalization of the implementation roadmap. However, MTaPS continued working with the DOH's Knowledge Management and Information Technology Service (KMITS) and other members of the eLMIS TWG to identify an appropriate eLMIS solution for the DOH and developing the implementation roadmap for the agreed solution. Depending on the current situation, development of the roadmap and a costed implementation plan may take up to June 2021. As requested by KMITS, MTaPS provided the DOH's required costing details to support deployment of the eLMIS to be incorporated in KMITS' three-year budget plan (2022–2024). The PSCMT was consulted on the costing details in the implementation plan, which were aligned with the DOH's plan for eLMIS implementation in the next few years. As a next step, MTaPS will issue a solicitation and gather proposals from potential solution providers so that the best fit and best value eLMIS solution can be selected for the Philippines.

MTaPS organized a meeting with the PD and National Family Planning (NFP) Program to analyze how the PD's Pharmaceutical Management Information System (PMIS) is producing its consumption and stock-on-hand reports and to see how the principles of rational allocation can be built into the system. At this meeting, MTaPS provided recommendations on how the PMIS can compute the average monthly consumption, adjusted average monthly consumption, and recommended quantities to order. The PD agreed to explore the feasibility of adopting MTaPS' recommended changes into the PMIS. The NFP Program agreed to further work with the PD to implement a practice of rational allocation and distribution of FP commodities using the PMIS. To address current inadequate distribution practices, the NFP Program requested MTaPS to draft a policy on rational allocation and distribution that will standardize inventory rules and distribution recommendations for all programs under the DPCB. MTaPS is developing the rational allocation and distribution policy in consultation with the DPCB and PSCMT with the goal of improving rational distribution practice to avoid stock-outs and over-stocking at the health facility level.

MTaPS also completed and presented preliminary results of the Couple Years of Protection (CYP) analysis covering July 2019–June 2020. Using FP commodities consumption and distribution data from both the public and private sectors, the CYP analysis provides estimated total protection achieved by the country during the reporting period and tracks progress toward FP service delivery targets.

MTaPS continued supporting the DOH with enhancements to PViMS in accordance with aDSM requirements. The enhancements included the establishment of interoperability between PViMS and the country's national TB information system to eliminate the duplication of encoding efforts for users of both systems. MTaPS provided technical assistance by identifying gaps and outlining the steps for the migration of aDSM data from a spreadsheet into PViMS. This will simplify the data generation process and enable the analysis of previously collected aDSM data reports. MTaPS also supported the PD to develop a nationwide PViMS roll out strategy involving all aDSM stakeholders (Lung Center of the Philippines, FDA, NTP, KMITS, Philippine Business for Social Progress, and other implementing partners). The stakeholders agreed to implement PViMS first in selected facilities in at least two regions to strengthen aDSM reporting prior to scale up in other regions. Roll out of PViMS will help establish a PV system in the Philippines to support active monitoring of patient safety for new medicines and novel treatment regimens.

OBJECTIVE 4: PHARMACEUTICAL-SECTOR FINANCING, INCLUDING RESOURCE ALLOCATION AND USE, OPTIMIZED

MTaPS supported the implementation of a Framework Agreement (FA) that will serve as a procurement method for the DOH. With MTaPS' support, the DOH initiated the procurement of TB drugs through the FA. However, the initiative resulted in a bid failure as no bidder was able to submit a bid under the FA. Bidders were unable to meet eligibility requirements, particularly related to producing a certificate of product registration valid for the required pack size as requested in the bidding document. MTaPS subsequently organized a "Pause and Reflect" session with the DOH's Procurement Service, NTP, and USAID implementing partners to better understand the factors behind the bid failure, find solutions, and plan for next steps to support the DOH with the implementation of the FA. Based on lessons learned, MTaPS is assisting the DOH to apply for multiyear contracting authority to support a multiyear FA and provide orientation on FA to potential bidders for greater participation and compliance with bidding requirements. In addition, to achieve a greater economy of scale and more efficient procurement of health commodities by LGUs, MTaPS is supporting Philippine Pharmaceutical Procurement Inc. (PPPI) to serve as a procurement agent for conducting pooled procurement for participating LGUs in procuring pediatric first-line TB medicines and GeneXpert cartridges. MTaPS, together with PPPI and USAID implementing partners ProtectHealth and TB Platform, provided a series of orientations on pooled procurement to interested LGUs.

In collaboration with USAID's ReachHealth project, MTaPS designed a concept for a Provider Integration and Engagement System (PIES) that will facilitate the formation of a health care provider network at the LGU level and enable network members to exchange information, obtain cross referrals, and seek reimbursement for health services and products. MTaPS and ReachHealth have agreed to facilitate the initial implementation of the PIES in one of the LGUs to finalize the design and assess the feasibility of the system. MTaPS and ReachHealth are currently identifying a technology partner that will design an end-to-end system with interoperability with existing systems. Such a system will enable health care provider networks to do online patient registration, data exchange, referral (including e-prescription), service delivery monitoring, and reimbursement to increase access to health services and commodities for all Filipinos. Once developed, this approach will be tested to gather evidence for a good practice and promising intervention.

OBJECTIVE 5: PHARMACEUTICAL SERVICES, INCLUDING PRODUCT AVAILABILITY AND PATIENT-CENTERED CARE TO ACHIEVE DESIRED HEALTH OUTCOMES, IMPROVED

PSCM system design: MTaPS has finalized a scope of work with Deloitte to conduct the PSCM system architecture design in the Philippines. The approach will rely on working with members of the DOH to ensure their involvement in the whole visioning and design process and considering major policy shifts such as the implementation of UHC and Mandanas Ruling. Deloitte and MTaPS will facilitate workshops, analyze data, and propose multiple future state options to cover different scenarios for PSCM program structure in the Philippines.

Health facility assessment plan for IPC and HCWM: MTaPS met with the DOH's Health Facility Development Bureau (HFDB) in January 2021 to plan for a training of trainers (TOT) of a pool of staff from the DOH and regional offices to capacitate them in hospital monitoring to assess compliance on IPC and HCWM. The HFDB is finalizing the monitoring processes at the central level and requested MTaPS to support cascading the monitoring process to the CHDs and health facilities. MTaPS will continue to coordinate with the HFDB and PD to review the monitoring checklists and design a training program for cascading the monitoring plan. Given the restrictions on travel and face-to-face interactions, the TOT will be conducted online. Coordinating with both the HFDB and PD will facilitate the streamlining of hospital monitoring processes through efficient use of human and technical resources.

PSCM action plan for BARMM MOH: MTaPS and the USAID BARMMHealth project facilitated a two-day workshop on pharmaceutical management in the supply chain management system for Bangsamoro Autonomous Region in Muslim Mindanao Ministry of Health (MOH-BARMM). The workshop was facilitated on-site by the BARMMHealth project, with MTaPS providing facilitation remotely. The workshop aimed to orient MOH-BARMM on the PSCM of health commodities and facilitate identification of specific strategies and action plans to set up a PSCM system for the BARMM region. The workshop was useful in identifying a high-level vision of PSCM for the BARMM region, focusing on what currently exists and what MOH-BARMM would like to put in place. MTaPS is analyzing input received from the workshop and finalizing the workshop report as a basis for next steps in helping MOH-BARMM improve PSCM.

PrEP distribution plan: MTaPS supported the NASPCP on PSCM to contribute to the country's initiative and commitment to HIV prevention and care. In March, MTaPS facilitated a workshop with the DOH, UNAIDS, the Global Fund, and USAID implementing partners to gain concurrence with partners on the parameters in determining the PrEP monthly target clients to develop a distribution plan for PrEP. Based on the agreements, MTaPS developed an Excel-based PrEP distribution tool that the NASPCP, the DOH's Epidemiological Bureau, and other implementing partners can utilize to incorporate different scenarios in setting up targets, validating allocations, and verifying stock sufficiency. The tool also includes the distribution schedule and estimated timeline when the supplies of PrEP are expected to arrive and to be consumed based on the set targets to ensure rational distribution of PrEP

to the identified implementing sites. As part of preparing a PrEP roadmap, MTaPS presented the PrEP distribution plan to partners during an HIV Coordination Meeting in March 2021. In April 2021, MTaPS will facilitate several consultations with the DOH and HIV prevention and care partners for the development of a five-year PrEP roadmap that will elaborate the strategies for introducing and scaling up PrEP with necessary action plans and timelines for responsible offices as well as the stakeholders involved. Once finalized, the PrEP roadmap will be adopted by NASPCP and will serve as a guiding document for implementation. It will also undergo periodic review during implementation.

ACTIVITIES FOR NEXT QUARTER	
ACTIVITY AND DESCRIPTION	DATE
Activity 1.1.1: Strengthen the stewardship role of the PSCMT to set up centrally integrated PSCM functions with decentralized implementation	June 30, 2021
1.2.1: Support DOH in implementing a PSCM and PV workforce development plan for institutional capacity building	June 30, 2021
Activity 1.2.2: Capacitate a pool of LTAPs to support institutional capacity building of LGUs for PSCM and PV functions	June 30, 2021
Activity 1.3.1: Support DOH to develop a roadmap, acquire necessary technology, and implement the roadmap for an end-to-end eLMIS	June 30, 2021
Activity 1.4.1: Support DOH and LGUs in conducting procurements through FAs and pooled procurement mechanisms for FP and TB commodities	June 30, 2021
Activity 1.4.2: Conduct a pilot use of an electronic platform to integrate private pharmacies into local service delivery networks through cross-referral and a voucher reimbursement system	September 30, 2021
Activity 1.5.1: Support DOH to analyze PSCM system design options for implementation	June 30, 2021
Activity 2.1.1: Support DOH in strengthening the national PV governance structure and processes for aDSM	September 30, 2021
Activity 2.2.1: Support DOH and FDA to register FP and TB products	September 30, 2021
Activity 2.4.1: Support DOH in rolling out PViMS for active PV	September 30, 2021

RWANDA

OBJECTIVE 1: STRENGTHEN GOVERNMENT AND HEALTH WORKER CAPACITY TO MANAGE PHARMACEUTICAL SYSTEMS

1.1.1: Strengthen the capacity of Rwanda FDA in regulating pharmaceuticals used in HIV/AIDS, MNCH, and FP/RH programs

MTaPS has been supporting the Rwanda Food and Drug Authority (FDA) in the development of its comprehensive four-year strategic plan (2021–2024). The strategic plan provides guidance to the Authority to meet its mission through the implementation of designed activities that help in achieving the set key performance indicators that are geared toward strengthening the existing regulatory systems and improved health care outcomes as an ultimate goal. The strategic plan has been developed, reviewed, and validated by stakeholders and is expected to be approved by the Board of Directors for the Rwanda FDA in April 2021.

In preparation for support of the classification of antibiotics following the World Health Organization (WHO) 2018 AWaRe (access, watch, reserve) approach to establish a national list of essential antibiotics that will be inserted into the National Essential Medicines List (NEML), MTaPS has initiated the process of engaging a consultant to work with the Ministry of Health (MOH) and WHO to facilitate the classification process and integrate the classified antibiotics into the NEML for Rwanda.

In addition, MTaPS is supporting the implementation of the quality management system at the Rwanda FDA. A quality manual and corresponding SOPs for Rwanda FDA regulatory functions were developed in previous quarters. During this quarter, the quality manual was submitted by the Rwanda FDA management for approval to the Rwanda FDA Board of Directors.

In program year 3, MTaPS is providing additional support to the Rwanda FDA to develop a business plan aligned to the developed strategic plan 2021–2024. MTaPS is engaged in the process of recruiting a consultant.

1.1.2: Streamline registration of essential medicines and medical devices, including those used in HIV/AIDS, MNCH, and FP programs

With events, such as the COVID-19 pandemic, making it difficult to conduct some of the planned activities, including face-to-face capacity building, developing an online e-learning course in medicines evaluation and registration is being undertaken by MTaPS in close consultation with the Rwanda FDA. During this quarter, MTaPS developed the e-learning materials, which include three main modules and twelve mini-modules. The e-learning materials have been designed into storyboards and are currently under review by MTaPS and the Rwanda FDA. The development process will continue into quarter 3.

OBJECTIVE 2: PROMOTE THE AVAILABILITY AND USE OF PHARMACEUTICAL INFORMATION FOR ART-RELATED DECISION MAKING

As part of its support to strengthen the medicines regulatory system, MTaPS is working to provide technical support to the Rwanda FDA to automate regulatory processes and provide services online. To understand the status and capabilities of the existing Product Registration Information Management System at the Rwanda FDA, an assessment was conducted to determine its current capacity and what adjustments and/or additions need to be made to improve the system. The system is vital in providing online regulatory services by the Rwanda FDA, and its proper functionality is of great importance in service provision to its customers and in improving transparency and strengthening governance. During this quarter, the report on the identified gaps and recommendations has been finalized and is under editorial review.

OBJECTIVE 3: STRENGTHEN SYSTEMS FOR PROVIDING SAFE PATIENT-CENTERED PHARMACEUTICAL CARE SERVICES OF ENSURED QUALITY

3.1.1: Strengthen delivery of high-quality, patient-centered pharmaceutical care through the development of pharmacy service standards aligned with Rwanda's health care quality and accreditation system

MTaPS has initiated the printing of seed copies of the pharmaceutical services standards for accreditation.

3.1.2: Improve quality and use of medicines for reproductive, maternal, newborn, and child health

To strengthen management of health commodities at facilities and Rwanda Medical Supply (RMS) branches at the district level, MTaPS is providing support to the Integrated Maternal Child and Community Health division of the Rwanda Biomedical Center (RBC) to develop an implementation manual of guidelines and procedures on the management and storage of oxytocin. During this quarter, the draft manual was shared with the RBC for review and input. The RBC recommended further review by the RMS. After review by the RBC and RMS, it is planned that the manual will be tabled to the Maternal, Neonatal, and Child Health technical working group (MNCH TWG) and later to the Ministry of Health (MOH) for approval. A situational analysis of Drug and Therapeutics Committees (DTCs) is under way to tailor support to DTCs for monitoring of the use of medicines for MNCH conditions.

3.1.3: Improve access to and administration of oxygen to hypoxic newborns and children with pneumonia

MTaPS is working with the MOH to improve access to and administration of oxygen in health facilities, beginning with identification of existing gaps. The final validated report on the MOH-led nationwide inventory assessment with support from the Clinton Health Access Initiative is awaited. MTaPS conducted a rapid desk review of the availability and use of oxygen, equipment, and medical devices and is in the process of refining the findings. Additionally, MTaPS is supporting the MOH to establish an oxygen coordination working group and is drafting the terms of reference for review and adoption. Based on the assessment findings and the actions to be defined in the planned oxygen roadmap, MTaPS will support the MOH and other stakeholders through the oxygen coordination working group to develop an oxygen policy framework and guidelines and SOPs on the use and management of oxygen.

3.2.1: Support establishment of a system for active surveillance of the new DTG-based regimen and strengthen the existing spontaneous reporting system

During this quarter, MTaPS supported finalization of the development of the protocol and its implementation plan for active monitoring of patients on dolutegravir (DTG)-based antiretroviral therapy (ART) regimens in the country. SOPs and training materials have been developed and are undergoing internal review:

SOPs

- Patient enrollment into active monitoring of DTG-based regimens
- Documentation during enrollment into the cohort for active safety monitoring of DTG-based regimens
- Patient confidentiality management
- Documentation during follow-up visit for active safety monitoring of DTG-based regimens
- Participant follow-up visit
- Birth outcome and newborn screening
- Adverse event reporting
- Adverse event report management
- Causality assessment
- Data management and periodic data quality review

Training materials covering:

- Protocol content
- Study implementation
- Forms and SOPs
- Rwanda FDA adverse drug reaction reporting forms
- Conducting causality assessment

MTaPS also finalized the development of the draft National Pharmacovigilance (PV) Plan as part of PV system strengthening. MTaPS has supported finalization of the draft Information, Education, and Communication (IEC) materials, which have been submitted to the Rwanda FDA for approval prior to printing for dissemination and use. MTaPS has supported the development of three e-learning modules with twelve mini-modules on PV. The PV e-learning course content scripts have been submitted to the Rwanda FDA for review prior to finalization. It is expected that during quarter 3, the first cohort training will be conducted.

3.2.2: Support the development of the multisectoral antimicrobial resistance communication strategy

Rwanda is in the process of finalizing its first national action plan on antimicrobial resistance (AMR) in collaboration with the UN Food and Agriculture Organization and WHO. In this regard, MTaPS is collaborating with the MOH, Rwanda FDA, and other stakeholders to provide technical support to develop a national multistakeholder AMR communication strategy. During this quarter, MTaPS met the coordinator for the One Health Approach to determine how to engage AMR stakeholders in the development of the strategy. MTaPS has developed the scope of work for the consultant who will be engaged to support development of the communication strategy.

ACTIVITIES FOR NEXT QUARTER

ACTIVITY AND DESCRIPTION	DATE (2021)
1.1.1: Strengthen capacity of the Rwanda FDA in regulating pharmaceuticals used in HIV/AIDS, MNCH, and FP/RH programs • Finalize engagement of the consultant to develop Rwanda FDA business plan, gather and review the relevant working materials, and start development of the business plan • Finalize engagement of the consultant on classification of antibiotics following WHO 2018 AWaRe, develop the antibiotics classification, and have the same combined with revised NEML	April–June
1.1.2: Streamline registration of essential medicines and medical devices, including those used in HIV/AIDS, MNCH, and FP programs • Organize a capacity building session for Rwanda FDA medicines registration personnel via the Centre of Regulatory Excellence, Duke-National University of Singapore, and WHO prequalification team • Develop draft SOP on assessment of generic medicines including WHO prequalified products	April–June
1.1.3: Enhance capacity of Rwanda FDA to ensure quality of food products • Obtain the existing regulation on registration for food products and the existing guidelines on registration for food products and review for gaps • Develop draft regulation on food safety surveillance; draft guidelines on post-marketing surveillance of food products; and draft guidelines on recall, seizure, and disposal of unfit products	April–June
1.2.1: Support functionality of DTCs and enhance their capacity to facilitate transitioning of patients to TLD and monitoring of pharmaceutical management in the supported health facilities • Set up a TWG of stakeholders to support the development of a DTC operational manual	April–June

ACTIVITIES FOR NEXT QUARTER	
ACTIVITY AND DESCRIPTION	DATE (2021)
• Conduct a desk review of the existing DTC materials, identify gaps, and develop content to address gaps	
3.1.1: Strengthen delivery of high-quality, patient-centered pharmaceutical care through the development of pharmacy service standards aligned with Rwanda's health care quality and accreditation system • Support the dissemination and implementation of the approved pharmacy service accreditation standards • Support printing and dissemination of IEC materials • Support the annual National Pharmacy Council conference	April–June
3.1.2: Improve quality and use of medicines for reproductive, maternal, newborn, and child health • Work with the MNCH TWG to review the draft oxytocin implementation manual	April–June
3.2.1: Support establishment of a system for active surveillance of the DTG-based regimen and strengthen the existing spontaneous reporting system • Obtain Institutional Review Board approval for the active surveillance protocol • Conduct the training for health care providers and data collectors • Enroll participants for the active surveillance study • Organize a stakeholder validation meeting for the national PV plan • Launch the PV e-learning course	April–June

SENEGAL

RESULT AREA 1: EFFECTIVE MULTISECTORAL COORDINATION ON AMR

Activity 1.1.1: Strengthen the functionality of the AMR technical working group (TWG) by supporting effective coordination through regular meetings.

MTaPS provided technical contributions to the workshop on March 23-24, 2021, which was supported financially by the USAID Breakthrough Action Project and led by the One Health Permanent Secretariat to:

- Consolidate the annual AMR action plan in preparation for submission for approval by the steering committee of the One Health High Council
- Finalize the multisectoral action plan by following the Electronic State Parties Self-Assessment Annual Reporting Tool (e-SPAR), i.e., the web-based platform proposed to support states that are party to the International Health Regulations (IHRs) to fulfill their obligation to report annually to the World Health Assembly (WHA) on implementation of capacity requirements. Priorities for 2021 were identified for the 19 technical areas of the Joint External Evaluation. Another workshop will be scheduled in April to consolidate the action plan.

RESULT AREA 2: INFECTION PREVENTION AND CONTROL

Activity 2.5.1 Provide support to the Direction de la Qualité, de la Sécurité et de l'Hygiène Hospitalières (DQSHH) to organize workshops to revise and update the national IPC guidelines

On February 2-3, 2021, MTaPS supported the DQSHH in updating the national IPC guidelines that draw on the finalized and validated IPC guidelines from the three pilot hospitals. National IPC guidelines have been developed on hand hygiene, environmental cleaning, waste management, accidental exposure to blood, and injection safety. During this workshop, the DQSHH validated a standardized guide for use by infection control committees (ICCs) of the five newly selected hospitals to develop their respective procedures using the national guidelines as a reference.

Activity 2.5.4: Support the revitalization of ICCs at selected district and regional hospitals

MTaPS worked with the DQSHH to select the five hospitals based on the following criteria:

- Hospitals with ICCs that report regularly on their activities to the DQSHH
- Hospitals with a head of administration supporting the ICC
- Representation of the three levels of hospitals
- MOH's final discretionary recommendations

The selected hospitals include the level 1 of Mbour, the level 2 of Fatick, the level 2 of Kaffrine, the level 3 of Touba (Matlaboul Fawzayni), and the level 3 of Dakar (Aristide LeDantec).

In preparation for expanding ICC revitalization work to these five new hospitals, MTaPS provided technical and financial support to the DQSHH to organize an initial orientation workshop on February 23 under the aegis of the MOH's General Directorate of Health Facilities (DGES). The orientation workshop was an opportunity for one of the three pilot hospitals (HOGIP level 3 in Dakar) to share its experience on the ICC revitalization process. The DQSHH and MTaPS then provided an orientation on the WHO's Infection Prevention and Control Assessment Framework (IPCAF) to the five hospitals. Following the IPC orientation workshop and facility IPC assessments, the ICC members from the level 1 of Mbour, the level 2 of Fatick, the level 2 of Kaffrine, and the level 3 of Touba (Matlaboul Fawzayni) conducted their respective baseline assessments using the WHO IPCAF. The assessment at Aristide

LeDantec hospital was postponed because of the civil unrest that took place February 25 to March 15, 2021.

The results of assessments show that:

- Level 1 of Mbour has inadequate IPC capacity with a score of 167.5/800
- Level 3 of Touba (Matlaboul Fawzayni) has basic IPC capacity with a score of 310/800
- Level 2 of Fatick has basic IPC capacity with a score of 315/800
- Level 2 of Kaffrine has basic IPC capacity with a score of 380/800

The hospitals each developed an improvement action plan to address the IPC gaps identified in their respective facilities. MTaPS will support the ICCs in implementing their improvement action plans.

Other IPC-related activities

In the previous quarter, MTaPS and Empower trained and equipped the MOH eLearning teams with the necessary facilitation skills, including eLearning concepts and approaches (asynchronous, synchronous, and blended learning), facilitation techniques for online courses, and the key features and functions of the Moodle platform. During this quarter, MTaPS oriented the MOH on uploading the eLearning courses using SCORM (Shareable Content Object Reference Model) packages. The participants then uploaded IPC standard and IPC for COVID-19 courses to the MOH eLearning platform. The official launch of these courses is tentatively planned for April 2021.

RESULT AREA 3: USE OF ANTIMICROBIAL MEDICINES OPTIMIZED

MTaPS provided technical support to the National Committee for Antibiotic Treatment (NCAT) to organize a virtual workshop on February 10, 2021, for technical validation of the updated policy and guidelines on antibiotic therapy that includes the WHO's AWaRe classification. More than 25 participants attended the validation virtual workshop chaired by the president of NCAT (i.e., head of the Department of Infection Diseases at the University Teaching Hospital [UTH] of Fann). Participants were members of the NCAT's four technical working groups (policy, antibiotic treatment for community infections of adults and children, antibiotic treatment for health care-associated infections, and antibiotic prophylaxis). They also represented MOH directorates (DQSHH, Direction de la Pharmacie et du Médicament [DPM], National Lab, National Pharmacy Supply, National Lab for Control of Medicines, National Hygiene, etc.); UTH's departments of microbiology, anesthesiology and resuscitation, pulmonology, odontology, and stomatology; and WHO and USAID implementing partners. Key recommendations included addressing missing content identified during the workshop, combining the separate STGs into one document, preparing for the final validation by the MOH's health systems strengthening platform, and disseminating the antibiotic treatment STGs as soon as the final validation is granted.

MTaPS is working closely with NCAT secretariat (e.g., the director of the DQSHH) to monitor and support implementation of the above recommendations.

ACTIVITIES FOR NEXT QUARTER

ACTIVITY AND DESCRIPTION	DATE
Finalize/monitor implementation of the consolidated AMR 2021work plan, national plan for AMS, and consolidated e-SPAR multisectoral action plan	April-June 2021
Support implementation of the validated improvement action plan developed by each hospital for the revitalization process	April-June 2021
Support a training workshop for members of IPC committees in each hospital on IPC core components, WHO multimodal strategy, and continuous quality improvement	May-June 2021
Launch the IPC eLearning platform and train health care workers at the national level	April-June 2021
Validate the antibiotics STGs by the Health Systems Strengthening Committee and proceed to dissemination	June 2021

TANZANIA

RESULT AREA 1: EFFECTIVE MULTISECTORAL COORDINATION ON AMR

Activity 1.1.1: Review plans and progress through regular MCC meetings

MTaPS met with the secretaries of the Infection Prevention and Control (IPC) Technical Working Group (TWG) and the Multisectoral Coordination Committee (MCC) to discuss how to operationalize IPC and antimicrobial stewardship (AMS) virtual technical support to the supported health facilities through the Extension for Community Healthcare Outcomes (ECHO) Project platform to enable supported hospitals to implement and monitor IPC and AMS interventions and curb antimicrobial resistance (AMR).

This contributes to Tanzania progressing to the next Joint External Evaluation (JEE) capacity level rating by implementing the recommended actions in benchmark 3.1 for multisectoral coordination on AMR in the World Health Organization's (WHO) 2019 International Health Regulations capacities benchmarking tool. Regular meetings with key MCC leaders and working groups are key to operationalization of the National Action Plan on Antimicrobial Resistance (NAPA).

RESULT AREA 2: INFECTION PREVENTION AND CONTROL

Activity 2.2.1: Strengthen institutional capacity building to local training institutions to manage e-learning on IPC for both pre- and in-service health care workers

MTaPS supported the Ministry of Health, Community Development, Gender, Elderly and Children (MOHCDGEC) in conducting a planning session in preparation for the launch of the e-learning Moodle platform of the Center for Distance Learning Education, which is expected to be conducted in April 2021. MTaPS had earlier supported the development of the IPC e-learning courses and the training of 10 master trainers to conduct the e-learning training sessions and manage the platform.

This activity supports Tanzania in the pathway toward progress from JEE capacity level 3 to 4 on the mainland and aligns with priority action 6.1.2 of Tanzania's NAPA, which lists IPC-related interventions. NAPA's strategic objective 3 seeks accredited, competency-based curricula in both teaching institutions and the working environment. Additionally, this aligns with WHO benchmark capacity level 3 action on training adequate numbers of health care workers on the IPC guidelines.

Activity 2.3.1: Develop a system for monitoring and evaluating IPC programs in health facilities

MTaPS supported the MOHCDGEC in developing the IPC register, IPC summary reporting form, and national IPC program monitoring and evaluation (M&E) matrix. This was achieved through collaboration with various stakeholders, including representatives from WHO Tanzania, FHI 360, District Health Information Software 2 (DHIS2) system developers from the University of Dar es Salaam, staff from the MOHCDGEC M&E unit, health care staff from national and zonal hospitals, and Medipeace. Twenty-seven IPC indicators that are to be added to DHIS2 to capture IPC interventions at the health facility level were developed and agreed upon.

This activity supports Tanzania in the pathway toward progress from JEE capacity level 3 to 4 by implementing the following level 4 recommended action: Mandate and support IPC improvement at all health care facilities.

RESULT AREA 3: USE OF ANTIMICROBIAL MEDICINES OPTIMIZED

Activity 3.1.1: Support development of hospital antimicrobial formulary and other related AMS policies

MTaPS supported the MOHCDGEC in compiling, designing, and printing the Access, Watch, and Reserve (AWaRe) groups list of antibiotics for approval and signing by the Minister of Health.

It is anticipated that the antimicrobial hospital formulary will help hospitals determine which antimicrobials should be prescribed, when, and under what conditions. This will control unnecessary prescribing and dispensing of antimicrobials since they will be on a hospital list of watch medicines that require strong justification before they are prescribed. The activity will contribute to the country's progress toward JEE capacity level 3. These interventions are also consistent with the recommended actions in WHO benchmark 3.4, capacity level 3 on conducting stewardship practices in designated hospitals.

This activity will help the MOHCDGEC monitor AMS practices that enable appropriate antimicrobial use in supported hospitals, thus contributing to progress toward JEE capacity level 3 by addressing the following action: Establish SOPs, protocols, and databases for monitoring antimicrobial use in humans and animals.

Activity 3.5.1: Support active implementation of AMS practices in the six supported facilities and help initiate similar activities in four new facilities

MTaPS held a series of consultative meetings with the University of Maryland, Baltimore, which is running a telesupport project to support HIV interventions in the health facilities in Tanzania called Project ECHO, to help MOHCDGEC staff understand how to best leverage the Project ECHO infrastructure that is already present at the supported health facilities to provide IPC and AMS virtual support.

As a result of these meetings, MTaPS is preparing a concept note to be submitted to the MOHCDGEC's technical department that is coordinating virtual support to supported hospitals through the Project ECHO platform to allow IPC and AMS content and utilization.

MTaPS also conducted remote follow-up on the AMS interventions at the six supported hospitals that had received AMS mentorship support in June 2020. During the follow-up, it was noted that no AMS action plans that were left during the mentorship visit had been implemented. It was decided that another round of mentorship visits is needed to further reactivate the teams for the implementation of AMS activities.

This activity will help the MOHCDGEC to establish and monitor AMS practices that promote appropriate antimicrobial use in health facilities in the COVID-19 era, thus contributing to progress toward JEE capacity level 3.

The activity responds to WHO benchmark 3.4, level 3 capacity milestones: Implement AMS programs, including monitoring of antimicrobial use, education/communication, and other interventions to improve antibiotic use at designated facilities and establish SOPs, protocols, and databases for monitoring antimicrobial use in humans and animals.

ACTIVITIES FOR NEXT QUARTER

ACTIVITY AND DESCRIPTION	DATES
Review plans and progress through regular MCC meetings • MTaPS will support regular MCC meetings to evaluate activity implementation progress and troubleshoot challenges	April 2021
Strengthen institutional capacity building to local training institutions to manage e-learning on IPC for both pre- and in-service health care workers • MTaPS will train master trainers and support the launching of the IPC e-learning platform	April 2021
Develop an M&E system for IPC programs in health facilities • MTaPS will support the MOHCDGEC to customize IPC indicators into DHIS2.	April 2021
Continue promoting a self-improvement culture through local teams that use continuous quality improvement methodologies for IPC • MTaPS will conduct IPC mentorship and provide virtual support to the supported health facilities	April–June 2021
Support active implementation of AMS practices in the six supported facilities • MTaPS will conduct AMS mentorship visits and provide virtual support to the six supported health facilities	April–June 2021

UGANDA

RESULT AREA 1: EFFECTIVE MULTISECTORAL COORDINATION ON AMR

Activity 1.2.1: Strengthen national and sub-national human resource capacity by supporting the IPC and AMS TWCs of the National AMR Sub-Committee

MTaPS has supported the National Antimicrobial Resistance Sub-Committee (NAMRsC), Antimicrobial Stewardship (AMS) Technical Working Committee (TWC), and health facilities in implementing activities that will contribute information to the first biannual newsletter to be published by the end of April (Q3). The newsletter aims to provide a spotlight on important AMS activities to inform NAMRsC and infection prevention and control (IPC) and AMS TWC decisions and to fill a critical gap in information sharing. It will be shared through various platforms, including the information sharing and documentation exchange platform, with the support of MTaPS. This activity is linked to WHO benchmark 3.1, developed capacity for multisectoral coordination (MSC).

MTaPS, working with the NAMRsC, identified two leaders in the fight against AMR to feature in the success story on strengthening national efforts to combat AMR. MTaPS successfully conducted a question-and-answer session with one of the leaders. Both women have supported MTaPS work over the past two years, including the formation of the NAMRsC's AMS and IPC TWCs, participated as trainers in MTaPS' AMR-training activities, and continue to provide leadership for AMR activities at their organizations.

RESULT AREA 2: INFECTION PREVENTION AND CONTROL

Activity 2.1.2: Strengthen human resource capacity of health facilities and professional bodies

MTaPS engaged the Pharmaceutical Society of Uganda (PSU), Allied Health Professionals Council (AHPC), Uganda Medical and Dental Practitioners Council, and Uganda Nurses and Midwives Council to begin implementing activities to build their members' capacity in IPC and AMS. A learning session was organized between MTaPS/Uganda and MTaPS/Kenya, based on Kenya's previous success working with processional bodies. A key lesson learned was the need to first establish the training needs of the various professional bodies. Using this approach, a review of training needs has been undertaken, gaps identified, mapping undertaken, and priorities set for the next quarter (FY21 Q3, April-June 2021) for each of the professional bodies.

2.5.1: Improve the quality of health care services by strengthening IPC at centers of excellence (COEs)

MTaPS is working with the MOH and medical bureaus (Uganda Protestant Medical Bureau and Uganda Catholic Medical Bureau) to implement IPC continuous quality improvement (CQI) project with a focus on hand hygiene (HH) during FY21, implementing CQIs in 14 hospitals. MTaPS conducted mentorship at 10 hospitals, directly reached out to 476 health workers (57% female and 43% male) in 9 hospitals for a total of 26 sessions. During these sessions, training on data collection procedures and tools was undertaken, preliminary results of the surveys were disseminated and discussed, technical meetings with hospital IPC committees were held, and next steps were discussed.

MTaPS distributed information, education, and communication (IEC) materials for AMS, IPC, and HH. The materials were adapted from WHO/CDC best practices/checklists. The materials target IPC/HH team members, health care workers, hospital managers and clients (attendants and patients) to raise awareness about AMR, IPC, and HH practices and techniques and building capacity of hospital IPC and HH teams to implement interventions to improve IPC and HH practices while reducing HAIs and controlling AMR.

MTaPS collaborated with Makerere University to conduct a four-day residential training on IPC and AMS for eight health facilities. Training participants included 41 (56% female, 44% male) members of the IPC and AMS teams. The training focused on building the capacity of the trainees to lead the implementation of IPC and AMS interventions in their respective hospitals and prioritizing interventions for implementation over a six-month period. At the end of the training, each hospital developed a six-month (April–September 2021) CQI work plan focusing on HH improvement. The CQI plans were informed by the HH assessment data collected during the mentorship visits. MTaPS will apply the WHO multimodal strategy to support implementation of priority interventions, provide mentorship, support continuous medical education, and monitor progress during the intervention period. The HH CQI plans feed into the wider AMS/IPC work plans that were developed by the hospitals with MTaPS support, following the baseline survey. This activity is in line with WHO 3.3 benchmark, developed capacity for IPC.

Collection of antibiotic use data at Kumi Hospital (photo credit: Reuben Kiggundu, MTaPS)

RESULT AREA 3: USE OF ANTIMICROBIAL MEDICINES OPTIMIZED

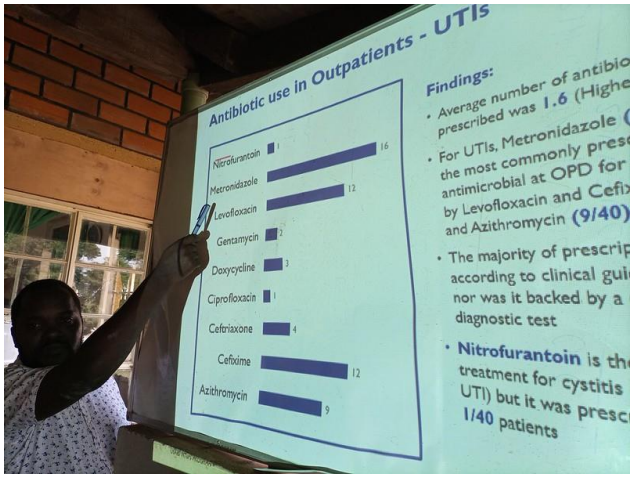
Activity 3.2.1: Strengthen COEs for AMS

Sub-Activity: Assess AMS policies and regulations

MTaPS is working with the MOH; Ministry of Agriculture, Animal Industry, and Fisheries; and the Food and Agriculture Organization to assess the policies and regulations on antibiotic use in Uganda. Induction meetings were held between MTaPS and the relevant ministries. Data collection has been completed, and a draft report is expected by end of April 2021. This assessment will inform the planned development of a national AMS plan.

Sub-activity: Technical support (training, mentorships) for the COEs to implement CQI plans

MTaPS is supporting 14 hospitals to develop as COEs for AMS. MTaPS conducted mentorship visits and provided technical support to 10 of the hospitals. The numbers of people visited and health facilities supported are the same as that detailed in the IPC support outlined above. These mentorship visits initiated discussions on antimicrobial use problems identified and laid the groundwork for developing AMS improvement plans for each of the hospitals. Two standard AMC/U surveillance tools were applied to measure consumption of antibiotics in the health facilities. Survey findings showed overuse of antibiotics in surgery, urinary tract



Antibiotic use survey findings dissemination, St. Anthony Hospital (photo credit: Reuben Kiggundu, MTaPS)

infection (UTI), and upper respiratory tract infection (URTI) management.

Training on AMS was undertaken during the training workshop described in 2.5.1 with health facilities guided on prioritizing interventions for AMS CQI implementation over the next six months (April-September 2021). The focus of the six-month CQI plans is improving the use of antibiotics in surgery, URTI, and UTI. The pre- and post-training assessments showed an increase in knowledge of 20%.

This activity is in line with WHO benchmark 3.4, developed capacity actions, 1) establish SOPs, protocols, and databases for monitoring antimicrobial use in humans and animals and 2) implement AMS programs, including monitoring antimicrobial use, education/communication, and other interventions to improve antibiotic use at designated facilities under-developed capacity.

Technical assistance was provided to COEs by MTaPS, including printing and distributing IEC materials, guidelines, and reminders in the workplace. Copies of the WHO toolkit on AMS in low- and middle-income countries, the medicines and therapeutics committee manual, and antibiotic use prompts were provided to all six MTaPS-supported health facilities in Uganda.

ACTIVITIES FOR NEXT QUARTER

ACTIVITY AND DESCRIPTION	DATE
Develop physical continuous professional development (CPD) session on AMR and AMS for pharmacists in collaboration with the PSU, whose council regulates professional conduct of pharmacists	April 15, 2021
Prepare final report on situational analysis of AMS policies	May 31, 2021
Draft prototype reporting module within the NDA Management Information System on consumption of antibiotics at the national level	June 25, 2021
Use AHPC's rapid assessment of AMS and IPC practices in select clinics around the country to serve as a CPD/training needs assessment for allied professionals on AMS and IPC	May 31, 2021
Provide physical and/online CPD for 200 allied health professionals on AMR, AMS, and IPC	June 2021
Conduct symposiums in three medical schools as entry points for AMR activities	June 2021
Print and distribute IEC materials in the remaining MTaPS-supported health facilities	May 2021
Conduct two CPD sessions with the Uganda Medical Association	June 2021
Conduct AMS and IPC training for public hospitals	June 2021
Set up IPC committees in lower-level health facilities in six health regions	June 2021
Prepare final report on assessment of IPC and HH practices in MTaPS-supported health facilities	May 2021
Conduct interview for another woman champion in AMR	May 2021
Conduct prescriber trainings for all MTaPS-supported health facilities	May 2021
Conduct support supervision for the hospitals' IPC and AMS teams	June 2021

MONITORING, EVALUATION, AND LEARNING

MONITORING AND EVALUATION

Interim Data Reporting System

The MTaPS MEL team reviewed the Data Management and Analytics Platform (MDMAP) to identify challenges across the data management system and strengthen monitoring and evaluation. MTaPS also performed an internal after-action review and data quality and reporting dialogues with country teams. To address some of the concerns that were identified during the MDMAP review relating to SurveyCTO, the MTaPS MEL team began phasing out SurveyCTO for data management and reporting, and in the interim, replacing it with a customized data reporting system for 23 countries and portfolios using Google sheets. The interim system will be used until a third-party application is procured and customized to meet MEL needs. During the MTaPS MEL February meeting, country teams were oriented on the interim Google sheets reporting forms, which were successfully used to report data for Q2.

Procurement of Permanent Data Management System

During Q2, MTaPS completed the procurement for a new, permanent data management system from an external contractor, DevResults. During the final month of the quarter, MTaPS staff began working with DevResults on the structure of the system. During Q3, the system configuration will be completed, historical data will be entered, and MTaPS staff will be trained on its use.

COVID-19 Data Quality Audit

USAID initiated an external COVID-19 data quality audit (DQA) at the beginning of project year 3 to evaluate MTaPS COVID-19 reporting indicators developed for COVID-19 Pillar 2 routine reporting by USAID projects. The DQA is being conducted to verify the quality of reported data and assess the underlying data management and reporting systems for these reporting indicators. The findings will be used to establish recommendations for USAID and its implementing partners on how to strengthen procedures and processes for ensuring data accuracy, flow, and systems for collecting and managing data during emergency responses. To prepare for the DQA, MTaPS oriented 13 countries performing and reporting on COVID-19 activities on DQA procedures, processes, and the timeline for MTaPS COVID-19 DQA. MTaPS worked with country teams to review and prepare their data and documents for DQA and met with the external evaluator to refine the DQA agreement. Kenya, Bangladesh, and the Philippines were selected by the external DQA vendor, Data.FI, which held meetings with these countries. In Q3 of project year 3, MTaPS will continue to work with Data.FI and country teams to ensure an efficient evaluation of MTaPS COVID-19 data.

Data Quality Assurance Standard Operating Procedure

MTaPS began developing a data quality assurance standard operating procedure (SOP). The purpose of the SOP is to provide guidance on the procedures for ensuring data quality during the MEL plan development, data collection and management, reporting, and verifying data quality. In Q3, during the MTaPS MEL April meeting, country teams will be oriented on the SOP. MTaPS will continue coordinating with country teams to enhance the understanding and utilization of MTaPS data collection and analysis methods as described in the performance indicator reference sheets.

Miscellaneous Monitoring and Evaluation Support

To meet ethical approval requirements to collect baseline data on outstanding health facility and patient-level indicators, MTaPS revised the baseline protocol for MTaPS/Kenya , Uganda, and Côte d'Ivoire. At

the end of Q2, Uganda and Côte d'Ivoire received approval for data collection, and Kenya was in the final approval stage with the MOH.

MTaPS updated the project year 3 MEL work plan template, supported Jordan's planning for MEL plan implementation, and contributed to writing the MEL section of the MTaPS DRC MNCH work plan. MTaPS also reviewed and provided technical input to Kenya's and Bangladesh's AMR M&E frameworks, aligned the Philippines indicators with MTaPS indicators, and oriented MTaPS/Nigeria on GHSA indicators and supported the planning and development of their MEL plan and baseline data collection.

KNOWLEDGE MANAGEMENT

Collaborating, Learning, and Adaptation Summary Guide

The MTaPS collaborating, learning, and adaptation (CLA) summary guide, previously developed in Q1 based on the USAID CLA framework, was disseminated to all country teams in Q2. The document offers guidance to staff on how to apply CLA principles and practices in program work. In Q3 and Q4, MTaPS will work with country teams to integrate CLA approaches into country program implementation and to document CLA outputs. In Q4, MTaPS will use the USAID CLA maturity tool to assess current CLA practices within country programs and plan for future activities. The USAID CLA maturity tool cards will be used to guide a conversation with country teams to explore how well CLA is incorporated into the planning and implementation processes of their program cycle.

Advancing Regulatory Systems Strengthening: Technical Program Update

MTaPS drafted a technical program update on MTaPS' support for regulatory systems strengthening (RSS) in Bangladesh, Mozambique, Nepal, and Rwanda and for regulatory harmonization. The program update drafted in collaboration with the RSS technical lead aims to highlight how MTaPS is helping national medicines regulatory agencies to ensure the quality, safety, and efficacy of medicines and health products. The technical program update will be disseminated in Q3 after internal technical quality and editorial reviews and USAID review and approval.

PSS in Practice Knowledge Exchange

In Q2, MTaPS conducted three "Pharmaceutical System Strengthening in Practice" knowledge exchanges for staff and partners.

***Emergency Response for COVID-19 Commodities in the Philippines*:** On January 26, 2021, MTaPS shared the Philippines' experience of balancing equity and emergency response for essential COVID-19 commodities during the pandemic. Specifically, the exchange addressed the procurement and supply chain management challenges experienced in the Philippines due to the COVID-19 pandemic and how MTaPS contributed to reconfiguring the national supply chain management system and used a Data Collect App to track essential COVID-19 commodities.

***Building Effective Medicines Registrations Systems in LMICs*:** On February 23, 2021, MTaPS held a knowledge exchange to learn how MTaPS, as part of its strengthening regulatory systems work in LMICs, is helping countries bolster their medicine registration function and support expedited registration in the wake of the COVID-19 pandemic. Specifically, the exchange addressed the importance of registration, elements of an effective registration system, challenges in establishing registration systems, MTaPS' strategic approach, and in-country support for building a strong registration system in Bangladesh, Mozambique, Nepal, and Rwanda.

***Registration MNCH Products: Findings and Considerations in Nine LMICs*:** On March 23, 2021, MTaPS held a knowledge exchange to share key observations from a nine-country study to better understand the challenges to registering MNCH medical products, the registration status of tracer MNCH medicines, the maturity of the regulatory agencies in each country, and key considerations to

strengthen registration systems in these countries for better access to MNCH medicines. Additionally, the exchange addressed how MTaPS is supporting the streamlining of MNCH product registration in Mozambique and Nepal to expedite the process.

MTaPS Global Summit

The MTaPS program has reached its midpoint. To mark this important milestone, the program held a mid-program review meeting March 16-18, 2021. This summit brought together MTaPS partners and staff virtually from across the globe to pause and reflect upon technical and operational approaches and to identify the program's strengths, weaknesses, gaps, and opportunities in technical performance, portfolio performance, partner engagement, and MEL.

MTaPS applied a CLA lens to shape the agenda of the MTaPS Global Summit to take stock of where we are mid-program and where we want to be by program-end in 2023. MTaPS planned and facilitated four sessions at the summit to identify lessons learned by the program, midcourse corrections, critical adaptations for program improvement, and the program's technical legacy and contributions to the PSS knowledge base. Output and recommendations from these sessions will inform the development of a summit report and an action plan for MTaPS moving forward.

Additionally, MTaPS planned and facilitated a Knowledge Share Fair on March 15, 2021, prior to the summit, where MTaPS country project directors and technical leads gave lightning talks, sharing their implementation knowledge and insights, drawn from their successes, failures, lessons learned, challenges, and solutions with colleagues and partners.

Miscellaneous KM Support

- Developed and disseminated "KM Update" a quarterly e-newsletter to share KM guidance documents, tools, and resources with MTaPS staff and partners
- Reoriented all country teams on technical documentation and started identifying a technical documentation pipeline and list of priority knowledge products to be developed over the remaining years of the program

LESSONS LEARNED FROM TECHNICAL IMPLEMENTATION

A synthesis of lessons learned from implementation is provided below.

In **Bangladesh**, MTaPS' continuous advocacy targeting government stakeholders led to the government's decision to plan for retiring the manual reporting system. Though the National Tuberculosis Control Program (NTP) has been using e-TB Manager since 2010, the manual reporting system was also being used at TB reporting sites. The NTP recently issued a letter to all Dhaka region TB sites to replace manual reporting systems with digital reporting using e-TB Manager, effective this quarter. This has been a long process which started under SIAPS, MTaPS' predecessor program. The program has learned that, despite the e-TB tool being used in Bangladesh for over 10 years, it took continuous advocacy, coupled with targeted technical assistance and training. Most importantly, Bangladesh's Directorate General of Health Services (DGHS) initiated a national digital health strategy to improve the accessibility and quality of its health services and to convince government decision makers to fully embrace, adopt, and take complete ownership of e-TB Manager. With MTaPS' support, the NTP has made e-TB Manager universal and mandatory for recording and reporting TB cases at TB reporting sites in the country.

In **Cameroon**, initially, GHSA activities were planned and implemented by MTaPS in coordination with the AMR technical working groups (TWGs). However, most of the national stakeholders, especially in the AMR technical secretariat (AMR coordination organization) were unavailable and could not engage in AMR activities due to the ongoing COVID-19 response. MTaPS Cameroon came to an agreement with the head of the AMR coordination organization about working directly with MOH's technical

departments and sending activity reports to the AMR-TWGs and the technical secretariat, rather than waiting for the AMR-TWGs to be available to implement GHSA/AMR activities. By directly engaging the MOH's Department for Health Promotion, MTaPS Cameroon effectively established IPC committees in MTaPS-supported health facilities, developed and translated the national IPC guidelines into English. In conjunction with MOH's Department for Pharmacy, Medicines, and the Laboratories, MTaPS developed an AMS national action plan. The establishment of drugs and therapeutics committees in 12 health facilities is also in progress. This adaptation allowed MTaPS to work around the AMR-TWG's availability and deliver these activities on time while continuing regular communication with them.

In the **Philippines**, adaptability of MTaPS/Philippines to new leadership and the changes that come with it, and the ability to quickly establish a good relationship with new leadership, was crucial in quickly navigating through changes in the Philippines FDA. A change in the FDA leadership led to a shift in the agency's priorities to regulate new COVID commodities; this required proactive engagement and coordination with the Office of the FDA Director General for prioritizing and mobilizing pharmacovigilance governance and drug registration activities. MTaPS organized a meeting with the director general's office to share the lessons learned from two operational research activities that used active surveillance methods to monitor the safety features of a new anti-TB drug treatment regimen. This promoted greater understanding within the FDA, its leadership, and offices about the benefits of an active and spontaneous pharmacovigilance system for ensuring patient safety and pharmaceutical governance. Building upon the shared lessons, MTaPS will work with FDA to establish a National Medicine Safety Advisory Committee to further institutionalize pharmaceutical governance. This direct coordination on the part of MTaPS led to the director general quickly mobilizing decision makers within the FDA, who were directed to work closely with MTaPS/Philippines on implementing technical assistance activities to address FDA priorities. The decision makers became advocates of MTaPS' technical assistance and helped advance the program's technical implementation agenda within the FDA.

In **Tanzania**, peer-to-peer learning exchanges between MOH IPC and AMS staff played a key role in securing buy-in and support from the Ministry of Health, Community Development, Gender, Elderly and Children (MOHCDGEC) staff for MTaPS Tanzania's virtual AMS support to health facilities. The MOHCDGEC IPC unit gave positive feedback to the Pharmaceutical Services Unit about the virtual support provided by MTaPS when sharing their IPC e-learning experience. This helped allay the concerns of the PSU staff who were previously hesitant to adopt a virtual support approach for building AMS capacity in health facilities. Establishing a good relationship with MOHCDGEC staff, holding regular meetings with MOHCDGEC staff from various departments to update them on MTaPS activities, and instituting peer-to-peer learning exchanges across and within departments to promote cross-fertilization of ideas between department staff helped forge a better understanding of how the technical assistance needs of various MOH units can be met through MTaPS virtual support and e-learning.

In **Uganda**, MTaPS is building the IPC and AMS capacity of four health professional councils, namely the Pharmaceutical Society of Uganda, the Allied Health Professionals Council, the Uganda Medical and Dental Practitioners Council, and the Uganda Nurses and Midwives Council. Before starting this activity, MTaPS Uganda held a learning session with MTaPS/Kenya , which has successfully worked with professional organizations to capacitate them in IPC. From the learning session, MTaPS Uganda learned that establishing the training needs of the various professional organizations and aligning training accordingly was instrumental in MTaPS/Kenya 's success. Subsequently, MTaPS Uganda undertook a review of the organizations' training needs, identified gaps in capacity, mapped training activities, and set training priorities for the next quarter for each organization.

MTaPS is developing a how-to manual on managing conflicts of interest (COIs) based on findings of a 10-country study in the WHO South-East Asia Region (SEARO) to identify COI management policies in place and explore if and how policies are implemented. A first step in developing the manual was to conduct key informant interviews with officials from public pharmaceutical sector committees in the 10

countries. Because COIs can be a sensitive subject for government agencies, both MTaPS and WHO anticipated challenges in getting key informants to be interviewed. There were concerns about consequences for speaking negatively about government agencies. By emphasizing that the purpose of the MTaPS study is to strengthen governance rather than to uncover weaknesses in governance, MTaPS and WHO secured the needed interviews; key informants from 8 of the 10 countries agreed to be interviewed. From the study experience, MTaPS learned that taking a "strengths-based approach" rather than highlighting gaps in governance is the better approach to securing interviews to elicit informants' experience with COI policies. Study findings will be shared with each country's MOH to verify the findings. The findings will be used to raise awareness on the need for policies to guide the management of COIs of members that serve on pharmaceutical committees that make decisions on medicine registration, selection, pricing, and procurement and to motivate countries to give this area more attention for increased governance, transparency, and accountability in the pharmaceutical sector.

ACTIVITIES FOR NEXT QUARTER

ACTIVITY AND DESCRIPTION	DATE (2021)
Complete and roll out DevResults data management system	April - June
Finalize, disseminate, and orient on DQA SOP	April
Develop plan and content for Global Learning Series webinar	April 13
Support development of sessions for USAID GHTechX	April 21-24
Develop and facilitate PSS in Practice Knowledge Exchange on AMR landscape analysis	May 18
Develop and facilitate PSS in Practice Knowledge Exchange on topic to be determined	June 29
Develop COVID-19 response technical brief	June 30

ANNEX 1: MTAPS SUCCESS STORIES

USAID
FROM THE AMERICAN PEOPLE

SUCCESS STORY

When the COVID-19 outbreak started in Bangladesh, the government had no way to assess and monitor the availability and requirements of emergency commodities at health facilities, obstructing its pandemic response. The development of an electronic logistics management information system for emergency commodities quickly fortified its response and opened doors to electronically managing all health commodities.

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.

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Digitalization of COVID-19 Commodities Supply Management Strengthens Health Delivery in Bangladesh

PHOTO CREDIT: MD. HABIB MAHMOOD

A pharmacist filling prescription in Manikdi, Dhaka

Even without the stress of a pandemic, the health supply chain management is a challenge for Bangladesh's Directorate General of Health Services (DGHS), given its lack of an integrated inventory management system and no tracking and reporting in place of the inventory by pharmacies and storekeepers. When the first case of COVID-19 was reported in the country on March 8, 2020, the situation became a crisis as the DGHS, under the Ministry of Health and Family Welfare, had to monitor and ensure an adequate supply of emergency commodities at all the health facilities across the nation.

The USAID MTaPS built off an existing electronic logistics information management system (eLIMS) that was implemented by a predecessor USAID program[1] for select maternal, newborn, and child health products to develop a comprehensive COVID-19 eLMIS, which successfully helped the DGHS to overcome the crisis.

Establishing a Centralized COVID-19 Commodities Management System

At the onset, MTaPS developed a basic online reporting system and virtually oriented roughly 500 health workers to quickly enable a centralized mechanism for daily tracking of stock status of emergency commodities at health facilities and distribution centers. By April, the DGHS and central administration, suppliers, and beneficiaries were receiving daily updates on

the stock status of emergency commodities across the country, with 99% of COVID-19-dedicated health facilities reporting daily.

As the outbreak spread and the need for an expanded inventory management system for proper management of COVID-19 commodities became clearer, MTaPS, in collaboration with the DGHS, proceeded to upgrade the reporting system into a comprehensive COVID-19 eLMIS with quantification tool to make stock information available in real time, critical to aid decisions at the central level for timely procurement and distribution. A phased roll-out of the eLMIS began after user acceptance testing and rapid assessment of facilities' readiness.

Nationwide Roll-Out and Country Ownership

The COVID-19 eLMIS is built up on the Ministry of Health and Family Welfare's Supply Chain Management Portal at https://scmpbd.org. In December 2020, MTaPS started batch-wise training of three users each at 94 health facilities to kickstart a nationwide rollout and handover to the Management Information Systems (MIS) unit of the DGHS. With active engagement of the MIS unit in the design and training process and the director of MIS charged with ownership of the system, the COVID-19 eLMIS is set to be fully operationalized and monitored by the MIS unit.

Avoiding Stockouts During COVID-19 and Looking Beyond with eLMIS

The roll-out of the eLMIS equips DGHS for timely decision making on procurement, restocking, and rational distribution of COVID-19 commodities. The system, which tracks information, including stock status, inventory transactions, donations, and consumption, allows tailored reports accessible by all stakeholders, including policy makers and suppliers. It has also become a go-to resource for donors, such as UNICEF and USAID, to track the distribution and status of their products.

The new eLMIS tool tracks about 100 products related to COVID-19. Some 657 facilities are registered in the system, with 651 facilities actively using the reporting system.

Most importantly, the eLMIS has demonstrated the critical role of a centralized inventory management system to inform procurement and distribution and avoid stockouts for uninterrupted healthcare delivery. With the success of COVID-19 eLMIS, the DGHS plans to expand the system's functionality to cover all medical commodities under the directorate – a transformative step for Bangladesh's health system that will not only promote transparency and efficient use of resources but also encourage further integration of the supply chain.

"The COVID eLMIS and quantification tool is very helpful for the users for their day-to-day store management activities. Also, this tool provides real time stock status of the facilities for decision making. We plan to enhance and upgrade the system with the technical assistance from USAID MTaPS program to cover all commodities under DGHS."

– Professor Dr. Mijanur Rahman, Director – Management Information System, Directorate General of Health Services

[1] USAID SIAPS Program (2011-2018)

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SUCCESS STORY

Reaching health care workers with the necessary infection prevention and control skills is critical to keep them safe in times of outbreaks and otherwise for health care delivery. A unique partnership with professional associations in Kenya is showing a strategic approach to ensure workers maintain updated skills.

About USAID MTaPS

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USAID MEDICINES, TECHNOLOGIES, AND PHARMACEUTICAL SERVICES (MTaPS) PROGRAM

Innovating on Continuing Professional Development of Health Workers to Ensure Updated Infection Prevention Skills

PHOTO CREDIT: DORIS BOTA

A sensitization meeting with the professional associations, January 2020

The demand for infection prevention and control (IPC) guidance and support has seen a recent surge due to the global COVID-19 pandemic. Other outbreaks, including Ebola in West Africa and Severe Acute Respiratory Corona Virus (SARS-CoV) in China, and the escalating global problem of antimicrobial resistance (AMR) have further thrust IPC to the center of health care needs. In Kenya, these emerging/re-emerging infections and AMR have triggered an urgency to revise, update, and develop new IPC guidance documents and for adequate training of health care workers on IPC and occupational safety and health, which is critical for preventing health care-associated infections (HAIs) and providing safe health care services.

To reach health care workers with the necessary IPC skills and knowledge on a large scale, the USAID MTaPS program leveraged professional associations that health care workers belong to, tapping into their role of maintaining standards and providing professional development to their members. MTaPS partnered with the National Nurses Association of Kenya and six other professional associations to develop and implement an in-service IPC continuing professional development (CPD) course, which was recognized by several health regulatory bodies and used to update the IPC skills of thousands of workers.

Tapping into Professional Associations

MTaPS used a stepwise approach to successfully develop and implement an IPC CPD course and training package. An education committee comprising seven professional associations was formed to spearhead and operationalize the agenda:

- National Nurses Association of Kenya
- Kenya Clinical Officers Association
- Kenya Medical Laboratory Scientific Officers
- Kenya Pharmaceutical Association
- Kenya Society for Physiotherapists
- Kenya Medical Association
- Pharmaceutical Society of Kenya

The education committee comprising health professional associations that led the IPC CPD agenda, February 2020

A training needs assessment was conducted using an online survey of members from the seven associations to inform the curriculum content. Based on the survey findings, MTaPS designed the IPC training package to include seven modules:

- An introduction to IPC
- Management and coordination of health care delivery
- Hand hygiene in health care delivery
- Overview of occupational health and safety
- Environmental sanitation and waste management
- HAIs
- Behavior change communication in IPC

MTaPS conducted **11 trainings between September and December 2020 for more than 3,000 members** of the seven professional associations, five of which awarded their members CPD credits through their respective regulatory bodies upon successful completion of the training. These regulatory bodies included the Nursing Council of Kenya, Pharmacy and Poisons Board Kenya, the Clinical Officers Council, and the Kenya Medical Practitioners and Dentists Council.

Five professional associations recognize MTaPS' IPC training package as an accredited course for CPD.

Next Steps

MTaPS plans to use the experiences and feedback obtained during the initial IPC CPD trainings to update the modules in collaboration with the professional associations and engage the Nursing Council of Kenya and other regulatory bodies to accredit the updated IPC CPD course. Further, the program intends to identify and train local champions and mentors from the professional health associations and regional chapters to drive forward and roll out the IPC training agenda on a wider scale. The champions and mentors will support mentorship, on-the-job training, and targeted follow-up activities.

An effective and efficient response to emerging and re-emerging infections and AMR is possible only when diverse stakeholders, including professional associations and regulatory bodies, institutionalize IPC programs across all levels and organizations involved in health care. MTaPS' ongoing collaboration with the various professional associations to deliver and accredit IPC training courses highlights the feasibility of an innovative approach to sustainably strengthen IPC in low- and middle-income countries.

"Through the MTaPS capacity building program, we have been able to identify our gaps in IPC. Working as a team, we bridged those gaps to ensure that both our clients and staff are safe in our clinic." – Agnes K. Maina, a pharmaceutical technologist in Nairobi and IPC course trainee

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USAID MEDICINES, TECHNOLOGIES, AND PHARMACEUTICAL SERVICES (MTaPS) PROGRAM

Eliminating Poor-Quality Medicines through an Effective Regulatory System in Rwanda

SUCCESS STORY

Rwanda suffers from a prevalence of poor-quality medicines on its market. A package of interventions is helping the country make its pharmaceutical regulatory system more functional and effective in regulating medical products, thus promoting public health in the country.

PHOTO CREDIT: ABIMANA RWANDENZI EUGENE, MTAPS RWANDA

A pharmacist filling prescription

Roughly 18.7% of essential medicines circulating on the market in Africa are substandard and falsified, which hamper effective treatment.[1] The prevalence of poor-quality medicines on the market is a direct result of a country's weak regulatory system that is unable to detect and prevent their use. Rwanda established the Food and Drugs Authority (FDA) in 2018 with a mandate to protect public health by regulating human and veterinary medicines, vaccines, medical devices, foods, and cosmetics. However, the FDA's operationalization is still at a nascent stage, with lack of a plan, guidance on processes, and the capacity needed for implementation.

The USAID Medicines, Technologies, and Pharmaceutical Services (MTaPS) Program supported the Rwanda FDA to strengthen its regulatory functions that underpin effective, safe, and quality-assured health products and enhance patient safety for better treatment outcomes.

Establishing a Strong Pharmaceuticals Regulatory System

Developing a Regulatory Framework: MTaPS supported the FDA in developing its first foundational document through a consultative process. The Rwanda FDA Strategic Plan 2021-2024 lays out objectives, strategies, and targets to achieve the FDA's mission of protecting and promoting public health. MTaPS also facilitated validation of key documents for the quality management system through stakeholder workshops, which provide a

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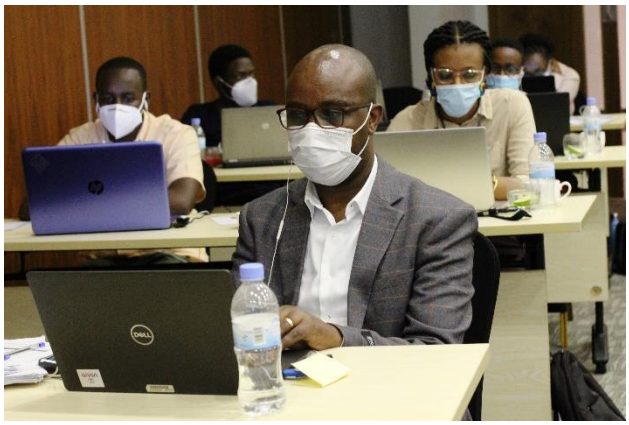
framework for enforcing regulations and processes for clinical trials, pharmacovigilance (PV), product recalls, and advertisement of regulated medical products. An additional 12 documents were validated to provide guidance on processes, including for registration of medical products, issuance of import and export permits, and assessment of adverse drug reactions. Diverse stakeholders, such as research and teaching institutions, food industries, media, and consumers, were invited in the validation process.

To bolster the functioning of Rwanda FDA's PV division—a critical role of the regulatory system to ensure drug safety—MTaPS helped develop a multiyear national PV plan that defined key responsibilities and a strategic framework for planning, implementation, and monitoring of PV activities.

Building National Regulatory Capacity: MTaPS trained 55 FDA officials in medical products dossier assessment – a crucial regulatory function. The program also organized a Drug and Therapeutics Committee training to build PV capacity of new FDA personnel, doctors, nurses, and pharmacists from public and private health facilities.



MTaPS' Rwanda FDA training on dossier assessment and evaluation

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MTaPS' support is helping build Rwanda FDA's capacity to effectively conduct key regulatory functions, including medicine registration, inspection, licensing and enforcement, and pharmacovigilance.

Ensuring Medical Products are Safe, Effective, and Quality Assured

The MTaPS' assistance is enabling Rwanda FDA to function fully and elevating it to maturity level 3—"stable, well-functioning and integrated regulatory systems"—according to the WHO Global Benchmarking Tool categorization.[2] Further, the validation of the quality management system documents advances FDA toward ISO 9001:2015 certification – the international standard for safety, efficacy, and quality of medicines and medical products. These measures will help remove falsified and substandard medicines from the market and contribute to improved treatment outcomes and greater confidence of people in the health system.

"The strategic documents are key for FDA's operationalization and to achieve FDA's mission of promoting and protecting public health. They will promote quality, productivity, and transparency of FDA's activities."

– Dr. Charles Karanga, Director General, Rwanda FDA.

1. Prevalence and Estimated Economic Burden of Substandard and Falsified Medicines in Low- and Middle-Income Countries, JAMA Network, August 2018
2. WHO Global Benchmarking Tool (GBT) for evaluation of national regulatory systems

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ANNEX 2: MTAPS INDICATOR TRACKING TABLE

Annex Table 1: MTaPS Performance Indicator Tracking Table

Code	Performance Indicator	Reporting Frequency	Baseline Value	PY2 Cumulative Result	PY3 Target	PY3Q1 Result	PY3Q2 Result	PY3 Cumulative Result
Objective 1: Pharmaceutical-Sector Governance Strengthened								
Sub-Objective 1.2: Evidence-Based Medicines Policies, Laws, Regulations, Guidelines, Norms, and Standards Improved and Enforced								
MT 1.2.2	# of pharmaceutical regulatory enforcement mechanisms established or strengthened with MTaPS support	Semi-annually	0	0	8	4		4
	Mozambique		0	0	2	2		2
	Rwanda		0	0	6	2		2
MT 1.2.3	% of established pharmaceutical regulatory enforcement mechanisms that are functional	Semi-annually				85% (11/13)		85% (11/13)
	Bangladesh		50%	Data not reported	100%	100% (4/4)		100% (4/4)
	Mozambique		0%	22% (2/9)	50%	67% (2/3)		67% (2/3)
	Rwanda		0%	83%	83%	83% (5/6)		83% (5/6)
Objective 2: Institutional and Human Resource Capacity for Pharmaceutical Management and Services Increased, Including Regulation of Medical Products								
Sub-Objective 2.2: Capacity of Government to Manage Pharmaceutical Systems Strengthened								
MT 2.2.2	# of persons trained in pharmaceutical management with MTaPS support	Quarterly	0	1,116	2,107	1,219	3,489	4,708
	Asia Bureau		0	0	45	*Female* 0 *Male* 0	*Female* 0 *Male* 0	0

						Unknown	55	*Unknown*	0	
						Total	55	*Total*	0	
	Bangladesh		0	961	800	*Female*	218	*Female*	203	1,788
						Male	645	*Male*	722	
						Unknown	0	*Unknown*	0	
						Total	863	*Total*	925	
	DRC		0	0	230	*Female*	0	*Female*	95	257
						Male	0	*Male*	162	
						Unknown	0	*Unknown*	0	
						Total	0	*Total*	257	
	IGAD		0	0	100	*Female*	40	*Female*	13	198
						Male	97	*Male*	48	
						Unknown	0	*Unknown*	0	
						Total	137	*Total*	61	
	Mozambique		0	40	52	*Female*	0	*Female*	2	5
						Male	0	*Male*	3	
						Unknown	0	*Unknown*	0	
						Total	0	*Total*	5	
	Nepal		0	0	10	*Female*	0	*Female*	35	71
						Male	0	*Male*	36	
						Unknown	0	*Unknown*	0	
						Total	0	*Total*	71	
	Philippines		0	0	0	*Female*	86	*Female*	1,424	2,306
						Male	50	*Male*	746	
						Unknown	0	*Unknown*	0	
						Total	136	*Total*	2170	
	Rwanda		0	0	1200	*Female*	8	*Female*	0	28
						Male	20	*Male*	0	
						Unknown	0	*Unknown*	0	
						Total	28	*Total*	0	
MT 2.2.4	# of people successfully completing MTaPS-developed e-learning courses	Quarterly	0	65	231	890		2,170		3,060
	Asia Bureau		0	0	30	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	
						Unknown	55	*Unknown*	0	
						Total	55	*Total*	0	
	Bangladesh		0	0	30	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	
						Unknown	0	*Unknown*	0	
						Total	0	*Total*	0	
	Cross Bureau		0	0	60	*Female*	0	*Female*	0	8

						Male	0	*Male*	0	
						Unknown	0	*Unknown*	8	
						Total	0	*Total*	8	
	Mozambique		0	65	53	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	
						Unknown	0	*Unknown*	0	
						Total	0	*Total*	0	
	Philippines		0	0	1000	*Female*	575	*Female*	1,424	3,005
						Male	260	*Male*	746	
						Unknown	0	*Unknown*	0	
						Total	835	*Total*	2170	
	Rwanda		0	0	58	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	
						Unknown	0	*Unknown*	0	
						Total	0	*Total*	0	
Objective 3: Availability and Use of Pharmaceutical Information for Decision Making Increased and Global Learning Agenda Advanced										
Sub-Objective 3.1: Pharmaceutical Management Information Systems that Are Interoperable and Link Patients and Products Effectively Implemented										
MT 3.1.1	# and % MTaPS-supported health facilities that have newly implemented or improved PMIS to document specific components of the pharmaceutical system for analysis and reporting with MTaPS support	Semi-annually				100% (2016/2016)				100% (2016/2016)
	Bangladesh		90%	92%	90%	100% (2006/2006)				100% (2006/2006)
	Philippines		0%	0%	30%	0%				0%
	Rwanda		0%	100%	100%	100% (10/10)				100% (10/10)
MT 3.1.2	# and % of MTaPS-supported health facilities using interoperable PMIS tools	Semi-annually				85% (6434/7565)				85% (6434/7565)
	Bangladesh		61%	87%	65%	87% (5112/5913)				87% (5112/5913)
	Mozambique		0%	68%	90%	80% (1322/1652)				80% (1322/1652)
Sub-Objective 3.2: Information on Pharmaceutical Systems Available and Used										
MT 3.2.1	# and % of MTaPS-supported health facilities that complete and submit an LMIS report on	Quarterly	74.3% (84/115)	92% (4293/4680)	95%	83% (4334/5213)		85% (4428/5232)		85% (4428/5232)

	time for the most recent reporting period									
	Bangladesh		74.3% (84/115)	92% (4293/4680)	95%	*DGFP (Sub-District Level)*	100% (488/488)	*DGFP (Sub-District Level)*	100% (488/488)	86% (4354/5055)
						DGFP (Central/ Regional Level)	100% (22/22)	*DGFP (Central/ Regional Level)*	100% (22/22)	
						District Hospital	82% (18/22)	*District Hospital*	91% (20/22)	
						Civil Surgeon Office	61% (14/23)	*Civil Surgeon Office*	78% (18/23)	
						Upazila Health Complex	75% (117/156)	*Upazila Health Complex*	75% (130/173)	
						Union Sub Center	76% (283/371)	*Union Sub Center*	78% (289/371)	
						Community Clinic	82% (3392/4131)	*Community Clinic*	86% (3387/3956)	
						Total	83% (4334/5213)	*Total*	86% (4354/5055)	
	DRC		42% (74/177)	Data not reported		*Hospitals*	Data not reported	*Hospitals*	100% (10/10)	42% (74/177)
						Health centers		*Health centers*	38% (64/167)	
						Total		*Total*	42% (74/177)	
Sub-Objective 3.3: Pharmaceutical Systems Strengthening Research and Global Learning Agenda Advanced										
MT 3.3.2	# of PSS technical documents authored by MTaPS	Semi-annually	0	1	14	11				11
	Cross Bureau		0	1	12	10				10
	CSL		0	0	3	1				1
	Rwanda		0	0	1	15				15
MT 3.3.3	# of activities to engage with stakeholders to advance the PSS global learning agenda	Quarterly	0	11	11	2		2		4
	Cross Bureau		0	11	10	2		2		4
	CSL		0	0	1	0		0		0
Objective 4: Pharmaceutical-Sector Financing, Including Resource Allocation and Use, Optimized										
Sub-Objective 4.2: Evidence-Based Medicines Strategies and Pharmacy Benefits Programs Developed and Implemented										

MT 4.2.3	# of strategic plans developed or updated to address pharmaceutical costs and financing with MTaPS support	Semi-annually	0	2	1	0		0
	Bangladesh		0	2	1	0		0
Objective 5: Pharmaceutical Services, Including Product Availability and Patient-Centered Care, to Achieve Health Outcomes Improved								
Sub-Objective 5.1: Increased availability of essential medicines and other health technologies								
MT 5.1.1	% of service delivery points with stock out of FP, TB and HIV-AIDS tracer commodities	Quarterly						
	First line TB meds (4 FDC)		40.5%	30% (472/1552)	25%	23%	22%	22%
	TB Pediatric Med (4FDC)		90.6%	97% (856/883)	30%	48%	46%	46%
	TB Preventive Treatment (for children)		63.8%	65% (645/987)	30%	81%	79%	79%
	TB Second Line Drug (Levofloxacin 500mg)		N/A	53% (105/199)	20%	7%	Data not reported	7%
	TB Second Line Drug (Moxifloxacin 400mg)		N/A	5% (9/199)	20%	4%	Data not reported	4%
	TB Second Line Drug (Linezolid 600mg)		N/A	12% (24/199)	20%	5%	Data not reported	5%
	TB Second Line Drug (Bedaquiline)		N/A	13% (25/199)	20%	5%	Data not reported	5%
	GeneXpert Cartridges		N/A	3% (13/395)	25%	15%	1%	1%
	FP Injectable		30.2%	12% (218/1775)	20%	13%	20%	20%
	FP Implant		52.7%	55% (717/1316)	30%	45%	43%	43%
	FP Oral COC		25.6%	8% (143/1798)	20%	11%	11%	11%
	FP Oral POP		69.3%	31% (507/1630)	30%	27%	26%	26%
	IUD		36.7%	29% (454/1566)	25%	41%	41%	41%
	Male condom		38.9%	21% (358/1743)	25%	31%	26%	26%
MT 5.1.2	% of tracer products stocked according to plan	Semi-annually						
	Bangladesh				TBD	*Stocked according to plan*	0% (0/7)	0% (0/7)

				Data not reported		*Overstocked*		86% (6/7)	86% (6/7)
						Understocked		14% (1/7)	14% (1/7)
						Stocked out		0% (0/7)	0% (0/7)
				Data not reported	TBD	*Stocked according to plan*		26% (5/19)	26% (5/19)
						Overstocked		63% (12/19)	63% (12/19)
						Understocked		16% (3/19)	16% (3/19)
	DRC					*Stocked out*		0% (0/19)	0% (0/19)
MT 5.1.3	% of initially MTaPS-supported supply chain functions carried out by national entities that are done without external technical assistance	Quarterly	0%	Data not reported	TBD	100% (3/3)			100% (3/3)
			0%	Data not reported	TBD	*LMIS*		100% (1/1)	100% (3/3)
	Bangladesh					*Inventory management*		100% (2/2)	
Sub-Objective 5.2: Patient-centered Pharmaceutical Care Improved									
MT 5.2.1	% of MTaPS-supported health facilities which have developed, adopted or implemented pharmaceutical services standards	Semi-annually	0%	0%	50%	0% (0/100)			0% (0/100)
	Rwanda		0%	0%	50%	0% (0/100)			0% (0/100)
Sub-Objective 5.3: Patient Safety and Therapeutic Effectiveness Ensured									
MT 5.3.1	% of MTaPS-supported health facilities that have implemented medicines safety activities	Quarterly	31% (31/100)	3% (3/110)	91% (106/116)	20% (13/66)		30% (30/99)	30% (30/99)
	Bangladesh		31% (31/100)	3% (3/100)	90% (90/100)	*Pharmaceuticals*	26% (13/50)	*Pharmaceuticals*	20% (10/50)	20% (10/50)
						Total	26% (13/50)	*Total*	20% (10/50)	
	IGAD		0%	Data not reported	70%	*Hospitals*	77% (24/31)	*Hospitals*	55% (17/31)	58% (19/33)
						Health Center	100% (2/2)	*Health Center*	100% (2/2)	
						Total	79% (26/33)	*Total*	58% (19/33)	
	Jordan		0% (0/0)	0% (0/0)	100% (6/6)	*Hospitals*	0% (0/6)	*Hospitals*	0% (0/6)	0% (0/6)
						Total	0% (0/6)	*Total*	0% (0/6)	
	Rwanda		0% (0/10)	0% (0/10)	100% (10/10)	*Health Center*	0% (0/9)	*Health Center*	11% (1/9)	10% (1/10)
						Hospital	0% (0/1)	*Hospital*	0% (0/1)	
						Total	0% (0/10)	*Total*	10% (1/10)	
MT 5.3.2	% of adverse drug events (ADEs) reported to the	Semi-annually				68% (1886/2756)			68% (1886/2756)

	NMRA and reviewed by the NMRA							
	IGAD		0% (0/0)	Data not reported	TBD	0% (0/0)		0% (0/0)
	Bangladesh		68%	22%	50%	46% (151/328)		46% (151/328)
	Mozambique		60%	Data not reported	70%	70% (1563/2240)		70% (1563/2240)
	Rwanda		91%	Data not reported	100%	91% (172/188)		91% (172/188)
Sub-Objective 5.4 Antimicrobial Resistance Containment Supported								
MT 5.4.2	% of MTaPS-supported health facilities implementing locally identified and prioritized core elements of infection prevention and control activities	Semi-annually	0%	100%	100%	43% (3/7)		43% (3/7)
	Mozambique		0%	100%	100%	43% (3/7)		43% (3/7)
MTaPS Global Health Security Agenda (GHSA) Indicators								
Result Area 1: Effective multisectoral coordination on AMR								
MSC 1	# of AMR-related in-country meetings or activities conducted with multisectoral participation	Quarterly	0	122	87	36	32	68
	Bangladesh		0	3	2	0	1	1
	Burkina Faso		0	2	2	2	0	2
	Cameroon		0	5	14	1	1	2
	Côte d'Ivoire		0	35	18	11	13	24
	DRC		0	6	6	4	10	14
	Jordan		0	0	4	1	1	2
	Kenya		0	38	14	14	0	14
	Mali		0	16	15	0	2	2
	Mozambique		0	0	3	0	1	1
	Nigeria		0	0	4	0	1	1
	Senegal		0	4	4	1	1	2
	Tanzania		0	4	4	1	0	1
	Uganda		0	9	4	1	1	2

MSC 2	# and % of female participants in meetings or other events organized by the multisectoral body on AMR	Semi-annually								
	Bangladesh		29% (24/84)	29% (24/84)	30%	35% (12/34)				35% (12/34)
	Burkina Faso		18% (3/17)	22% (6/27)	50%	0% (0/0)				0% (0/0)
	Cameroon		50% (2/4)	39% (39/101)	45%	0% (0/0)				0% (0/0)
	Côte d'Ivoire		38% (21/55)	38% (21/55)	38%	43% (65/150)				43% (65/150)
	DRC		34%	36% (45/124)	40%	30% (22/73)				30% (22/73)
	Jordan		45% (5/11)	Data not reported	50%	45% (5/11)				45% (5/11)
	Kenya		66%	43% (496/1147)	50%	0% (0/0)				0% (0/0)
	Mali		15%	16% (20/124)	20%	17% (20/116)				17% (20/116)
	Mozambique		48% (11/23)	Data not reported	50%	48% (11/23)				48% (11/23)
	Nigeria		Data not reported	Data not reported	TBD	Data not reported				Data not reported
	Senegal		58% (54/93)	58% (54/93)	58%	55% (16/29)				55% (16/29)
	Tanzania		14% (3/21)	14% (3/21)	20%	19% (4/21)				19% (4/21)
	Uganda		Data not reported	Data not reported	TBD	Data not reported				Data not reported
MSC 5	# of persons trained in AMR-related topics in leadership/management related to multisectoral engagement in AMR with MTaPS support	Quarterly	0	164	532	204		301		505
	Bangladesh		0	0	0	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	
						Unknown	0	*Unknown*	0	
						Total	0	*Total*	0	
	Burkina Faso		0	0	0	*Female*	0	*Female*	3	21
						Male	0	*Male*	18	
						Unknown	0	*Unknown*	0	

						Total	0	*Total*	21	
	Cameroon		0	0	20	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	
						Unknown	0	*Unknown*	0	
						Total	0	*Total*	0	
	Côte d'Ivoire		0	134	160	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	
						Unknown	0	*Unknown*	0	
						Total	0	*Total*	0	
	DRC		0	0	150	*Female*	98	*Female*	112	463
						Male	106	*Male*	147	
						Unknown	0	*Unknown*	0	
						Total	204	*Total*	259	
	Kenya		0	0	0	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	
						Unknown	0	*Unknown*	0	
						Total	0	*Total*	0	
	Mali		0	30	2	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	
						Unknown	0	*Unknown*	0	
						Total	0	*Total*	0	
	Mozambique		0	0	20	*Female*	0	*Female*	11	21
						Male	0	*Male*	12	
						Unknown	0	*Unknown*	0	
						Total	0	*Total*	21	
	Nigeria		0	0	199	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	
						Unknown	0	*Unknown*	0	
						Total	0	*Total*	0	
	Senegal		0	0	0	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	
						Unknown	0	*Unknown*	0	
						Total	0	*Total*	0	
	Tanzania		0	0	200	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	
						Unknown	0	*Unknown*	0	
						Total	0	*Total*	0	
	Uganda		0	0	0	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	
						Unknown	0	*Unknown*	0	
						Total	0	*Total*	0	
Result Area 2: Infection Prevention and Control Improved and Functional										

IP 2	# of persons trained in IPC with MTaPS support	Quarterly	0	1,199	2,806	4,566		926		5492
	Bangladesh		0	0	600	*Female*	0	*Female*	41	73
						Male	0	*Male*	32	
						Unknown	0	*Unknown*	0	
						Total	0	*Total*	73	
	Burkina Faso		0	0	0	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	
						Unknown	0	*Unknown*	0	
						Total	0	*Total*	0	
	Cameroon		0	86	66	*Female*	0	*Female*	32	68
						Male	0	*Male*	36	
						Unknown	0	*Unknown*	0	
						Total	0	*Total*	68	
	Côte d'Ivoire		0	0	120	*Female*	0	*Female*	34	71
						Male	0	*Male*	37	
						Unknown	0	*Unknown*	0	
						Total	0	*Total*	71	
	DRC		0	0	90	*Female*	50	*Female*	50	188
						Male	44	*Male*	44	
						Unknown	0	*Unknown*	0	
						Total	94	*Total*	94	
	Kenya		0	642	1,500	*Female*	0	*Female*	53	4537
						Male	0	*Male*	29	
						Unknown	4,455	*Unknown*	0	
						Total	4,455	*Total*	82	
	Mali		0	0	0	*Female*	0	*Female*	7	21
						Male	0	*Male*	14	
						Unknown	0	*Unknown*	0	
						Total	0	*Total*	21	
	Mozambique		0	0	0	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	
						Unknown	0	*Unknown*	0	
						Total	0	*Total*	0	
	Nigeria		0	0	100	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	
						Unknown	0	*Unknown*	0	
						Total	0	*Total*	0	
	Senegal		0	0	20	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	

						Unknown	0	*Unknown*	0	
						Total	0	*Total*	0	
	Tanzania		0	471	200	*Female*	8	*Female*	0	17
						Male	9	*Male*	0	
						Unknown	0	*Unknown*	0	
						Total	17	*Total*	0	
	Uganda		0	0	210	*Female*	0	*Female*	294	517
						Male	0	*Male*	223	
						Unknown	0	*Unknown*	0	
						Total	0	*Total*	517	
IP 3	# and % of MTaPS-supported facilities that are using standardized tool(s) for monitoring IPC and informing programmatic improvement	Quarterly	56% (5/9)	100% (9/9)	100% (87/87)	66% (57/87)		78% (89/114)		78% (89/114)
	Bangladesh		0% (0/0)	0% (0/0)	100% (2/2)	*Hospitals*	0% (0/2)	*Hospitals*	100% (2/2)	100% (2/2)
						Total	0% (0/2)	*Total*	100% (2/2)	
	Burkina Faso		0% (0/0)	0% (0/0)	0% (0/0)	*Total*	0% (0/0)	*Total*	0% (0/0)	0% (0/0)
	Cameroon		0% (0/0)	0% (0/0)	100% (6/6)	*Hospitals*	100% (6/6)	*Hospitals*	100% (12/12)	100% (12/12)
						Total	100% (6/6)	*Total*	100% (12/12)	
	Côte d'Ivoire		0% (0/0)	0% (0/0)	100% (12/12)	*Hospital*	20% (2/10)	*Hospital*	20% (2/10)	33% (4/12)
						Animal health Centers	100% (2/2)	*Animal health Centers*	100% (2/2)	
						Total	33% (4/12)	*Total*	33% (4/12)	
	DRC		0% (0/0)	0% (0/0)	100% (5/5)	*Hospitals*	60% (3/5)	*Hospitals*	86% (6/7)	86% (6/7)
						Total	60% (3/5)	*Total*	86% (6/7)	
	Jordan		0% (0/0)	0% (0/0)	100% (6/6)	*Hospitals*	0% (0/4)	*Hospitals*	0% (0/4)	0% (0/4)
						Total	0% (0/4)	*Total*	0% (0/4)	
	Kenya		0% (0/0)	0% (0/0)	100% (20/20)	*Hospitals*	79% (15/19)	*Hospitals*	100% (19/19)	100% (20/20)
						Health Centers	100% (1/1)	*Health Centers*	100% (1/1)	
						Total	80% (16/20)	*Total*	100% (20/20)	
	Mali		0% (0/0)	0% (0/0)	100% (16/16)	*Hospital*	67% (6/9)	*Hospital*	100% (9/9)	100% (16/16)
						Health Centers	86% (6/7)	*Health Centers*	100% (7/7)	
						Total	75% (12/16)	*Total*	100% (16/16)	
	Mozambique		43% (3/7)	Data not reported	100% (7/7)	*Hospitals (in-person support)*	Data not reported	*Hospitals (in-person support)*	100% (3/3)	43% (3/7)

						Hospitals (remote support)	Data not reported	*Hospitals (remote support)*	0% (0/4)	
						Total	Data not reported	*Total*	43% (3/7)	
	Nigeria		0% (0/3)	Data not reported	100% (3/3)	*Hospitals*	Data not reported	*Hospitals*	0% (0/3)	0% (0/3)
						Total	Data not reported	*Total*	0% (0/3)	
	Senegal		100% (3/3)	100% (3/3)	100% (3/3)	*Hospitals*	100% (3/3)	*Hospitals*	38% (3/8)	38% (3/8)
						Total	100% (3/3)	*Total*	38% (3/8)	
	Tanzania		33% (2/6)	100% (6/6)	100% (10/10)	*Hospitals*	60% (6/10)	*Hospitals*	100% (10/10)	100% (10/10)
						Total	60% (6/10)	*Total*	100% (10/10)	
	Uganda		0% (0/0)	0% (0/0)	7/7 (100%)	*Hospitals*	100% (7/7)	*Hospitals*	100% (13/13)	100% (13/13)
						Total	100% (7/7)	*Total*	100% (13/13)	
IP 5	# and % of MTaPS-supported facilities implementing continuous quality improvement (CQI) to improve IPC	Quarterly	43% (20/47)	83% (39/47)	100% (81/81)	48% (39/81)		74% (81/110)		74% (81/110)
	Bangladesh		0% (0/0)	0% (0/0)	100% (2/2)	*Hospitals*	0% (0/2)	*Hospitals*	100% (2/2)	100% (2/2)
						Total	0% (0/2)	*Total*	100% (2/2)	
	Burkina Faso		0% (0/0)	0% (0/0)	0% (0/0)	*Total*	0% (0/0)	*Total*	0% (0/0)	0% (0/0)
	Cameroon		0% (0/6)	100% (6/6)	100% (6/6)	*Hospitals*	0% (0/6)	*Hospitals*	50% (6/12)	50% (6/12)
						Total	0% (0/6)	*Total*	50% (6/12)	
	Côte d'Ivoire		50% (2/4)	100% (4/4)	100% (12/12)	*Hospitals*	20% (2/10)	*Hospitals*	100% (10/10)	100% (12/12)
						Animal Health Centers	100% (2/2)	*Animal Health Centers*	100% (2/2)	
						Total	33% (4/12)	*Total*	100% (12/12)	
	DRC		0% (0/0)	0% (0/0)	100% (5/5)	*Hospitals*	60% (3/5)	*Hospitals*	43% (3/7)	43% (3/7)
						Total	60% (3/5)	*Total*	43% (3/7)	
	Kenya		100% (16/16)	100% (16/16)	100% (20/20)	*Hospitals*	79% (15/19)	*Hospitals*	79% (15/19)	80% (16/20)
						Health Centers	100% (1/1)	*Health Centers*	100% (1/1)	
						Total	80% (16/20)	*Total*	80% (16/20)	
	Mali		0% (0/5)	0% (0/5)	100% (16/16)	*Hospital*	0% (0/9)	*Hospital*	89% (8/9)	81% (13/16)
						Health Centers	0% (0/7)	*Health Centers*	71% (5/7)	
						Total	0% (0/16)	*Total*	81% (13/16)	

	Mozambique		43% (3/7)	Data not reported	100% (7/7)	*Hospitals (in-person support)*	Data not reported	*Hospitals (in-person support)*	100% (3/3)	43% (3/7)
						Hospitals (remote support)	Data not reported	*Hospitals (remote support)*	0% (0/4)	
						Total	Data not reported	*Total*	43% (3/7)	
	Nigeria		0% (0/3)	Data not reported	100% (3/3)	*Hospitals*	Data not reported	*Hospitals*	0% (0/3)	0% (0/3)
						Total	Data not reported	*Total*	0% (0/3)	
	Senegal		0% (0/3)	0%(0/3)	100% (3/3)	*Hospitals*	100% (3/3)	*Hospitals*	38% (3/8)	38% (3/8)
						Total	100% (3/3)	*Total*	38% (3/8)	
	Tanzania		33% (2/6)	100% (6/6)	100% (10/10)	*Hospitals*	60% (6/10)	*Hospitals*	100% (10/10)	100% (10/10)
						Total	60% (6/10)	*Total*	100% (10/10)	
	Uganda		0% (0/7)	100% (7/7)	7/7 (100%)	*Hospitals*	100% (7/7)	*Hospitals*	100% (13/13)	100% (13/13)
						Total	100% (7/7)	*Total*	100% (13/13)	
IP 6	# and % of MTaPS-supported facilities with functional IPC committees	Quarterly	37% (15/41)	87% (41/47)	100% (81/81)	72% (58/81)		83% (91/110)		83% (91/110)
	Bangladesh		0% (0/0)	0% (0/0)	100% (2/2)	*Hospitals*	50% (1/2)	*Hospitals*	100% (2/2)	100% (2/2)
						Total	50% (1/2)	*Total*	100% (2/2)	
	Burkina Faso		0% (0/0)	0% (0/0)	0% (0/0)	*Total*	0% (0/0)	*Total*	0% (0/0)	0% (0/0)
	Cameroon		0% (0/0)	83% (5/6)	100% (6/6)	*Hospitals*	100% (6/6)	*Hospitals*	100% (12/12)	100% (12/12)
						Total	100% (6/6)	*Total*	100% (12/12)	
	Côte d'Ivoire		100% (4/4)	100% (4/4)	100% (12/12)	*Hospitals*	20% (2/10)	*Hospitals*	100% (10/10)	100% (12/12)
						Animal Health Centers	100% (2/2)	*Animal Health Centers*	100% (2/2)	
						Total	33% (4/12)	*Total*	100% (12/12)	
	DRC		0% (0/0)	0% (0/0)	100% (5/5)	*Hospitals*	60% (3/5)	*Hospitals*	86% (6/7)	86% (6/7)
						Total	60% (3/5)	*Total*	86% (6/7)	
	Kenya		0% (0/16)	100% (16/16)	100% (20/20)	*Hospitals*	79% (15/19)	*Hospitals*	79% (15/19)	80% (16/20)
						Health Centers	100% (1/1)	*Health Centers*	100% (1/1)	
						Total	80% (16/20)	*Total*	80% (16/20)	
	Mali		0% (0/5)	0% (0/5)		*Hospital*	67% (6/9)	*Hospital*	100% (9/9)	88% (14/16)

					100% (16/16)	*Health Centers*	68% (6/7)	*Health Centers*	71% (5/7)	
						Total	75% (12/16)	*Total*	88% (14/16)	
	Mozambique		43% (3/7)	Data not reported	100% (7/7)	*Hospitals (in-person support)*	Data not reported	*Hospitals (in-person support)*	100% (3/3)	43% (3/7)
						Hospitals (remote support)	Data not reported	*Hospitals (remote support)*	0% (0/4)	
						Total	Data not reported	*Total*	43% (3/7)	
	Nigeria		0% (0/3)	Data not reported	100% (3/3)	*Hospitals*	Data not reported	*Hospitals*	0% (0/3)	0% (0/3)
						Total	Data not reported	*Total*	0% (0/3)	
	Senegal		100% (3/3)	100% (3/3)	100% (3/3)	*Hospitals*	100% (3/3)	*Hospitals*	38% (3/8)	38% (3/8)
						Total	100% (3/3)	*Total*	38% (3/8)	
	Tanzania		17% (1/6)	100% (6/6)	100% (10/10)	*Hospitals*	60% (6/10)	*Hospitals*	100% (10/10)	100% (10/10)
						Total	60% (6/10)	*Total*	100% (10/10)	
	Uganda		100% (7/7)	100% (7/7)	7/7 (100%)	*Hospitals*	100% (7/7)	*Hospitals*	100% (13/13)	100% (13/13)
						Total	100% (7/7)	*Total*	100% (13/13)	
Result Area 3: Use of anti-microbial medicines is optimized										
AS 2	# and % of MTaPS supported facilities' MTC/AMS committees or other relevant groups that implemented AMS improvement plans and/or monitoring framework	Quarterly	14% (4/29)	81% (25/31)	100% (92/92)	33% (30/92)		33% (41/125)		33% (41/125)
	Bangladesh		0% (0/0)	0% (0/0)	100% (2/2)	*Hospitals*	0% (0/2)	*Hospitals*	0% (0/2)	0% (0/2)
						Total	0% (0/2)	*Total*	0% (0/2)	
	Burkina Faso		0% (0/0)	0% (0/0)	100% (12/12)	*Hospitals*	0% (0/8)	*Hospitals*	8% (1/12)	6% (1/16)
						Health Centers	0% (0/4)	*Health Centers*	0% (0/4)	
						Total	0% (0/12)	*Total*	6% (1/16)	
	Cameroon		0% (0/0)	0% (0/0)	100% (6/6)	*Hospitals*	0% (0/6)	*Hospitals*	0% (0/12)	0% (0/12)
						Total	0% (0/6)	*Total*	0% (0/12)	
	Côte d'Ivoire		0% (0/0)	0% (0/0)	100% (12/12)	*Hospitals*	17% (2/12)	*Hospitals*	17% (2/12)	17% (2/12)
						Total	17% (2/12)	*Total*	17% (2/12)	
	DRC		0% (0/0)	0% (0/0)	100% (5/5)	*Hospitals*	60% (3/5)	*Hospitals*	43% (3/7)	43% (3/7)
						Total	60% (3/5)	*Total*	43% (3/7)	
	Jordan		0% (0/0)	0% (0/2)	100% (6/6)	*Hospitals*	0% (0/6)	*Hospitals*	0% (0/6)	0% (0/6)
						Total	0% (0/6)	*Total*	0% (0/6)	

	Kenya		6% (1/16)	100% (18/18)	100% (24/24)	*Hospitals*	81% (17/21)	*Hospitals*	81% (17/21)	75% (18/24)
						Health Centers	100% (1/1)	*Health Centers*	100% (1/1)	
						Pharmacy	0% (0/2)	*Pharmacy*	0% (0/2)	
						Total	75% (18/24)	*Total*	75% (18/24)	
	Mali		0% (0/0)	0% (0/0)	100% (5/5)	*Hospital*	0% (0/4)	*Hospital*	50% (2/4)	40% (2/5)
						Health Centers	0% (0/1)	*Health Centers*	0% (0/1)	
						Total	0% (0/5)	*Total*	40% (2/5)	
	Mozambique		0% (0/7)	Data not reported	100% (7/7)	*Hospitals (in-person support)*	Data not reported	*Hospitals (in-person support)*	0% (0/3)	0% (0/7)
						Hospitals (remote support)	Data not reported	*Hospitals (remote support)*	0% (0/4)	
						Total	Data not reported	*Total*	0% (0/7)	
	Nigeria		0% (0/3)	Data not reported	100% (3/3)	*Hospitals*	Data not reported	*Hospitals*	0% (0/3)	0% (0/3)
						Total	Data not reported	*Total*	0% (0/3)	
	Senegal		0% (0/0)	0% (0/0)	100% (3/3)	*Hospitals*	0% (0/3)	*Hospitals*	0% (0/8)	0% (0/8)
						Total	0% (0/3)	*Total*	0% (0/8)	
	Tanzania		0% (0/6)	0% (0/6)	100% (10/10)	*Hospitals*	0% (0/10)	*Hospitals*	20% (2/10)	20% (2/10)
						Total	0% (0/10)	*Total*	20% (2/10)	
	Uganda		43% (3/7)	100% (7/7)	7/7 (100%)	*Hospitals*	100% (7/7)	*Hospitals*	100% (13/13)	100% (13/13)
						Total	100% (7/7)	*Total*	100% (13/13)	
AS 3	# of persons trained in AMS topics with MTaPS support	Quarterly	0	436	2,304	1,302		766		2,068
	Bangladesh		0	0	0	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	
						Unknown	0	*Unknown*	0	
						Total	0	*Total*	0	
	Burkina Faso		0	0	100	*Female*	0	*Female*	3	21
						Male	0	*Male*	18	
						Unknown	0	*Unknown*	0	
						Total	0	*Total*	21	
	Cameroon		0	0	144	*Female*	0	*Female*	9	16
						Male	0	*Male*	7	
						Unknown	0	*Unknown*	0	
						Total	0	*Total*	16	
	Côte d'Ivoire		0	0	100	*Female*	0	*Female*	0	0

						Male	0	*Male*	0	
						Unknown	0	*Unknown*	0	
						Total	0	*Total*	0	
	DRC		0	0	150	*Female*	61	*Female*	75	297
						Male	60	*Male*	101	
						Unknown	0	*Unknown*	0	
						Total	121	*Total*	176	
	Jordan		0	0	20	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	
						Unknown	0	*Unknown*	0	
						Total	0	*Total*	0	
	Kenya		0	165	1,500	*Female*	0	*Female*	20	1161
						Male	0	*Male*	16	
						Unknown	1,125	*Unknown*	0	
						Total	1,125	*Total*	36	
	Mali		0	0	0	*Female*	12	*Female*	0	56
						Male	44	*Male*	0	
						Unknown	0	*Unknown*	0	
						Total	56	*Total*	0	
	Mozambique		0	0	0	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	
						Unknown	0	*Unknown*	0	
						Total	0	*Total*	0	
	Nigeria		0	0	40	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	
						Unknown	0	*Unknown*	0	
						Total	0	*Total*	0	
	Senegal		0	0	20	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	
						Unknown	0	*Unknown*	0	
						Total	0	*Total*	0	
	Tanzania		0	201	200	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	
						Unknown	0	*Unknown*	0	
						Total	0	*Total*	0	
	Uganda		0	70	70	*Female*	0	*Female*	294	517
						Male	0	*Male*	223	
						Unknown	0	*Unknown*	0	
						Total	0	*Total*	517	
AS 4	# and % of MTaPS-supported facilities implementing continuous quality	Quarterly	62% (24/39)	75% (41/55)	100% (86/86)	35% (30/86)		37% (41/112)		37% (41/112)

	improvement (CQI) to improve AMS									
	Bangladesh		0% (0/0)	0% (0/0)	100% (2/2)	*Hospitals*	0% (0/2)	*Hospitals*	0% (0/2)	0% (0/2)
						Total	0% (0/2)	*Total*	0% (0/2)	
	Burkina Faso		0% (0/0)	100% (5/5)	100% (12/12)	*Hospitals*	0% (0/8)	*Hospitals*	10% (1/10)	8% (1/12)
						Health Centers	0% (0/4)	*Health Centers*	0% (0/2)	
						Total	0% (0/12)	*Total*	8% (1/12)	
	Cameroon		0% (0/0)	0% (0/6)	100% (6/6)	*Hospitals*	0% (0/6)	*Hospitals*	0% (0/12)	0% (0/12)
						Total	0% (0/6)	*Total*	0% (0/12)	
	Côte d'Ivoire		0% (0/0)	100% (2/2)	100% (12/12)	*Hospitals*	17% (2/12)	*Hospitals*	17% (2/12)	17% (2/12)
						Total	17% (2/12)	*Total*	17% (2/12)	
	DRC		0% (0/0)	100% (3/3)	100% (5/5)	*Hospitals*	60% (3/5)	*Hospitals*	43% (3/7)	43% (3/7)
						Total	60% (3/5)	*Total*	43% (3/7)	
	Kenya		100% (18/18)	100% (18/18)	100% (24/24)	*Hospitals*	81% (17/21)	*Hospitals*	81% (17/21)	75% (18/24)
						Health Centers	100% (1/1)	*Health Centers*	100% (1/1)	
						Pharmacy	0% (0/2)	*Pharmacy*	0% (0/2)	
						Total	75% (18/24)	*Total*	75% (18/24)	
	Mali		0% (0/5)	0% (0/5)	100% (5/5)	*Hospital*	0% (0/4)	*Hospital*	50% (2/4)	40% (2/5)
						Health Centers	0% (0/1)	*Health Centers*	0% (0/1)	
						Total	0% (0/5)	*Total*	40% (2/5)	
	Mozambique		0% (0/7)	Data not reported	100% (7/7)	*Hospitals (in-person support)*	Data not reported	*Hospitals (in-person support)*	0% (0/3)	0% (0/7)
						Hospitals (remote support)	Data not reported	*Hospitals (remote support)*	0% (0/4)	
						Total	Data not reported	*Total*	0% (0/7)	
	Nigeria		0% (0/3)	Data not reported	100% (3/3)	*Hospitals*	Data not reported	*Hospitals*	0% (0/3)	0% (0/3)
						Total	Data not reported	*Total*	0% (0/3)	
	Senegal		0% (0/3)	0% (0/3)	100% (3/3)	*Hospitals*	0% (0/3)	*Hospitals*	0% (0/8)	0% (0/8)
						Total	0% (0/3)	*Total*	0% (0/8)	
	Tanzania		0% (0/6)	100% (6/6)	100% (10/10)	*Hospitals*	0% (0/10)	*Hospitals*	20% (2/10)	20% (2/10)
						Total	0% (0/10)	*Total*	20% (2/10)	
	Uganda		86% (6/7)	100% (7/7)	7/7 (100%)	*Hospitals*	100% (7/7)	*Hospitals*	100% (13/13)	100% (13/13)
						Total	100% (7/7)	*Total*	100% (13/13)	
DRC Custom Indicators										
DRC 1	# of quality assured MNCH, RH/FP, and TB medicines	Semi-annually	0	0	2	16				16

	products registered with MTaPS support							
DRC 5	# of DPS and/or IPS using the updated directory of registered medicines	Semi-annually	0	0	4	3		3
DRC 8	# of health zones involved in provincial quantification exercises with MTaPS support	Semi-annually	0	0	10	10		10
DRC 10	# of Contraceptive kit (reduced FP package) distributed to community care sites (CSS) in MTaPS supported HZs	Semi-annually	0	0	24	0		0
DRC 11	% of CSS reporting contraceptive data to health facilities in MTAPS supported HZs	Semi-annually	0%	0	60%	0% (0/12)		0% (0/12)
DRC 12	# of mini awareness raising campaigns for active detection of tuberculosis and adherence to TB treatment supported by MTaPS	Semi-annually	0	0	10	0		0
Nepal Custom Indicators								
NP 8	Number of monitoring visits in which GON participates	Quarterly	0	0	2	1	2	3

Annex Table 2: Indicator JC1: Percentage of WHO international Health Regulation (IHR) benchmark actions completed with MTaPS support for each level of JEE capacity (IPC, AMS, and multi-sectoral collaboration) for PY3Q2

WHO Benchmark	JEE capacity level	MTaPS-supported country											
		Bangladesh	Burkina Faso	Cameroon	Côte d'Ivoire	DRC	Kenya	Mali	Mozambique	Nigeria	Senegal	Tanzania	Uganda
P.3.1 Effective MSC on AMR	Limited Capacity - 02	25% (1/4)	50% (2/4)	25% (1/4)	100% (4/4)	75% (3/4)	0% (0/4)	0% (0/4)	50% (2/4)	0% (0/4)	75% (3/4)	50% (2/4)	50% (2/4)
	Developed Capacity - 03	25% (1/4)	50% (2/4)	75% (3/4)	75% (3/4)	100% (4/4)	0% (0/4)	100% (4/4)	75% (3/4)	25% (1/4)	50% (2/4)	75% (3/4)	50% (2/4)
	Demonstrated Capacity - 04	50% (2/4)	0% (0/4)	75% (3/4)	50% (2/4)	100% (4/4)	25% (1/4)	0% (0/4)	0% (0/4)	0% (0/4)	50% (2/4)	25% (1/4)	25% (1/4)
	Sustainable Capacity - 05	0% (0/5)	0% (0/5)	0% (0/5)	0% (0/5)	80% (4/5)	0% (0/5)	0% (0/5)	0% (0/5)	0% (0/5)	0% (0/5)	0% (0/5)	0% (0/5)
P.3.3 Infection prevention and control	Limited Capacity - 02	60% (3/5)	0% (0/5)	60% (3/5)	100% (5/5)	60% (3/5)	80% (4/5)	80% (4/5)	80% (4/5)	0% (0/5)	60% (3/5)	80% (4/5)	80% (4/5)
	Developed Capacity - 03	67% (4/6)	0% (0/6)	33% (2/6)	83% (5/6)	50% (3/6)	33% (2/6)	50% (3/6)	33% (2/6)	17% (1/6)	50% (3/6)	10% (6/6)	83% (5/6)
	Demonstrated Capacity - 04	20% (1/5)	0% (0/5)	0% (0/5)	40% (2/5)	20% (1/5)	0% (0/5)	0% (0/5)	0% (0/5)	0% (0/5)	0% (0/5)	60% (3/5)	0% (0/5)
	Sustainable Capacity - 05	0% (0/5)	0% (0/5)	0% (0/5)	0% (0/5)	20% (1/5)	0% (0/5)	0% (0/5)	0% (0/5)	0% (0/5)	0% (0/5)	20% (1/5)	0% (0/5)
P.3.4 Optimize use of	Limited Capacity - 02	0% (0/4)	50% (2/4)	50% (2/4)	100% (4/4)	100% (4/4)	50% (2/4)	75% (3/4)	0% (0/4)	0% (0/4)	75% (3/4)	75% (3/4)	25% (1/4)

antimicrobial medicines in human and animal health and agriculture	Developed Capacity - 03	17% (1/6)	33% (2/6)	0% (0/6)	67% (4/6)	67% (4/6)	50% (3/6)	33% (2/6)	0% (0/6)	0% (0/6)	17% (1/6)	50% (3/6)	33% (2/6)
	Demonstrated Capacity - 04	0% (0/7)	14% (1/7)	0% (0/7)	0% (0/7)	57% (4/7)	0% (0/7)	0% (0/7)	0% (0/7)	0% (0/7)	0% (0/7)	0% (0/7)	0% (0/7)
	Sustainable Capacity - 05	0% (0/7)	0% (0/7)	0% (0/7)	0% (0/7)	71% (5/7)	0% (0/7)	0% (0/7)	0% (0/7)	0% (0/7)	0% (0/7)	0% (0/7)	0% (0/7)

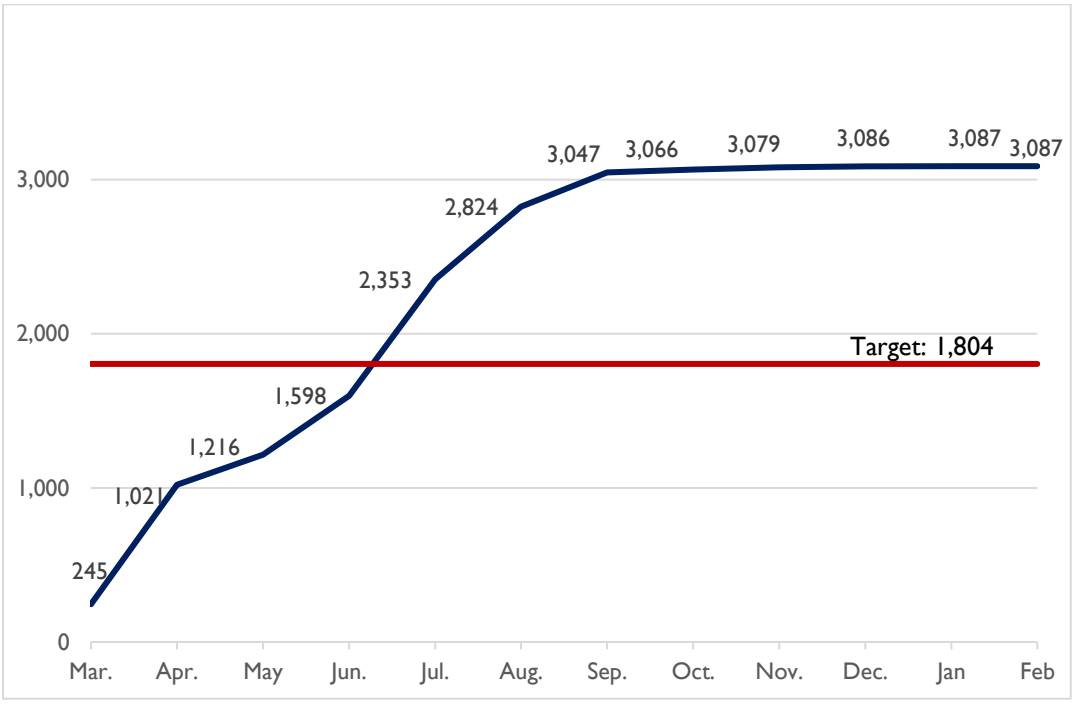
ANNEX 3: COVID-19 INDICATORS

Annex Table 3. Indicators across all MTaPS-supported countries

#	Indicator	Total (as of February 28, 2021)
1	# of MTaPS-supported health facilities whose staff received COVID-19-related IPC training:*	3,087
1.a	# of facilities trained in IPC for COVID-19	2,595
1.b	# of facilities trained in emergency supply chain management	633
1.c	# of facilities trained in health care waste management (HCWM)	2,276
2	# of health workers who received COVID-19-related training	40,733
2.a	female	23,042
2.b	male	17,470
2.c	sex unknown	221
3	% of MTaPS-supported facilities in compliance with IPC COVID-19 guidelines/SOPs	46% (701/1,533)
4	% of MTaPS-supported facilities that report stock data for IPC commodities with required frequency	97% (721/742)

* Because some health facilities received training in more than one technical area, indicator1 and sub-indicators 1a, 1b, and 1.c are counted separately to prevent double counting.

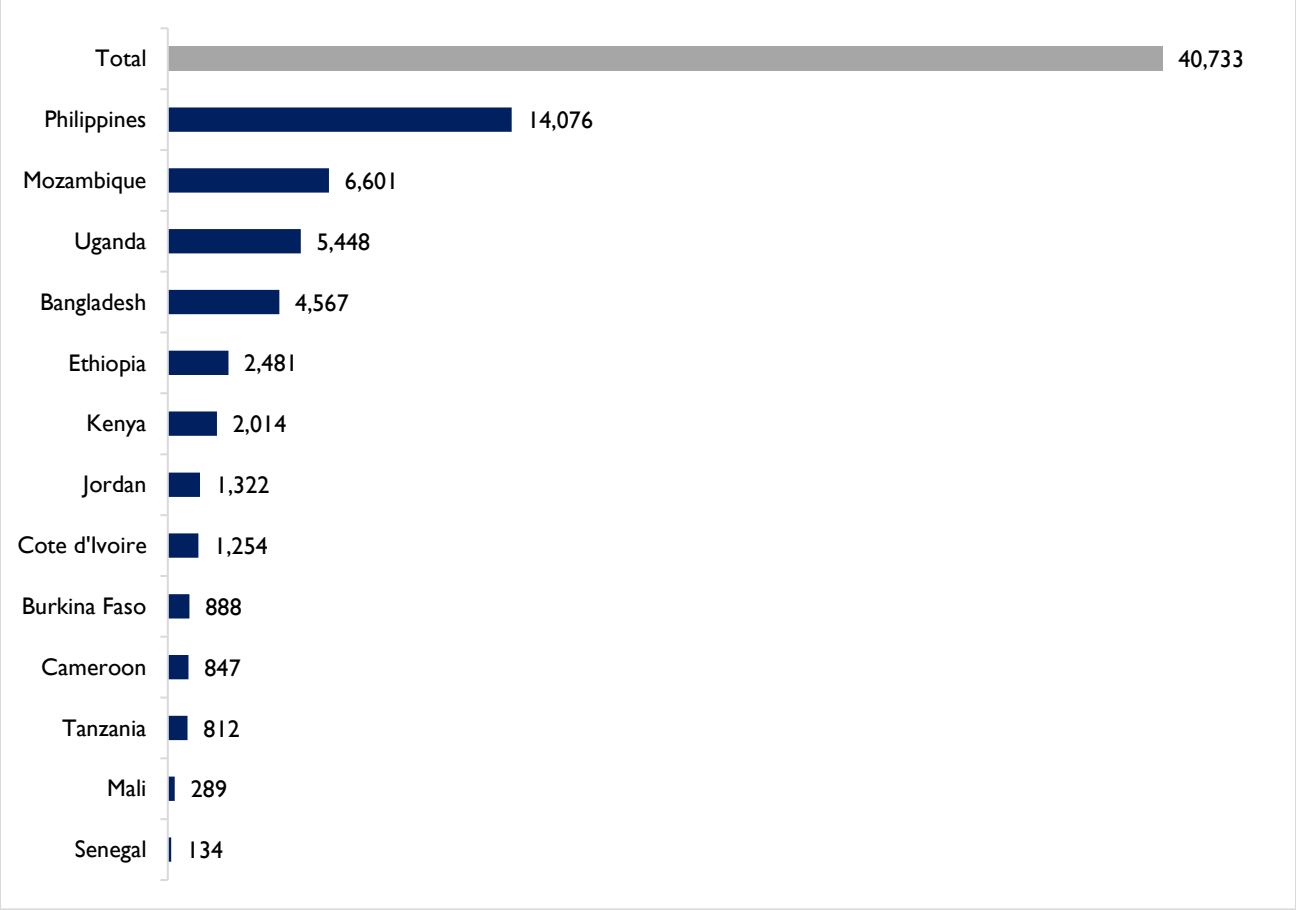
Annex Table 4. CV 1: # MTaPS-supported health facilities whose staff received COVID-19-related IPC training, March 2020-February 2021														
		Mar.	**Apr.**	**May**	**Jun.**	**Jul.**	**Aug.**	**Sep.**	**Oct.**	**Nov.**	**Dec.**	**Jan.**	**Feb.**	**Total**
Country	Bangladesh	133	538	4	30	2	2	1	0	2	0	0	0	712
	Burkina Faso				26	4	18	14	0	0				62
	Cameroon		10	0	3	4	9	4	0					30
	Côte d'Ivoire		1	0	12	6	6	0	7	6				38
	Ethiopia	0	2	79	41	31	243	139						535
	Jordan						3	13	8	5	7	1	0	37
	Kenya	112	201	24	39	28	2	0						406
	Mali			19	41	0	0	0	0					60
	Mozambique				18	55	19	34	2	0				128
	Philippines		24	33	42	23	14	8						144
	Senegal			1	5	20	0	0	2					28
	Tanzania			35	0	0	4	10						49
	Uganda				125	582	151	0						858
	Total	**245**	**776**	**195**	**382**	**755**	**471**	**223**	**19**	**13**	**7**	**1**	**0**	**3,087**
Technical area	eSC	0	538	23	24	15	12	16	2	0	3	0	0	633
	HCWM	112	207	187	320	745	463	211	18	5	7	1	0	2,276
	IPC	245	323	178	365	755	466	223	19	13	7	1	0	2,595
Facility type	Hospital	133	573	85	163	96	134	81	9	7	7	1	0	1,289
	Health Center	0	0	7	143	565	234	127	3	0	0	0	0	1,079
	Clinic	0	0	0	23	52	47	1	0	0	0	0	0	123
	Other	0	0	0	12	11	51	14	7	6	0	0	0	101
	Unknown	112	203	103	41	31	5	0	0	0	0	0	0	495
Facility ownership type	Public	133	560	77	256	547	411	207	14	10	1	0	0	2,216
	Private not-for-profit	0	0	1	18	93	12	3	1	0	0	0	0	128
	Private for-profit	0	13	14	55	78	48	12	4	3	1	0	0	228
	Other	0	0	0	0	0	0	1	0	0	5	1	0	7
	Unknown	112	203	103	53	37	0	0	0	0	0	0	0	508



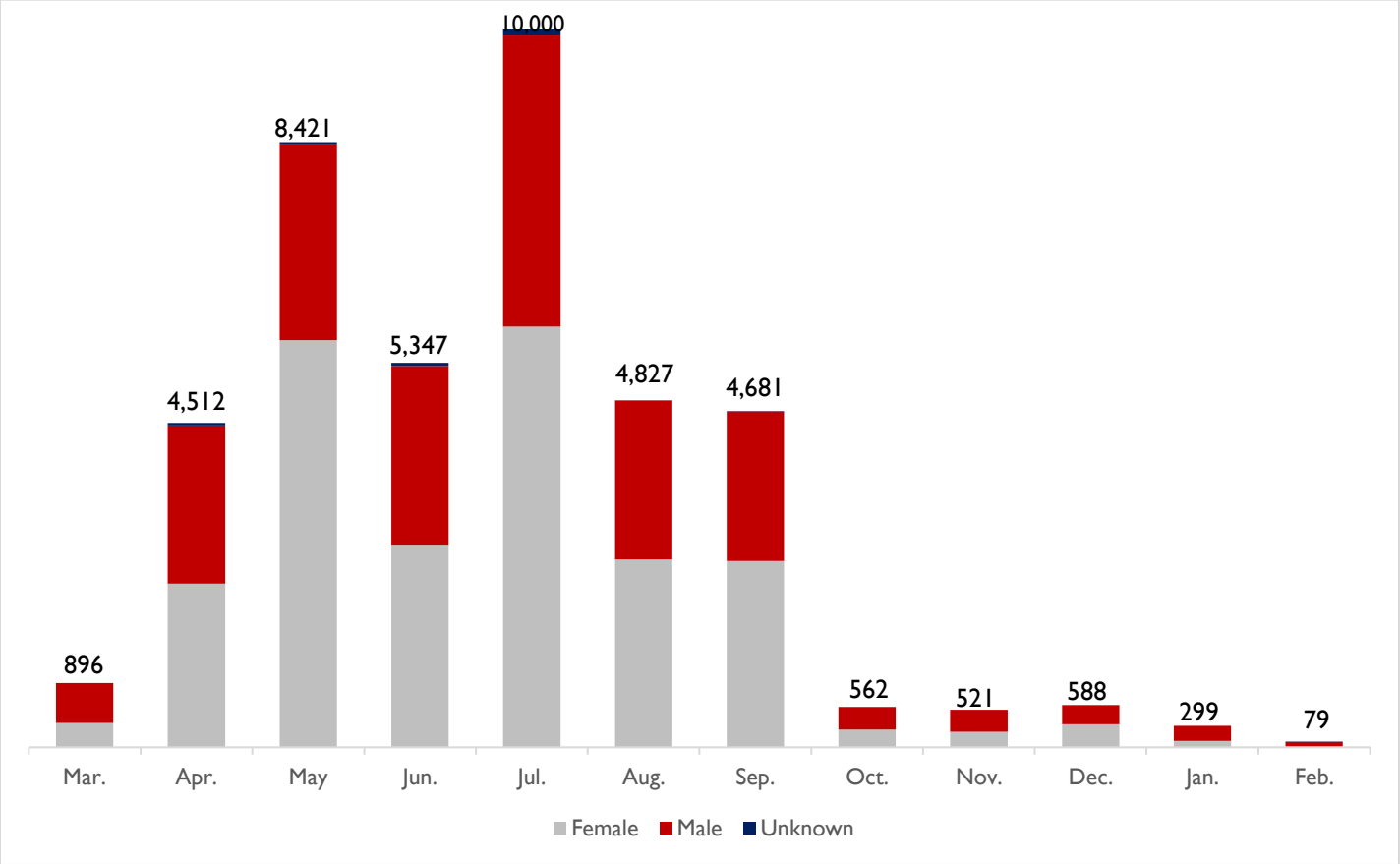
Annex Figure 1. CV 1: Total # of MTaPS-supported health facilities whose staff received COVID-19-related IPC training across all countries, March 2020-February 2021

Annex Table 5. CV 2: # of persons who received COVID-19-related training, March 2020-February 2021														
		Mar.	**Apr.**	**May**	**Jun.**	**Jul.**	**Aug.**	**Sep.**	**Oct.**	**Nov.**	**Dec.**	**Jan.**	**Feb.**	**Total**
Country	Bangladesh	560	1,530	376	1,114	88	88	75	0	274	227	161	74	4,567
	Burkina Faso				26	100	300	462	0					888
	Cameroon		25	0	360	81	204	177	0	0				847
	Côte d'Ivoire		30	0	507	60	151	171	235	100				1,254
	Ethiopia	15	125	312	228	741	657	403						2,481
	Jordan						98	342	231	147	361	138	5	1,322
	Kenya	321	1,091	200	311	34	57	0						2,014
	Mali			30	89	0	0	170	0					289
	Mozambique				243	2,142	1,889	2,244	83	0				6,601
	Philippines		1,711	6,948	2,091	2,324	405	597						14,076
	Senegal			31	28	62	0	0	13					134
	Tanzania			524	0	0	248	40						812
	Uganda				350	4,368	730	0						5,448
	Total	**896**	**4,512**	**8,421**	**5,347**	**10,000**	**4,827**	**4,681**	**562**	**521**	**588**	**299**	**79**	**40,733**
Sex	Female	338	2,275	5,663	2,821	5,854	2,615	2,592	247	217	319	91	10	23,042
	Male	558	2,205	2,722	2,482	4,049	2,209	2,085	315	304	269	208	64	17,470

	Unknown	0	32	36	44	97	3	4	0	0	0	0	5	221
Facility type	Hospital	560	3,296	7,799	3,802	3,961	2,943	2,885	402	421	572	281	64	26,986
	Health Center	0	0	91	467	4,494	1,324	1,513	53	0	0	0	0	7,942
	Clinic	0	0	0	44	225	217	3	0	0	0	0	0	489
	Other	0	0	19	299	47	284	280	107	100	16	18	15	1,185
	Unknown	336	1,216	512	735	1,273	59	0	0	0	0	0	0	4,131
Facility ownership type	Public	560	2,798	4,683	3,119	6,661	4,247	4,083	436	479	410	278	79	27,833
	Private not-for-profit	0	0	1	271	310	34	150	23	0	0	0	0	789
	Private for-profit	0	498	3,225	1,222	2,125	530	426	103	42	54	0	0	8,225
	Other	0	0	0	0	0	0	22	0	0	124	21	0	167
	Unknown	336	1,216	512	735	904	16	0	0	0	0	0	0	3,719

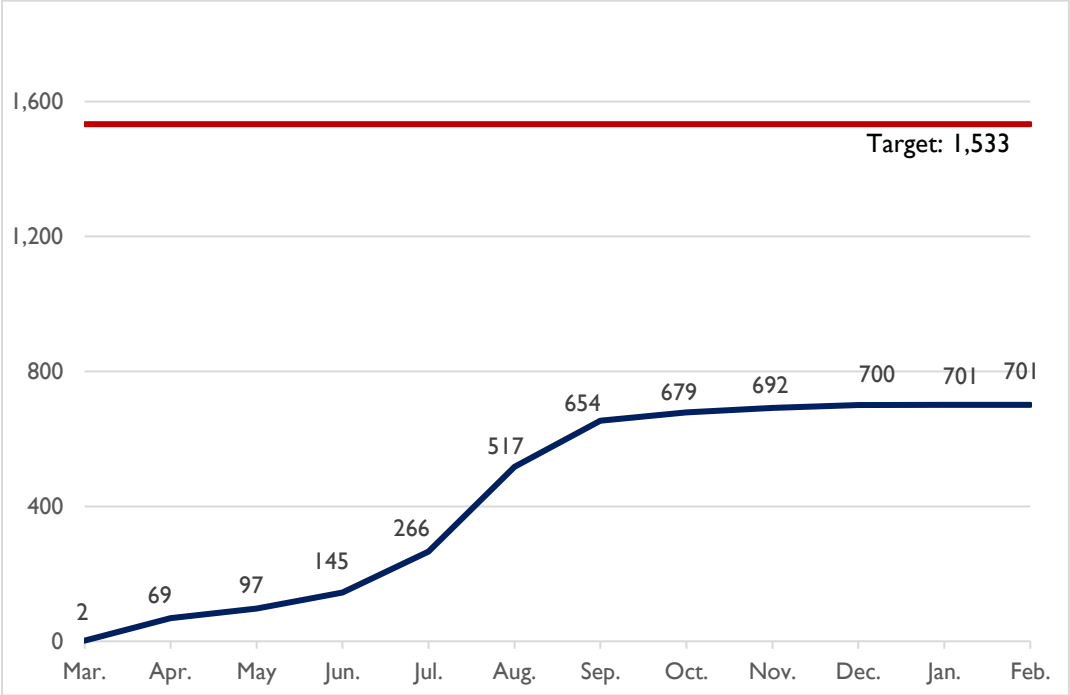


Annex Figure 2. CV 2: Total # of persons who received COVID-19-related training, by country



Annex Figure 3. CV 2: Total # of persons who received COVID-19-related training, by month and sex

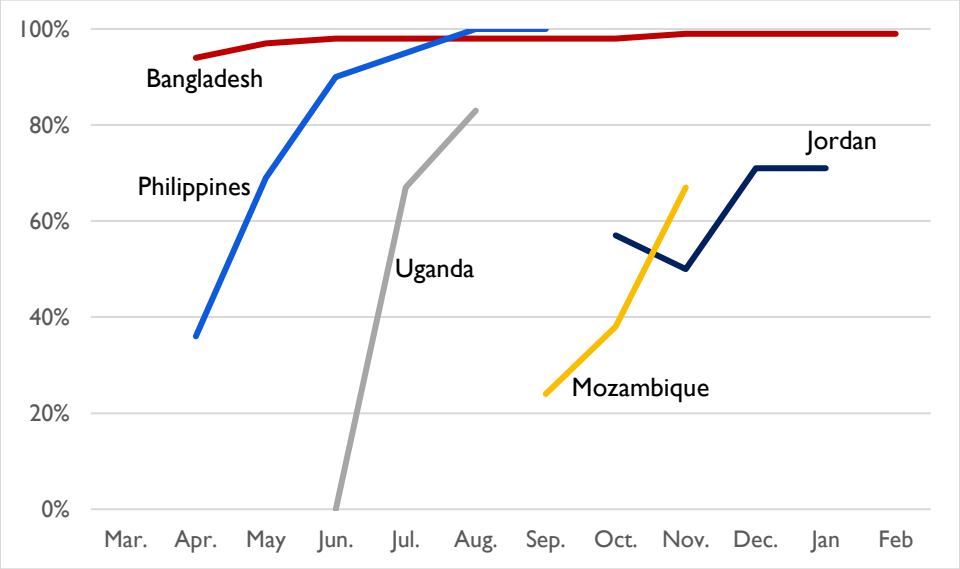
Annex Table 6. CV 3: # MTaPS-supported health facilities in compliance with COVID-19 IPC guidelines/SOPs, March 2020-February 2021														
		Mar.	**Apr.**	**May**	**Jun.**	**Jul.**	**Aug.**	**Sep.**	**Oct.**	**Nov.**	**Dec.**	**Jan.**	**Feb.**	**Total**
Country	Bangladesh										2			2
	Burkina Faso								15					15
	Cameroon					0	7	2	0	5				14
	Côte d'Ivoire		0	13	2	7	0	5	2	7				36
	Ethiopia		2	4	10	26	197	95	0					334
	Jordan						4	12	6	1	6	1	0	30
	Kenya	2	65	11	36	0	21	0	0					135
	Mali				0	2	10	0	0					12
	Mozambique					2	5	9	2	0				18
	Philippines		0	0	0	11	6	14						31
	Senegal													
	Tanzania			0	0	0	1	0						1
	Uganda				0	73	0	0						73
	Total	**2**	**67**	**28**	**48**	**121**	**251**	**137**	**25**	**13**	**8**	**1**	**0**	**701**
Facility type	Hospital	0	0	13	2	25	101	67	7	6	8	1	0	230
	Health Center	0	0	0	0	56	124	67	15	0	0	0	0	262
	Clinic	0	0	0	0	11	16	1	0	0	0	0	0	28
	Other	0	0	0	0	3	10	2	3	7	0	0	0	25
	Unknown	2	67	15	46	26	0	0	0	0	0	0	0	156
Facility ownership type	Public	0	0	13	14	47	231	121	20	12	2	0	0	460
	Private not-for-profit	0	0	0	10	17	0	0	1	1	0	0	0	29
	Private for-profit	0	0	0	14	31	20	15	4	0	1	0	0	85
	Other	0	0	0	0	0	0	1	0	0	5	1	0	7
	Unknown	2	67	15	10	26	0	0	0	0	0	0	0	120



Annex Figure 4. CV 3: # MTaPS-supported health facilities in compliance with COVID-19 IPC guidelines/SOPs, across all countries

Annex Table 7. CV 4: # of MTaPS-supported facilities that routinely report stock data for IPC PPE or HCWM commodities by country, March 2020-February 2021

	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.
	# (%)	# (%)	# (%)	# (%)	# (%)	# (%)	# (%)	# (%)	# (%)	# (%)	# (%)	# (%)
Bangladesh		617 (94%)	639 (97%)	641 (98%)	646 (98%)	646 (98%)	647 (98%)	647 (98%)	649 (99%)	650 (99%)	649 (99%)	650 (99%)
Jordan								8 (57%)	7 (50%)	10 (71%)	10 (71%)	
Mozambique							5 (24%)	8 (38%)	14 (67%)			
Philippines		15 (36%)	29 (69%)	38 (90%)	40 (95%)	42 (100%)	42 (100%)					
Uganda				0	4 (67%)	5 (83%)						



Annex Figure 5. CV 4: % of MTaPS-supported facilities that routinely report stock data for IPC PPE or HCWM commodities, by country