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

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FISCAL YEAR 2021 ANNUAL REPORT AND QUARTER 4 (JULY–SEPTEMBER 2021) REPORT

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FISCAL YEAR 2021
ANNUAL REPORT AND QUARTER 4 (JULY–SEPTEMBER 2021) REPORT

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PROJECT OVERVIEW

Program Name:		USAID Medicines, Technologies, and Pharmaceutical Services (MTaPS) Program
Reporting Period:		Fiscal year (FY) 2021 and FY21 Quarter 4 (July–September 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, Deloitte USA, Duke-National University of Singapore, El Instituto de Evaluacion Technologica en Salud, ePath, IC Consultants, Imperial Health Sciences, MedSource, QuintilesIMS, University of Washington
	Capacity Resource Partners:	African Health Economics and Policy Association, Ecumenical Pharmaceutical Network, U3 SystemsWork, University of Ibadan, University of Ghana's World Health Organizations (WHO) Pharmacovigilance Collaborating Center, 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

4PL	fourth party logistics provider
5S	Sort, Set, Shine, Standardize and Sustain
ACPIC	Advisory Committee for Infection Prevention and Control
ACTB	USAID Alliance for Combating Tuberculosis
ADR	adverse drug reaction
aDSM	active drug safety monitoring
AE	adverse event
AEFI	adverse event following immunization
AFIAT	Assistance For Families and Indigent Afghans to Thrive
AIRP	Ivorian Pharmaceutical Regulatory Authority
AKMLSO	Association of Kenya Medical Laboratory Scientific Officers
AMDF	African Medical Devices Forum
AMR	antimicrobial resistance
AMS	antimicrobial stewardship
AMS TWC	antimicrobial stewardship technical working committee (Uganda)
ANARME	Autoridade Nacional Reguladora de Medicamentos de Moçambique
ANEH	Agence Nationale d'Evaluation des Hôpitaux
ANRP	Agence Nationale de Régulation Pharmaceutique
AO	administrative order
APHA	American Public Health Association
ARC	Antimicrobial Resistance Containment
ARV	antiretroviral
ASEAN	Association of Southeast Asian Nations
ASEAN PPWG	ASEAN Pharmaceutical Products Working Group
ASM	active safety monitoring
ATC	Anatomical Therapeutic Chemical
ATLASS	assessment of the diagnostic laboratory capacity of the animal sector
AUDA-NEPAD	African Union Development Agency-New Partnership for Africa's Development
AWaRe	access, watch, reserve
AWS	Amazon web server
BARMM	Bangsamoro Autonomous Region in Muslim Mindanao
BSC	balanced scorecard
C/DHMT	county/district health management team
CADIMEBU	Centrale d'Achat et de Distribution des Médicaments Essentiels de Bunia
CAPA	Corrective and Preventive Action
CAPEX	capability exercises
CASIC	County Antimicrobial Stewardship Interagency Committee
CBA	cost-benefit analysis

CCIH	Intra-Hospital Infection Control Commission
CDD	Communicable Diseases Directorate
CDE	Center for Distance learning Education
CDRs	Centrales de Distribution Régionale
CENAME	Centrale Nationale d'Approvisionnement en Médicaments et Consommables Médicaux Essentiels
CHD	Center for Health Development
CHO	city health office
CHR	Centre Hospitalier Régional
CHW	community health worker
CIPCAC	County Infection Prevention and Control Advisory Committee
CIRAD	French Agricultural Research Center for International Development
CLA	collaborating, learning, and adapting
CME	continuous medical education
CODESA	comité de développement de l'aire sanitaire
CoE	center of excellence
COI	conflict of interest
COIs	conflicts of interest
CORE	Centre of Regulatory Excellence
CP	conditions precedent
CPD	continuing professional development
CQI	continuous quality improvement
CSL	Commodity Security and Logistics
CTD	common technical document
CUK	Cliniques Universitaires de Kinshasa
CWG	core working group
CYP	couple years of protection
DAMS	Drug Administration Management System
DAP	Directorate of Pharmaceutical Activity
DDA	Department of Drug Administration
DDD	defined daily dose
DGASHP	sub-Directorate General of Health in charge of Public Hygiene
DGFGS/D10	national MNCH program (DRC)
DGOGSS	Directorate General for Health Services Organization and Management
DGSHP	Direction Générale de la Santé et de l'Hygiène Publique
DGSV	Directorate General of Veterinary Services
DH	district hospital
DHIS2	district health information systems version 2
DHP	Directorate of Hospital Pharmacy

DHPSE	Directorate of Public Hygiene and Health and the Environment
DHT	district health team
DLS	Department of Livestock Services
DMHP	Directorate of Medicine Hospital and Proximity
DNAM	National Directorate of Medical Assistance
DNF	National Directorate of Pharmacy
DNSV	National Directorate of Veterinary Services
DOH	Department of Health
DOSH	Directorate of Occupational Safety and Health
DOT	directly observed treatment
DPCB	Disease Prevention and Control Bureau
DPM	Direction de la Pharmacie et du Médicament
DPML	Direction de la Pharmacie, du Médicament et des Laboratoires
DPS	Direction de la Promotion de la Santé
DQA	data quality audit
DQSHH	Direction de la Qualité, de la Sécurité et de l'Hygiène Hospitalières
DRA	drug regulatory authority
DRC	Democratic Republic of Congo
DRM	Directory of Registered Medicines
DRRT	district rapid response team
DS TB	drug-susceptible TB
DTC	Drug and Therapeutics Committee
DTG	dolutegravir
eLMIS	electronic Logistic Management Information System
EAC	East African Community
EAC EWG-PV	EAC Expert Working Group on PV
eAMS	electronic asset management system
ECDC	European Centre for Disease Prevention and Control
ECOWAS	Economic Community of West African States
eLMIS	electronic logistics management information system
EML	Essential Medicines List
ERP	enterprise resource planning
ETHID	Electronic Transformation and Health Information Directorate
ETU	Ebola treatment units
EU	European Union
EVD	Ebola virus disease
FA	framework agreement
FAO	Food and Agriculture Organization of the United Nations

FAO ECTAD	Food and Agriculture Organization Emergency Centre for Transboundary Animal Diseases
FDA	Food and Drug Administration
FGD	focus group discussion
FMOS	Faculté de Médécine et d'Odonto-stomatologie
FP	family planning
GBT	Global Benchmarking Tool
GCMN-RAM	National Multisectoral Coordination Group for Antimicrobial Resistance
GDP	Good Distribution Practices
GF	Global Fund to Fight AIDS, Tuberculosis and Malaria
GHSA	Global Health Security Agenda
GHSC-PSM	Global Health Supply Chain Procurement and Supply Management
GHSC-TA Project	USAID/Global Health Supply Chain-Technical Assistance
GMP	Good Manufacturing Practices
GOJ	Government of Jordan
GPD	Government Procurement Department
GPP	Good Pharmacy Practices
GRC	Good Regulatory Compliance
GRP	Good Regulatory Practices
HAI	health care-associated infection
HC III	health center 3 level
HC IV	health center 4 level
HCAI	health care-associated infection
HCF	health care facility
HCW	health care worker
HEU	Health Economic Unit
HF	health facility
HH	hand hygiene
HHSAF	hand hygiene self-assessment framework
HIC	high-income countries
HIV	human immunodeficiency virus
HIV Program	National STI/HIV/AIDS Control Program in Mozambique
HMB	hospital management board
HMIS	Health Management Information System
HMT	health management team
HMTC	Hospital Medicines and Therapeutic Committee
HOGIP	Hospital General Idrissa Pouye
HPDPB	Health Policy Development and Planning Bureau
HQ	headquarters

HTA	health technology assessment
HZ	health zone
ICC	infection control committee
ICT	information and communications technology
IDDS	Infectious Disease Detection and Surveillance program
IDP	institutional development plan
IEC	information, education, and communication
IEDCR	Institute of Epidemiology Disease Control and Research
IFAIN	International Foundation Against Infectious Disease in Nigeria
IGAD	Intergovernmental Authority on Development
IHP	USAID/Integrated Health Program
IHR	International Health Regulation
ILI-ACLE	International Law Institute-African Center for Legal Excellence
IMCCH	Integrated Maternal Child and Community Health
IMS	incident management structure
InaHTAC	Indonesian Health Technology Assessment Committee
INFSS	Institut National de Formation en Sciences de la Santé
INHP	National Institute of Public Hygiene
INSP	National Institute of Public Health
IP	implementing partners
IPC	infection prevention and control
IPCAF	Infection Prevention and Control Assessment Framework
IPCAT2	Infection Prevention and Control Assessment Tool 2
IPCD	Infection Prevention and Control Department
IT	information technology
JEE	joint external evaluation
JFDA	Jordan Food and Drug Administration
KAP	Knowledge, Attitude and Practice
KMITS	Knowledge Management and Information Technology Service
KPA	Kenya Pharmaceutical Association
LCV	Central Veterinary Laboratory
LGU	local government unit
LHSS	USAID Local Health System Sustainability
LMICs	low- and middle-income countries
LOA	letter of agreement
LOB	Legislation and Opinion Bureau
LTCT	Laboratory Technologist Council of Tanzania
M&E	monitoring and evaluation
MA	marketing authorization

MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MCC	Multisectoral Coordination Committee
MCDA	multi-criteria decision analysis
MCH	maternal and child health
MCT	Medicine Council of Tanganyika
MDMAP	MTaPS Data Management and Analytics Platform
MDR-TB	Multidrug-resistant tuberculosis
MEL	monitoring, evaluation, and learning
MER	medicines evaluation and registration
MIHR	USAID/MOMENTUM Integrated Health Resilience project
MIRAH	Ministry of Animal Resources
MIS	management information system
MNCH	maternal, newborn, and child health
MOF	Ministry of Finance
MOH	Ministry of Health
MOHCDGEC	Ministry of Health, Community Development, Gender, Elderly, and Children
MOH-OSH	Ministry of Health-Occupational Safety and Health
MOHP	Ministry of Health and Population
MSC	multisectoral coordination
MSH	Management Sciences for Health
MSSFPO	USAID/MOMENTUM Safe Surgery in Family Planning and Obstetrics project
MTaPS	Medicines, Technologies, and Pharmaceutical Services
MTC	medicines and therapeutics committee
MTC1	multisectoral committee responsible for governance
MTC4	Multisectoral Technical Committee in charge of IPC and sanitation
MUK	Makerere University of Kampala
MVMU	management of veterinary medicines unit
NAMRSC	National Antimicrobial Resistance Sub-Committee (Uganda)
NAP	National Action Plan
NAP-AMR	National Action Plan on Antimicrobial Resistance
NAPA	National Action Plan on Antimicrobial Resistance
NAPHS	National Action Plan for Health Security
NASIC	National Antimicrobial Stewardship Interagency Committee
NASIC-TC	national antimicrobial stewardship interagency technical committee
NC-AMR	National Commission on Antimicrobial Resistance
NCDC	Nigeria Center for Disease Control
NDA	National Drug Authority (Uganda)
NEML	National Essential Medicines List
NHA	National Health Accounts

NIPCAC	National Infection Prevention and Control Advisory Committee
NMF	National Medicines Formulary
NML	National Medicine Laboratory
NMRA	national medicine regulatory agency
NMTC	National Medicines and Therapeutics Committee
NNAK	National Nurses Association of Kenya
NPC	National Pharmacy Council
NPVC	National Pharmacovigilance and COVID-19 Vaccines Adverse Events Monitoring Committee
NRA	national regulatory authority
NTP	National TB Program
NVC	National Veterinary Council
NVPMC	National Vaccine Procurement Modernization Committee
OCAT	operational capabilities audit tool
OCC	National Quality Control Agency
OH	One Health
OHP	One Health Platform
OHW-NG	One Health workforce project
P&R	pause and reflect
PCPD	Pharmacy and Clinical Pharmacy Directorate
PCT	Pharmacy Council of Tanzania
PD	Pharmaceutical Division
PDCA	Plan-Do-Check-Act
PE	pharmaceutical expenditure
PEA	political economy analysis
PERAC	pharmacovigilance expert review and advisory committee
PHO	provincial health office
PNAM	National Supply Program
PNIRA	National Acute Respiratory Infections Control Program
PNLP	Programme National de Lutte contre le Paludisme
POE	port of entry
POPCOM	Commission on Population and Development
PPB	Kenya Pharmacy and Poisons Board
PPE	personal protective equipment
PPJK	Directorate of Health Financing and Insurance
PPM	pooled procurement mechanism
PPPI	Philippine Pharmaceutical Procurement Inc.
PQM+	Promoting the Quality of Medicines Plus Program
PRH	USAID Office of Population and Reproductive Health

PS	Procurement Service
PSA	Pharmaceutical Systems Africa
PSCM	procurement and supply chain management
PSK	Pharmaceutical Society of Kenya
PSS	pharmaceutical system strengthening
PSU	Pharmaceutical Society of Uganda
PSU	Pharmacy Services Unit
PTA	principal technical advisor
PV	pharmacovigilance
PViMS	Pharmacovigilance Monitoring System
Pyramax	pyronaridine-artesunate
QMS	quality management system
RACI	responsible, accountable, consulted, informed
RBC	Rwanda Biomedical Center
RCCE	risk communication and community engagement
RCORE	regional center of regulatory excellence
RECOs	community health workers
REMAP	resource mapping and impact analysis on health security investment
RFDA	Rwanda Food and Drug Administration
RH	reproductive health
RMNCH	reproductive, maternal, newborn, and child health
RMS	Rwanda Medical Supplies
RNEC	Rwanda National Ethics Committee
RRH	regional referral hospital
RWE	real world evidence
SADC	Southern African Development Community
SCMS	Supply Chain Management Service
SDC/HSSP/MOH	Service Delivery Commission of the Ministry of Health's Health System Strengthening Platform
SEARN	South-East Asia Regulatory Network
SEARO	WHO South-East Asia Regional Office
SHA	System of Health Accounts
SOP	standard operating procedure
SPAR	State Party Self-Assessment Annual Reporting
SPARS	Supervision, Performance Assessment, and Recognition Strategy
SRS	system requirements specification
SSCS	USAID Uganda Strengthening Supply Chain Systems
SSI	surgical site infection
STG	standard treatment guideline

STG/NEMLIT	Standard Treatment Guidelines / National Essential Medicines List
SWOT	strengths, weaknesses, opportunities, and threats
TB	tuberculosis
TLD	tenofovir/lamivudine/dolutegravir
TMDA	Tanzania Medicines and Medical Devices Authority
TNA	training needs assessment
TNMC	Tanzania Nurses and Midwives Council
TOR	terms of reference
TOT	training of trainer
TPT	tuberculosis preventive Therapy
TrACSS	Tripartite AMR Country Self-Assessment Survey
TS	Technical Secretariat
TTC	Technical Thematic Committee
TWG	technical working group
UAT	user acceptance testing
UEM	Universidade Eduardo Mondlane
UHC	universal health coverage
UON	University of Nairobi
URTI	upper respiratory tract infection
USAID	US Agency for International Development
USAID/PMI	US Agency for International Development/President's Malaria Initiative
WAAW	World Antimicrobial Awareness Week
WAHO	West African Health Organization
WASH	water, sanitation, and hygiene
WASH FIT	WASH Facility Improvement Tool
WHO	World Health Organization
WP	work plan

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).

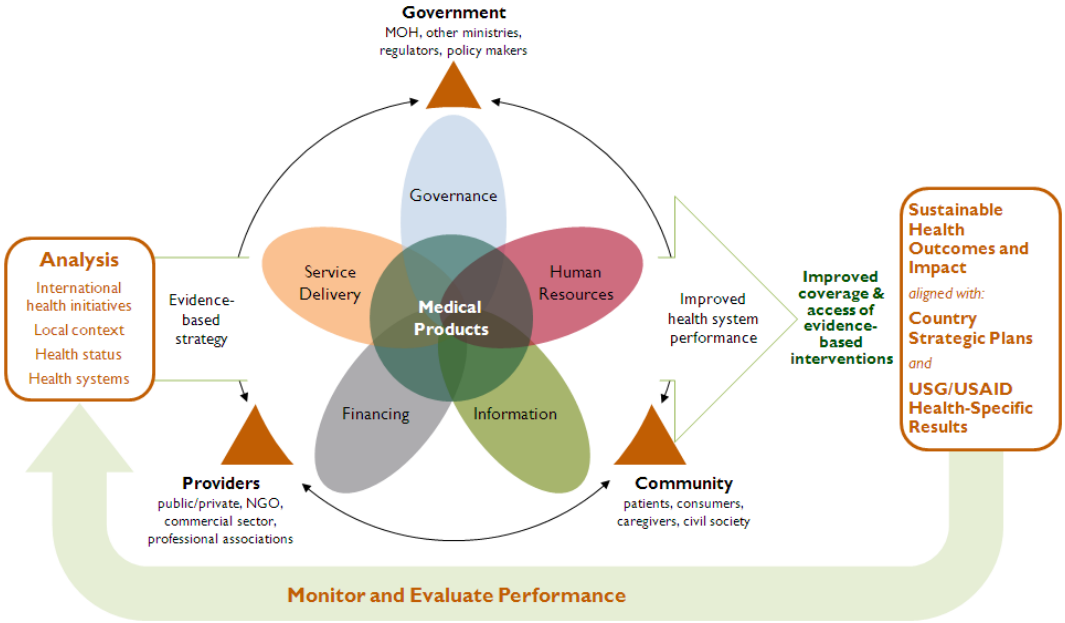

Figure 1. USAID pharmaceutical systems strengthening approach

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 and highlights from MTaPS' performance for fiscal year 2021, quarter 4 (July–September 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 and government counterparts.

[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.

PROGRESS BY CORE-FUNDED PORTFOLIO

GHSA-SUPPORTED COUNTRIES:

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

GLOBAL HEALTH SECURITY AGENDA

SUMMARY OF ACTIVITIES THIS YEAR (FY21)

CENTRAL ACTIVITIES

The focus of the MTaPS approach and implementation framework is to help countries make progress on the pathway to the next level of WHO Joint External Evaluation (JEE) capacity in multisectoral coordination (MSC), infection prevention and control (IPC), and antimicrobial stewardship (AMS). Table 1 highlights the areas that MTaPS supported during program year 3.

Table 1. GHSA activities supported October 2020–September 2021

GHSA Result Area	Activity	GHSA-funded country											
		Bangladesh	Burkina Faso	Cameroon	Côte d'Ivoire	DRC	Kenya	Mali	Mozambique	Nigeria	Senegal	Tanzania	Uganda
Effective MSC on AMR	Strengthening MSC governance structures and functions	X	X		X	X	X	X	X	X	X		X
	Holding multisectoral meetings	X	X	X	X	X	X	X	X	X	X	X	
IPC improved and functional	Assessing IPC programs at national and/or facility levels and/or developing responsive action plans	X	n/a	X	X	X	X	X	X	X			X
	Developing and implementing IPC policy and/or guidance documents		n/a	X			X		X	X	X		
	Developing individual and local capacities	X	n/a	X	X	X	X	X	X		X	X	X
Use of antimicrobial medicines optimized	Developing AMS policy, plan, and guidance documents	X	X		X	X	X	X	X	X	X	X	X
	Supporting AWaRe-related activities	X			X	X	X					X	
	Assessing AMS policies and practices			X	X	X	X	X	X	X	X	X	X
	Developing individual and local capacities		X	X	X	X	X	X					X
	Increasing awareness of AMR, including WAAW	X			X		X	X				X	X

Figure 2 shows the number of facilities that MTaPS was supporting directly in IPC and AMS at the end of September 2021 compared to the end of September 2020. MTaPS is currently supporting 112 facilities in IPC and 115 facilities in AMS, up from 47 and 45, respectively, during the previous 12 months. The figure does not include the 30 facilities that MTaPS supported in Ethiopia, as the program closed there in December 2020.

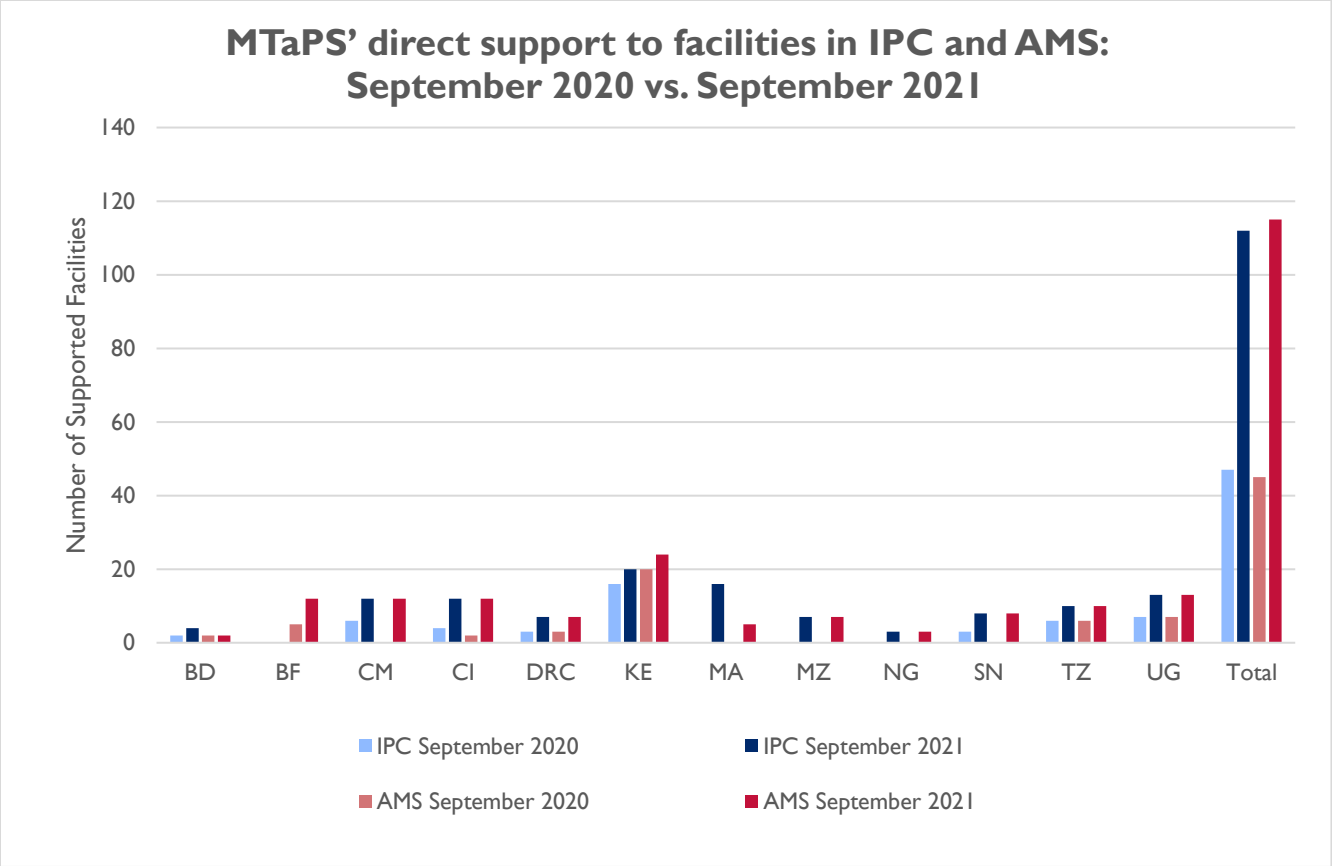

Figure 2. MTaPS' direct support to facilities in IPC and AMS: September 2020 vs. September 2021

Number of countries currently being supported

- During the past 12-month period, MTaPS started GHSA work in two new countries, Mozambique and Nigeria. Activities in Ethiopia ended in December 2020 but are restarting in October 2021. MTaPS is now supporting 13 countries on GHSA/AMR activities—12 in Africa and 1 in Asia (Bangladesh)

Revision of GHeL AMR eLearning courses and MTaPS Technical Implementation Framework

- MTaPS finalized the draft of the revised USAID Global Health eLearning Center (GHeL) antimicrobial resistance (AMR) 1 course based on the outline developed previously and addressed all the comments and suggestions provided by USAID. The program is now collaborating with USAID's Global Health Bureau Professional and Organizational Development Program to finalize and publish the revised course on the GHeL platform. During the reporting period, MTaPS further revised the two-part GHSA technical implementation framework to reflect the activities included in the year 3 work plans.

Publications, presentations, and website updates

- MTaPS authored an article on antimicrobial use in six facilities in Tanzania published in BMJ Open. Coauthors of this article came from the Catholic University of Health and Allied Sciences in

Mwanza; the Ministry of Health, Community Development, Gender, Elderly and Children (MOHCDGEC); MTaPS partner the University of Washington; MTaPS Tanzania; and MTaPS USA. In addition, MTaPS and colleagues from St. John's University of Tanzania; the MOHCDGEC; Tanzania Medicine and Medical Devices Authority; Dodoma Regional Referral Hospital; and University of Washington published the results of Tanzania's first national medicine consumption study in Frontiers in Pharmacology. We also published an analysis of MSC efforts in 11 GHSA countries to control AMR, published in the Journal of Pharmaceutical Policy and Practice.

- In collaboration with the GHSA Consortium and Echo Health Alliance, MTaPS presented at a side meeting at the 6th GHSA Ministerial Meeting: "Moving Toward Best Practices in Multisectoral Coordination" on November 4, 2020. Further details of the side event and MTaPS-supported presentations made during the meeting can be accessed here.[2] The recording of the MTaPS presentation is available on YouTube: https://www.youtube.com/watch?v=rRgxfCk2l_A&t=59s
- MTaPS published a landscape paper on strengthening MSC on AMR in 11 countries in JOPPP on February 28, 2021. It provides a summary of MTaPS-supported interventions that led to progress on JEE scores in MSC, and practical ideas for countries and implementing partners working in MSC-AMR.
- On April 21, 2021, MTaPS conducted a 90-minute workshop on "Using Global Health Security Tools to Combat Antimicrobial Resistance (AMR)" during the 2021 Global Health Science and Practice Technical Exchange (GHTechX). The organizers have posted the recording of the session on YouTube: https://www.youtube.com/watch?v=KTXubO4obvI&t=6s

During the year, MTaPS developed and made available on the MTaPS website several documents, flyers, success stories, and blogs promoting our GHSA activities as listed below with their links and the date they were published:

Resources

MTaPS GHSA Flyer - November 5, 2020. Available in French and English

Multisectoral Coordination for the Fight against AMR: The Experience of Côte d'Ivoire - November 6, 2020

Effective Multisectoral Coordination on AMR: A Landscape of Experiences and Lessons from 11 Countries - November 16, 2020

Technical Update: Advancing the Global Health Security Agenda - November 24, 2020

Strengthening Multisectoral Coordination on Antimicrobial Resistance: a Landscape Analysis of Efforts in 11 Countries - February 28, 2021

[2] USAID MTaPS Program. USAID MTaPS at the 6th Global Health Security Agenda Ministerial Meeting. 29 October, 2020. Available from: https://www.mtapsprogram.org/news-blog/usaid-mtaps-at-the-6th-global-health-security-agenda-ministerial-meeting/

Success stories and blogs

MSC

Côte d'Ivoire Launches First-Ever AMS Multisectoral Plan to Combat AMR - December 4, 2020

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

Rejuvenation of Antimicrobial Resistance Activities in Nigeria - May 10, 2021

IPC

Supporting Infection Prevention and Control in Mali - December 7, 2020. Available in French and English

The First Therapeutics Committees Implemented in Mali - December 9, 2020. Available in French and English

Helping Those Protecting Us Against COVID-19: Cleaners, Ambulance Drivers, and Morgue Attendants Receive IPC Training in Mali - December 21, 2020. Available in French and English

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

Strengthening the Hospital Infection Control Program in Senegal - March 29, 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

AMS

New Tools Lay Foundation to Improve Antibiotic Use in the Animal Sector in Uganda - November 10, 2020

New Findings from Tanzania's 3-year National Antimicrobial Consumption Analysis - November 5, 2020

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

DRC completes its first national survey on antimicrobial consumption - June 10, 2021. Available in French and English

Tanzania Implements AWaRe Classification to Improve the Use of Antibiotics by Clinicians - May 25, 2021

Kenya Innovates on Continuing Professional Development of Health Workers in Infection Prevention - April 6, 2021

World Antibiotics Awareness Week (November 2020)

For World Antibiotics Awareness Week (WAAW), November 18–24, 2020, MTaPS participated in several AMR activities in our supported countries. MTaPS headquarters commemorated WAAW by creating a special WAAW website to share MTaPS' AMR work. MTaPS also developed a GHSA technical update to coincide with WAAW. This detailed technical update includes MTaPS' technical

approach and program-supported progress toward MSC on AMR, IPC, and AMS, along with progress thus far in engaging the private sector, professional associations, and civil society. MTaPS also used Twitter and Facebook to promote AMR messages throughout the week. The analytics during the WAAW campaign are summarized in table 2.

Table 2. MTaPS WAAW campaign analytics

Twitter		Facebook		WAAW page	
Impressions	27,723	Reach	1,045	Site views	890
Engagements	465	Engagements	53		

Update of national action plans for AMR

MTaPS is working with Bangladesh, Burkina Faso, Cameroon, and Côte d'Ivoire on reviewing and updating their national action plans for AMR (NAP-AMR), which are nearing expiration or have already expired. The process will involve extensive MSC.

Establish and strengthen drugs and therapeutics committees

MTaPS continued working in several countries during the reporting period to establish and strengthen drug and therapeutics committees (DTCs) with select examples as follows:

- Burkina Faso: 5 new DTCs established, with terms of reference (TOR), strengths, weaknesses, opportunities, and threats (SWOT) analyses completed; 67 DTC members trained; action plans developed by DTC members
- Cameroon: Roadmap to establish DTCs in 12 facilities based on SWOT analysis; process indicators to monitor progress identified
- Côte d'Ivoire: DTC training design/materials developed; 40 DTC members at two hospitals trained; work plans developed; assessment of the function of six new human health and two animal facility DTCs completed; supervision visits to facility DTCs conducted
- DRC: Baseline antimicrobial use surveys in three hospitals conducted; draft of action plans completed; 80 DTC members trained at a retreat for DTCs to share challenges and lessons learned; four new DTCs established with a baseline study of medicine use continuous quality improvement (CQI) action plan completed; 92 health care providers from six MTaPS-supported facilities equipped with knowledge and tools to continuously track the progress of DTC interventions
- Kenya: Mentored medicines and therapeutics committees (MTCs) in 16 health facilities; 68 health care workers trained in AMS
- Mali: 5 new DTCs established with training for 56 members and baseline assessments; plan for 11 additional DTCs developed
- Tanzania: Guidelines for implementing MTCs at national and health-facility levels developed

WHO access, watch, reserve classification

MTaPS continued helping countries incorporate the WHO access, watch, reserve (AWaRe) antimicrobial classification and implement it in health care facilities. Examples include:

- Bangladesh: Standard treatment guideline (STG) working group held six meetings to provide feedback on draft; STGs shared for expert input; finalized AWaRe categorizations through a stakeholder consultation workshop
- Cameroon: Training for 16 DTC champions on implementing AWaRe classification
- Côte d'Ivoire: Expert committee analysis of evidence, creation of TOR and timeline; two groups of experts established, and work started for AWaRe categorization of antibiotics
- DRC: AWaRe categorization draft approved and integrated into DRC's 2020 national essential medicines list (NEML)
- Kenya: Launch event of revised NEML and national AMS guidelines; supported drug regulatory authority development of regulatory guidance documents, including the use of AWaRe; work started to develop the first national medicines formulary that incorporates AWaRe
- Mali: National Committee for Antibiotic Treatment workshop to review updated STGs
- Tanzania: STGs and NEML revision with AWaRe classification, and strategy to incorporate AWaRe; approval of AWaRe list; STG/NEML with AWaRe approved and launched at a ceremony with the minister for health; facilitator's guide and dissemination materials for the updated STGs/NEML (2021) drafted
- Senegal: Antibiotic policy and guidelines with AWaRe groupings for infections in adults/children validated

Partnerships

In addition to our partnerships with every country's government agency on health, agriculture/fisheries/husbandry, and environment and with public- and private-sector health facilities, MTaPS has worked with multiple organizations (cumulative) (table 3).

Partner spotlight: Professional associations

In predecessor programs, MSH has a history of collaborating with health sector professional societies, including the rollout of antiretroviral therapy to private-sector facilities in Kenya and Ethiopia. The fruitful partnerships continue under MTaPS, with Kenya once again teaming up with various professional associations, including the **Kenya Society of Physiotherapists, National Nurses Association of Kenya, Kenya Medical Association, Association of Kenya Medical Laboratory Scientific Officers, Pharmaceutical Society of Kenya,** and **Kenya Pharmaceutical Association**. As a result, the partners developed specialized courses in IPC and AMS to be delivered online to members as part of their continuous professional development toward relicensure. At least 1,000 members of professional associations have received AMS training and more than 3,000 have been trained in IPC. MTaPS Uganda is launching a similar partnership with the **Pharmaceutical Society of Uganda, Allied Health Professionals Council, Uganda Medical and Dental Practitioners Council,** and **Uganda Nurses and Midwives Council**. A remote learning session was organized between MTaPS Uganda and MTaPS, based on Kenya's previous success and experience, to guide Uganda's engagement in the area. MTaPS Uganda reviewed training needs, identified gaps, mapped the needs, and set priorities for each of the professional bodies.

During the reporting year, MTaPS also participated in two WHO meetings related to AMR:

- MTaPS participated in and served as moderator/rapporteur for group work in the Global Consultative Meeting on WHO Policy Guidance on Integrated Antimicrobial Stewardship Activities in Human Health held virtually December 2–3, 2020. WHO subsequently finalized and published the document, available at https://www.who.int/publications/i/item/9789240025530.
- MTaPS was invited to participate as an observer at the first meeting of the Strategic and Technical Advisory Group for Antimicrobial Resistance (STAG-AMR) held June 22–24, 2021. STAG-AMR is WHO's principal advisory group on AMR. The advisory group is mandated to provide advice to the WHO Director General and the AMR Division on overall global policies and strategies to address AMR within the context of human health, while considering relevant World Health Assembly resolutions and decisions.

Table 3. Organizations MTaPS has collaborated with

Partner category	Organization
International/ regional agencies	WHO; WHO global antimicrobial resistance surveillance system (GLASS); WHO Afro; UN Food and Agriculture Organization (FAO) Emergency Center for Transboundary Animal Diseases (ECTAD); World Organization for Animal Health; UNICEF; US Centers for Disease Control and Prevention (CDC); Africa CDC; DRC Red Cross; Croix Rouge Internationale (Cameroon); Africa Centre for Disease Control; UN Foundation; Wellcome Trust
Donors/ development and implementing partners	PATH; Sanitation for Health; HRH 2030 Project; Action; Neema; Maternal and Child Survival Program (MCSP); Renforcement du Système de Santé plus; Infectious Disease Detection and Surveillance (IDDS); Global Health Supply Chain-Procurement and Supply Management; CDC-Metabiota; Intrahealth; Momentum 2A; Farmer-to-Farmer; Regional Disease Surveillance Systems Enhancement Phase III; Jhpiego; Deloitte; Fleming Fund; MTaPS program partners University of Washington and Overseas Development Consulting; Médecins Sans Frontières; FHI 360; Breakthrough ACTION; icddrb, Terre des Hommes; World Vision; Empower; Project ECHO
Professional associations	Tanzania Pharmaceutical Students Association; Kenya Veterinary Association; National Nurses Association of Kenya; Pharmaceutical Society of Kenya; Kenya Medical Association; Association of Kenya Medical Laboratory Scientific Officers; Kenya Association of Clinical Pathologists; Kenya Pharmaceuticals Association; Kenya Society of Physiotherapists; Pharmaceutical Society of Uganda; Allied Health Professionals Council; Uganda Medical and Dental Practitioners Council; Uganda Nurses and Midwives Council; Côte d'Ivoire National Association of Pharmacists
Academic/research institutions	Infectious Diseases Institute (Uganda); International Training and Education Center for Health (Kenya); Makerere University School of Health Sciences; University of Nairobi School of Pharmacy; Catholic University of Health; Allied Sciences-Bugando; St. John's University and Muhimbili University in Tanzania; Addis Ababa University; University of Maryland Baltimore; University of Bamako's Faculties of Medicine and Pharmacy; local training institutions
Commercial sector	Biomerieux, Pfizer, Daily Kaler Kantho
Civil society/other nongovernmental organizations	Ecumenical Pharmaceutical Network/Action on Antibiotic Resistance; Infection Prevention Network, Kenya; THET Uganda, Reseau d'Acces aux Medicaments Essentiels (Burkina Faso); Médecins Sans Frontières; Uganda Protestant Medical Bureau; Uganda Catholic Medical Bureau

eLearning

MTaPS continued to build the capacity of governments and local training institutions to operate eLearning platforms for both pre-service and in-service training on IPC and AMS. MTaPS also developed a 10-module online IPC course for Francophone countries. Table 4 covers April 2020–September 2021, showing a complete picture of progress in this area.

Table 4. MTaPS eLearning activities

Country	MTaPS eLearning activities
Mali	Conducted country eLearning assessment; developed IPC curricula based on national guidelines and adapted it to eLearning course format; uploaded 10 IPC training modules to three platforms; helped prepare for and carried out the official launch of the eLearning platform for 93 multisectoral participants, led by the Minister of Health and Social Development, Dr. Fanta Siby; gave a hands-on demonstration of the platform and began preparing to hand it over to MOH. Supported the Directorate General of Public Health and Hygiene (DGSHP) in orienting 45 people on using the eLearning platform. Following the orientation, the DGSHP eLearning platform registered 40 new participants, including 23 registering for standard IPC courses.
Senegal	Developed IPC curricula based on national guidelines and adapted it to eLearning course format; uploaded IPC courses to eLearning platform; worked with Empower to conduct a third interactive virtual session to equip the eLearning teams with eLearning facilitation skills; virtually oriented participants on the approaches to online courses (asynchronous, synchronous, and blended learning), facilitation techniques, and the key functions of the Moodle platform; provided a technical session to MOH's Information Technology unit on how to upload the eLearning courses.
Cameroon	Developed IPC curricula based on national guidelines and adapted it to eLearning course format; uploaded IPC courses to eLearning platform; followed up with Department of Pharmacy, Medicines, and Laboratory (DPML) to draft a roadmap to set up the eLearning platform there; followed the roadmap by facilitating the installation of the Moodle eLearning platform on the DPML's website; supported training for resource persons from the DPML and the National Center for Provision of Essential Medicines on how to manage the platform.
Côte d'Ivoire	Adapted IPC curricula to eLearning course format; held meetings with numerous stakeholders to accelerate the process of setting up an eLearning platform.
Tanzania	Adapted IPC curricula to eLearning course format; uploaded IPC courses to eLearning platform. Collaborated with the Centre for Distance Education to train 20 eLearning facilitators from the regional level on the use of the eLearning platform and on eLearning facilitation skills.
Burkina Faso	Uploaded 10 IPC training modules.

MTaPS indicator-based performance

Figures 3–9 examine the program's indicator results between the four quarters of FY21 (October 2020–September 2021). The data are presented by country and reflect MTaPS' performance in MSC, IPC, and AMS.

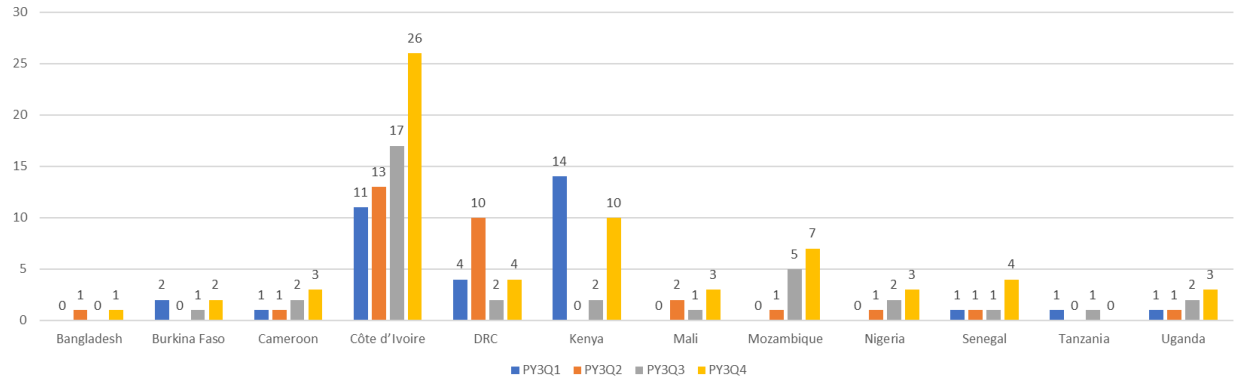

Figure 3. MSC1. # of AMR-related in-country meetings or activities conducted with multisectoral participation

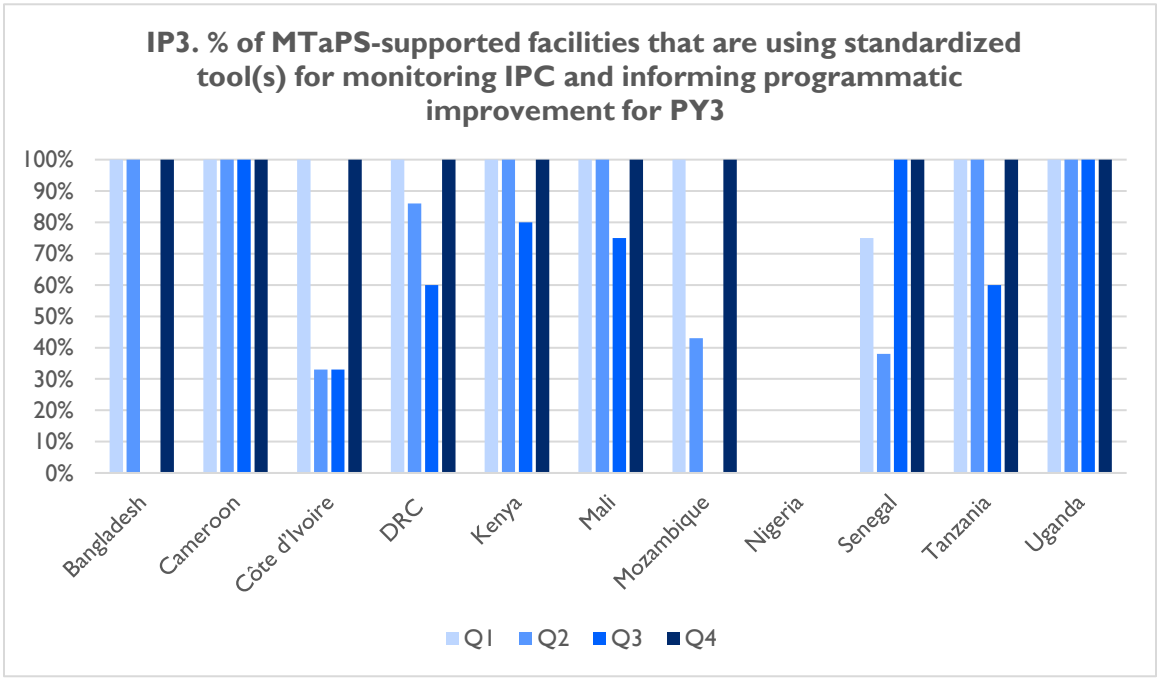

Figure 4. IP3. % of MTaPS-supported facilities that are using standardized tools for monitoring IPC and informing programmatic improvement for PY3

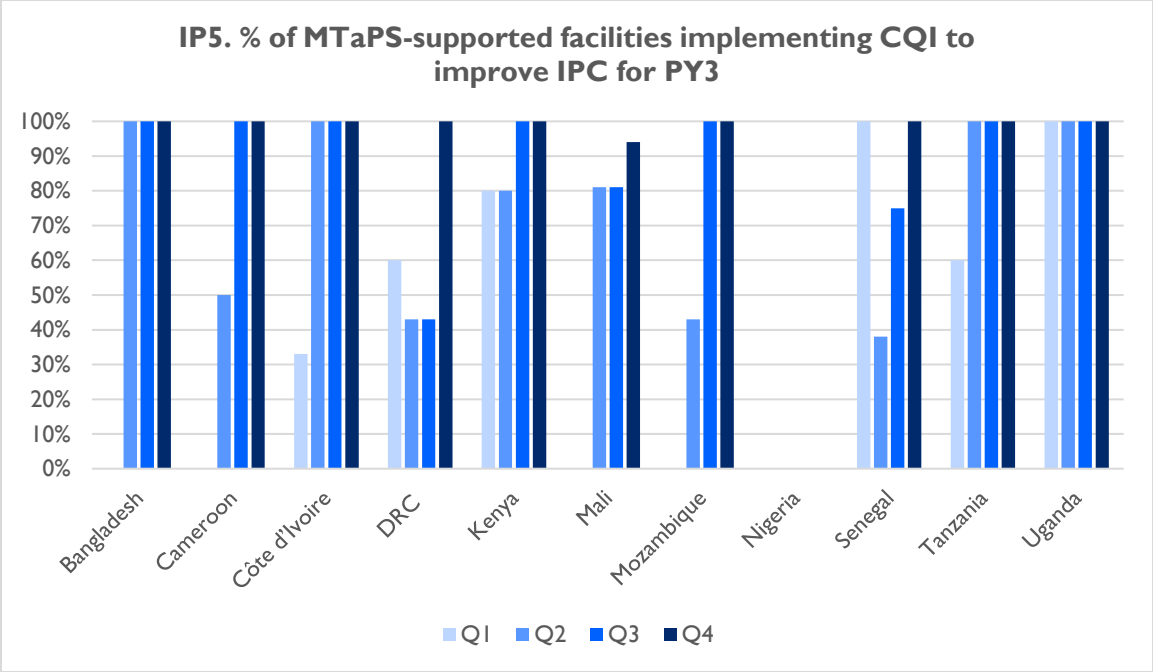

Figure 5. IP5. % of MTaPS-supported facilities implementing CQI to improve IPC for PY3

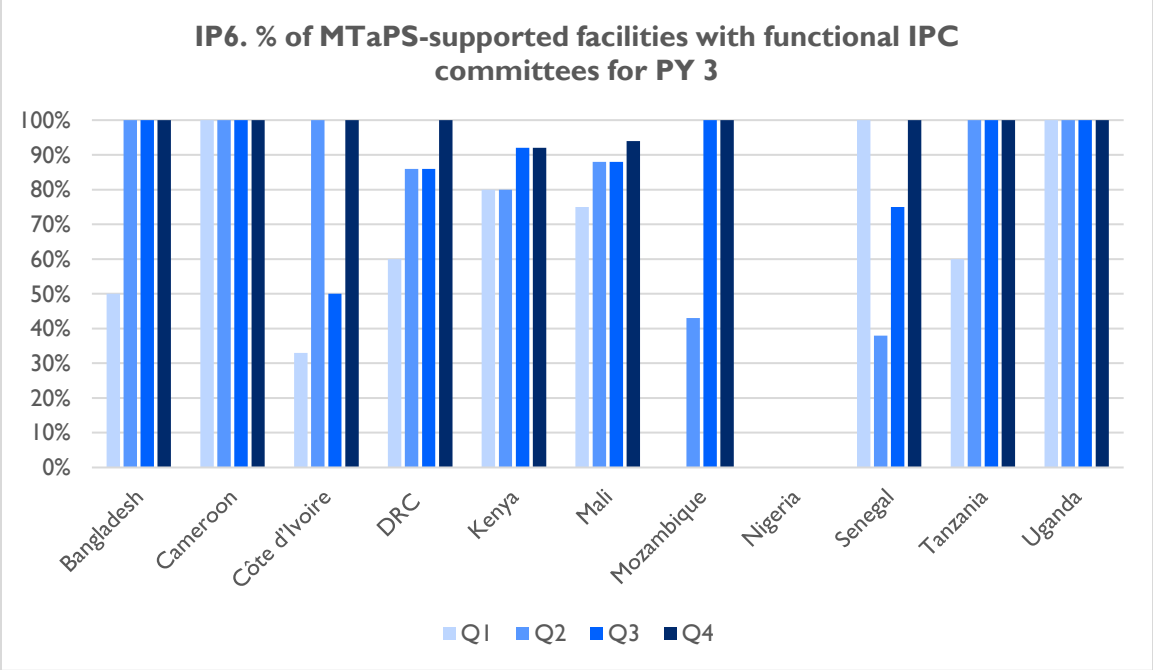

Figure 6. IP6. % of MTaPS-supported facilities with functional IPC committees for PY3

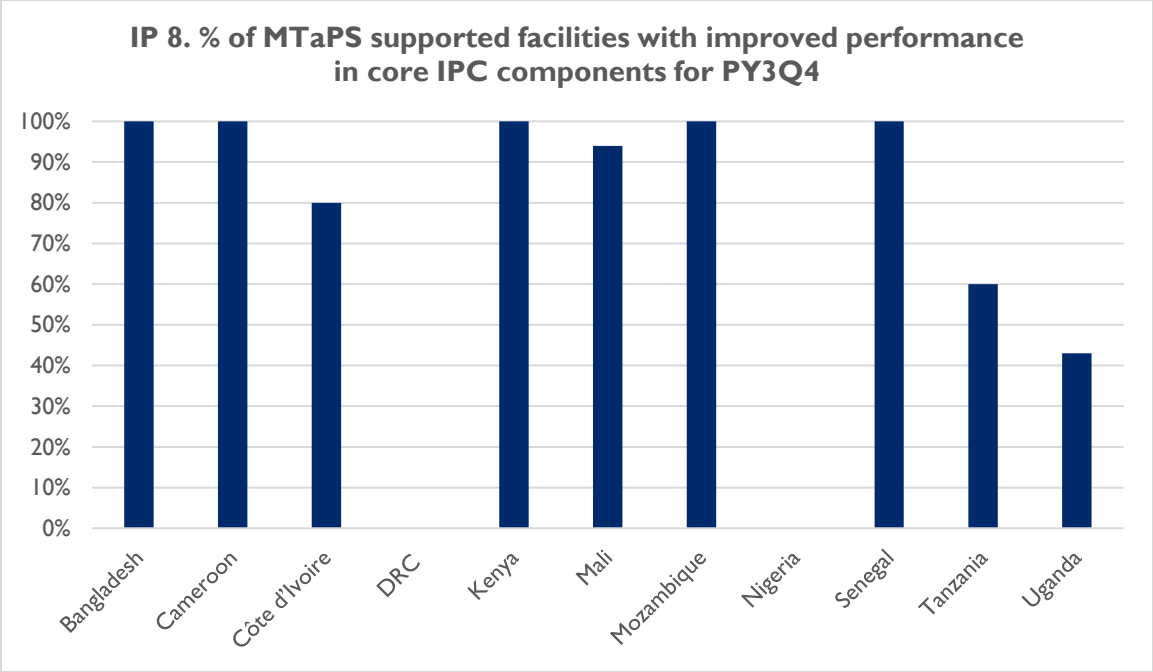

Figure 7. IP8. % of MTaPS-supported facilities with improved performance in core IPC components for PY3Q4

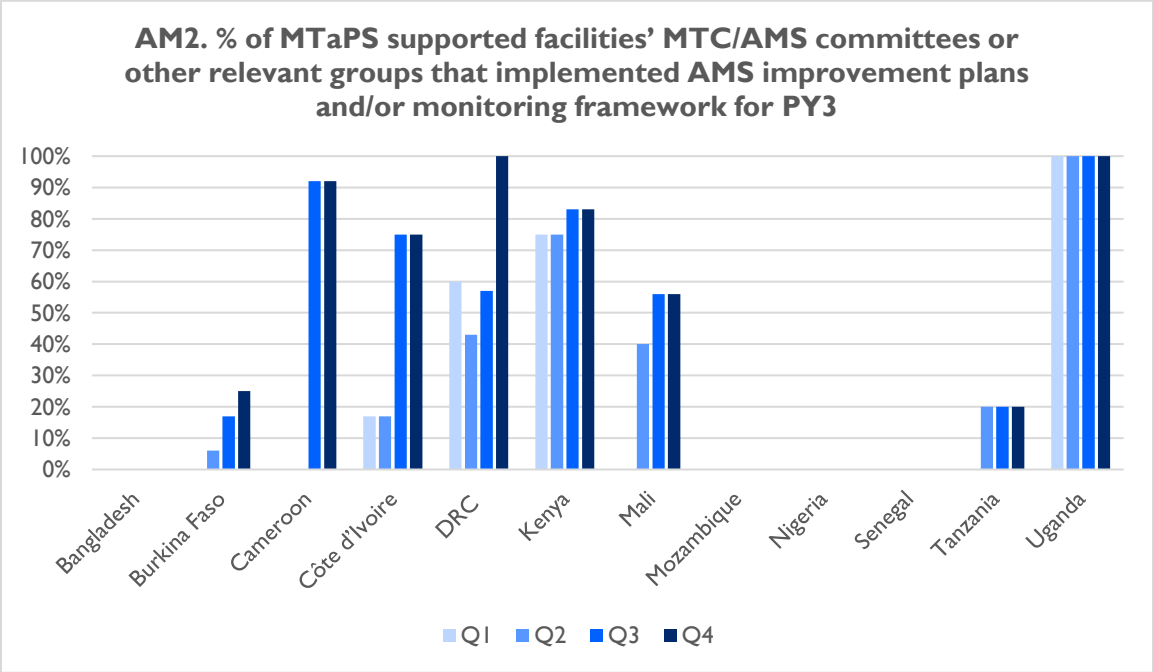

Figure 8. AM2. % of MTaPS-supported facilities' MTC/AMS committees or other relevant groups that implemented AMS improvement plans and/or monitoring framework for PY3

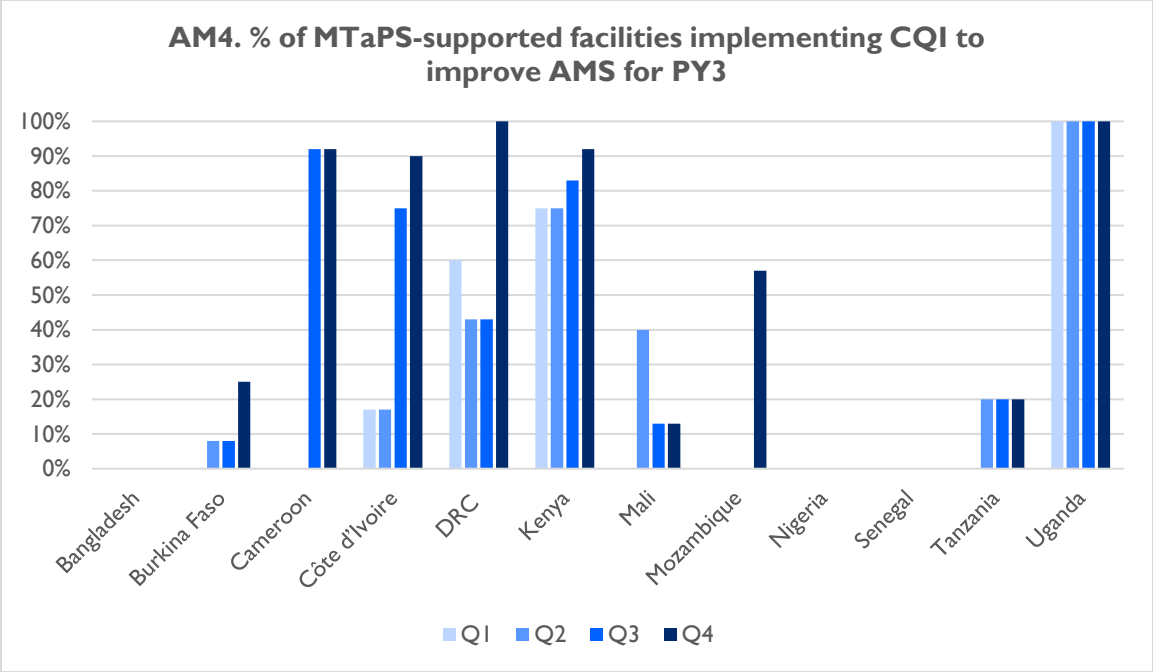

Figure 9. AM4. % of MTaPS-supported facilities implementing CQI to improve AMS for PY3

EFFECTIVE MSC ON AMR

Strengthening MSC governance structures and functions

Official inauguration of the Kilifi CASIC. Photo credit: Erick Kitangala.

During the year, MTaPS Kenya and the AMR national secretariat reviewed and updated the orientation package, which is the standard reference guide for the establishment and operations of County AMS Interagency Committees (CASICs) for AMR at the county level. MTaPS collaborated with the national AMR secretariat and county departments of human health, animal health, agriculture, and environment to establish a CASIC in Kilifi County and in Kisumu County. CASIC members were appointed in both counties and helped develop two-year, costed work plans, which MTaPS will provide technical assistance to implement. MTaPS additionally collaborated with the AMR national secretariat, FAO, and IDDS to strengthen the existing CASICs in Murang'a and Nyeri Counties, including providing support for developing two-year costed work plans. In Nyeri County, MTaPS also supported establishment of AMS governance structures in health care facilities, dissemination of national AMS guidelines to health care workers, and implementation of AMS interventions to control prescribing of antimicrobials at target facilities.

In **Mozambique**, MTaPS supported the government in developing the membership structure and governance arrangement for the AMR multisectoral coordination committee (MCC), which was validated by the government. MTaPS further supported the government in developing the TOR for the MCC, the MCC secretariat, and the IPC and AMS TWGs. The TOR were validated by MOH and are pending formal approval by the government. MTaPS and FAO supported the organization of several meetings and workshops of the TWGs and AMR MCC.

MTaPS **Nigeria** supported the AMR TWG secretariat in holding a workshop to develop the TOR and annual action plans for the AMR TWG's AMS and IPC sub-committees. The TOR were ratified by subcommittee members following extensive deliberation during the workshop. The subcommittees include members from the human, animal, and environmental sectors, as well as from the private sector and civil society.

In **DRC,** MTaPS supported the Tripartite AMR Country Self-Assessment Survey (TrACSS) for 2021, which is used to monitor country progress on implementing the AMR action plan, which revealed significant improvement from TrACSS 2020. For example, multisectoral and One Health coordination went from b (limited) to d (demonstrated) capacities; training and professional education on AMR in farming, food, and the environment sectors from a (no capacity) to b (limited) capacity; and adoption of AWaRe classification of antibiotics in the NEML from b (limited) capacity to c (developed) capacity.

Promoting AMR advocacy and communication

To ensure a critical mass of health professionals skilled in AMR containment, MTaPS Uganda is working with professional training institutions (e.g., universities, colleges) to review undergraduate curricula and include content on global health security and AMR. MTaPS also collaborated with the Pharmaceutical Society of Uganda (PSU) and the national AMS technical working committee (AMS TWC) to hold AMR symposia at four universities. The symposia reached 918 students from various disciplines (table 5). MTaPS engaged with university leaders and student leaders to organize the symposia, which delivered content on AMR and AMS, global best practices in AMS, optimizing health workers' role in AMS, practical considerations for Uganda, and the One Health concept. MTaPS used an online platform to deliver two of the symposia because of COVID-19 restrictions. The symposia were led by faculty, AMS TWC members, and professional bodies to ensure ownership and participation of stakeholders.

Table 5. Students from different disciplines who attended the symposia in Uganda

Discipline	Number of students
Veterinary	92
Agriculture	51
Medicine	202
Pharmacy and pharmaceutical sciences	136
Nursing	279
Other medical courses (optometry, dentistry, biomedical sciences, and laboratory)	158

Four student-led AMR interest groups, one from each university, were formed from the symposia. These groups have been incorporated into the respective university students' structures and will implement activities to raise AMR awareness among their fellow students and other activities for

combatting AMR, including local research, continuing medical education, and grand rounds.[3] Enrollment in the groups is ongoing with 1,377 students currently enrolled. MTaPS, PSU, and the AMS TWC continuously engage the student interest groups through various platforms, including WhatsApp. Twelve faculty members have also been identified to serve as academic and clinical mentors to the students.

MTaPS Uganda also worked with Makerere University of Kampala to support the AMS TWC of the National AMR Subcommittee to develop and publish Uganda's first newsletter on AMS. The newsletter, which had the theme "Call to action for AMS," features articles and updates about AMS implementation in Uganda through the One Health approach. Following the call for articles and the editorial process, the newsletter was published on various platforms. The involvement of the AMS governing structures and other key stakeholders, as well as the multisectoral editorial team, ensured wide participation and acceptance. The newsletter provides a centralized platform for disseminating information on AMS activities in Uganda.

Holding multisectoral meetings or activities

In **DRC**, MTaPS continued to support the National Commission on AMR (NC-AMR) and the related subcommittees, notably the AMS and IPC subcommittees, in holding their quarterly meetings. MTaPS collaborated with WHO to help the NC-AMR hold the first thematic subcommittee meetings, and, in March, MTaPS and WHO supported the NC-AMR in holding an MSC meeting with 50 participants from MOH, the Ministry of Agriculture, Ministry of Fisheries and Livestock, and Ministry of Environment. Additionally, the two MTaPS-supported subcommittees (rational use of medicines and IPC) conducted a stocktaking of WHO benchmark capacity-level actions and assessed progress on implementing those actions.

MTaPS **Côte d'Ivoire** also supported organizing routine meetings of the TWGs and the technical secretariat to monitor and coordinate implementation of AMR activities. During this year, MTaPS supported five AMR-TWG coordination meetings, six MTC bimonthly meetings, and 56 meetings and events organized by the multisectoral body on AMR. These TWGs are leading all the MTaPS-supported activity implementation and reporting through regular virtual and in-person meetings and are actively participating in field activities. MTaPS also collaborated with One Health stakeholders to assess the performance of the National Action Plan for Health Security (NAPHS), inform the resource mapping and impact analysis on health security investment (REMAP), complete the State Party Self-Assessment Annual Reporting (SPAR) tool, and develop the 2021 NAPHS Operational Action Plan. Both the REMAP and SPAR assessments are conducted annually, and MTaPS supports the AMR Secretariat to update AMR data. In FY22, MTaPS will focus on improving self-assessment and transitioning responsibilities and leadership to the AMR Secretariat for longer-term sustainability. MTaPS will continue to focus on providing support to the AMR Secretariat to ensure that TWGs are increasingly self-functioning.

MTaPS **Tanzania** supported the Awareness TWG of the MCC on AMR containment to participate in WAAW ceremonies. The MCC issued a press release emphasizing that antimicrobials should never be

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[3] Grand rounds are a methodology of medical education and inpatient care consisting of presenting the medical problems and treatment of a particular patient to an audience of doctors, pharmacists, residents, and medical students.
Adapted from: Stites SD, Warholic CL. (2014). "Multicultural Grand Rounds: Competency-Based Training Model for Clinical Psychology Graduate Students". Psychology Learning & Teaching. 13 (3): 261–269. CiteSeerX 10.1.1.1031.9151. doi:10.2304/plat.2014.13.3.261

sold without a prescription and never be taken without consulting a health care provider. The press release followed an MTaPS presentation to the MCC on the status of AMS at health care facilities, which called for action across all levels. In addition, MTaPS presented to the MCC on project implementation and achievements, highlighting MTaPS' work to improve AMS and prevent AMR.

Drafting or updating multisectoral policies, plans, and guidelines

In collaboration with the MOH, WHO, and Jhpiego, MTaPS **Burkina Faso** provided technical and financial support to review the country's previous NAP-AMR (2017–2020) and provide recommendations for the 2021–2023 NAP-AMR. Following the assessment of the previous plan, which highlighted results, strengths, weaknesses, future perspectives, and lessons learned, MTaPS and WHO supported the One Health Platform in organizing two workshops to develop the new NAP-AMR. The 2021–2023 NAP-AMR is a notable step in the country's progress toward improving its JEE scores. It will be finalized and adopted by the respective ministries during the first quarter of FY22. Burkina Faso's national multisectoral strategic action plan for AMR control ended in December 2020. The new NAP-AMR will have a heightened focus on governance and MSC. It will also take into consideration key challenges, including the lack of regulatory texts and a guide on AMR monitoring, weak application of regulations on medicine prescribing and dispensing, and the insufficiency of regulatory texts relating to antimicrobials.

MTaPS **Côte d'Ivoire** supported the AMR-TWG in conducting a situational analysis to identify major risks for AMR development. The results provided guidance to develop actions to better manage risks linked to AMR and informed the development of the new NAP-AMR 2021–2025. Statistics available in national documents and other publications complemented the situational analysis. The results showed that AMR and health care-associated infection (HCAI) transmission are serious problems in Côte d'Ivoire. Based on these findings, MTaPS then supported the AMR TWG in organizing a workshop in September 2021 to draft the 2021–2025 NAP-AMR.

IPC IMPROVED AND FUNCTIONAL

Developing and implementing IPC policy and guidance documents

In **Cameroon**, MTaPS is supporting the MOH in drafting the national IPC action plan. This plan will highlight priority IPC activities at both the national and operational levels and will also be used to advocate for funding to continue activities to improve IPC. MTaPS **Nigeria** supported the review of eight facility IPC standard operating procedures (SOPs) that will be used for facility-level training and for facility staff to improve their IPC practices. The reviewed SOPs cover topics such as droplet-based precautions and cleaning, management of blood and bodily fluid spillage, and airborne precautions. MTaPS also helped develop the IPC strategic plan for Enugu state. The state IPC strategic plan provides a framework and governance structure for all IPC-related activities, programs, and interventions. It is also a key input for the national IPC strategic plan that is under development as of October 2021.

MTaPS **Senegal** supported the Direction de la Qualité, de la Sécurité et de l'Hygiène Hospitalières (DQSHH) to organize a workshop to review and update the national IPC supervision checklist to include WHO's multimodal strategy and water, sanitation, and hygiene (WASH) in health care settings. The supervision checklist was last updated and used in 2017. MTaPS, in collaboration with the Senegal

DQSHH, then conducted supportive supervision visits to three hospitals to use the new IPC checklist to measure progress on IPC practices. Overall, DQSHH and MTaPS observed many improvements for most IPC core components, such as hand hygiene, biomedical waste management, and biocleaning. Level 2 and 3 hospitals are now using their own tool to regularly conduct HCAI surveillance, and the level 1 hospital is reporting on multidrug-resistant bacteria.

Developing individual and local capacities

In addition to the six previously established IPC committees, MTaPS **Cameroon** supported the MOH in scaling up the establishment of IPC committees to six additional health facilities in four regions (Central, South, Littoral, and West). MTaPS then supported the onsite training of 67 committee members from the six new facilities. In **Côte d'Ivoire**, MTaPS also supported IPC committees, strengthening their functionality and the capacity of health care providers to implement IPC. Twelve IPC committees have been established, and IPC documents (toolkit, TOR specifying roles and responsibilities, the IPC assessment framework [IPCAF] tool, and a template for hygiene and IPC committee activity reports) were disseminated. The MTaPS team in Côte d'Ivoire supported competency-based trainings for 131 health care workers and conducted monitoring and supervision visits to 11 health facilities, including 10 human hospitals and 1 animal health facility. MTaPS **Mali** supported the DGSHP and the Agence Nationale d'Evaluation des Hôpitaux to establish IPC committees in four new facilities, bringing the number of health facilities supported by MTaPS to 16. MTaPS then provided technical and logistical support for a virtual meeting with the 16 facilities to monitor their progress and ensure CQI of IPC practices. The meeting found that all 16 facilities made progress on implementing their action plans and following recommended IPC practices.

In **Senegal**, MTaPS supported the revitalization of five hospitals' IPC committees (ICCs) based on experiences and lessons learned from the three pilot hospitals. The new ICCs have adapted and started implementing their IPC guidelines. These guidelines have helped the five facilities strengthen their preparedness and response to the third wave of COVID-19. MTaPS supported IPC training sessions of the hospitals' ICCs, which included the establishment, roles and responsibilities, and functioning of the ICCs' operational groups. Although eight operational groups are recommended in each ICC based on the number of priority IPC components defined by WHO, some facilities have adjusted the recommended number of groups based on their needs and their local context. For example, the level 2 hospital in Kaffrine has 10 groups, including a TB and hematology group, whereas the level 1 hospital in Mbour has six groups, as it merged biomedical waste and biocleaning into one group. In each facility, the operational groups have created WhatsApp groups to monitor and follow up on IPC activity implementation.

MTaPS **Nigeria** helped develop facility-specific action plans in the three MTaPS-supported facilities. The action plans were developed to address the gaps identified from the baseline assessment and the SWOT analysis conducted by the facility IPC teams. The facility plan provides guidance to the IPC facility team in prioritizing their intervention strategies to improve IPC practices and reduce HCAIs in hospitalized patients and health care practitioners.

Assessing IPC programs at national and facility levels and developing responsive action plans

MTaPS **Bangladesh**, in collaboration with the International Centre for Diarrhoeal Disease Research, Bangladesh, provided technical assistance to the Communicable Disease Control Unit/Directorate General of Health Services (DGHS) to use the WHO IPCAF tool to conduct a repeat assessment in the two initial health facilities that MTaPS has been supporting: Cumilla Medical College Hospital (COMCH) and Munshiganj District Hospital. The results of the assessment showed that implementation of the facility IPC improvement plans developed after the baseline assessment, under the leadership of IPC committees and work teams, resulted in major improvements in all core components except workload, staffing, and bed occupancy. During the reporting year, MTaPS Bangladesh also started supporting two new facilities: Nilphamari District Hospital and Taragunj Upazila Health Complex. As an initial activity, MTaPS supported baseline IPCAF assessments in these facilities. The overall results in both came in as 'inadequate' (165/800 in Nilphamari and 177.5/800 in Taragunj). Both facilities scored zero in four of the eight IPC core components.

In **Cameroon**, to ensure effective progress on IPC activities in all 12 MTaPS-supported health facilities, MTaPS supported the committees in designing and implementing a CQI approach with incremental self-improvement targets. The CQI process started with an evaluation of IPC practices by using the WHO IPCAF tool, followed by the development of facility IPC action plans, including an implementation timeline. The IPCAF scores (table 6) show that all 12 health facilities progressed when compared to their respective baseline IPCAF scores. Additionally, 11 of the 12 facilities progressed to the intermediate level, and Bonassama district hospital progressed to the advanced level. Almost all of the facilities now have a functional IPC program, and most have also adopted the multimodal strategy to improve IPC practices and improved their WASH and waste management infrastructures.

Table 6. Comparative IPCAF scores in the 12 MTaPS-supported facilities in Cameroon

Health facility	Baseline score	Baseline status	Repeat score	Repeat status
Yaounde Jamot Hospital	140 (Sept 2019)	Inadequate	427	Intermediate
Obala District Hospital	273 (Mar 2019)	Basic	456	Intermediate
Ebolowa Regional Hospital	405 (Sept 2019)	Intermediate	437	Intermediate
Sangmelima Reference Hospital	360 (Mar 2021)	Basic	512	Intermediate
Bafoussam Regional Hospital	343 (Sept 2021)	Basic	506	Intermediate
Mbouda District Hospital	408 (Mar 2021)	Intermediate	522	Intermediate
Foumbot District Hospital	175 (Sept 2019)	Inadequate	528	Intermediate
Bangangte District Hospital	303 (Mar 2021)	Basic	505	Intermediate
Edea Regional Hospital Annex	237 (Sept 2019)	Basic	519	Intermediate
Douala General Hospital	368 (Sept 2019)	Basic	515	Intermediate
Bonassama District Hospital	360 (Sept 2019)	Basic	705	Advanced
Nkongsamba Regional Hospital	238 (Mar 2021)	Basic	491	Intermediate

In **Côte d'Ivoire**, MTaPS supported IPC baseline assessments and IPCAF assessment at 10 facilities and an assessment of the national IPC program using the IPCAT2. MTaPS also supported a second IPCAF assessment in the facilities (table 7) and the first-hand hygiene assessment using the WHO hand hygiene audit tool, as well as a WASH assessment using the Water and Sanitation for Health - Facility Improvement Tool from WHO and UNICEF, in 10 health facilities.

Table 7. IPCAF baseline and repeat assessment results in 10 facilities in Côte d'Ivoire

Health facility	Baseline score	Baseline status	Repeat score	Repeat status
CHU Angre	572.5	Intermediate	577.5	Intermediate
CHU Bouake	395	Basic	525	Intermediate
CHU Cocody	402.5	Intermediate	460	Intermediate
CHU Treichville	507.5	Intermediate	675	Advanced
CHR Abengourou	452.5	Intermediate	330	Basic
CHR Aboisso	380	Basic	280	Basic
CHR Daloa	312.5	Basic	292.5	Basic
CHR Yamoussoukro	590	Intermediate	402.5	Intermediate
PISAM	660	Advanced	577.5	Intermediate
Clinique Le Grand Centre	580.5	Intermediate	700	Advanced

MTaPS **DRC** supported the NC-AMR and Directorate General for Health Services Organization and Management to conduct an IPC rapid assessment in the seven MTaPS-supported facilities in Nord Kivu, Ituri, and Kinshasa provinces using WHO's IPCAF tool. This assessment aimed to strengthen implementation of IPC measures and provide baseline data to facilitate future comparative analyses and assess improvements in IPC activities. During the visits, the team supported assessments of IPC and hand hygiene activities at the provincial level by using standardized and validated tools; monitored the progress of planned IPC and hand hygiene activities; collected data on HCAIs; and developed improvement plans. The average prevalence of HCAIs in the visited facilities was 7.2%, with surgical site, gyne-obstetric, and catheter-related urinary tract infections reported as the main ones. Standard IPC precautions in four of the seven health facilities were poorly applied, and weaknesses were identified in all IPC capacities on the WHO IPC scorecard. Heal Africa Hospital (Goma) and Monkole Hospital (Kinshasa) were the best performing facilities, with an approximately 1.5% HCAI prevalence and a score of 92.5% in implementing WHO IPC standards. The findings underscore the need to educate health care workers and patients on the correct use of invasive devices/critical instruments, the rational use of antibiotics, and hand washing under aseptic conditions.

MTaPS **Mali** supported the IPC TWG in holding a meeting to complete the IPCAT2. During this meeting, the IPC TWG found that Mali had a score of greater than or equal to 50% on four of the six IPC components assessed at the national level in 2021, compared to just one component scoring at this level in 2020. However, Mali received a low score for the other two components: HCAI surveillance and monitoring/audit of IPC practice feedback and control activities (figure 10).

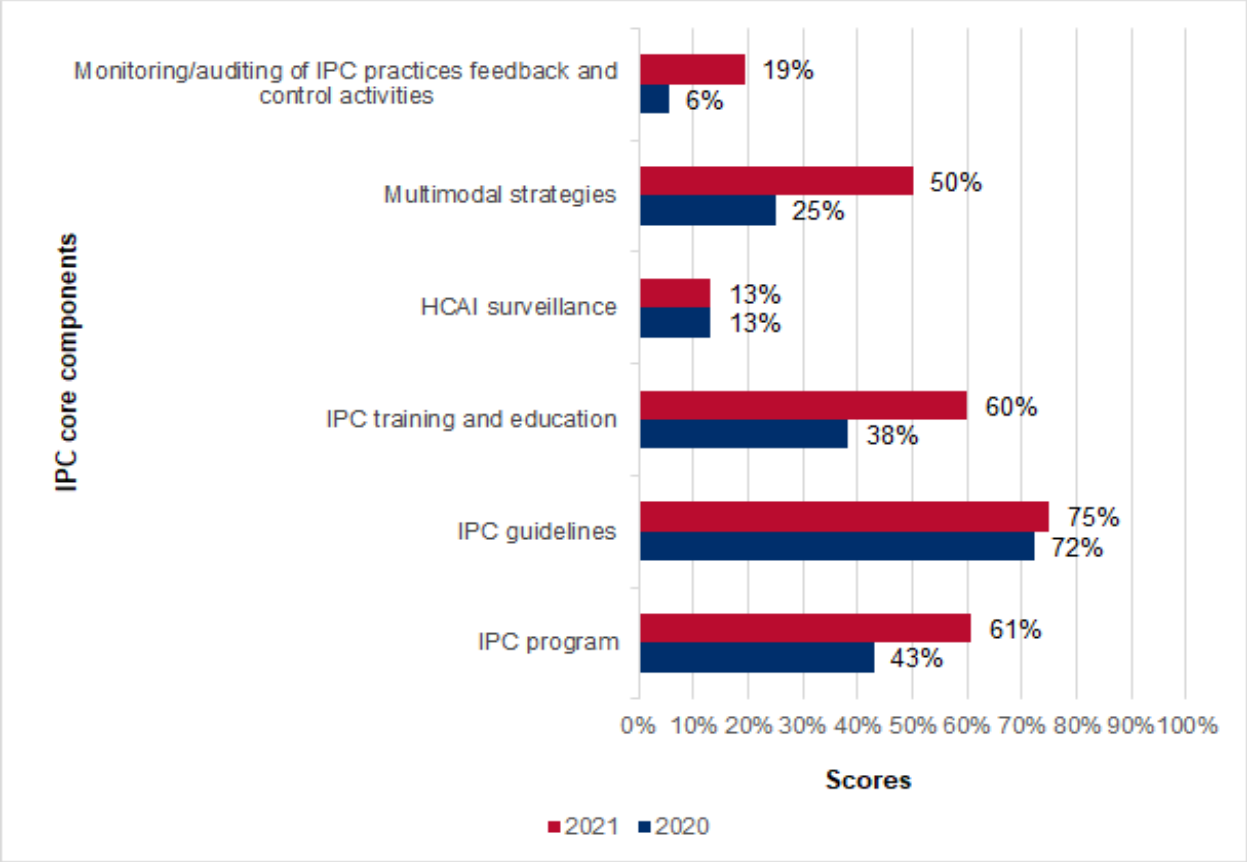

Figure 10. IPCAT2 baseline assessment (2020) and repeat assessment (2021) in Mali

MTaPS **Mozambique** supported the MOH in assessing national-level IPC practices using IPCAT2. After generating the assessment report, IPCAT2 results were used to develop a national-level IPC action plan for the national IPC TWG. Subsequently, capacity-building actions for the national IPC TWG members using CQI methodologies to oversee IPC implementation, monitoring, and reporting were implemented. MTaPS also supported facility-level assessments using the IPCAF assessments in seven hospitals (four virtual assessments and three in-person assessments) (table 8). Areas of interventions in the facility IPC action plans were identified using assessment results, including IPC education and training and strengthening HCAI surveillance. In collaboration with the National Directorate for Medical Care, MOH, and MTaPS, the IPC committees of the three in-person MTaPS-supported hospitals (Xai-Xai, Inhambane, and Tete) established WhatsApp groups to share information, experiences, and challenges in IPC.

Table 8. IPCAF assessments in seven hospitals in Mozambique

Hospital Name	Total Score	IPCAF Level
Hospitals receiving in-person and virtual technical support		
Xai-Xai	660	Advanced
Inhambane	752.5	Advanced
Tete	660	Advanced
Hospitals receiving only virtual support technical support		
Pemba	538.5	Intermediate
Lichinga	597.5	Intermediate
Chimoio	605	Advanced
Matola	667.5	Advanced

Increasing knowledge of IPC

In February 2021, **Mali's** Minister of Health and Social Development, Dr. Fanta Siby, officially launched the online learning platform on standard IPC and COVID-19 IPC with financial and technical support from MTaPS, and in collaboration with Institut National de Santé Publique, DGSHP, Faculté de Médécine et d'Odonto-stomatologie, and Institut National de Formation en Sciences de la Santé. Ninety-one people participated in the launch ceremony, including representatives from the human health, animal health, environment, agriculture, and education sectors, as well as USAID, WHO, UNICEF, the FAO Emergency Centre for Transboundary Animal Diseases (FAO ECTAD), Terre des Hommes, USAID Breakthrough Action, and World Vision. These courses are now accessible to all health care providers and students in human health to improve practices in health facilities.

MTaPS Tanzania supported MOHCDGEC in strengthening the capacity of the Centre for Distance Education (CDE) to manage eLearning on IPC for both pre- and in-service health care workers. MTaPS provided hands-on capacity-building and training support to the CDE eLearning team (including IT/platform administrators and IPC tutors) to equip them with the necessary skills to sustainably manage the eLearning platform. The support included converting the national IPC training materials into an eLearning format to enable health workers to receive the training or refreshers through distance learning. The developed IPC course has eight modules: introduction to IPC, infectious disease transmission cycle, hand hygiene, worker health and safety in the context of IPC, utilization of personal protective equipment, antiseptics and disinfectants, instruments and equipment processing, and central sterilization and supply department. The course was incorporated into the National Health eLearning platform and launched in June. MTaPS has also supported the CDE in training 20 tutors from the 10 local health training institutions to create a pool of trainers for the IPC eLearning course. These trainers will use the eLearning platform to strengthen the capacity of health professionals to implement national guidelines in IPC interventions.

USE OF ANTIMICROBIAL MEDICINES OPTIMIZED

Developing and implementing AMS policy and guidance documents

MTaPS **Bangladesh** supported the Communicable Disease Control Unit of the DGHS (CDC/DGHS) to develop the national STGs for common infectious diseases. With MTaPS' support, the CDC/DGHS established a core working group, and the STGs for infectious diseases were developed, including incorporation of the WHO AWaRe categorization of antibiotics. The national STGs were reviewed by

various professional associations and then finalized. Once endorsed and disseminated, the STGs will also be made available as an application.

MTaPS supported **Burkina Faso's** Ministry of Animal Resources and Fisheries in developing and validating the country's first guidelines for the rational use of antimicrobials in the animal sector. Following development of the guidelines during a workshop in FY20, the guidelines were validated during a meeting in FY21. The guidelines were then used to develop a training toolkit (i.e., guidelines, trainer's guide, participant handbook). The toolkit has since been used to train 60 veterinarians and livestock technicians. Additionally, MTaPS **Burkina Faso** supported the revision/update of the EML and the STG to treat infectious diseases, including integration of AWaRe categorization into both documents. MTaPS then supported the printing and dissemination of 1,500 copies of the EML and 500 copies of the STGs through three workshops, reaching 73 pharmacists and physicians from all health regions of Burkina Faso.

MTaPS **DRC** supported the Direction de la Pharmacie et du Médicament and the NC-AMR to develop a three-year AMS work plan using the findings from two rapid assessments (AMS policies and regulations and antimicrobial consumption). MTaPS and WHO then supported the Drug Regulatory Authority (DRA) in presenting and defending the developed AMS action plan during a meeting of the MOH's technical coordination committee, which has the authority to approve all technical documents before dissemination. The AMS action plan was unanimously approved.

The 6th (2021) edition of Standard Treatment Guidelines/National Essential Medicines List (STG/NEMLIT) with AWaRe list of antibiotics, updated with MTaPS support, was launched on June 25, 2021, in **Tanzania** with the MOHCDGEC's Dr. Dorothy Gwajima (MP) as the Guest of Honor. Subsequently, in collaboration with the Pharmacy Services Unit of the MOHCDGEC, professional councils, and other experts, MTaPS Tanzania supported the development of a facilitator's guide for the STG/NEMLIT's dissemination, a facilitator's guide for medicines and therapeutics committee guidelines dissemination, a guide for development of a hospital formulary, a facilitator's guide on ethical prescribing, and a facilitator's guide on ethical dispensing. These materials will help hospitals develop their own hospital formulary (including addressing the AWaRe categorization of antibiotics), conduct training on ethical prescribing and ethical dispensing, improve AMS implementation in health facilities, and contribute to containment of AMR in Tanzania.

Assessing AMS policies and practices

MTaPS **DRC**, in collaboration with WHO, supported the DRA in conducting a national survey/study on the consumption of antimicrobials. The study found an increase in the aggregate consumption of antimicrobials in terms of the Anatomical Therapeutic Chemical/defined daily dose (DDD) from around 12 DDD per 1,000 persons/year in 2018 to 16 DDD per 1,000 persons/year in 2019. It also found that at least 70% of the antibacterial medicines consumed were in the access category of the AWaRe categorization, which is higher than the WHO recommendation that at least 60% of antibacterial medicines consumed fall in the access group. During a presentation ceremony chaired by the DRC's minister for health, the DRA presented the results of the survey, and the USAID Mission handed over the deliverable to government authorities. More than 100 participants attended the ceremony, including the USAID DRC Mission health team director, WHO country representative, and representatives of the Ministry of the Environment, Ministry of Agriculture, and Ministry of Fisheries and Livestock.

In **Mozambique**, MTaPS concluded the desk review of the rapid assessment of AMS policies and regulations at the national level for the human health sector and collaborated with other implementing partners for a similar assessment in the veterinary and agricultural sectors. The review found that the country's regulations did not mention AMR or AMS. The results and findings of the rapid assessment will inform the development of a national action plan for AMS, incorporating actions to control and reduce resistance to antimicrobials in the human sector and in the veterinary and agricultural sectors through collaboration with other implementing partners.

MTaPS **Uganda** worked with the MOH and the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) to complete a rapid assessment/situational analysis of AMS policies in the country to understand the current policies and regulatory frameworks that influence AMS. MTaPS collaborated with the MOH and MAAIF to develop, review, and finalize an implementation plan for the assessment, which MTaPS then undertook in collaboration and coordination with the ministries. Key findings include the existence of a regulatory structure to support prudent use of antibiotics; poor enforcement of antibiotic use laws; and lack of adequate antibiotic prescribing and dispensing guidance in the agricultural sector. Once the report has been approved by the relevant ministries, it will inform the develop of a national AMS plan for using antimicrobials in humans and animals in Uganda.

Developing individual and local capacities.

In collaboration with the **Burkina Faso** Directorate of Hospital Pharmacy of the MOH, MTaPS established and trained DTCs in 8 of 10 planned facilities. Each facility developed an action plan as part of the CQI approach to be implemented during the remaining two years of MTaPS. The remaining two DTCs will be established during the first quarter of FY22.

In **Cameroon**, MTaPS supported the establishment of DTCs in 11 health facilities. MTaPS provided technical assistance to the DPML to hold onsite training of 170 DTC members from the 11 facilities and to select baseline and process indicators for monitoring the DTCs.

MTaPS supported the AMS-TWG in **Côte d'Ivoire** to assess the capacities and functionality of the DTCs in 12 health facilities and train 87 DTC members from 9 health facilities. In addition, MTaPS supported seven DTCs to develop their CQI plans, and AMS-TWG members conducted one supervision visit to monitor CQI in the DTC of Bouake in July. Following implementation of the CQI approach, the supervision team noted improvements in the DTC of Bouake's functioning from the baseline assessment.

MTaPS **DRC**, in collaboration with the Centre National de Pharmacovigilance, established four additional DTCs in two health institutions in Nord Kivu province and in two health institutions in Ituri province. The DTC establishment process consisted of a baseline study to assess the extent to which medicines are utilized in the four health institutions prior to AMS interventions and 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 CQI plan.

MTaPS **Mali** supported the national MSC group on AMR through the Directorate of Pharmacy and Medicine to establish DTCs in seven additional health facilities to improve AMS practices. MTaPS' capacity building on the establishment of DTCs enabled the DPM to provide clear orientations to the

structures based on the achievements of the previous year. Despite the socio-political events in Mali, seven DTCs were established in FY21, compared to only five in FY20, and the process to establish the four remaining DTCs is ongoing. Additionally, MTaPS supported the training of 98 members of the 7 DTCs on optimizing antimicrobial use, and more specifically on the AWaRe approach. The DTC members were not previously familiar with the AWaRe approach.

Summary of Activities this Quarter (FY21Q4)

Effective MSC on AMR

Strengthening MSC governance structures and functions

Strengthening governance of the MSC-AMR bodies and their TWGs is a key approach identified in WHO tools to enhance operationalization of the NAPs on AMR, including the Benchmarks for International Health Regulations (IHR) Capacities, a main guiding document for prioritizing MTaPS actions. As in previous quarters and years, MTaPS also continued during this quarter to strengthen governance of MSC-AMR bodies in four countries. In **Côte d'Ivoire**, MTaPS supported the AMR secretariat to formally appoint the members of the multisectoral committee responsible for governance. Also, in Côte d'Ivoire, MTaPS supported the AMR-TWG through the IPC-TWG to organize a workshop in September to develop the national protocol for the survey on the prevalence of HCAIs. The objectives of the workshop were to (1) present the HCAIs prevalence survey protocol of the European Centre for Disease Prevention and Control (ECDC), (2) adapt the ECDC HCAI prevalence survey protocol to the national context, and (3) finalize the national HCAI prevalence survey protocol.

In **Kenya**, the Monitoring and Evaluation Framework for NAP-AMR, which was developed and finalized with MTaPS' support, was launched during World Patient Safety Day on September 17, 2021. MTaPS Kenya also collaborated with the national AMR secretariat, the departments of human health, animal health, and agriculture and environment in Kilifi County to establish a CASIC. Representatives from each department were formally appointed and inducted on their mandate. In **Mozambique**, MTaPS provided technical assistance to the government to establish and strengthen the AMS TWG, which reports to the national MSC committee on AMR. MTaPS Nigeria supported the Nigeria Center for Disease Control and the national AMR secretariat in establishing and building capacity within the AMR-TWG and its IPC and AMS subcommittees.

Holding multisectoral meetings or activities

Organizing effective coordination through regular meetings (level 3) and reviewing plans and progress through regular meetings of the AMR governance committee (level 4) are two benchmark actions that specifically call out the importance of purposeful and agenda-driven meetings of the MSC-AMR bodies. In **Bangladesh**, the CDC/DGHS collaborated with MTaPS to organize a joint stakeholders' meeting of the Core Working Group and various other stakeholders. Such joint meetings have been held four times thus far since MTaPS started supporting MSC-AMR efforts in December 2019. This fourth meeting, held on September 1, 2021, was attended by 41 multisectoral participants representing different government bodies from the human and animal sectors, professional associations, UN agencies, donors, and nongovernmental organizations. The meeting's main objective was to present the draft of the updated National Strategy and NAP for AMR Containment in Bangladesh (2021–2026) and disseminate the

findings of 'Political Economic Analysis for AMR Containment Advocacy in Bangladesh. In **Côte d'Ivoire**, MTaPS supported the AMS-TWG in organizing two bimonthly coordination meetings to review progress on activity implementation and identify priority actions for the next quarter. In **DRC**, MTaPS helped the National Commission on AMR hold a quarterly meeting to review the AMS and IPC subcommittees' progress on activity implementation and validate the quarterly action plans of the AMS, IPC, and Detection and Surveillance TWGs. MTaPS provided technical assistance in Kenya to hold the national AMS interagency technical committee meeting. MTaPS **Cameroon** supported a workshop to strengthen the technical capacity of government stakeholders on AMR-related topics, with participants representing the AMR-TWG, the technical secretariat of the MSC committee on AMR, the regional level and health facilities, and staff from the ministries of environment and nature protection, agriculture and rural development, and fisheries and animal husbandry.

Joint meeting of the Core Working Group and other stakeholders related to AMR, September 1, 2021. Photo credit: Dr. Amany Ayub, MTaPS Bangladesh

The MTaPS team in **Mali** helped the national MSC group on AMR hold its coordination meeting in August, focusing on animal sector progress on AMR. Key achievements include the development of (1) a national animal health AMS action plan, (2) an animal health sector guidelines document, and (3) an IPC action plan for the animal health sector. Also in August, the Mali team supported the AMS-TWG in holding a meeting focused on the WHO Benchmarks for IHR Capacities tool and an assessment of the four AMS core components at the national level using the WHO AMS practical toolkit. The assessment found that one AMS core component (regulations and guidelines) had a score of 50%, while the other three components (national plan and strategy; awareness, training, and education; supporting technology and data) had scores greater than 75%. One of the presentations at the meeting was focused on providing an overview of the WHO Benchmarks for IHR Capacities tool to ensure full orientation of the participants on how this tool is organized, including the actions on optimizing the use of antimicrobial medicines in both the human and animal sectors. This AMS-TWG-led meeting was attended by 26 participants representing the human, animal, agriculture, and environmental sectors and three

participants from the Ministry of Security. In **Mozambique**, the MTaPS team provided technical assistance to the government to coordinate AMR-related activities in all sectors and helped support the preparation of meetings of the national MSC committee on AMR.

During the quarter, MTaPS also supported meetings held in collaboration with the One Health bodies in two countries. MTaPS **Senegal** collaborated with PATH/Fleming Fund to support the PREVENTION/AMR working group to organize a workshop under the aegis of the One Health Permanent Secretariat to assess implementation of the 2021 AMR Annual Action Plan. In **Mali**, MTaPS provided support to the One Health Platform to prepare for its monthly meeting.

Drafting or updating multisectoral policies, plans, or guidelines

During the quarter, MTaPS collaborated in three countries to update their NAP-AMRs. In **Burkina Faso** and **Côte d'Ivoire**, MTaPS supported the development of a new NAP-AMR. MTaPS and WHO provided technical support to the One Health Platform to hold two workshops in **Burkina Faso** to begin developing the 2021–2023 NAP-AMR. MTaPS supported the AMR-TWG in Côte d'Ivoire in organizing a workshop to review the NAP-AMR 2019–2020 and develop and validate the NAP-AMR 2021–2025. In **Bangladesh**, MTaPS provided technical assistance to the CDC/DGHS to support the core working group in developing the updated National Strategy and NAP for AMR Containment in Bangladesh (2021–2026). The document was then presented to multisectoral AMR stakeholders representing government counterparts and development organizations.

Also, during the quarter in **Kenya**, MTaPS collaborated with the AMR national secretariat to review and update the CASIC orientation package, which is the standard reference guide for establishing operations of multisectoral governance structures for AMR at the county level.

IPC Improved and Functional

Strengthening governance structures for IPC at the facility and county levels

During the quarter, MTaPS **Mozambique** used the visits to supervise and monitor implementation of facility action plans to build the capacity of national IPC TWG members to oversee IPC implementation, monitoring, and reporting. This was done through two visits each to the directly supported provincial hospitals of Xai-Xai, Tete, and Inhambane. The IPC TWG will be able to leverage experience from the three intervention hospitals and apply it to other hospitals, including identifying and allocating resources to support facilities to implement IPC action plans, training health care workers on IPC, and monitoring IPC implementation using appropriate assessment tools. In **Nigeria,** MTaPS helped the IPC teams in three supported health care facilities in Enugu develop facility-specific action plans. The action plans and priority interventions were guided by the results of baseline assessments.

MTaPS **Kenya** conducted site visits to five health facilities in Muranga, Kilifi, and Kisumu Counties to provide technical support to the IPC committees, monitor their roles and responsibilities, and lobby for support from management for implementing IPC programs at the facility level. The hospital management teams pledged their support for ongoing IPC CQI projects in their respective health facilities. The MTaPS team also met with the county health leadership in Kisumu County to discuss establishing IPC management and coordination structures in the county.

Developing and implementing IPC policy and guidance documents

MTaPS **Cameroon**, **Kenya**, and **Nigeria** are supporting the development of IPC documents at the national level. MTaPS **Cameroon** supported the Directorate of Health Promotion to develop a first draft of the national IPC action plan. This support included gathering IPC assessment reports and documentation and holding a working session with key stakeholders to identify gaps in the area of IPC. MTaPS **Kenya** met with MOH occupational safety and health (OSH) officials to discuss integration of key OSH components into IPC services. The MTaPS team then supported a workshop to develop a new OSH training module to be incorporated into the national IPC curriculum and revised TOR for the MOH OSH committee. In **Nigeria**, MTaPS is supporting the AMR-TWG secretariat in develop the national IPC strategic plan. The document review and situational analysis of the IPC policies, regulatory framework, activities, and programs in the country are ongoing.

At the state level, MTaPS **Nigeria** also supported a workshop in Enugu to develop a state IPC strategic plan. The workshop included 20 participants, drawn from the state MOH, hospital management board, and two IPC focal persons from MTaPS-supported facilities. Participants were trained on the IPCAT2 tool. A consensus approach was adopted for assessing six IPC core components at the state level. The result of the assessment was presented at the workshop and served as the guiding resource in developing a five-year state IPC strategic plan, which is now finalized. With the knowledge acquired on the administration and use of the IPCAT2 tool, the state IPC focal persons and state team will be able to self-administer the tool to monitor improvements and progress toward increasing the state's capacity in the relevant IPC core components.

Developing individual and local capacities

MTaPS **Kenya** has continued to provide technical and financial support during facility-based continuous medical education (CME) sessions in Muranga, Nyeri, and Kisumu counties. The CME sessions, which reached 118 participants during this quarter, were aimed at building capacity of health care workers on implementing IPC practices and cascading IPC training modules in facilities. In **Mozambique**, MTaPS worked to orient national IPC TWG members on using CQI methodology for identifying IPC performance challenges and developing, testing, and mainstreaming interventions in the three supported facilities.

MTaPS **Uganda** collaborated with the MOH to conduct eight mentorship visits in five hospitals, reaching 75 health workers. During the sessions, a locally developed IPC mentorship tool, which mirrors WHO's eight core components and multimodal strategies for improving hand hygiene, was applied to track progress of IPC implementation in these hospitals. The results from the surveys were disseminated to the hospital staff and corrective actions were taken, including CME to improve IPC and hand hygiene knowledge and ongoing mentorship. MTaPS, in collaboration with **Senegal's** DQSHH, supported trainings on IPC for 115 IPC committee members from five hospitals. The trainings focused on IPC core components, including the WHO multimodal strategy and CQI approach. The trained hospitals adapted previously developed IPC SOPs and guidelines to their local context by using the standardized guidance matrix that DQSHH developed (supported by MTaPS). Then, with MTaPS' support, the trained ICC trainers went on to train an additional 129 ICC members and health care workers from the level 1 hospital in Mbour (40), the level 2 hospital in Fatick (45), and the level 3 hospital in Dakar (44).

Several MTaPS countries are using eLearning to build capacity on IPC. In **Mali**, MTaPS supported the DGSHP in orienting 45 people on the eLearning platform. In **Mozambique**, MTaPS supported a virtual capacity-building program for IPC to build the knowledge and skills of national IPC-TWG members to facilitate expansion of IPC interventions in health care facilities in various provinces. MTaPS **Tanzania**, in collaboration with the Centre for Distance Education, trained 20 eLearning facilitators from the regional level on using the eLearning platform and on eLearning facilitation skills so that they can strengthen the capacity of health professionals on IPC guidelines and interventions.

Assessing IPC programs at national and facility levels and developing responsive action plans

In **Bangladesh**, MTaPS supported a repeat IPC assessment at COMCH using the WHO IPCAF tool. The previous (baseline) assessment done in August 2020 found that COMCH's overall IPCAF score was at the basic level (273.5). The follow-up assessment in August 2021 revealed that the overall score had increased to the intermediate level (557.5). Improvements were noted in seven of the eight IPC core components; one core component (workload, staffing, and bed occupancy) regressed.

MTaPS **Mali** supported the national MSC group on AMR and DGSHP in conducting field visits in September to monitor progress and ensure CQI of IPC practices in the 15 health facilities. Administration of WHO's IPCAF tool showed progress in the health facilities, including two facilities moving from the basic to the intermediate level and two other facilities moving from the intermediate to the advanced level. Currently, there are three health facilities at the advanced level compared to just one during the baseline evaluation before MTaPS' interventions. The assessment of hand hygiene using the WHO Hand Hygiene Self-Assessment Framework (HHSAF) tool found that nine health facilities have moved from the basic to the intermediate level. Eleven structures are now at the intermediate level compared to only three during the baseline assessment.

MTaPS supported the AMR-TWG secretariat in **Nigeria** in conducting a baseline assessment of IPC and WASH core components in three supported health care facilities in Enugu state. The assessment found that all three facilities scored at the inadequate level for all eight core components assessed using the IPCAF tool and for all five core components of the WASH practices using the HHSAF tool.

MTaPS **DRC** supported the Direction de Lutte contre les Maladies Animales to conduct an IPC rapid assessment in the animal sector using the IPCAF tool adapted for the animal sector. Seven facilities, including farms, veterinary clinics, and slaughterhouses, were assessed. Only one of the animal health institutions met the criteria for an advanced IPCAF score, and only one institution obtained an intermediate score. The scores of the remaining five health institutions lagged, falling within the IPCAF basic score range.

In **Côte d'Ivoire**, MTaPS supported the AMR-TWG in conducting the second evaluation of the IPC program at the national level using the IPCAT2. Compared to the first evaluation in June 2020, substantial improvements were seen for almost all IPC components of the IPCAT2 (figure 11).

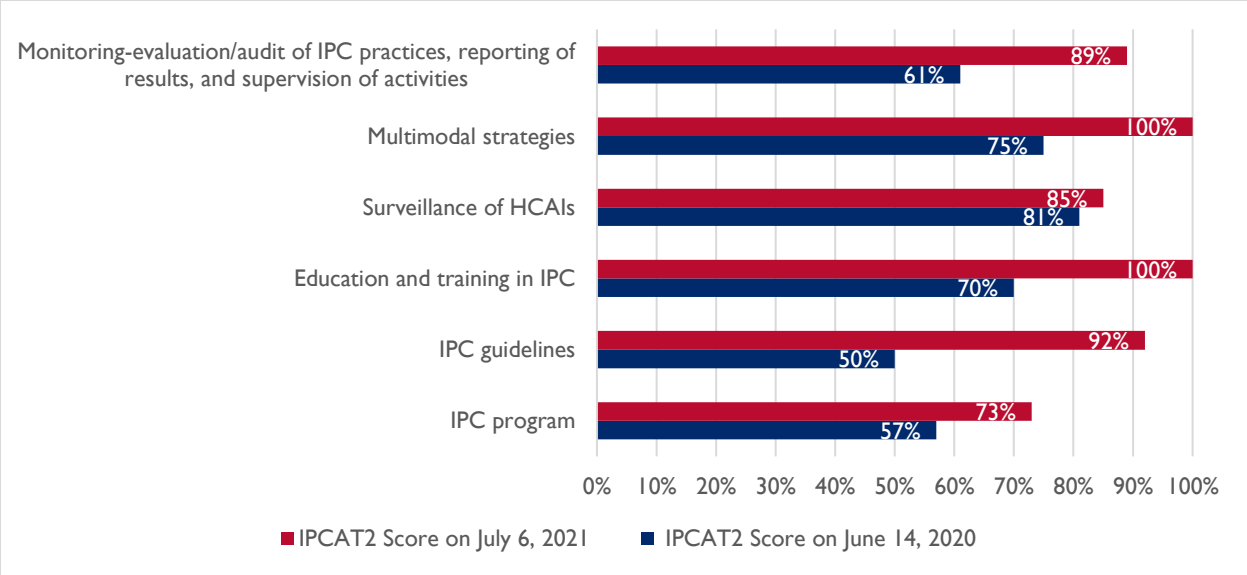

Figure 11. Comparative results of the IPC program at national assessments using the IPCAT2 tool (June 14, 2020. and July 6, 2021)

Country Progress for FY21Q4

Use of Antimicrobial Medicines Optimized

Developing and implementing AMS policy and guidance documents

In **Bangladesh**, MTaPS supported the CDC/DGHS in reviewing the developed STGs on common infectious diseases. During a consultative workshop, senior professional associations recommended the integration of the AWaRe categorization of antibiotics into the finalized STGs. In preparation for the country's AWaRe categorization workshop, MTaPS **Côte d'Ivoire** supported the AMS-TWG in collecting and analyzing data on antibiotic resistance in 20 sites (2 universities, 5 research centers, and 13 health facilities). MTaPS **Kenya** collaborated with the National Medicines and Therapeutics Committee to hold workshops to develop the first national medicines formulary that incorporates AWaRe categorization of antibiotics. MTaPS **Tanzania** collaborated with the MOHCDGEC and representatives of professional associations to develop a facilitator's guide and materials to disseminate the sixth edition of the STGs/NEML (2021) for Tanzania, which includes AWaRe categorization of antibiotics.

In **Mozambique** and **Nigeria**, MTaPS is supporting development of national AMS plans. MTaPS **Mozambique** collaborated with the national AMS TWG to undertake a rapid assessment of stewardship policies and activities and to review existing regulatory frameworks, policies, and legislation covering selected aspects of market authorization, licensing, inspection, post-marketing surveillance, pharmacovigilance, prescribing, dispensing, and use as relevant to antimicrobials. These activities will inform development of a national AMS plan. In **Nigeria**, MTaPS supported the AMR TWG Secretariat in conducting a rapid assessment of stewardship policies and activities in the human and animal health sectors. Reports for both the human and animal sector assessments have been drafted. Drawing from

the findings of the assessments, MTaPS then supported the development of the first draft of a multisectoral national AMS plan.

Following the validation of **Senegal's** antibiotic therapy policy and guidelines by the service delivery commission of the MOH's Health System Strengthening Platform, MTaPS is working with the National Committee for Antibiotic Therapy to prepare for their dissemination during WAAW.

Assessing AMS policies and practices

During this quarter, MTaPS **Côte d'Ivoire** supported AMS assessments in the animal and human health sectors. MTaPS worked with the AMS-TWG in organizing a visit to evaluate the functionality and capacities of the veterinary clinic of the regional directorate of the Ministry of Animal Resources of Bouake. The evaluation found that the clinic lacks a veterinary medicines unit (VMU), inventory management tools, and the ability to trace prescriptions. The evaluation team recommended establishment of a VMU within the facility and training of potential VMU members on AMS. MTaPS also supported the AMS-TWG in organizing a supervision visit to the University Teaching Hospital of Bouake' DTC. The DTC's assessment score increased from 15/55 (in December 2019) to 40/55 (in July 2021), with improvements in both the DTC's function and implementation of AMS activities in the facility. A key challenge is the lack of a formulary and therapeutic guide, which the DTC therefore plans to develop in 2022.

MTaPS collaborated with the DPM in **Mali** to prepare for and organize a virtual meeting with 12 facilities to review their progress on implementing their respective action plans. The results were then confirmed by supervisory visits in 5 of the 12 facilities in September. The visits found that implementation of the action plans is lagging in these facilities. To date, only one of the hospitals has drawn up a list of medicines authorized in the hospital in accordance with its action plan. However, several activities not initially foreseen in the action plan were carried out, including distribution of the EML to one of the hospitals and a consensus to limit the use of antibiotics in surgery by another hospital.

In **Tanzania**, MTaPS worked with the MOHCDGEC to conduct onsite needs assessments in 10 supported hospitals to identify health care professionals' knowledge gaps on ethical prescribing and dispensing of antimicrobial agents. The data from the questionnaires was further supported through focus group discussions among prescribers, dispensers, nurses/midwives, and laboratory experts. Based on the gaps identified by the needs assessments, MTaPS then worked with the MOHCDGEC and key stakeholders and experts to develop ethical prescribing and ethical dispensing facilitators' guides, along with related training materials, which will be used to enhance the capacity of health care professionals in the country.

MTaPS **Uganda** continued to work with the Uganda National Drug Authority (NDA) to generate a sample report on antimicrobial consumption at the national level. The report will show consumption in each AWaRe category against the recommended guidelines. A repeat data extraction has been undertaken with support of the NDA, and data analysis and cleaning will be undertaken in the coming quarter. To ensure sustainability post-MTaPS, in FY22, the program will support software development for a module within the NDA management information system that will allow for routine auto-generation of a report on national-level consumption of antimicrobials.

In **Cameroon**, MTaPS supported the DPML in collecting information on the indicators used to monitor progress made by the DTCs implementing their respective AMS action plans. The minister of public health signed a service note instructing the MTaPS-supported health facilities to send their activity reports to the DPML, including information on indicators. This is a milestone toward ownership and sustainability of efforts made to improve AMS in health facilities in Cameroon.

Developing individual and local capacities and awareness on AMR

MTaPS **Burkina Faso** supported capacity building on AMS in both the human and animal sectors. In the animal sector, MTaPS, in collaboration with the Directorate General of Veterinary Services and the National Veterinary Council, conducted two training of trainers sessions for 45 livestock technicians on using the training toolkit based on the national guidelines on the rational use of antimicrobials, which is the first guideline the farming sector developed and finalized with MTaPS' technical assistance. In the human sector, MTaPS supported three capacity-building trainings for 67 DTC members. The DTC members developed DTC action plans and will begin implementing AMS activities in their respective health care facilities. MTaPS **DRC** also supported training DTC members during this quarter; 92 health care providers from 6 MTaPS-supported facilities (2 in Kinshasa, 2 in Nord Kivu, and 2 in Ituri) were equipped with knowledge and tools to continuously track the progress of DTC interventions; assess improvement using a predefined set of medicine use-related indicators; and implement an iterative process of data collection, analysis, and reporting to ensure CQI.

In **Côte d'Ivoire**, the National AMS-TWG and MTaPS, in collaboration with the National Association of Pharmacists, the Ivorian Pharmaceutical Regulatory Authority, and the Direction de l'Activité Pharmaceutique, organized a one-day meeting on September 22, 2021, to train pharmacists on the rational use of antimicrobials; 86 health care workers participated in the training—60 pharmacists and 26 from other disciplines (microbiologists, medical doctors, veterinarians, and health science students). Of the 60 pharmacists, 39 (65%) were from the private sector and 21 from the public sector. The training focused on the fight against AMR in Côte d'Ivoire and the issues of AMR in the human, animal, and environmental sectors. Some of the presentations focused on regulatory aspects of antimicrobial dispensing, best antimicrobial use practices, and antimicrobial categorization. Togo's AMR focal point participated and shared the experience of his country in the fight against AMR. Several recommendations came out of the meeting:

- Apply regulations on dispensing prescription-only medications
- Complete the categorization of antibiotics to support stewardship activities
- Establish a system for reporting antimicrobial distribution data
- Strengthen collaboration with the National Directorate for Veterinary Services with a view to better management of antimicrobials, considering the law establishing the Veterinary Public Health Code
- Improve management of purification stations and pretreatment methods before the discharge of pollutants into nature
- Revitalize the DTCs in health care facilities to optimize their functioning
- Raise awareness among pharmacists for greater support and understanding of the One Health approach

MTaPS **Kenya** collaborated with the University of Nairobi School of Pharmacy (UON/SOP) to develop a preservice AMS curriculum through a systematic process of reform, including initial work with the UON leadership team to establish a committee. The committee worked with MTaPS to develop a process roadmap and conducts needs assessments, the results of which informed revision of the curriculum to include practical aspects on AMS. The curriculum will be used to develop the capacity of under- and post-graduate students doing health sciences courses (e.g., medical students, pharmacists, nurses) on AMS as a key strategy to contain and prevent AMR. In September, MTaPS supported the UON/SOP to hold the curriculum launch event, which was attended by representatives from the MOH, USAID, CDC, USAID partners, National AMR Secretariat, Pharmacy and Poisons Board, Directorate of Veterinary Services, and Pharmaceutical Society of Kenya, as well as UON students.

The **Kenya** team also supported development of the national AMS training curriculum, which is currently being finalized. The training curriculum will be used to develop the capacity of health care workers on AMS, with the aim of establishing AMS programs in health care facilities in Kenya. Also in **Kenya,** an AMR quarterly bulletin was published in September.

COVID-19 PANDEMIC RESPONSE

In FY2021 MTaPS continued to receive additional funding from USAID to respond to the COVID-19 pandemic in nine countries (**Bangladesh, Burkina Faso, Côte d'Ivoire, Kenya, Mali, Mozambique, the Philippines, Rwanda,** and **Senegal)**. COVID-19 activities build off the program's existing platforms and best practices. In these countries, the program assists government stakeholders and implementing partners in strategic planning around the COVID-19 response for IPC and emergency supply management.

Activities under each technical area are broadly categorized as follows:

- Adapting WHO and national guidance and standard operating procedures for COVID-19
- Developing IPC guidance for health care workers, health facility workers, patients, family members, caregivers, and visitors
- Assessments of COVID-19 capacity at the national, regional, sub-regional, and facility levels
- Training on newly adapted guidance and standard operating procedures
- Disseminating materials (i.e., guidelines, job aids)
- Assessing and monitoring compliance to policies and guidelines
- Supporting general program management

For additional information, refer to monthly progress reports on MTaPS COVID-19 activities, and for quarter progress by country, refer to Annex 1 of this report.

MATERNAL, NEWBORN, AND CHILD HEALTH

The MTaPS maternal, newborn, and child health (MNCH) core-funded 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 the global, regional, and country levels. The goal of the MTaPS MNCH core-funded 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.

Highlights From Program Year 3 (FY21)

During this year, MTaPS developed a discussion paper on engaging civil society in social accountability to improve access to and appropriate use of safe, effective, and quality-assured MNCH medical products and services. This discussion paper contributes to the knowledge base on lessons learned from social accountability research and interventions that engage civil society in improving access to and appropriate use of quality MNCH medical products and services. In addition, the paper also proposes approaches for designing and implementing social accountability interventions to improve access to and use of MNCH medical products.

To advance global learning and country improvements to subnational procurement, MTaPS has conducted a mapping in Nepal of practices at the provincial, district, municipal, and facility levels related to procuring medicines in four provinces. The report of the mapping is under internal review and highlights issues, such as procurement not being based on demand, price variation, and other quality concerns in procurement. The workshop to disseminate the findings of the mapping and generate recommendations for improving current local procurement practices is being planned.

MTaPS has completed the validation of the updated reproductive, maternal, newborn, and child health (RMNCH) forecasting supplement, which will be a useful resource to orient country teams on quantifying RMNCH medical products, thereby informing procurement and improving product availability and, thus, the potential to save lives. The finalized document will be disseminated in the first quarter of the next project year.

Summary of Activities This Quarter (FY21Q4)

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

Although the engagement of civil society is recognized as key for ensuring access to high-quality services and is included in community health platforms in many countries,[4] the involvement of civil society in

[4] https://www.communityhealthroadmap.org/

supporting increased access[5] to and appropriate use of medical products, and specifically for MNCH, is not a commonly prioritized component. Thus, MTaPS saw the need for an exploration of civil society engagement interventions with—or that could include—a component on improving the availability, affordability, and appropriate use of quality MNCH products.

In Q4, MTaPS finalized the draft of a well-received discussion paper that reviews lessons learned from social accountability research and identifies initiatives for policy and practice. In addition to review by the MNCH office team, this draft has been reviewed by USAID colleagues in the Population and Reproductive Health Office, Africa Bureau and the Democracy, Rights, and Governance Center. Although there is no follow-on to this activity in the current work plan, USAID requested that MTaPS be connected to USAID cross-bureau discussions on how social accountability can be mobilized in quality of care and respectful maternal care efforts. Also, from discussions MTaPS held with the Momentum Integrated Health Resilience team, there are potential avenues for dissemination of this work.

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

MTaPS continues to support countries in ensuring the quality of MNCH products by strengthening product registration systems and improving procurement processes at subnational levels.

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

In its follow-on work to the year 1 registration mapping activity, MTaPS is supporting Mozambique's regulatory authority, the National Directorate of Pharmacy (DNF), to streamline registration by using findings and recommendations from the mapping. To that end, MTaPS recruited two consultants to support the DNF in building the capacity of assessors on bioequivalence and to engage in a forum with manufacturers and other stakeholders on registration to prioritize registration of MNCH products and oxytocin to ensure its quality, among other themes. The event will also be an opportunity for stakeholders to discuss the registration process and any considerations to be incorporated into the revision of the guidelines planned for next year.

During this quarter, MTaPS had discussions with the focal person of the Southern African Development Community/ZAZIBONA (SADC/ZAZIBONA) Secretariat about optimizing registration of MNCH medical products through joint assessments. Because of the bureaucratic requirements of joint assessments (they are conducted only when there is demand from two or more member states and there is no engagement with manufacturers to submit applications in member states), a regional knowledge exchange was proposed instead. It would be aimed at regulators from member states to discuss the value of joint assessments for MNCH products and the assessment of oxytocin specifically as a follow-on to a recent study in SADC on its quality and the newly released WHO regulatory guidance for oxytocin for cold chain storage. MTaPS developed a concept note, which was shared with SADC for

[5] This activity is designed to influence the different dimensions of access (i.e., availability, accessibility, acceptability, and affordability).

knowledge exchange, and discussions are ongoing around the agenda for the forum and dates for the event.

Year 3, Activity 2.1.1: Improve regulation of MNCH medical devices at regional level

Medical devices, just like any other medical product, require strong regulatory systems to ensure their quality, safety, and efficacy. Medical devices for use in MNCH are considered essential commodities and are mostly procured by national governments for public-sector use, which highlights the important role of national regulators in ensuring their quality, safety, and efficacy. It is estimated that more than 30% of WHO member states do not have regulations to control medical devices, and WHO found that of low-income countries with data available, only 45% have a legal framework for medical devices in place.[6] An MTaPS mapping of nine countries revealed that only three were implementing regulation of medical devices; only six of the nine had legal frameworks for regulation; and guidelines for the regulation of medical devices, including MNCH medical devices, are lacking.. These findings spurred MTaPS to strengthen regulation of MNCH medical devices (e.g., oxygen concentrators, pulse oximeters, blood pressure monitors) across the African continent.

In pursuit of this aim, following a series of meetings, MTaPS, the African Medical Devices Forum (AMDF) of the African Union Development Agency-New Partnership for Africa's Development (AUDA-NEPAD), and WHO decided to collaborate on developing a document highlighting key considerations for regulating MNCH medical devices that goes beyond market authorization through the life cycle of the device as a complement to four guidance documents on regulation of medical devices already developed by AMDF, currently awaiting validation.

As of the end of Q4, a draft of the considerations document has been completed and is under internal review before sharing with AMDF, AUDA-NEPAD, and WHO. Once completed, the considerations document will be disseminated as part of a package of guidance materials for countries on regulation of medical devices through a workshop activity, including a hands-on joint assessment of a selected MNCH medical device. This quarter, MTaPS drafted and submitted a summary of the activity to be included in the African Medicines Regulatory Harmonization October 2021 newsletter to raise awareness of the activity among member states.

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

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

To contribute to MTaPS' sub-objective—pharmaceutical system strengthening and global learning agenda advanced—MTaPS is working in Nepal to improve sub-national procurement of MNCH medicines. In Q4, MTaPS met with stakeholders in various departments of the MOH and finalized the mapping tool with government stakeholders after piloting it in some municipalities close to Kathmandu. Data collection was not possible to conduct remotely, and so the MTaPS team traveled to four provinces to

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[6] Global Atlas of Medical Devices, WHO 2017. Available at: https://www.who.int/medical_devices/publications/global_atlas_meddev2017/en/

conduct the key informant interviews. The data have been compiled and the report of the mapping is under internal review. Plans are also underway for the workshop to disseminate the findings of the mapping and generate recommendations for improving current local procurement practices.

Year 2, Activity 3.3.1: Map the institutionalization of pediatric amoxicillin formulation in countries

Earlier in year 3, MTaPS began working with USAID and UNICEF to plan a series of consultative meetings with a wide group of stakeholders to review the state of access to and appropriate use of amoxicillin; to determine action steps; and to define the roles of partners and MOHs to increase uptake of amoxicillin. This quarter, MTaPS developed templates for evidence briefs on the prioritized bottlenecks and an Excel sheet to collect evidence from partners in the child health task force commodities subgroup. The smaller steering committee (USAID, UNICEF, and MTaPS) met to agree on next steps, and the support of USAID implementing partners Promoting the Quality of Medicines Plus Program (PQM+) and Procurement and Supply Management has been enlisted.

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

Year 3, Activity 5.1.1: Validation of the RMNCH forecasting supplement

MTaPS has updated the RMNCH forecasting supplement, with the knowledge that applying best practices in quantification of RMNCH medical products has a direct impact on product availability. With its year 1 funding, MTaPS updated the 2016 forecasting guidance for lifesaving essential RMNCH commodities, first developed by many partners, under the United Nations Commission on Life-Saving Commodities for Women and Children. With partners' support, MTaPS updated the guidance to align with recent changes in WHO recommendations. In Q4, upon receipt of feedback on using the forecasting supplement collected from six country teams of the USAID Global Health Supply Chain Procurement and Supply Management (GHSC-PSM) Project who were enlisted to validate the supplement, MTaPS incorporated proposed changes into the forecasting supplement. The algorithms are being amended and simplified, in line with country suggestions but not to the extent that the global guidance is lost and, in particular for amoxicillin, the difference between dosage for community and facility level is maintained for a more accurate estimation of need.

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 for children and newborns suffering from hypoxia due to pneumonia and other conditions, as well as for treating COVID-19. A previous MTaPS mapping of partner support in the respiratory ecosystem found little support to strengthen countries' regulatory systems that ensure appropriate administration of quality oxygen. After continued discussion with USAID, MTaPS had been guided to address piping standards for oxygen, and a discussion with WHO was recommended. Several meetings held this quarter between WHO, MTaPS, and USAID to discuss potential activities for MTaPS related to oxygen culminated in a consensus that MTaPS should work on a document centered on quality assurance of oxygen through different steps, including regulation and inspection, that would complement the WHO Pressure Swing Adsorption (PSA) operational guidance document currently being developed.

Activities for next quarter		
Activity and Description		**Date**
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	MTaPS will finalize the editing and formatting of the discussion paper and share with all stakeholders involved in the reviews and upload to the MTaPS website.	November 2021
Year 2/2.1.1: Support streamlining registration of MNCH products in at least one country	Conduct bioequivalence training of DNF assessors Conduct country forum on registration of MNCH medicines in Mozambique Hold a regional knowledge exchange forum in SADC region on assessment of MNCH medical products, with a focus on oxytocin, prioritization of MNCH products, and reliance	October 2021 December 2021 December 2021
Year 3/activity 2.1.1: Improve regulation of MNCH medical devices at the regional level	Finalize considerations for regulating MNCH medical devices and plan for capacity-building workshop	December 2021
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	Finalize the report of mapping procurement practices and conduct the workshop to develop a consensus of next steps to improve local procurement practices in Nepal	December 2021
Year 2/activity 3.3.1: Map the institutionalization of pediatric amoxicillin formulations in countries	Develop evidence briefs in collaboration with other partners, including PQM Plus and PSM; plan for consultative meetings on improving access and appropriate use of amoxicillin	December 2021
Year 3/activity 5.1.1: Validate RMNCH forecasting supplement	Finalize RMNCH forecasting supplement and start the French translation	December 2021
Year 2/activity 5.2.1 Improve systems for managing and administering oxygen and other medical devices in the respiratory ecosystem	A scope of work to ensure quality of oxygen will be finalized and agreed on with WHO, and a consultant will be recruited. A draft document will be developed.	December 2021

MTaPS COUNTRY ACTIVITIES TO PREVENT CHILD AND MATERNAL DEATHS

This section highlights selected areas of work and achievements during the past year of the MTaPS country portfolios with MNCH field funds that will improve access to and appropriate use of safe, effective, and quality-assured medicines and pharmaceutical services for women and children. Of the 15 MTaPS countries receiving field funding, 8 (**Bangladesh**, **DRC**, **Jordan**, **Indonesia**, **Mali**, **Mozambique**, **Nepal**, and **Rwanda**) receive MNCH funding, and, in addition, MTaPS receives MNCH funding through the two regional bureaus, **Asia** and **East Africa (IGAD)**.

Although most activities that MTaPS implements in these countries are to strengthen pharmaceutical systems in general and are not necessarily focused specifically on MNCH medicines and technologies, they contribute to improving women's and children's health through governance, building human resource capacity for pharmaceutical management, regulatory systems strengthening, strengthening the use of information for decision making, financing, supporting pharmaceutical services, and strengthening pharmacovigilance (PV) and AMS. More details on these activities can be found in the country-specific sections of this quarterly report.

GOVERNANCE

Governance in regulation

In Mozambique, Nepal, and Rwanda, MTaPS is ensuring that an adequate legal and regulatory framework is in place that provides for the establishment and/or effective operation of a national medicine regulatory authority (NMRA). In **Mozambique**, during year 3, MTaPS supported the DNF in its transformation into the autonomous authority, *Autoridade Nacional Reguladora de Medicamentos de Moçambique* (ANARME), through establishment of an effective regulatory framework, capacity building, and support to the strategic plan. The independence for decision making on regulatory issues of this autonomous body is expected to improve its capacity to ensure the safety, efficacy, and quality of drugs, including for MNCH medical products.

In **Nepal**, MTaPS is supporting the establishment of a combined drug and cosmetic administration (DDA) and a proposed reorganization and decentralization of the DDA. The reorganization includes both the DDA and the national medical laboratory, including increased staffing norms. Once in effect, the revised organogram will help the DDA perform its key regulatory functions more efficiently and ensure sustainable access to and appropriate use of safe, effective, quality-assured, and affordable essential medical products, including for MNCH. Additionally, MTaPS is supporting a revision of the drug law as the foundation for overall improvement in pharmaceutical management in the country.

In **Rwanda**, during year 3, MTaPS supported the Rwanda FDA (RFDA) in strengthening its regulatory system and streamlining registration of MNCH medical products by developing a five-year business plan that guides the institution with options for its growth and financial sustainability, as well as the development of a strategic plan, which has been approved by the RFDA board.

In **DRC**, MTaPS facilitated access of the provincial health department and customs officers to the Directorate of Pharmacy and Medicine's (DPM) directory of registered medicines. Additionally, MTaPS supported pharmacist inspectors in conducting field visits to pharmaceutical wholesaler companies in two provinces to inspect whether imported products/medicines are registered and authorized for sale in the DRC market. More than 150 unregistered products were found. As a result, the customs service now systematically uses the marketing authorization directory to check whether medical products are registered before engaging any quality control analyses for such products at the country's points of entry, and importers and wholesalers have been given timelines to get unregistered products registered.

Essential medicines list development

In **Bangladesh**, MTaPS supported the Directorate General of Health Services (DGHS) in modifying the essential MNCH medicine list, which health managers at different levels will use to guide their annual procurements. Additionally, MTaPS is providing technical assistance to revitalize the MNCH technical working group (TWG), which is responsible for tracking and monitoring priority MNCH commodities and the scale-up of the electronic Logistic Management Information System (eLMIS) for RMNCH products.

Medicine coordination technical working groups

In **DRC**, MTaPS continues to support the provincial TWG on medicines in two provinces to improve coordination among partners and strengthen the capacity of the province to better steward the

pharmaceutical system at the provincial level. The TWG reviews and validates forecasts and supply plans, including for MNCH medical products, and reviews the ordering, distribution, and stock status in health zones (HZs).

Civil society engagement

At the HZ 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, managing, and monitoring 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. Recognizing the role of civil society, MTaPS supported two provinces in organizing a training workshop in each of 10 supported HZs on engaging community and civil society groups and clarifying their roles and responsibilities in overseeing medicine management at the health facility and community care site levels. The trainings focused mainly on stock management, logistics data collection, storage conditions, accountability between the health facility and the community, and the role the community can play.

MTaPS supported the CODESAs in two provinces to hold meetings with community members and health center managers, increasing community engagement in health product management, building the communities' capacity, and ultimately improving the management of medical products, including MNCH medical products, at the health facility and community care site levels. For example, during one of these meetings, community members from Nyiragongo HZ reported poor storage conditions, including the lack of a temperature monitoring system in pharmacies. To address this issue, the HZ manager purchased wall thermometers for all health facility pharmacies, using their own funds.

Oxygen

In **Bangladesh**, MTaPS provided support to the DGHS to review the specifications and price offers for a procurement of oxygen supply-related equipment and consumables and to engage in the commissioning of PSA plants for 29 health facilities. In **Rwanda**, where MTaPS is working with the MOH to improve access to oxygen and its safe administration, TOR were drafted for a steering committee that will guide the MOH and stakeholders on improving oxygen use, administration, and management. The first task of the group will be to update the oxygen roadmap.

BUILDING HUMAN RESOURCE CAPACITY FOR PHARMACEUTICAL MANAGEMENT

In **DRC**, MTaPS supported two provinces in conducting a quantification training workshop for the provincial medicine quantification committee members in collaboration with the European Union and Global Fund. The training was coupled with a provincial quantification exercise, including developing a forecast for MNCH medicines. To address capacity gaps in inventory and supply management at service delivery points, MTaPS supported a five-day training workshop in two provinces on pharmaceutical management for regional, HZ, and hospital staff on inventory management of essential medical products, including MNCH medicines, and on supervision of health facilities on inventory and supply management. Additionally, MTaPS conducted joint supervisory visits with provincial and HZ supervisors to monitor pharmaceutical management, logistics data collection, and reporting to coach the supervisors.

REGULATORY SYSTEMS STRENGTHENING

In **Bangladesh, Mozambique, Nepal,** and **Rwanda** during this program year, MTaPS continued to provide guidance and support on implementing institutional development plans to support regulatory authorities in improving the regulatory system and raising the maturity level as per the WHO GBT assessments, and thereby ensure quality of medicines and pharmaceutical services for women and children.

While under **Cross Bureau**, MTaPS continued during year 3 to optimize the online regulatory information management system software, Pharmadex. MTaPS supported countries such as **Mozambique** and **Nepal** to adapt and establish Pharmadex to streamline the medicine registration process, which will result in improvements to MNCH medicine registration status.

In **DRC, Mali, Mozambique, Nepal,** and **Rwanda**, MTaPS is supporting the regulatory authorities to address some of the specific bottlenecks identified in the mapping of the registration of MNCH medical products conducted using core funding. In **Mozambique**, MTaPS drafted the Guidelines for Good Regulatory Practices and for Reliance and developed the Price Control Regulation, which will enable better control of product price mark-ups in the pharmaceutical sector to stop excessive charging of medicines, thereby making MNCH medicines more financially accessible.

In **DRC**, MTaPS supported the DPM in revising the Directory of Registered Medicines and provided continued support to the DPM in holding the quarterly medicine registration sessions to facilitate the timely registration of MNCH, FP/reproductive health, and other essential medical products.

The mapping of registration of MNCH medical products in **Nepal** identified poor data quality of the DDA's Drug Administration Management System, a limited number of assessors, and a weak drug regulatory setup. MTaPS is supporting the DDA in addressing each of these areas, including by establishing a quality management system for the DDA. MTaPS helped draft the Good Pharmacy Practices (GPP) and Good Distribution Practices (GDP) guidelines, piloted an electronic inspection tool for GPP inspections, developed a multipronged implementation strategy with private-sector involvement, and proposed a clear separation between community pharmacies and wholesalers. Introducing the WHO GPP and GDP inspection will improve service provision and patient care and will greatly improve quality assurance of products, including those for MNCH, in the market.

In **Rwanda**, MTaPS worked with the RFDA to draft, review, and validate key guidance documents and standard operating procedures (SOPs), including guidelines on regulating medical gases; guidance documents for registering essential medicines and medical devices; and SOPs on assessing generic medicines, including WHO prequalified products. MTaPS also trained 39 RFDA staff in basic Good Manufacturing Practice (GMP) inspections, as part of strengthening capacity of regulators and three staff of the RFDA in good reliance practices, which is an important strategy to streamline registration of medicines, including for MNCH. In addition, MTaPS developed an online eLearning course in medicine evaluation and registration.

Under **Asia Bureau**, MTaPS worked with the South-East Asia Regulatory Network (SEARN) to facilitate a virtual online GMP training course for manufacturers and regulators to increase compliance with regulatory requirements, drawing on international best practices. Additionally, MTaPS conducted a

competency mapping exercise for pharmaceutical regulation in four Asian countries to determine the gaps and weaknesses and make recommendations to address them. The exercise will enable a more structured approach to strengthening the capacity to regulate the pharmaceutical market in Asia.

Under the **East Africa Intergovernmental Authority on Development (IGAD) Bureau**'s medicine regulatory harmonization work to ensure the quality and safety of efficacious medical products, including for MNCH, MTaPS supported local manufacturers in adhering to good regulatory practices and requirements through assessments and training conducted through the Pharmaceutical Society of Kenya.

The **Mali** MNCH work plan has been approved, and MTaPS will support the Pharmacy and Medicines Directorate to operationalize the Marketing Authorization Commission, streamline registration of MNCH medicines by implementing SOPs for market authorization, and strengthen reliance on prequalification and other stringent regulatory bodies, as well as provide support to update and disseminate the directory of registered medical products**.**

STRENGTHENING THE USE OF INFORMATION FOR DECISION MAKING

Health Technology Assessment

Under **Cross Bureau**, MTaPS has finalized plans for disseminating the health technology assessment (HTA) roadmap through a regional workshop in Africa, which will allow the team to gather feedback on the roadmap and use the roadmap's framework to support participating countries in advancing their own HTA roadmaps. Under **Asia Bureau**, MTaPS hosted a webinar for 200 participants to launch the HTA roadmap for institutionalizing HTA in LMICs, which included a panel discussion with HTA program leaders from Colombia, Kenya, South Africa, Taiwan, and Ukraine. In **Indonesia**, MTaPS is supporting the MOH in conducting HTAs by supporting the development of national guidelines as well as capacity building. This will ultimately facilitate introduction of new health technologies, including for MNCH.

LMIS

In **Bangladesh**, MTaPS supported the Directorate General of Family Planning (DGFP) in developing and establishing an eLMIS for RMNCH commodities, and its use has saved more than USD 9 million by cancelling unnecessary procurement of contraceptives and syringes during FY21. Additionally, MTaPS supported the DGFP in conducting a review workshop on the stock situation analysis and monitoring select RMNCH commodities by using online consumption and stock status data from the DGFP's eLMIS. The eLMIS for RMNCH commodities is now functional in all 64 districts in Bangladesh. In **DRC**, to increase logistics data visibility using existing tools and platforms, MTaPS continued supporting the province and HZ teams in two provinces, together with other partners and the national supply chain program, to roll out InfoMED, which is the logistics and patient data visualization platform for DRC. MTaPS supported a training workshop on entering logistics data into DHIS 2 and data analysis and visualization through the InfoMED platform for provincial and HZ management teams.

FINANCING

In **Indonesia**, MTaPS is supporting MOH in tracking pharmaceutical expenditure for priority health conditions, including MNCH. In **Nepal**, MTaPS is supporting the Government of Nepal in developing an evidence-based policy on a price control mechanism for pharmaceutical products. Three DDA staff

participated in the WHO online Summer School Pharmaceutical Pricing and Reimbursement Policies course 2021 in preparation for the regulatory revision. The revision of the medicine price regulation is important to reach UHC; ensure equity; reduce out-of-pocket expenditures; and ensure affordability, including for MNCH medical products. Under **Asia Bureau**, MTaPS conducted two virtual regional One Health Tool trainings for health planners from Kyrgyz Republic, Bangladesh, Nepal, and the Philippines to show how One Health could enable health planners conduct more evidence-based pharmaceutical planning and budgeting, including how to use the One Health tool to assess the health system implications of a program-specific plan (e.g., a five-year maternal and child health strategy). In **Bangladesh,** MTaPS arranged and facilitated a five-day training to the different directorates of the MOHFW to build capacity in the use of the One Health costing tool for pharmaceutical benefit costing, including MNCH commodities.

SUPPORTING PHARMACEUTICAL SERVICES

MTaPS provides technical assistance to strengthen supply chain systems to improve availability of essential medicines; improve the quality of pharmaceutical care (e.g., prescribing and dispensing practices); and help countries strengthen their PV systems at the national level and points of care. Additionally, using funding from the GHSA, MTaPS works with partner governments to build in-country capacity to prevent and control hospital-acquired infections and improve stewardship/rational use of antimicrobial medicines.

Improving quality of pharmaceutical care

In **DRC**, to improve the availability and use of MNCH treatment protocols and job aids at the point of service, MTaPS completed the dissemination of MNCH treatment protocols and job aids in all 166 USAID-supported health facilities in two provinces and trained 169 health care providers on their appropriate use. To date, health care providers in all MTaPS-supported health facilities are trained on the use of lifesaving products for MNCH. The head of an HZ said, "We had lost many patients in the past due to a lack of knowledge and protocols/job aids to assist and guide the management of patients, especially the administration of medicines, such as magnesium sulfate. For example, two pre-eclamptic women died due to the fact that health providers didn't know how to use magnesium sulfate, whereas this product was available. But today, with the support from MTaPS, we can no longer make such mistakes and errors as we have all the needed guiding protocols and job aids." Also in **DRC**, MTaPS supported the national MNCH program (DGFGS/D10) in developing treatment protocols and job aids for using oxygen, heat-stable carbetocin, tranexamic acid, and folic acid in collaboration with the USAID Integrated Health Program. Additionally, amoxicillin dispensing job aids, updated by MTaPS in 2020, were validated for use at the community level and in health facilities.

Community case management is an important approach to increase access to medicines, particularly for children under 5. MTaPS is working with key implementing partners in two provinces in **DRC** to explore the underlying issues that hinder the delivery of the full integrated community case management package at community care sites, as amoxicillin for pneumonia and oral rehydration salts and zinc for diarrhea are constantly lacking.

In **Rwanda**, MTaPS worked with the MOH to develop a manual and SOPs on the storage and management of oxytocin to ensure it is kept under appropriate cold conditions throughout the whole

supply chain to the point of use. MTaPS is supporting the MOH in establishing and strengthening Medicines and Therapeutic Committees (MTCs), and, during year 3, supported updating the MTC manual and developing a medicine use review guide and SOPs. MTCs will be oriented on using the manual and monitoring medicine use as well as conditions and storage of oxytocin in their own hospitals and health centers in their districts. MTaPS is also supporting the MOH in providing more youth-friendly services for FP and building capacity of community health workers to provide FP services through refresher training.

Under **Cross Bureau**, MTaPS conducted a review of literature and publicly available data sources to determine what data are available on the geographical accessibility of retail drug outlets and the quality of products and services they provide, including for MNCH. Also, this year under **Cross Bureau**, MTaPS analyzed the integration of IPC/WASH critical conditions into the quality of care and quality improvement tools and processes with a particular focus on MNCH in Bangladesh.

Strengthening pharmacovigilance

In **Bangladesh, Nepal,** and **Rwanda** and with **EAC/IGAD** and **Cross Bureau** funds, MTaPS is strengthening PV systems. PV is crucial to ensuring the safety and quality of MNCH medicines. In other countries (**Mozambique, Philippines, Tanzania**), MTaPS is supporting specific PV activities for TB and/or HIV. In **Bangladesh**, MTaPS continued to support the DGDA in uploading adverse drug reaction (ADR) reports to the WHO Vigiflow database, reviewing ADR reports to generate regulatory recommendations, and helping the DGDA properly implement the PV system and analyze and manage data on its path toward sustainability. ADRs to MNCH medicines (e.g., ceftriaxone, amoxicillin) can be reported through this system.

In **Nepal,** MTaPS, after conducting an initial situation analysis, is supporting the DDA in establishing a PV unit with an implementation plan and has developed system requirement specifications to customize the PV information system (PViMS) to the Nepal context. Strengthening PV will support the DDA in attaining maturity level 2 in PV, and also support appropriate use of safe and effective essential medicines, including MNCH medicines, as well as vaccines and medical devices.

In **Rwanda**, MTaPS supported establishment of a PV monitoring system using an online reporting tool for safety monitoring of medical products, including those used for MNCH. Additionally, MTaPS developed an eLearning course to provide continuous training on PV to both RFDA and health care providers.

Under **Cross Bureau**, MTaPS collaborated with the West Africa Health Organization and the 15 Economic Community of West African States (ECOWAS) countries to develop a web-based platform for improving PV systems in the ECOWAS region.

Under the **East Africa IGAD Bureau's** medicine regulatory harmonization work ensuring the quality and safety of efficacious medical products, MTaPS provides technical assistance to promote safety monitoring for medical products, including for MNCH. MTaPS worked closely with the IGAD and EAC Secretariats and respective focal persons on the medicine regulatory harmonization agenda to establish a regional PV expert working group and to train the group on safety monitoring. Also, with **EAC/IGAD** funds, MTaPS supported reporting ADRs from cross-border sites in the region and built capacity for PV

by using assessments, harmonized tools, trainings and sensitizations on PV, and patient safety, targeting health care workers and health management teams at identified priority IGAD/MTaPS cross-border areas. Participants developed facility, sub-county, and county/district action plans to institutionalize and strengthen PV and patient safety for all medicines, including for MNCH, which were monitored and evaluated through the continuous quality improvement approach and supportive supervision.

IPC and AMS

The focus of the MTaPS GHSA approach and implementation framework is to help countries make progress on the pathway to the next level of WHO Joint External Evaluation (JEE) capacity regarding the international health regulation. Under **GHSA**, during year 3, MTaPS supported 12 countries (Bangladesh, Burkina Faso, Cameroon, Côte d'Ivoire, DRC, Kenya, Mali, Mozambique, Nigeria, Senegal, Tanzania, and Uganda) in containing AMR by improving IPC, AMS, and multisectoral coordination (MSC) to support AMR IPC and AMS interventions. Improving IPC practices and optimizing antimicrobial use in health facilities supported by the project has a certain impact on improving the quality of care for women and children.

MTaPS helped establish and/or guide IPC and AMS TWGs to prioritize, plan, and review specific activities in all 12 countries and to develop national IPC or AMS action plans in seven countries, which will have impact on MNCH outcomes and quality of care. In year 3, MTaPS supported IPC committees in 11 countries to use standardized tools for monitoring and to improve IPC using continuous quality improvement approaches. IPC is an essential part of quality of care for mothers, newborns, and children. IPC e-learning modules have been developed and/or launched in a number of countries, including Cameroon, Mali, and Tanzania. For optimized use of antimicrobials, MTaPS has worked in all 12 countries to support MTCs or AMS committees to implement AMS improvement plans or monitoring frameworks. Additionally, MTaPS has supported countries like Bangladesh, Burkina Faso, Côte d'Ivoire, Kenya, Rwanda, and Tanzania in developing standard treatment guidelines and/or essential medicines lists with the AWaRe classification of antibiotics to provide guidelines on which antibiotics to use and when.

COMMODITY SECURITY AND LOGISTICS

HIGHLIGHTS FROM PROGRAM YEAR 3 (FY21)

MTaPS completed a rapid situation analysis to identify a short list of potential countries where the project could support a political economy analysis (PEA) to examine the factors that influence domestic financing of family planning (FP) products and associated supply chain costs and that may shape decisions around increasing government financing within a decentralized health system. Following discussions with USAID's Commodity Security and Logistics (CSL) Division and the USAID Uganda Mission, MTaPS, in collaboration with the USAID Uganda Strengthening Supply Chain Systems (SSCS) Technical Assistance Activity briefed the MOH on the added value of the activity in supporting and complementing the Ministry's existing efforts to strengthen the supply chain, including for FP, and to increase domestic financing for FP commodities. MOH identified focal persons, one within the Department of Pharmacy and one in the Department of Reproductive and Child Health, who have worked with MTaPS and Uganda SSCS Activity to schedule a workshop to brief stakeholders on the MTaPS activity and to set up stakeholder interviews.

MTaPS is conducting a study in Nigeria and the Philippines on the use of private-sector fourth-party logistics providers (4PLs). The objective of the study is to understand factors, considerations, and influences and to develop models and advocacy strategies for governments and donors to leverage private-sector supply chain service providers. MTaPS engaged its partner organization, Pharmaceutical Systems Africa (PSA) to conduct the study. There are four parts to the study: a desk review of 4PLs in public health supply chains, a rapid PEA to understand influences and motivating factors, an operational capabilities analysis, and a cost-benefit analysis (CBA) in both countries. During this year, MTaPS completed the landscape analysis and desk review providing local and global 4PL model examples, their advantages, best practices, and policy considerations for implementation; developed selection criteria for the study; developed tools; and collected data collection for the PEA and the operational capabilities analysis in both countries in both public and private entities.

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 to identify and document examples of high-income countries (HICs) 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 year, MTaPS developed an analytical framework to guide the assessment on how the public sector in HICs incorporates retail pharmacies in the provision of FP and essential medicines and to gather evidence on how HICs mitigate against risks of engagement with private-sector pharmacies. MTaPS developed country case reports from three selected HICs (Spain, Sweden, and the United Kingdom) and three middle- to low-income countries (Namibia, Ghana, and South Africa), and the draft technical report was developed and shared with USAID and external reviewers for comments and inputs.

SUMMARY OF ACTIVITIES THIS QUARTER (FY21Q4)

Activity 1: Increasing government financing of family planning commodities and supply chain in a decentralized health system: A PEA

MTaPS has received funding from USAID's CSL Division of the Office of Population and Reproductive Health (PRH) to conduct a PEA in one country to examine the factors that influence domestic financing of FP products and associated supply chain costs and that may shape decisions around increasing government financing within a decentralized health system. In July, MTaPS and USAID CSL had a call with the supply chain coordinator at the Uganda Mission and the Uganda SSCS Activity to discuss the PEA activity in more detail and its relevance and added value in supporting and complementing MOH activities and efforts already underway to strengthen the supply chain, including for FP, and to increase domestic financing for FP commodities. As in many other African LMICs, in Uganda, the state budget spending compared to donor spending for FP products is low, and FP intervention demand is growing as Uganda's population grows. The anticipated added value is that the PEA activity will enable MOH, USAID, and other stakeholders to be better informed on the factors that currently influence priority setting and financing and procurement allocations for FP commodities at different levels and also possible entry points and potential interventions. It can also look at how COVID-19 is affecting FP commodity financing decisions of the Ugandan government and donors. Additionally, as government-funded FP products are managed through the essential medicines and health products supply system, this PEA can provide an entry point for looking at factors that influence financing decisions on essential medicines and health products more broadly. On August 2, MTaPS received official concurrence from the Uganda USAID Mission director for the activity, and MTaPS shared preliminary questions for the analysis and list of stakeholders with the Mission for inputs.

Uganda experienced a serious resurgence of COVID-19 in July and August. During this time, MTaPS completed the background desk review and prepared a summary which identifies foundational factors, formal and informal rules, and current events that are impacting domestic resource mobilization for FP products and supply chain in Uganda and used this to inform the development of the interview questions and guides. On September 9, MTaPS and Uganda SSCS met with the commissioner of pharmacy, the commissioner of reproductive and child health, and the principal pharmacist; provided the background and overview of the activity, including the purpose and objectives, utility, and added value to MOH; and outlined the approach. MOH identified focal persons, one within the Department of Pharmacy and one in the Department of Reproductive and Child Health, who are acting as liaisons for the activity and connect MTaPS with key stakeholders. MOH requested a detailed writeup with a weekly schedule, proposed a standing weekly call, and agreed to review and provide inputs into the stakeholder list. At the request of the commissioner of reproductive and child health, Dr. Reuben Kiggundu, MTaPS Country Director, gave a short briefing on the activity at the quarterly extended MCH stakeholders' meeting on September 10, 2021. MOH has set a date of October 12 for the stakeholder briefing on the activity, and MTaPS, in collaboration with USSCS, has been working with the Ministry to schedule the stakeholder interviews.

Activity 2: Advocacy for governments to leverage private-sector logistics capabilities to increase accessibility and availability of FP commodities

MTaPS is conducting a study in Nigeria and the Philippines on the use of private-sector 4PLs with the objectives of understanding factors, considerations, and influences and developing models and advocacy strategies for governments and donors to leverage private-sector supply chain service providers in the public health supply chain. MTaPS engaged its partner organization, Pharmaceutical Systems Africa (PSA) to conduct the study. There are four parts to the study: a desk review of 4PLs in public health supply chains, a rapid PEA to understand influences and motivating factors, an operational capabilities analysis using the Operational Capabilities Audit Tool (OCAT) and a CBA in both countries.

This quarter, MTaPS completed the development of data collection tools and deployed the PEA and OCAT to public- and private-sector entities, such as supply chain offices and FP units in Nigeria and Philippines, according to the selection criteria shown in table 9.

Table 9. Completion of the data collection tools

	OCAT private-sector entities	OCAT public-sector entities	PEA public-sector entities	PEA private-sector entities	CBA public sector entity-s
Nigeria	10/15	7/12	9/17	7/10	5/15
Philippines	7/18	6/6	11/12	7/18	7/12

While data collection progressed well for the OCAT and PEA, challenges were encountered with the CBA tool deployment because of hesitancy to share financial data from targeted entities, despite communication in an official letter describing the purpose of the study and how the data will be used. Information was only partially complete in both countries. MTaPS is discussing with the USAID point of contact the next steps and to determine the cutoff point for the number of entities submitting data and the methodology for data analysis.

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. MTaPS core partner, Boston University, is taking the lead in developing this paper, which will document examples of HICs and LMICs where private-sector outlets serve public-sector clients with FP and other essential medicines and how these private-sector engagements are operationalized.

In this quarter, MTaPS finalized and shared a first draft of the technical report with USAID and three external reviewers including Prashant Yadav (Center for Global Development), Peter Stephens (IMS), Zaheer Babar (*Journal of Pharmaceutical Policy and Practice*). Also, MTaPS held a series of meetings with USAID to review all the collated comments and feedback. The overall recommendations from the reviewer feedback included rewriting portions of the report; highlighting lessons learned in the context of COVID-19; focusing the report on how retail pharmacies serve as a source of essential medicines; and highlighting FP products and services as an example of how retail pharmacies can be utilized to provide these essential medicines and services in LMICs.

ACTIVITIES FOR NEXT QUARTER	
ACTIVITY AND DESCRIPTION	**DATE**
Activity 1: Increasing government financing of FP commodities and supply chain in a decentralized health system: a PEA Hold stakeholder briefing on October 12; conduct key informant interviews; develop policy brief; hold workshop to share findings with stakeholders; develop module with interview guides	October–December 2021
Activity 2: Advocacy for governments to leverage private-sector logistics capabilities to increase accessibility and availability of FP commodities • Complete data collection and organization of the CBA • Conduct data analysis and report writing • Hold dissemination workshop • Develop advocacy paper	October–December 2021
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 Submit a revised draft of the paper, based on inputs from USAID and external reviewers	October–December 2021

OFFICE OF HEALTH SYSTEMS, CROSS BUREAU FUNDING

HIGHLIGHTS FROM PROGRAM YEAR 3 (FY21)

With year 3 funding, MTaPS and the Promoting the Quality of Medicines Plus Program (PQM+) conducted a desk review of common standards relevant to regulatory information management systems for the eight regulatory functions outlined in the WHO GBT. The team drafted a report summarizing 54 standards that fall into 3 primary categories: process or workflow standards, pharmaceutical standard dictionaries and knowledge trees, and data exchange standards. On September 15, 2021, MTaPS and PQM+ successfully convened over 40 stakeholders, representing global and regional institutions involved in regulatory system strengthening (RSS), in the first of a series of consultative meetings. The consultation process is aimed at identifying a set **of minimum common standards** for regulatory information management systems that national medicine regulatory agencies (NMRAs) should prioritize to streamline their workflows and documentation of regulatory processes, ensure uniform data capture, and enable data exchange within and between NMRAs and other stakeholders.

In year 3, MTaPS completed a quality review of the medicine regulatory harmonization program management guidance tool, which will facilitate implementation of regional medicine regulatory harmonization programs in a more structured, effective manner, resulting in greater impact and sustainability of program results and outcomes.

This year, MTaPS continued to advance the global PSS learning agenda through publications and conferences. Published manuscripts include:

- Making the investment case for national regulatory authorities
- National Health Insurance Fund's relationship to retail drug outlets: a Tanzania case study
- Strengthening multisectoral coordination on antimicrobial resistance: a landscape analysis of efforts in 11 countries
- COVID-19 vaccines pricing policy options for low-income and middle- income countries
- Protocol for active safety monitoring of a cohort of patients using a dolutegravir-based antiretroviral regimen in Mozambique

The first three manuscripts were published in the *Journal of Pharmaceutical Policy and Practice* and the fourth and fifth were published in *BMJ Global Health and BMJ Open,* respectively. The program submitted 18 abstracts to international conferences in year 3, 15 of which were accepted for presentations (table 10).

In year 3, MTaPS built on the progress made in year 2 through its collaboration with the USAID Local Health System Sustainability (LHSS) project to collect data in Burkina Faso for pharmaceutical expenditure mapping. The team organized the data into three databases (one for data from health programs and donors, another for import data, and a third for pharmaceutical data from health districts and public hospitals) to enable pharmaceutical expenditure mapping following the System of Health Accounts (SHA) 2011 classifications. MTaPS and LHSS conducted a desk review to understand how expenditure on pharmaceuticals has been tracked to date and document existing gaps in the expenditure data on pharmaceuticals to inform how the health accounts methodology can be customized and enhanced to fill these gaps and produce higher quality and detailed data on pharmaceutical spending. The team completed the data mapping and drafted a resource for pharmaceutical expenditure tracking to

accompany the SHA 2011 framework guidance. The resource, which was approved by USAID, will enable countries to capture population-per-capita pharmaceutical expenditures per disease or drug therapeutic class more accurately.

Table 10. Accepted conference abstracts

Conference	Conference date	Abstract title	Abstract status
Global Health Supply Chain Summit	November 17, 2020	Philippines: Reconfiguration of the supply chain to balance equity and emergency response during the COVID-19 pandemic	Completed oral presentation
ISPOR	May 17–20, 2021	Charting the progress of HTA in Asia: Are we ready for informed decision making?	Poster presented
		HTA in Africa – an update	Poster presented
Global Health Technical Exchange	April 21–23, 2021	Global tools to combat AMR: A close look at GHSA-supported interventions in Côte d'Ivoire	Workshop presented
		Using novel capacity-building approaches to prepare health workers and systems for COVID-19 infection prevention and control (IPC) response	Panel presented
		Global Benchmarking Tool: Experiences and lessons learned strengthening national regulatory systems	Panel presented
		Mounting an effective response to the emergency procurement and supply chain challenges for medical products during the COVID-9 pandemic: Case of the Philippines	Panel presented
American Public Health Association (APHA) 2021 Annual Meeting	October 24–27, 2021	Establishing an emergency supply chain system for continuous access to COVID-19 commodities in Bangladesh	Accepted oral presentation*
		Experiences and lessons from using Global Health Security Agenda perspectives and approaches to implement antimicrobial resistance containment efforts in 11 countries	Accepted oral presentation*
		Improving Infection Prevention and Control (IPC) Practices: Interventions in Six Tanzanian Hospitals	Accepted oral presentation*
American Society of Tropical Medicine and Hygiene (ASTMH) Annual Meeting	November 17–21, 2021	Antimicrobial consumption surveillance in a resource-limited setting: Findings from 13 hospitals in Uganda	Accepted poster presentation
		Building capacity on infection prevention and control (IPC) in health care settings during the COVID-19 pandemic in Bangladesh	Accepted poster presentation
		COVID-19 IPC Outcome Assessment in USAID MTaPS-Supported Health Facilities	Accepted poster presentation
6th International Consortium for Prevention and Infection Control Conference	September 14–17, 2021	Knowledge and Perception on Hand Hygiene and Correlation with IPC Practices and Structures in Health Facilities in Uganda	Accepted oral presentation
International Society of Pharmacovigilance 20th annual scientific meeting	November 8–10. 2021	Harmonizing Pharmacovigilance Activities in Regional Economic Communities in Africa-Experiences from EAC and IGAD	Accepted oral presentation

* MTaPS staff will be presenting posters because they are unable to travel to Denver for APHA because of pandemic travel restrictions, and APHA organizers have asked that virtual presenters switch to posters instead of oral presentations.

In year 2, MTaPS developed a policy and guideline document entitled *Practical Guide for Systematic Priority Setting and HTA Introduction in LMICs* ("roadmap"). Formulated through an extensive literature and peer

review process, the roadmap provides a stepwise approach for implementing health technology assessments (HTAs). It is a practical toolbox for low- and middle-income countries (LMICs) seeking to advance HTA implementation based on country context. In October 2020, MTaPS hosted a webinar to launch the roadmap document. The webinar had more than 300 attendees and the recording has had more than 18,000 views. The roadmap has been downloaded at least 370 times. To further disseminate the roadmap, MTaPS developed a concept note for two regional workshops with an agenda based on the current situational analysis of HTA in sub-Saharan Africa. 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; and discussions with the Bill & Melinda Gates Foundation. The focus for the last quarter of year 3 was to finalize plans for regional workshops scheduled for October 20 and 27, 2021.

In years 2 and 3, MTaPS continued its collaboration with the West Africa Health Organization (WAHO) and the 15 Economic Community of West African States (ECOWAS) to develop a web-based platform for improving pharmacovigilance (PV) systems in ECOWAS. WAHO agreed to MTaPS leveraging the Essential Medicines and Vaccines Portal to launch the PV platform. MTaPS procured a SharePoint license and engaged SIDMACH—a software development company WAHO has been working with—to develop the PV platform and expand the portal. MTaPS and WAHO also conducted a survey of the 15 ECOWAS countries to inform platform development. In June 2021, the PV platform site went live within the WAHO information technology infrastructure. The team started creating administrator access and sites country by country and plans to aggregate and present regional reports and dashboards. MTaPS is also working with WAHO and member states to finalize a data use agreement for approval and dissemination to facilitate data upload on the PV platform. To support data sharing, MTaPS also engaged WHO Geneva and the WHO Regional Office of Africa teams to explore how best to collaborate and enhance sharing findings from the WHO GBT. Once the countries agree to share their data on the platform, WHO will facilitate sharing of assessment data from the WHO GBT for the 15 countries.

Weak policies, practices, and infrastructure in infection prevention and control (IPC) and water, sanitation, and hygiene (WASH) are drivers for health care-associated infections, which are far more prevalent in LMICs and which add to the already worrisome worldwide burden of AMR. In years 2 and 3, MTaPS used Bangladesh as a case study to identify gaps in integration of IPC/WASH critical conditions into the quality of care (QOC) and quality improvement (QI) tools and processes. Adapting a methodology from the USAID/Maternal and Child Survival Program gap analysis,[7] MTaPS reviewed documents related to QOC/QI in the Bangladesh health system, with an emphasis on maternal and newborn health (MNH). The review examined the critical conditions and the break-out of sub-conditions by document, a ranking of the conditions that were most prevalent across documents, and a summary of instances of IPC/WASH references that apply specifically to MNCH topics in the Bangladesh QOC documents. Based on a series of key informant interviews, MTaPS concluded that the MNH and QI staff in health facilities in Bangladesh generally rely on a set of eight tools related to quality improvement (seven), IPC (two), and supportive supervision (one) and that a robust internal/external supportive supervision mechanism is in place. The stakeholders identified a lack of human resources and

[7] MCSP. 2019. Tools for Improving Quality of Care for Mothers and Newborns. A Review and Gap Analysis of Critical Environmental Conditions. USAID Maternal and Child Survival Program. Available at https://www.mcsprogram.org/resource/tools-for-improving-quality-of-care-for-mothers-and-newborns-a-review-and-gap-analysis-of-critical-environmental-conditions/

appropriate infrastructure and supplies (e.g., hand-washing facilities, cleaning supplies) as the main gaps in being able to provide proper IPC and WASH services.

SUMMARY OF ACTIVITIES THIS QUARTER (FY21Q4)

Activity 1: Measuring pharmaceutical systems strengthening, including access to medicines

MTaPS and staff from WHO Geneva's Access to Medicines and Health Products Division have agreed to collaborate to define the concept for the development and implementation of a tool to measure the performance of a set of pharmaceutical system functions and outcomes, including access to medicines. The work paused when WHO staff became heavily involved in COVID-19 responses, and the activity leadership has since been transferred to WHO's Department of Health Products Policy and Standards and has focused more on WHO engagement in the piloting of Pharmaceutical System Strengthening (PSS) Insight v2.0. Despite challenging circumstances, including COVID-19, the WHO point of contact is interested in continuing to work with USAID on a measurement tool for pharmaceutical systems. In the short term, this means engaging WHO in the piloting of PSS Insight v2.0. In the long term, it would be collaboration on a global tool, possibly based on PSS Insight v2.0.

In August, the WHO point of contact for the activity shared the report on PSS Insight v2.0[8], which describes the rationale for, and changes made from, v1.0 version to make it more user-friendly and contains the final set of indicators and the performance indicator reference sheets with WHO regional advisors on medicines. The engagement of WHO regional advisors in the pilots can encourage countries to use the assessment findings to inform their policy and strategic planning processes and, ultimately, to adopt the tool. Later that month, MTaPS shared the criteria for selecting countries for the pilot and the preliminary list of countries based on these indicators with WHO for their inputs. Feedback from WHO Geneva and the regional advisors in the African Regional Office, South-East Asian Regional Office, and Eastern Mediterranean Regional Office agreed with the initial list of proposed countries. In addition to informing the finalization of PSS Insight 2.0, the pilots in three or more countries will allow MTaPS to keep moving forward with PSS measurement work with WHO as the pilot results can ultimately inform the development of WHO's measurement tool.

Activity 2: Pharmaceutical system strengthening course (PSS 101)

MTaPS continued development of the two remaining modules for the eLearning PSS 101 course this quarter. For the information systems module, the team finalized the alpha version, followed by the beta version, which is currently pending final review. MTaPS also completed the alpha version and audio script for the quality of medical products module, and the beta module is currently under development. MTaPS anticipates being able to launch the course on the Global Health eLearning Center and USAID University by the end of November.

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[8] Soucy Brown M, Wirtz V, Hafner T, Aboagye-Nyame F, Guzman J, Nfor E. *PSS Insight v2.0—A Framework and Indicators for Measuring Pharmaceutical Systems Strengthening*. May 2021. Submitted to the US Agency for International Development by the USAID MTaPS Program. Arlington, VA: Management Sciences for Health, Inc. Available at https://www.mtapsprogram.org/wp-content/uploads/2021/08/PSS-Insight-v2-Tech-Report_Final.pdf

Activity 3: Roadmap for HTA institutionalization

In year 2, MTaPS developed a policy and guideline document entitled *Practical Guide for Systematic Priority Setting and HTA Introduction in LMIC*s ("roadmap"). This quarter, MTaPS finalized preparations for a regional workshop in sub-Saharan Africa to gather feedback on the roadmap and assess the best approach for implementing it in one African country. It has been difficult to recruit participants and there was initially a low expression of interest received by representatives from countries in the region. This led to a delay in the workshop, which was originally slated for Q3. To generate interest, the team contacted partners, such as the Joint Learning Network for Universal Health Coverage and colleagues at the World Bank, to support promotion of the regional workshop within their networks. The team also contacted experts, one from Ethiopia and one from South Africa, to act as speakers at the workshop and deliver presentations about the status of HTA in these countries. The regional workshop is now scheduled for October 20, 2021, and will be virtual.

In Q3, MTaPS developed a balanced scorecard analysis of HTA status in selected sub-Saharan African countries, and drafted an abstract based on this analysis, which was accepted for a poster presentation at the Professional Society for Health Economics and Outcomes Research in May 2021. This quarter, the team drafted a manuscript based on the balanced scorecard analysis and submitted it for peer review.

Activity 4: Improve pharmaceutical expenditure tracking and use of expenditure data for decision making

MTaPS and LHSS completed the first draft of the pharmaceutical expenditure illustrative policy brief. A first review was done, and comments will be considered before the draft is shared for further reviews. For pharmaceutical expenditure tracking in Benin, USAID Benin obtained MOH approval to commence the pilot, and MTaPS met with USAID Benin to discuss the implementation process, including the timeline. As a next step, a kickoff meeting is planned in October with the director of planning and the health accounts team, to discuss the methodology, stakeholders' involvement, and timeline. A consultant will also be introduced to the director of planning and the health accounts team and will start the data collection.

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

MTaPS completed its desk review of existing standards relevant to regulatory IMS and drafted a report. The team submitted the report to USAID for review and started revising the report to incorporate the feedback. MTaPS had also planned a consultative meeting with global stakeholders to solicit feedback on the standards, but based on discussions with USAID and internal assessment, deemed it necessary to adjust its approach to ensure a successful consultation with stakeholders. The team therefore went back to the drawing board and developed a concept note to clearly articulate the objectives of the overarching activity and the deliverables for years 3 and 4. Key changes included a six-month

consultation process during which MTaPS and PQM+ will convene a group of international stakeholders and subject matter experts to:

- Clearly identify the critical gaps and challenges NMRAs and other stakeholders are facing with regulatory IMS
- Use existing relevant IMS and regulatory standards to derive a recommended set of minimum common standards for regulatory IMS to address identified gaps and challenges, including developing selection criteria for prioritizing which standards to include in the set of recommended standards
- Develop the use case for the minimum common standards and promote their adoption and use

USAID approved the concept note, which the team then used to plan the first in a series of virtual consultations. With guidance from USAID, MTaPS and PQM+ held preliminary briefing sessions with key global experts, the Gates Foundation, and WHO to introduce and solicit their perspectives on the topic of discussion. MTaPS held the first consultative meeting on September 15, 2021, which included more than 40 participants, representing over 20 organizations. Participants identified common challenges with the development and implementation of regulatory IMS and discussed how minimum common standards can address some of these challenges. MTaPS also drafted and submitted a meeting report as the first deliverable for the activity and started planning for the second consultation scheduled for October 27, 2021.

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

This quarter, MTaPS partially completed the Pharmadex 2.0 prototype with workflows for inspection and licensing. MTaPS successfully piloted the prototype in Nepal (as part of that portfolios' implementation activities supported by Mission funds), and Pharmadex 2.0 is now ready for NMRAs to use for licensing pharmacies and wholesalers. The team experienced some delay from the contracted software developer with configuring the workflow for registration and marketing authorization, but completion is expected for the end of October 2021. MTaPS also held initial discussions with the developer to define system design elements for the key performance indicator dashboards. The team also assessed interoperability between the PV module and Pharmadex 2.0 and is in the process of defining the first Fast Healthcare Interoperability Resources messages that will operationalize interoperability. The source code for Pharmadex 2.0 is now available on GitHub, and the team plans to update it regularly as they develop more functionality. Ultimately, the team plans to implement an automated deployment of the software to enhance sustainability and provide easy access to software upgrades for any country.

Activity 6: Advancing equitable access to quality pharmacy services in the private sector through retail drug sellers

Last quarter, MTaPS conducted a review of literature and publicly available data sources to determine what data is available on the geographical accessibility of retail drug outlets, the quality of products and services they provide, and the critical gaps in the available data. The search included global health systems or service delivery assessment tools with indicators pertaining to the geographical location of retail drug outlets and quality of services. The paucity of relevant data led the team, this quarter, to adapt its approach and conduct a targeted search for national pharmacy registries in the Office of Health Systems priority health system strengthening countries. Based on the data generated, the team selected Uganda as a case study for deeper analysis. The team developed a concept for a webinar to present the

findings and finalized the outline for a manuscript. Both the webinar and manuscript will examine the availability of data on the geographical location of retail drug outlets and quality of services provided and identify the most common gaps and the implications for efforts aimed at advancing equitable access to pharmacy services.

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. MTaPS submitted the protocol to USAID for review and is in the process of revising it to incorporate USAID's feedback. We anticipate resubmitting the protocol in October for approval before submission for ethical review.

Sub-activity 8.B. PSS TAG engagement

Last quarter, MTaPS worked with PQM+ to develop a concept note for a global advocacy and coordination mechanism for regulatory and PSS proposing that the focus be on leveraging or strengthening existing internal mechanisms for stakeholder engagement, advocacy, and coordination on RSS and PSS. The concept note outlined several strategies for increasing global conference and meeting attendance and identifying and leveraging entry points for engaging with global stakeholders on RSS and PSS. This quarter, MTaPS received feedback from USAID on the concept note, revised it, and received approval. This means MTaPS will be discontinuing the technical advisory group (TAG) as originally conceived and focusing instead on leveraging or strengthening existing internal mechanisms for stakeholder engagement, advocacy, and coordination on RSS and PSS.

Sub-activity 8.C. Conference participation

This quarter, MTaPS started preparing for its participation in the American Public Health Association (APHA) 2021 annual meeting scheduled for October 24–27, 2021, where three of five submitted abstracts were accepted for oral presentation. However, because of pandemic travel restrictions, two of the abstracts were shifted to poster presentations to accommodate staff's virtual attendance. We developed content for the three presentations:

- Establishing an emergency supply chain system for continuous access to COVID-19 commodities in Bangladesh
- Improving IPC practices: Interventions in six Tanzanian hospitals
- Experiences and lessons from using GHSA perspectives and approaches to implement AMR containment efforts in 11 countries

MTaPS also received notification that the three abstracts it submitted to the American Society of Tropical Medicine and Hygiene Annual Meeting were accepted as poster presentations. The meeting is scheduled for November 17–21, 2021. In addition, MTaPS submitted three conference abstracts:

- Knowledge and Perception on Hand Hygiene and Correlation with IPC Practices and Structures in Health Facilities in Uganda. Submitted to the 6th International Consortium for Prevention and Infection Control Conference. The abstract was accepted for an oral presentation.

- Use of Participatory Pause and Reflect Sessions to Learn and Improve Pharmaceutical System Strengthening Interventions - Responding and Adapting to COVID-19 Pandemic in East and West Africa; submitted to the 10th AfrEA Conference scheduled for November 15–19, 2021.
- Harmonizing Pharmacovigilance Activities in Regional Economic Communities in Africa-Experiences from EAC and IGAD; submitted to the International Society of Pharmacovigilance: ISOP Conference scheduled for November 8–10, 2021.

The program also started drafting three abstracts for submission to the 5th Biennial Scientific Conference on Medical Products Regulation in Africa (SCoMRA V), scheduled for November 22–23, 2021.

With respect to publications, one manuscript entitled *Exploring Facilitators and Barriers to Introducing Health Technology Assessment (HTA): A Systematic Review*, was published based on the HTA work done in year 2 under Cross Bureau. The program also continued to work on its publication pipeline, producing a second draft of a commentary entitled *Moving Beyond Assessment to Implementation: Promising Practices for Strengthening Antimicrobial Resistance Containment Capacity*, which the team anticipates submitting next quarter. A second manuscript entitled, *The Registration Status of Maternal, Newborn and Child Health Medical Products: Evidence* from Nine Countries, is undergoing internal technical review before submission to a peer-reviewed journal. Another manuscript on the revision of Kenya's essential medicines list and the integration of AWaRe categories is still in the early stages of development. We drafted another manuscript focused on the lessons learned strengthening IPC capacity for the COVID-19 pandemic response but decided it is better suited as a technical brief because of the lack of data.

EXTENDED YEAR 2 ACTIVITIES

Activity 1: Refine/validate PSS Insight in USAID MTaPS-supported countries

This quarter, MTaPS revised the protocol for the PSS Insight pilot based on feedback from USAID. MTaPS also shared the country selection criteria with contacts at WHO's Department of Health Products Policy and Standards. MTaPS received concurrence from the WHO regional advisors for each of the proposed countries. Early involvement of the regional advisors will help encourage countries to use the assessment findings to inform their policy and strategic planning processes and, ultimately, to adopt the tool. While the protocol was being finalized, MTaPS worked to update an Excel-based data management tool for the pilot activity, so that the desk review portion of the pilot can commence as soon as country selection is final and Mission concurrence is obtained.

Activity 8: Support African regional harmonization efforts for PV

In Q4, SIDMACH Ltd developed the PV platform and uploaded it to the WAHO Essential Medicines and Vaccines portal. The portal is now ready to receive data from countries. MTaPS started creating a page for each ECOWAS member state to facilitate data collection and visualization. So far, a page has been created for Côte d'Ivoire and Nigeria. MTaPS worked with WAHO to review and finalize the data sharing agreement to be sent to member countries for their signature. MTaPS also drafted the data collection template specifying the data elements and format for sharing.

During the period, MTaPS convened a meeting with WHO and WAHO on data sharing where it was agreed that WHO will facilitate the data sharing and provide reference GBT reports as necessary.

MTaPS drafted the scope of work for the community of practice and shared it with WAHO for finalizing and endorsement by the ECOWAS member states' PV representatives.

Activity 10: Identify gaps in integration of IPC/WASH critical conditions into the quality of care and quality improvement tools and processes

During this quarter, MTaPS finalized its report on Bangladesh as a case study to identify gaps in integration of IPC/WASH critical conditions into the QOC and QI tools and processes. A report of the findings is planned for submission early next quarter.

ACTIVITIES FOR NEXT QUARTER	
ACTIVITY AND DESCRIPTION	**DATE**
Activity 1: Measuring PSS, including access to medicines • Share the abbreviated protocol for the PSS Insight v2.0 pilot with WHO and explore further opportunities to collaborate on the various aspects of the pilot • Continue to work with WHO to define how MTaPS can support WHO discussions on the way forward with the development of the WHO measurement tool	October–December 2021
Activity 2: PSS 101 course • Finalize modules 5 and 9 • Coordinate with the Global Health eLearning Center and USAID University teams to launch the course on their platforms	October–December 2021
Activity 3: Roadmap for HTA institutionalization • Conduct regional workshop	October–December 2021
Activity 4: Improve pharmaceutical expenditure tracking and the use of expenditure data for decision making • Commence pilot in Benin	October–December 2021
Activity 5: Common standards for regulatory information management systems in LMICs and their application in designing a software suite for NMRAs • Finalize plans for the second consultative meeting • Revise desk review report and share with stakeholders to review collated existing standards to help identify which standards should be included in the minimum common standard set • Engage select NMRA representatives to gather additional input • Draft advocacy brief	October–December 2021
Activity 6: Advancing equitable access to quality pharmacy services in the private sector through retail drug sellers • Finalize plans for the webinar • Complete manuscript draft and submit for peer review	October–December 2021
Activity 7: Investigating the use of information from PMISs for evidence-based decision making • Resubmit revised protocol to USAID for approval • Pending USAID approval, submit protocol for ethical review	October–December 2021
Activity 8. General portfolio management Sub-activity 8.B. PSS TAG • Meet with PQM+ to plan next steps for implementing the approved concept • Prepare and submit abstracts to SCoMRA 2021 • Participate in APHA • Prepare presentations and participate in ASTMH	October–December 2021
Year 2 Activity 1: Refine/validate PSS Insight in USAID MTaPS-supported countries • Refine Excel-based data collection tool • Develop process and timeline for development of web-based tool • Finalize country selection • Initiate Mission concurrence process	October–December 2021

ACTIVITIES FOR NEXT QUARTER	
ACTIVITY AND DESCRIPTION	**DATE**
Year 2 Activity 8: Support African regional harmonization efforts for PV • Follow up with WAHO on signing of data sharing agreement with member states • Convene meeting of member countries to present dummy data of the platform • Finalize scope of work for community of practice • Launch WAHO/ECOWAS PV portal for ECOWAS member states to share PV information	October–December 2021

CROSS-CUTTING ACTIVITIES

GENDER ACTIVITIES

HIGHLIGHTS FROM PROGRAM YEAR 3 (FY21)

Gender norms and the imbalance in power dynamics between men and women are often reflected within health systems and institutions, especially concerning access to pharmaceutical services. However, sex-dependent physiological and biological factors that define males and females and include chromosomal, hormonal, and anatomical characteristics also have direct effects on pharmacovigilance, pharmacokinetics, infection vulnerability, exposure risk, and treatment and response. The Y3 focus for gender brought it to the forefront of MTaPS. To understand where the gaps in understanding of how sex and gender impact pharmaceutical systems strengthening (PSS), a survey was developed and launched to assess the use and usefulness of the gender integration guide (developed in Y2) for Y3 work planning.

The survey, developed and led by MTaPS partner Overseas Strategic Consulting, Ltd. (OSC) with input from the Senior Management Team (SMT) was distributed to SMT members and found that only one-third of respondents had a deep understanding of sex and gender considerations in PSS. Important findings of the survey included that the guide was understandable, easy to read, the right length, and had relevant entry points. However, as it was less useful for work planning, training is needed to utilize the guide efficiently—only one-third of respondents used the guide, and only 25–30% of respondents added sex/gender-specific activities to Y3 work plans. If gender activities were added, they focused largely on "equal" participation and did not consider important sex/gender pharmacodynamics, especially within the Global Health Security Agenda portfolios. A review of approved Y3 work plans found that 75% of those plans did not include any sex/gender activities, and there were many missed opportunities for sex/gender activities. The survey findings revealed that training is necessary for MTaPS staff on sex/gender considerations in PSS, and practical examples would be helpful for staff to integrate sex/gender into work planning.

OSC re-established the monthly gender working group (GWG). However, given the lack of gender activities in Y3 work plans, the group opted to meet in 2021 only when there are pressing issues that need review, given the time commitments of group members.

A new informational series called the "Gender Gist" blog was approved in Y3. The blog provides information for field practitioners on sex and gender considerations important to PSS and is tied to MTaPS activities. The Gender Gist includes useful and practical information on different topics in pharmaceutical systems strengthening. The timing of blog posts was determined by information needs to avoid overwhelming staff with information. These blogs were among the top pages viewed on the MTaPS website. Published blogs in Y3 included:

- **Lawry LL,** The Importance of Being Gender Responsive for COVID-19 Vaccine Introduction: Build It Right or they won't come. October 21, 2021. Available from: https://www.mtapsprogram.org/news-blog/build-it-right-or-they-wont-come-being-gender-responsive-for-covid-19-mass-vaccination/

- **Lawry LL,** How Sex and Gender Impact Antimicrobial Resistance Risk. July 14, 2021. Available from: https://www.mtapsprogram.org/news-blog/how-sex-and-gender-impact-antimicrobial-resistance-risk/
- **Lawry LL**. Sex, Gender and Vaccines: Considerations for COVID-19 Vaccine Immunity. May 12, 2021. Available from: https://www.mtapsprogram.org/news-blog/sex-gender-and-vaccines-considerations-for-covid-19-vaccine-immunity/

MTaPS Philippines and the MTaPS Gender Advisor worked on drafts of a methodology to begin an operational research study to assess sex-related adverse drug reactions to tuberculosis medicines and the broader gender effects from TB treatment from retrospective data from the Pharmacovigilance Monitoring System. The methodology proposed included focus group discussions and key informant interviews to 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. However, the Department of Health – Philippines preferred an analysis of gender training gaps in PV and PSCM. Therefore, a revised roadmap to supplement the Philippines workforce development capacity assessment was developed to ensure staff understand sex and gender impacts on PV and PSCM and provide recommendations for increasing the competency of the workforce in understanding the unique and important roles that sex and gender play in pharmaceutical services.

In 2019, MTaPS supported the DOH in conducting the research "The Role of Gender in Supply Chain Management, Pharmacovigilance, and Access to Commodities and Pharmaceutical Services in the Philippines' Family Planning (FP) and Tuberculosis (TB) Programs.". The main objective of this research was to identify key gender issues, inequalities, constraints, and opportunities in FP product selection, sex-specific adverse effects of TB medicines, and sex, gender- and age- specific barriers to accessing commodities and pharmaceutical services related to TB and FP programs. On September 16, 2021, MTaPS in collaboration with the Health Policy Development and Planning Bureau (HPDPB) that serves as the Gender and Development Focal Point System (GFPS) Secretariat in the DOH, presented the findings and recommendations from this exploratory research. The event gathered 281 participants coming from various offices of the DOH, Centers for Health Development, USAID and USAID Implementing Partners, Philippine Commission on Women (PCW), and select hospitals and medical centers.

This activity was featured on the USAID Philippines Facebook page.

Other sex and gender in PSS presentations to the COR and MTaPS staff in Y3 included:

- The Importance of Being Gender Responsive for COVID-19 Vaccination Introduction: Afghanistan Case Study
- PSS in Practice: USAID MTaPS Knowledge Exchange Series. Sex, Gender and PSS: A Focus on Antimicrobial Stewardship
- Sex and Gender Implications in Pharmaceutical Service Strengthening

The Gender Advisor also developed a presentation for USAID Missions to convey how sex and gender are important in PSS. To add data to the presentation, she initiated a desk review of PY4 training to assess whether MTaPS included sex and gender concepts in the trainings. This review also examined whether trainings need to be updated to include these sex and gender concepts in PSS. The Gender Advisor developed a guide for standardizing the assessment of training materials across countries.

During the review, it was determined that none of the trainings to be updated in Y4 included sex and gender concepts relative to PSS.

Finally, the MTaPS Gender Advisor completed technical reviews of the PY4 work plans for MTaPS countries and worked with the MERL team to incorporate and finalize sex and gender indicators in MEL plans to ensure that sex and gender differences were accounted for in relevant indicators.

SUMMARY OF ACTIVITIES THIS QUARTER (FY21Q4)

Key activities for this quarter focused on:

- Developing and revising an operational research study to assess TB sex-related adverse drug reactions in the Philippines
- Developing a document to inform work force development sex and gender training
- Writing two Gender Gist blogs
- Presenting to staff and the Department of Health (Philippines) on various topics of how sex and gender impact pharmaceutical system strengthening (PSS)
- Starting a desk review of PY4 trainings to assess if these trainings need to be updated to include sex and gender concepts in PSS

MTaPS Philippines and the MTaPS gender advisor finalized the methodology to begin an operational research study to assess TB sex-related adverse drug reactions and the broader gender effects from TB treatment from retrospective data from the Pharmacovigilance Monitoring System. During this quarter, the MTaPS gender advisor wrote and revised a roadmap to supplement the Philippines workforce development capacity assessment. The roadmap highlights where training is necessary to ensure that staff understand sex and gender impacts on pharmacovigilance (PV) and procurement and supply chain management (PSCM) and provides recommendations for increasing the competency of the workforce in understanding the unique and important roles that sex and gender play in pharmaceutical services.

The Gender Gist blog includes useful and practical information on sex and gender considerations for different topics in PSS. This quarter's first blog post, "The Importance of Being Gender-Responsive for COVID-19 Vaccine Introduction (Build it right or they won't come)," addressed gender considerations at mass vaccination sites. The second post, "How Sex and Gender Impact Supply Chain: Lessons from the COVID-19 Pandemic," discussed how sex- and gender-responsive supply chain changes can limit morbidity and mortality in a variety of ways. Both are undergoing review for publication.

The MTaPS gender advisor presented "The Importance of Being Gender-Responsive for COVID-19 Vaccine Introduction: Afghanistan Case Study - Assistance for Families and Indigent Afghans to Thrive (AFIAT)" to MTaPS staff. The gender advisor also worked with MTaPS Philippines to deliver a webinar on gender-specific opportunities and barriers to accessing commodities and pharmaceutical services related to TB and family planning programs. MTaPS Philippines collaborated with the Health Policy Development and Planning Bureau of the Department of Health to present the findings from exploratory research on the role of gender in PSCM and PV of family planning and TB programs. The research identified, among others, key gender issues, inequalities, constraints, and opportunities in family planning product selection, and sex-specific adverse effects of TB medicines. A key recommendation of the study was the improvement of supply chain management for commodities by reporting sex-

disaggregated data to ensure that interruption of TB treatment or family planning commodities utilization does not disproportionately affect one sex over another. The webinar had over 200 participants and included representatives from the Department of Health, Philippine Commission on Women, and select hospitals and medical centers.

In this quarter, the gender advisor also developed a presentation for USAID Missions to understand how sex and gender are important in PSS. To add data to the presentation, the advisor initiated a desk review of PY4 trainings to assess whether MTaPS included sex and gender concepts. This review will also assess whether trainings need to be updated to include these sex and gender concepts in PSS. The gender advisor developed a guide for standardizing the assessment of training materials across countries. Training materials are currently being collected for review. Finally, the MTaPS gender advisor also completed technical reviews of the PY4 work plans for MTaPS countries.

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 (UHC).[9] Poor governance in pharmaceutical systems can reduce access to pharmaceutical products, inflate medicine prices, and waste scarce health system resources.[10] 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 presents selected highlights of MTaPS governance activities in program year 3 (FY21) and outlines progress in selected activities for FY21 Q4.

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

HIGHLIGHTS FROM PROGRAM YEAR 3 (FY21)

SURVEYING PUBLIC PHARMACEUTICAL COMMITTEE POLICIES AND PRACTICES FOR PREVENTING AND MANAGING CONFLICTS

With **Asia Bureau** funding, MTaPS is partnering with WHO Geneva, the WHO South-East Asia Regional Office (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. A survey of COI policies and practices in key public pharmaceutical sector committees in ten countries in the South-East Asia region (Bangladesh, Bhutan, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Thailand, and Timor Leste) was conducted as a first step in developing the manual. The findings showed that, although policies and processes generally require public pharmaceutical committee members to disclose relevant interests, the policies provided little detail about what should be declared, when, and how often. Practices and processes for managing COIs are much less well developed, except for a few procurement committees in the region. Summary findings of the survey were included in the 2021 WHO SEARO annual progress report on improving access to medical products in the South-East Asian region, which for the first time included a section related to governance.[11] The how-to manual that will provide practical guidance to help countries improve the prevention and management of COI in public pharmaceutical committees was drafted, internal reviews completed, and the draft is now ready for review by external experts.

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[9] Wirtz VJ, Hogerzeil HV, et al. Essential medicines for universal health coverage. The Lancet. 2017. 389(10067), 403–476.
[10] 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
[11] WHO SEARO (2021). Access to medical products in the SE Asia region: 2021 progress report. WHO 2021. Available at https://apps.who.int/iris/rest/bitstreams/1367618/retrieve

IMPROVING THE ENABLING LEGAL AND REGULATORY FRAMEWORK FOR NATIONAL MEDICINE REGULATORY AUTHORITIES IN MOZAMBIQUE, NEPAL, AND RWANDA

As part of ongoing efforts to ensure that an adequate legal and regulatory framework is in place that provides for the establishment and/or effective operation of a national medicine regulatory authority (NMRA), in year 3, MTaPS supported the development of two regulations and two guidelines in **Mozambique** and helped finalize the draft of **Nepal's** new drug law for review by relevant government agencies; complete the mapping of existing regulations, codes and guidelines; and draft updates to two priority guidelines. In **Rwanda**, three regulations and two guidelines were drafted with assistance from MTaPS.

- In **Mozambique**, two regulations—the Price Control Regulation and the Regulation on Distribution, Import, and Export of Medical Products—and two guidelines—the Guidelines for Good Regulatory Practices and Good Reliance Practice Guidelines—were drafted with support from MTaPS to enable further implementation of the country's 2017 Law on Medicines, Vaccines, and Other Biological Products for Human Use and address important gaps identified in the WHO Global Benchmarking Tool (GBT) assessment. The Price Control Regulation will enable Mozambique's NMRA, *Autoridade Nacional Reguladora de Medicamentos de Moçambique* (ANARME) to regulate mark-ups to prevent excessive charges being added to medicines as they move through the supply chain. The Regulation on Distribution, Import, and Export of Medical Products, which includes an annex that sets out Good Distribution Practices (GDP), will help safeguard the quality of medical products that enter the country's supply chain. The Good Regulatory Practices Guidelines will support the transparent, evidence-based, and consultative development of new regulations and the Good Reliance Practice Guidelines will guide ANARME in strengthening international collaboration and work sharing with WHO, regional initiatives, and NMRAs in other countries.
- With assistance from MTaPS and MTaPS' consortium partner, the International Law Institute-African Center for Legal Excellence (ILI-ACLE), **Nepal's** NMRA, the Department of Drug Administration (DDA) and the policy, legislation, and reorganization technical working group (TWG) organized a high-level consultative meeting in August with representation from the Ministry of Health and Population (MOHP) and the Ministry of Law, Justice and Parliamentary Affairs to finalize the draft of the country's new drug law. MTaPS hired a local legal expert with experience in government legislative work to facilitate the process. The draft law has been shared with concerned government agencies for review. MTaPS also helped draft the legal concept note prepared for submission by the MOHP to the Council of Ministers, requesting consent to have the current law replaced with a new act that will include health technology products and cosmetics and exclude food. The new drug law is fundamental to improving regulation of medicines and medical products in Nepal. MTaPS also completed the mapping of all the different rules, regulations, codes, and guidance and worked with the DDA to translate four codes and guidelines from Nepali to English for upload to the DDA website. Other important progress included drafting guidelines for Good Pharmacy Practices (GPP) and Good Distribution Practices (GDP) and developing electronic GPP and GDP inspection tools, which are crucial to improving the quality of pharmacy services and quality and safety of medical products in Nepal's market.

- To strengthen the **Rwanda** Food and Drug Administration (FDA)'s regulatory capacity, MTaPS helped draft three regulations, including regulations governing the Good Manufacturing Practice (GMP) of pharmaceutical products and the licensing of establishments selling medicated cosmetics, pesticides, and laboratory and household cleaners. MTaPS helped develop guidelines for regulating medical gases, including oxygen, in Rwanda and the National Ebola Infection Prevention and Control (IPC) Guidelines. The MOH also developed the WHO AWaRe (access, watch, and reserve) classification of antibiotics with support from MTaPS, which has been incorporated into Rwanda's national essential medicines list (NEML). Two manuals—an operational manual to support the establishment of Drug and Therapeutics Committees (DTCs) and an oxytocin storage and management manual—were also drafted for review and validation.

Engaging Civil Society to Improve Access and Use of MNCH Medical Products

With **core MNCH funding**, MTaPS developed a discussion paper that reviews experiences and lessons learned from social accountability research and interventions to identify policy and practice implications for initiatives seeking to engage civil society in improving access and appropriate use of quality MNCH medical products and services. The paper also proposes approaches for designing social accountability interventions that are adaptive, promote learning, and are likely to sustainably improve access to and use of quality MNCH medical products. The paper, which has been reviewed by the USAID MNCH team, and other USAID teams from

MTaPS' technical assistance in governance to GHSA-supported countries in year 3 has resulted in:

9 countries developed or updated TOR for groups that provide leadership, coordination, management, and technical implementation of AMS and/or IPC activities	• Burkina Faso • Cameroon • Côte d'Ivoire • DRC • Kenya • Mali • Mozambique • Nigeria • Senegal
5 countries developed or updated important policy or regulatory guidelines to guide AMS and/or IPC for the human sector	• Burkina Faso • Kenya • Mali • Senegal • Tanzania
2 countries developed, validated or finalized key guidelines for the animal and/or agricultural sectors	• Burkina Faso • Nigeria
5 countries integrated the AWaRe classification into the national EMLs, STGs, antibiotic policy, or facility formularies	• Bangladesh • DRC • Kenya • Senegal • Tanzania
3 countries carried out a desk review and gap analysis of regulatory documents governing the use of antibiotics in the human and/or animal sectors and used the studies to develop action plans	• Mozambique • Nigeria • Uganda
1 country supported women leaders in developing success stories on AMR containment	• Uganda

Africa Bureau, Population and Reproductive Health Office, and the Democracy, Human Rights, and Governance Center, has been submitted to editorial. USAID reviewers have found it informative and have already used the draft as a resource for reviewing and commenting on work plans.

In North Kivu and Ituri provinces in eastern **Democratic Republic of Congo (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 health activities and to meet with staff at the health center in their zone on a monthly basis to review results and address concerns. MTaPS and North Kivu and Ituri provincial health divisions (*Division Provinciale de la Santé*) organized a one-day training in ten supported health zones to increase the participation of community members in the oversight of medicine management and build their capacity in this area; 350 CODESA members were trained. MTaPS also helped organize one-day quarterly meetings in four health zones in North Kivu to bring together health center managers and community members of CODESAs to discuss key medicine management issues.

QUARTER PROGRESS FOR FY21Q4

TRANSPARENCY AND ACCOUNTABILITY OF COUNTRY PHARMACEUTICAL SYSTEMS IMPROVED

MTaPS assisted two countries in strengthening their governance infrastructure for PV in this reporting period. As a result of discussions with MTaPS, the **Philippines** Food and Drug Administration (FDA) agreed to establish a national medicine advisory committee and to expand the scope of the national PV program to include active surveillance. An MTaPS-supported national event to share lessons learned from an active surveillance study that monitored adverse effects of a new treatment regimen for multidrug-resistant tuberculosis (MDR-TB) spurred the FDA to agree on the need to revise the administrative order on PV to include active surveillance and update the PV policy to establish national standards and guidelines. In **Tanzania**, MTaPS assisted the Tanzania Medicines and Medical Devices Authority (TMDA) to revise the terms of reference (TOR) of its PV technical committee to include pediatric expert members and draft a guideline for pediatric PV. Five pediatric experts were nominated to the committee, which will enable a sub-committee to be established specifically to assess pediatric adverse drug reactions (ADRs), including to antiretroviral (ARV) medicines.

In **Rwanda**, where MTaPS is working with MOH to improve access to oxygen and its safe administration, TOR were drafted for a steering committee that will guide MOH and stakeholders on improving oxygen use, administration, and management.

MTaPS is working with **Nepal's** DDA, and MOHP to review options and propose a new organizational structure for the DDA that best supports its functional responsibilities in the country's federated system and its role in stewardship, coordination, oversight, and enforcement. In this reporting period, the organogram for the DDA with related staffing norms and TOR for the coordination and oversight mechanisms were finalized and submitted to MOHP for approval. A format for job descriptions was also finalized, and the first 7 job descriptions of the proposed 32 key positions were drafted and submitted for approval.

The how-to manual on managing COIs within public pharmaceutical committees, which MTaPS is developing in collaboration with WHO Geneva's Department of Health Products Policy and Standards and WHO SEARO with **Asia Bureau funding,** was drafted and reviewed by WHO, MTaPS, and USAID Asia Bureau staff. After it has been revised to address reviewers' comments, the draft will be shared with external experts and WHO regional advisors on pharmaceuticals for their inputs. Summary findings of the survey of COI policies and practices in key public pharmaceutical sector committees in ten countries in the South-East Asia Region (Bangladesh, Bhutan, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Thailand, and Timor Leste) were included in the 2021 WHO SEARO annual progress report on improving access to medical products.[12] It is the first time that the annual report has included a section on governance. Overarching and selected country findings from the survey have been incorporated into the manual and provide some practical examples of preventing and managing COIs.

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

As reported under year 3 highlights, MTaPS, in partnership with ILI-ACLE assisted the DDA and the policy, legislation, and reorganization TWG to organize a high-level consultative meeting with representation from MOHP and the Ministry of Law, Justice and Parliamentary Affairs in August to finalize the draft of **Nepal's** new drug law. A legal concept note for the draft law and also the DDA reorganization was formulated with assistance from MTaPS for submission by MOHP to the Council of Ministers for approval. Additionally, MTaPS helped the DDA pilot the GPP guidelines and related GPP inspection tool in this reporting period and developed a GDP inspection tool that will be piloted in the next quarter.

In **Rwanda**, MTaPS helped validate two regulations in this reporting period governing the GMP of pharmaceutical products and the licensing of establishments selling medicated cosmetics, pesticides, and laboratory and household cleaners. A guideline for regulating medical gases, including oxygen, and guidance on registering essential medicines and devices were finalized and sent for editing. MTaPS also assisted Rwanda FDA in developing two regulations and seven guidelines on the regulation of food safety and quality. A DTC operational manual and an oxytocin storage and management manual were drafted and are now pending further review. National Ebola IPC guidelines, Ebola IPC standard operating procedures (SOPs) for facilities, and IPC job aids were all completed.

MTaPS worked to finalize two regulations in **Mozambique**, the Price Control Regulation and Regulation on Distribution, Import, and Export of Medical Products and two guidelines, the Guidelines for Good Regulatory Practices and Good Reliance Practice Guidelines in this reporting period.

Jordan's Legislation and Opinion Bureau confirmed its adoption of the suggested procurement bylaw amendments, which will extend framework agreements to three or five more years, and the addition of an article permitting negotiations in the procurement process. It is hoped that the revised procurement bylaw will be gazetted before the end of the 2021 calendar year.

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[12] WHO SEARO (2021). Access to medical products in the SE Asia region: 2021 progress report. WHO 2021. Available at https://apps.who.int/iris/rest/bitstreams/1367618/retrieve

In **Bangladesh**, the list of priority MNCH medicines that are tracked in the Directorate of Health Services' electronic Logistics Management Information System (eLMIS) was updated as was the TOR of the TWG that manages the monitoring of these medicines and scale up of the eLMIS.

With support from MTaPS and other partners, the national reproductive health program in **DRC** organized workshops in North Kivu and Ituri provinces to define the family planning community package, specifically the contraceptive kit for community care sites, estimate the needs for these sites, and develop quarterly distribution plans.

STAKEHOLDER ENGAGEMENT AND EMPOWERMENT, INCLUDING CIVIL SOCIETY AND CONSUMERS INCREASED

As reported under year 3 highlights, MTaPS finalized a **core MNCH-funded** discussion paper entitled "Engaging Civil Society in Social Accountability to Improve Access to and Appropriate Use of Safe, Effective, Quality-Assured Maternal, Newborn, and Child Health-Related Medicines, Technologies, and Supplies: A Discussion Paper." The draft was revised to address the final comments from the USAID MNCH team and other USAID teams from Africa Bureau, Population and Reproductive Health Office, and the Democracy, Human Rights, and Governance Center who work in this area and was submitted for editing.

In **DRC's** provinces of North Kivu and Ituri, MTaPS helped organize one-day quarterly meetings in four health zones in North Kivu to bring together health center managers and community members of CODESAs to discuss key medicine management issues in this reporting period. In response to feedback from community members in one health zone about poor storage conditions and the lack of temperature monitoring, the health zone manager purchased wall thermometers for all health facility pharmacies using their own funds, which is an encouraging outcome.

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

HIGHLIGHTS FROM PROGRAM YEAR 3 (FY21)

DEVELOPING INDIVIDUAL AND LOCAL CAPACITY TO SUPPORT THE GLOBAL HEALTH SECURITY AGENDA (GHSA)

MTaPS assisted 10 countries in planning and implementing a variety of innovative GHSA-related capacity building and training activities, ranging from curriculum design/reform and eLearning course development to in-service training-of-trainer (TOT) workshops. These activities collectively contributed to strengthening the capacity of the health workforce in **Burkina Faso, Cameroon, Côte d'Ivoire, Democratic Republic of Congo (DRC), Kenya, Mali, Nigeria, Senegal, Tanzania, and Uganda** and equipped them with knowledge and skills to prevent health care-associated infections and support institutionalizing infection prevention and control (IPC)/antimicrobial stewardship (AMS) practices. Selected areas of GHSA-related work and key achievements in the third year of the program are highlighted below.

- **Curricula and Training Materials:** MTaPS supported development and dissemination of national AMS, IPC, and drug and therapeutics committee (DTC) training packages and curricula to boost the capacity of health care workers in Burkina Faso, Kenya, and Mali. In Kenya, MTaPS helped organize the review and validation of the national IPC curriculum. This standard curriculum will serve as a reference point for learning institutions to identify relevant IPC components to include in their pre-service training. In Burkina Faso, the competency-based training package was developed based on the guidelines for the rational use of antimicrobials in the livestock sector. The training toolkit was the first of its kind in the country to focus on the animal sector.
- **eLearning Platforms and Course Materials:** MTaPS' support to Bangladesh, Burkina Faso, Cameroon, Jordan, Kenya, Mali, Rwanda, Senegal, and Tanzania to establish and institute eLearning as part of pharmaceutical system strengthening (PSS) and GHSA-related capacity building and training activities encompasses several steps, including an eLearning assessment, selection of a suitable institution to host the eLearning platform, design of eLearning courses, and capacity building of local teams responsible for managing the platforms. For example, in Mali, MTaPS supported the government to strengthen the institutional capacity of local training institutions to manage eLearning on IPC and AMS for both pre- and in-service health care workers. MTaPS Cameroon transferred the eLearning Moodle platform to a local server to be utilized as a sustainable solution for continuing medical education that can be expanded to other health programs and diseases. An important part of this process involved MTaPS building the capacity of seven local eLearning team members with support from Empower School of Public Health.
- **Competency-Based Training:** Throughout FY21, MTaPS conducted IPC training in Cameroon, Côte d'Ivoire, Jordan, Kenya, Mali, Tanzania, and Uganda; DTC training in Cameroon and DRC; antimicrobial resistance (AMR) training in Cameroon, Côte d'Ivoire, and Uganda; and AMS training

in Burkina Faso, DRC, Nigeria, Tanzania, and Uganda. The MTaPS/Côte d'Ivoire team provided a series of training sessions to the AMR technical working group (TWG) to support the integration of the WHO access, watch, and reserve (AWaRe) categorization into the essential medicines list (EML). By the end of the first workshop, which focused on the protocol for data collection and the table of indicators, participants were ready to collect data in 25 identified organizations in Abidjan. MTaPS/Uganda trained 165 prescribers and key stakeholders in antibiotic prescription from six health facilities. At the conclusion of the training, participants had a better understanding about appropriate antimicrobial prescription; conducting a root cause analysis on the cause of inappropriate prescriptions and poor adherence to standard treatment guidelines (STGs); agreeing on key interventions; and developing a prescription improvement plan.

- **Supportive Supervision and Mentoring:** MTaPS has used supportive supervision and mentoring techniques for capacity development in Côte d'Ivoire, Kenya, Mali, Mozambique, Tanzania, and Uganda. MTaPS teams in Kenya and Tanzania provided post-training mentoring support to central- and county-level facilities during supportive supervisory visits. The purpose of the visits is to promote a self-improvement culture through local teams that use continuous quality improvement (CQI) methodologies for IPC. In Mozambique, MTaPS used facility supervision visits for monitoring the implementation of facility action plans as an opportunity to build the capacity of the national IPC TWG members for overseeing IPC implementation, monitoring, and reporting.
- **Master Facilitators and Trainers:** In many countries, MTaPS supported the development of facilitators and trainers through TOT events. These events provided both technical content and facilitation and training skills producing a pool of virtual and face-to-face facilitators and trainers in Cameroon, Côte d'Ivoire, Kenya, Mali, and Uganda.

Developing Individual and Local Capacity Through Field Support and Regional Activities

MTaPS assisted eight countries and two regions—Asia and Intergovernmental Authority on Development (IGAD)—in planning and implementing a variety of innovative capacity building and training activities through field and regional support buy-ins, ranging from workforce development to competency-based training. Selected areas of field support-related work and key achievements in the third year of the program are highlighted below.

- **Workforce Planning and Development:** In FY21, MTaPS assisted the Philippines Department of Health (DOH) in creating a workforce capacity development plan as part of efforts to strengthen and institutionalize procurement and supply chain management (PSCM) and pharmacovigilance (PV) systems. Following a capacity gap analysis, MTaPS assisted the DOH to develop a Local Government Unit (LGU) capacity-building roadmap for setting up PSCM and PV systems at the local government level. The proposed roadmap activities include drafting a scope of work for identifying and recruiting potential organizations to provide capacity building; developing a standard curriculum to be used by the LGU for capacitating local technical assistance providers; and training and deploying these providers in pilot universal health coverage (UHC) implementation sites.
- **eLearning Platforms and Course Materials:** In Bangladesh, the MTaPS team completed their eLearning assessment and selected a2i as the institution to host the eLearning platform. Concurrently, the team continued to develop draft scripts for adaptation into three new eLearning

modules that will be deployed through the new local platform. MTaPS teams supported the local governments in the Philippines and Rwanda in developing eLearning courses. Philippines' eLearning course design efforts focused on transforming selected PSS 101 modules to PSS and warehouse operations management modules that will be deployed through the DOH Academy as part of continuous professional development (CPD) for the PSCM workforce. In Rwanda, MTaPS continues to support the Rwanda Food and Drug Administration (FDA) in developing eLearning courses as part of its regulatory and PV system strengthening activities.

- **Competency-Based Training:** MTaPS delivered two trainings for countries in the Asia region on how to use the OneHealth Tool to cost pharmaceutical benefits packages for Bangladesh, Kyrgyz Republic, Nepal, and the Philippines.

Strengthening the Institutional Capacity of Nepal's National Medicines Regulatory Agency To Support its Expanded Mandate and Governance Role

MTaPS assisted **Nepal's** national medicines regulatory authority (NMRA), 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 country's federated system and its role in stewardship, coordination, oversight, and enforcement. The DDA established a policy, legislation, and reorganization TWG in January 2021 with support from MTaPS which has had an important role in the reorganization planning process. In March, MTaPS assisted the DDA and MOHP to convene a consultative meeting to discuss the options for restructuring the DDA based on a report prepared by MTaPS consortium partner Celsian that set out a comparative analysis of selected countries' NMRA autonomy, scope, and structure. The organograms for the DDA and the National Medicines Laboratory (NML), with related staffing norms and terms of reference (TOR) for the coordination and oversight mechanisms, were finalized and submitted to the MOHP for approval. A job description template and the first 7 job descriptions of the 32 key positions were drafted with MTaPS support. Finally, MTaPS helped to prepare a concept note for submission to the Nepal's Council of Ministers requesting consent to have the current law replaced with a new Act that will include health technology products and cosmetics and exclude food, and to approve the new proposed structure and staffing norms. Once approved, the revised organogram will help the DDA carry out its key regulatory functions more efficiently and strengthen stewardship and oversight in the decentralized system.

Leveraging Private-Sector Organizations To Support Pharmaceutical Operations

With funding from USAID's **Commodity Security and Logistics (CSL) Division**, MTaPS is conducting a study in Nigeria and the Philippines to understand the factors that influence government and donor decision making on using private-sector fourth party logistics providers (4PLs) in the public health supply chain, examine the capacities of 4PLs to take up this role, and identify models and advocacy strategies for advancing the engagement of 4PLs to improve access to family planning (FP) commodities. The landscape analysis and desk review to identify examples, models, and best practices for 4PL engagement in public supply chains has been completed by MTaPS consortium partner, Pharmaceutical Systems Africa (PSA). Next, MTaPS will complete the political economy analysis, operational capability assessment, and cost-benefit analysis components of the study and prepare a paper

that will provide evidence to inform advocacy and policy decision making on leveraging 4PLs in different segments of public supply chains.

Also with **CSL funding**, MTaPS is developing a thought leadership paper on the use of retail pharmacies as a source of FP and other essential products for public-sector clients in low- and middle-income countries (LMICs). A draft technical report that identifies and documents examples of high-income countries and LMICs that utilize such arrangements and an assessment of how these engagements are operationalized was drafted and shared with USAID and external experts for review. The paper also sets out mechanisms and strategies for engaging private-sector pharmacies in the dispensing of FP products to public-sector clients.

STRENGTHENING MEDICINES REGULATORY CAPACITY, INCLUDING THROUGH REGIONAL REGULATORY HARMONIZATION

During FY21, MTaPS supported regulatory system strengthening by working with several countries to strengthen their institutional and individual capacity for medicines regulation. During the year, MTaPS continued to support **Mozambique, Nepal, and Rwanda** to establish or revise the legal framework for conducting regulatory activities. MTaPS worked with the National Directorate of Pharmacy (DNF) in Mozambique to obtain approval for the transformation of the DNF to *Autoridade Nacional Reguladora de Medicamentos de Moçambique* (ANARME). By this, the ANARME becomes an autonomous regulatory authority with a stronger mandate to regulate pharmaceutical products in the country. In **Nepal**, MTaPS worked with its partner, the International Law Institute-African Center for Legal Excellence (ILI-ACLE), to finalize a zero draft for the revised drug law. In **Rwanda**, MTaPS worked with the Rwanda FDA to draft, review, and validate key guidance documents for good governance in the pharmaceutical sector.

With respect to Quality Management Systems (QMS), MTaPS continued to support **Mozambique, Nepal, and Rwanda** on their journey to attain ISO certification for the NMRA as part of the supporting requirements for attaining maturity level 3 on the World Health Organization (WHO) Global Benchmarking Tool (GBT). MTaPS trained staff of Mozambique's DNF, Nepal's DDA, and Rwanda's FDA on various QMS aspects. These included the development of quality manuals and training of staff and top management on various QMS aspects, such as training as internal auditors and QMS assessors. Other QMS-related activities supported during the year included drafting a QMS plan in Nepal and finalizing the quality manual in Rwanda. In **Bangladesh**, MTaPS assisted the General Directorate of Drug Administration (DGDA) to draft the corrective and preventive action (CAPA) plan for mitigating some of the gaps identified during the WHO-assisted GBT self-assessment of the regulatory system. This plan will guide the DGDA and its partners in prioritizing the regulatory functions and areas to facilitate attainment of GBT maturity level 3.

MTaPS worked with several countries to streamline and strengthen key regulatory functions such as medical products registration, regulatory inspections, and PV by providing capacity building sessions, developing guidance documents, and supporting the use of electronic management information systems. In the **Philippines**, MTaPS worked to support optimization of product registration and establishment of a national medicines safety committee and facilitated PV monitoring system (PViMS) orientation sessions for staff of the pharmaceutical department, FDA, and other stakeholders.

MTaPS provided technical assistance to foster convergence of PV systems in the **East African Community (EAC) and IGAD regions** by facilitating sensitization and institutionalization of patient safety monitoring at health facilities located at cross border areas. In collaboration with the EAC and IGAD Secretariats, MTaPS organized and held several virtual local manufacturers' stakeholder forums to provide preliminary feedback on the PV system assessment findings and to sensitize them on good regulatory practices and PV.

Furthermore, MTaPS contributed to the advocacy for the ratification of the treaty establishing the **African Medicines Agency,** which has been ratified by the required 15 member states.

QUARTER PROGRESS FOR FY21Q4

INSTITUTIONALIZATION OF PROVEN, INNOVATIVE APPROACHES TO BUILDING HUMAN RESOURCE CAPACITY

Curricula and Training Materials

To support LGUs in the **Philippines** to set up a functioning PSCM system for implementing the UHC law, in quarter 4 of FY21, MTaPS conducted an LGU capacity gap analysis and developed a curriculum outline and a solicitation document to select and train a pool of local technical assistance providers, including DOH central and regional staff and local organizations, that can be capacitated to provide institutional capacity building support to provincial health offices and city health offices on PSCM.

In Kenya, MTaPS supported a workshop that developed a new occupational safety and health (OSH) training module to be incorporated into the national IPC curriculum and revised TOR for the Ministry of Health (MOH) OSH committee. A representative from the Directorate of OSH under the Ministry of Labour provided technical support during the workshop. This activity is geared toward both strengthening existing OSH committees and establishing new ones to enable auditing, assessment, and reporting of OSH issues to the Directorate of OSH for compensation.

eLearning Platforms and Course Materials

In **Cameroon**, MTaPS supported the installation of the Moodle eLearning platform on the Direction de la Pharmacie, du Médicament et des Laboratoires and the Centrale Nationale d'Approvisionnement en Médicaments et Consommables Médicaux Essentiels websites and the training of resource persons on platform management. Modules on IPC and AMS were uploaded to the Moodle platform. The eLearning platform will go a long way to complement face-to-face trainings.

In **Mali**, MTaPS supported the *Direction Générale de la Santé et de l'Hygiène Publique* (DGSHP) team to orient 45 people on the use of the eLearning platform after which the platform registered 40 new participants—23 people registering for standard IPC courses and 17 for COVID-19 courses. The AMS eLearning modules developed by MTaPS will also be uploaded to the same platform.

In **Mozambique**, MTaPS worked to design a virtual capacity building program for IPC to build the knowledge and skills of the national IPC TWG and enable them to facilitate expansion of IPC interventions in health facilities in various provinces. A WhatsApp group platform for AMR knowledge exchange was set up for the seven MTaPS-supported hospitals to facilitate discussion and sharing among

IPC committee members from the various hospitals. The WhatsApp group also offers opportunities to facilitate mentorship and knowledge exchange in multiple ways such as photos, videos, audio, group discussions, and messaging.

As part of FY20 COVID-19 response work in the **Philippines**, MTaPS supported the DOH to develop and upload eLearning courses on IPC and health care waste management (HCWM) to the DOH Academy. During this quarter, health care workers continued to be trained on IPC and HCWM through these eLearning courses. The development of training materials for providing a TOT to a pool of selected staff from DOH and the Center for Health Development to support health facility visits and compliance with IPC and HCWM was initiated. MTaPS also developed and shared eLearning courses on PSS (introduction and overview), warehouse operations, and inventory management for uploading to DOH Academy and helped convert a previously developed PSCM training course into an eLearning module to be offered through DOH Academy. Around 8,000 people were trained cumulatively in FY21 through these webinars and eLearning courses.

In collaboration with the **Tanzania** Center for Distance Education, MTaPS trained 20 eLearning facilitators (7 female and 13 male) from regional levels to enable them to use the eLearning platform and gain eLearning facilitation skills to strengthen the capacity of health professionals to implement national guidelines on IPC interventions through training.

In **Kenya**, MTaPS continued to collaborate with professional associations in conducting and facilitating IPC CPD events in this reporting period on a virtual platform. In August, MTaPS—in collaboration with Pharmaceutical Society of Kenya—facilitated a webinar on health worker safety in the context of COVID-19 which was attended by 453 health care workers across all disciplines. In September, MTaPS—in collaboration with the Kenya Association of Private Hospitals—held a webinar on IPC in the context of health worker safety and COVID-19 which was attended by 45 participants.

Supportive Supervision and Mentoring

MTaPS in **Uganda** worked with the MOH and the medical bureaus (Uganda Protestant Medical Bureau and Uganda Catholic Medical Bureau) to implement an IPC CQI project with a focus on hand hygiene. MTaPS conducted 8 mentorship visits in 5 hospitals reaching 75 health workers.

In **Mozambique**, MTaPS used facility visits for supervision and monitoring of facility action plan implementation to build the capacity of the national IPC TWG members to oversee IPC implementation, monitoring, and reporting.

In September, MTaPS supported **Mali's** National Multisectoral Coordination Group for AMR and DGSHP to conduct field visits to monitor progress and ensure CQI of IPC practices in the 16 MTaPS-supported health facilities.

In **Côte d'Ivoire**, MTaPS supported the IPC TWG to conduct health worker supervision, which to date has visited 11 out of the 12 supported health facilities. MTaPS also supported the AMS TWG to organize a supervision visit to the DTC of the *Centre Hospitalier Universitaire* in Bouake.

In **Kenya**, weekly monitoring of IPC CQI action plans implementation developed by focus health facilities was carried out remotely and face to face. Rounds of joint supportive supervision visits were

made in collaboration with the county teams to 11 health facilities that are implementing IPC CQI projects during this reporting period.

In the **EAC**, MTaPS continually engaged IGAD/MTaPS cross-border facility focal persons from the counties of Turkana, Mandera, Marsabit, and West Pokot to follow up and offer technical assistance and mentorship on the implementation of the work plans developed during trainings on PV and safety monitoring earlier in FY21.

STRONGER CAPACITY OF GOVERNMENT TO MANAGE PHARMACEUTICAL SYSTEMS

Competency-Based Training Activities

In **Nigeria**, following the baseline assessment of the AMS core components of the selected health care facilities in Enugu state, MTaPS—working through the Nigeria Center for Disease Control—supported the facility AMS teams to build their capacities to develop their facility AMS plans. Top leadership supported the AMS teams and their planned programs to improve AMS practices within the facilities.

MTaPS conducted a series of trainings on AMS CQI for the members of DTCs in six MTaPS-supported health institutions in **DRC**, including two in Kinshasa, two in Nord Kivu, and two in Ituri province. A total of 92 health service providers were trained on CQI.

In **Burkina Faso**, MTaPS—in collaboration with the Directorate General of Veterinary Services and the National Veterinary Council—conducted two three-day AMS TOT sessions to build the capacities of livestock technicians. A total of 45 livestock technicians were trained using the training toolkit based on the validated guidelines for rational use of antimicrobials in the animal sector.

In **Uganda**, MTaPS worked with the Pharmaceutical Society of Uganda and the national AMS technical working committee to conduct AMR symposia in 4 universities reaching 1,377 students (36% males, 64% females) that were subsequently enrolled into AMR interest groups. To foster the One Health approach, attendees included medical, nursing, pharmacy, laboratory, veterinary, and agriculture students. The symposia provided a much-needed platform for rallying pre-service and future health care workers and antimicrobial users about AMR and motivating them about the prudent use and preservation of antimicrobial medicines. MTaPS worked with the MOH, district health teams, and regional implementing partners to adapt and use a locally developed tool to conduct a laboratory situation analysis for Ebola virus disease, which guided the subsequent capacity building activities. MTaPS conducted a total of 65 capacity building activities including trainings and mentorship visits in 48 health facilities reaching a total of 745 health care workers.

In **Cameroon**, MTaPS supported a three-day capacity building workshop for 20 national experts from different ministries of the One Health Platform on AMR that will serve as resource persons on AMR containment, including updating the AMR national action plan. In addition, MTaPS provided technical support to the *Direction de la Pharmacie, du Médicament et des Laboratoires* for onsite training of 170 DTC members from 11 health facilities.

MTaPS responded to a request from the **Bangladesh** Central Medical Stores Depot (CMSD) to provide training on public procurement. MTaPS customized a four-day training schedule to the needs of the CMSD procurement personnel, facilitated the training, and provided resource persons. During the

peak of the COVID-19 pandemic, MTaPS capacitated the DGHS managers in the management of public procurement with a total of 60 DGHS managers participating in a 7-day virtual training. MTaPS also facilitated two batches of training on store management for selected CMSD staff.

MTaPS worked with the **Mali** *Direction de la Pharmacie et du Médicament* to prepare a workshop and train 18 DTC members from the Dermatologic Hospital and Gavardo Mali Hospital on AMS modules, which included the development of a facility action plan for improving AMS. MTaPS also supported IPC Ebola training for 14 health workers in the Sagabari health district using 16 modules and 6 standard operating procedures (SOPs) adapted for Ebola with MTaPS' support.

In collaboration with the **Jordan** MOH IPC Department and Nursing Directorate, MTaPS developed training materials and provided a series of 14 IPC training sessions to 279 MOH staff.

In **Tanzania**, MTaPS facilitated capacity building for the Tanzania Medicines and Medical Devices Authority (TMDA) on medicine dossier evaluation for 30 (12 female, 18 male) TMDA medicine evaluators, which was followed by hands-on dossier evaluation to aid knowledge transfer.

In **Côte d'Ivoire**, MTaPS provided support to the IPC task force to conduct 2-day trainings for 204 health care providers from 17 health facilities in the western Ivorian border on IPC for Ebola virus disease.

MTaPS delivered two trainings for countries in the **Asia Region** on how to use the OneHealth tool to cost pharmaceutical benefits packages. The first training was held virtually for 19 stakeholders from Kyrgyz Republic. The second 5-day virtual regional training was delivered to 6 participants from Nepal, 10 from the Philippines, and 12 from Bangladesh. Both courses covered the OneHealth tool and how the software supports integrated planning processes for costing a pharmaceutical benefits package.

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 enough capacity to steward, manage, and coordinate stakeholders and effect positive change within the pharmaceutical sector.

As reported under year 3 highlights, MTaPS continued its assistance to **Nepal's** DDA and the MOHP to review options and propose a new organizational structure for the DDA that best supports its expanded mandate and governance role. The DDA organogram with related staffing norms and TOR for the coordination and oversight mechanisms were finalized and submitted to the MOHP for approval. A format for job descriptions was also finalized and the first 7 job descriptions of the proposed 32 key positions were drafted and submitted for approval. A concept note that requests consent to have the current law replaced with a new Act and to approve the new proposed structure and staffing norms was submitted to Nepal's Council of Ministers with support from MTaPS.

An important step towards financial sustainability for **Rwanda's** FDA was reached in this reporting period with the development of a draft business plan which is produced with assistance from MTaPS and its consortium partner, PSA. The business plan sets out a strategy for strengthening financial management, enhancing accountability, and ensuring financial sustainability, with the long-term objective

of reducing the Rwanda FDA's dependency on government and donor funding and attaining financial autonomy.

IMPROVED CAPACITY OF PRIVATE-SECTOR ORGANIZATIONS TO SUPPORT PHARMACEUTICAL OPERATIONS

In this reporting period, MTaPS finalized and deployed the political economy analysis, operational capability, and cost-benefit analysis data collection tools in public and private facilities in Nigeria and the Philippines. Also, with **CSL funding**, MTaPS finalized the draft of a thought leadership paper on the use of retail pharmacies as a source of FP products and other essential medicines for public-sector clients in LMICs and shared it for review by USAID and external reviewers.

As a follow-up to a survey in the **EAC** and **IGAD** regions that explored the compliance of local manufacturers with regional and national pharmaceutical regulatory standards and requirements, MTaPS held a consultative meeting with local manufacturers to discuss findings and potential improvement actions. A subsequent training webinar for manufacturers organized by MTaPS through the Pharmaceutical Society of Kenya provided training to improve compliance in the area of good regulatory practices and PV to about 570 participants.

In **Côte d'Ivoire, Kenya, and Uganda**, MTaPS has been collaborating with professional associations to build the AMS and IPC capacities of their members in both the public and private sectors. In **Côte d'Ivoire**, a training on rational antibiotics use was organized by the national AMS TWG in collaboration with the national association of pharmacists for 86 pharmacists from the public and private sectors. MTaPS, with the Pharmaceutical Society of Kenya, facilitated a workshop on health worker safety in the context of COVID-19 which was attended by 453 health workers. A webinar organized with the Kenya Association of Private Hospitals which focused more on IPC reached 45 health workers. In **Uganda**, MTaPS worked with the Pharmaceutical Society of Uganda, the national AMS TWG, and Makerere University to conduct four online symposia for undergraduate pharmacy, nursing, medicine, laboratory sciences, veterinary medicine, and agriculture students at Makerere University. The topics—which covered AMS, IPC, and the role of health workers in OneHealth—reached 918 students who then formed AMR interest groups using platforms such as WhatsApp.

STRONGER MEDICINES REGULATORY CAPACITY, INCLUDING THROUGH REGIONAL REGULATORY HARMONIZATION

Enhancing the Functional Capacity of NMRAs Through Pharmaceutical Regulatory System Strengthening

In this reporting period, MTaPS continued to support various NMRAs to strengthen their regulatory systems to attain maturity level 3 on the WHO GBT. Maturity level 3 designation means that the organization uses a stable formal systems approach in carrying out its regulatory functions at all levels. During this reporting period, MTaPS worked on developing or reviewing several documents that provide the legal framework for regulatory decisions in different countries, instituting QMS towards attaining ISO certification of the regulatory systems, improving management information systems to facilitate decision making, and improving the provision of pharmaceutical services, particularly medicines safety monitoring. The support activities provided in these areas are highlighted below. Full details of the activities are contained in the individual country reports.

Supporting implementation of regulatory activities and GBT assessment of the regulatory functions

In **Bangladesh**, MTaPS participated as an observer in the interim WHO benchmarking assessment to prepare the DGDA for a formal benchmarking assessment. MTaPS participated in developing the institutional development plan (IDP) and supported the development of a CAPA plan for implementation of the assessment recommendations. Similarly, MTaPS **Rwanda** participated in a two-week WHO-assisted self-benchmarking assessment to determine the Rwanda FDA's readiness and prepare it for a formal benchmarking exercise. MTaPS undertook several activities to strengthen the regulatory systems including organizing a two-week workshop to orient Rwanda FDA staff on the existing laws, regulations, and guidelines that govern the operations of the authority. 39 Rwanda FDA staff were trained on basic good manufacturing practice (GMP) inspection and 3 on WHO good reliance practices. These trainings will help to ensure that the staff have the skill set to implement the good reliance practices guidelines issued by WHO.

Improving the legal framework for the pharmaceutical regulatory system and regulatory functions

MTaPS **Nepal,** with support from MTaPS consortium partner ILI-ACLE, worked with the DDA to finalize the zero draft of the revised drug law. The revised drug law incorporates the needed legal framework elements for performing all regulatory functions and will ensure that the DDA meets the relevant requirements set out in the WHO GBT. In **Mozambique,** the MTaPS team continued to support the DNF to obtain approval for its status as an autonomous authority—ANARME. MTaPS supported the DNF/ANARME to develop two regulations and two guidelines to operationalize law 12/2017. The guidelines for good regulatory practices, reliance guidelines, price control regulation, and regulation on distribution, import, and export of medical products were all developed with support from MTaPS. The MTaPS **Rwanda** team provided input to the validation of two Rwanda FDA regulations (regulation governing GMP of pharmaceutical products and regulation governing establishment licensing of medicated cosmetics, pesticides, laboratory, and household chemicals).

MTaPS assisted the **Rwanda** FDA in developing a business plan and financial strategy that will assist the authority in charting a course toward financial sustainability and reducing reliance on government revenue. The draft business plan has been shared with the Rwanda FDA for review prior to finalization. The program also worked with the Rwanda FDA to draft guidance documents for the registration of essential medicines and medical devices including SOPs for assessing generic medicines and WHO prequalified medicines. MTaPS also supported the development of guidelines for the regulation of medical gases and registering vaccines and biological products, and regulations and guidelines that govern the registration and safety surveillance of food and processed food products. The progress made will enhance Rwanda FDA's capacity to enhance access to good quality, safe, and efficacious products.

It is critical to have an appropriate and up-to-date legal and regulatory framework in place in order to effectively regulate 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.

Improving the Regulatory System by establishing a QMS

During the quarter, the MTaPS team in **Nepal**—with support from MTaPS consortium partner Celsian— progressed the DDA QMS and quality manual. MTaPS trained the DDA and NML staff on QMS basic awareness, risk management in QMS, and internal quality auditing. The DDA and NML, led by the QMS TWG, prepared and approved the DDA quality manual, policy, and finalized a standardized format for SOPs and prioritized them for DDA functions that are required as part of the QMS. The QMS TWG has strong leadership that holds regular meetings and works to ensure that the DDA's regulatory functions are of consistent quality. MTaPS will continue to support the DDA to strengthen its regulatory system.

MTaPS assisted the **Rwanda** FDA in providing capacity building to 28 quality officers as well as orienting and providing hands-on practical training to the trained quality auditors in conducting an internal QMS audit. This contributes to the authority's journey toward ISO 9001:2015 certification. In **Mozambique**, MTaPS collaborated with DNF to plan for a quality internal audit to assess readiness for ISO certification. The audit is scheduled to take place in October 2021.

Product Registration System Improvements

In **Jordan**, MTaPS has been engaging with relevant stakeholders such as the MOH and Jordan FDA to meet the conditions precedent set forth by USAID for continued support in vaccines procurement. These include amending the registration principles that will contribute to expediting registration for WHO prequalified vaccines. In the **Philippines**, MTaPS worked with the Philippines FDA, the DOH, and WHO to identify strategic efforts that will optimize the product registration system. These include streamlining the registration process, adopting multiple pathways (e.g., reliance pathway), and use of technology.

In **Tanzania**, MTaPS assisted the TMDA to build capacity in medicine dossier evaluation. Medicine evaluators from the TMDA, including medicines assessors, external assessors, and interns, attended a one-week training on medicines evaluation, which was followed by hands-on dossier evaluation to gain practical knowledge transfer. The training was designed to prepare participants to conduct medicine dossier assessments as well as evaluate the quality, safety, and efficacy of medications such as antiretroviral (ARV) medicines.

MTaPS assisted the Rwanda FDA with the development of regulatory guidance documents for the registration of essential medicines and medical devices, such as SOPs for assessing generic medicines including WHO prequalified products, and an SOP for registering vaccines and biological products, as well as a guideline for the regulation of medical gases. These guidance documents will assist in addressing the gaps identified during the WHO GBT benchmarking process, as well as providing the Rwanda FDA with tools to ensure quality assessments and consistent evaluations by assessors. Furthermore, MTaPS assisted the Rwanda FDA in training three staff members in a three-day good reliance practices training course in collaboration with the Centre of Regulatory Excellence (CORE)-Duke-National University of Singapore, a consortium partner of MTaPS. The trained assessors will work to put the knowledge gained into practice by implementing the WHO-issued good reliance practices guidelines, as well as sharing knowledge with other assessors at Rwanda FDA to improve registration practices.

MTaPS facilitated the expedited registration of maternal, newborn, and child health; FP and reproductive health; anti-tuberculosis; and other essential medical products in the **DRC**. Furthermore, MTaPS continues to assist the Directorate of Pharmacy and Medicine (DPM) in updating the Directory of Registered Medicines, which is scheduled to be completed in October 2021. When finished, the updated directory will be posted on the DPM website. The directory is used by pharmacist inspectors and customs officers to track unregistered products.

Improving Regulatory Inspection, Enforcement, and Licensing of Establishments

MTaPS mapped the sequence of activities required to register and import ARVs, including dolutegravir, for distribution and use in the public sector in **Tanzania**. The exercise will inform relevant stakeholders such as regulators, distributors/importers, and government health facilities about process improvements and change recommendations to provide quality-assured medicines on time and increase access.

MTaPS assisted in the development of knowledge and skills in basic GMP inspections. The knowledge gained by **Rwanda** FDA inspectors will allow them to conduct quality inspections of manufacturers, which is required before granting marketing authorization for medicines.

Guidelines and electronic tools for good pharmacy practice (GPP) inspection that cover both the private and public sectors were developed for Nepal's DDA with technical assistance by MTaPS. A team of MTaPS staff and DDA inspectors piloted the tools in two provinces with four districts each. The implementation of the WHO GPP inspection will significantly improve service quality and influence the number of pharmacies permitted to operate. The GPP strategy has been drafted, and preliminary discussions with the DDA have taken place to determine the most feasible strategy for implementing the GPP requirements in Nepal, as well as the best way to strengthen inspection capacity. In addition, MTaPS facilitated the development of good distribution practices (GDP) guidelines and an electronic GDP inspection tool, similar to the GPP inspection tool, which will be piloted and finalized in the coming year. GDP inspections will focus on quality assurance and documentation for wholesalers and importers.

Improving pharmaceutical services by enhancing the functioning of DTCs and workforce capacity for pharmacy and clinical staff

In **Rwanda**, MTaPS collaborated with the MOH to assess the current functionality of DTCs to support the revitalization of DTCs or establishment of new ones in select hospitals. A DTC operational manual was developed for this purpose. MTaPS also supported the development of a medicine use review guide and SOPs for supportive supervision and reporting of adverse events at the facility level. The documents are being reviewed by the MOH. MTaPS continued to support the DOH in the **Philippines** in implementing a PSCM and PV workforce development plan. The program supported the DOH in hiring the PSCM workforce and developing and offering webinars and eLearning modules to train the workforce. **Nepal**, MTaPS, and the DDA inspectors developed the GPP guidelines and electronic tools for GPP inspection that cover both the private and public sectors and the abbreviated GPP inspection. The tools were piloted by a team of MTaPS staff and DDA inspectors in two provinces comprising four districts. GPP inspections will radically improve service quality and streamline the number of pharmacies allowed to operate. MTaPS also developed GDP guidelines to be finalized by the TWG and an electronic GDP inspection tool that will be piloted and finalized in the coming year.

Improve PV Systems in Countries and Regions

Please refer to objective 5.3 for details.

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

In **Bangladesh,** MTaPS collaborated with WHO and the USAID Alliance for Combating TB to implement the online active drug safety monitoring and management (aDSM) reporting system in the National Institute of Diseases of the Chest and Hospital using e-TB manager. An online orientation on aDSM for the physicians from the International Centre for Diarrheal Disease Research, Bangladesh and Damien Foundation hospitals was conducted to improve reporting through e-TB Manager to support better management of aDSM to help protect TB patients from harm.

The **Mozambique** MTaPS team continued to work with the DNF to find a workable solution on how best to proceed with the two separate import modules developed for the DNF by MTaPS and a developer funded by the Global Fund for AIDS, TB and Malaria. MTaPS is also working on developing a workflow for marketing authorization in Pharmadex based on the common technical document (CTD) format. The CTD format functionalities are being developed to meet the WHO and Southern African Development Community guidelines. The flexible workflow design will allow configuration for Mozambique based on the documents provided by DNF/ANARME which describe in detail the CTD-based medicines registration process.

MTaPS has developed the system requirement specifications (SRS) for customizing Pharmadex in **Nepal**. Several meetings were held with DDA managers and staff in the registration and inspection units to finalize the SRS for registration of products, manufacturers, importers, wholesalers, and pharmacies. The SRS for the registration module was finalized, approved by the TWG, and used to customize Pharmadex. The drafting of the SRS for the inspection module is underway. In addition, MTaPS revised the Pharmadex implementation plan to include a modular-based, phased roll out strategy which will start with roll out of the registration module followed by the inspection, import/export, and PV modules. The program has procured several hardware and software to support roll out, including a local area network configuration, file server, and IT equipment. A consultant has also been hired to support the transition from Drug Administration Management System to Pharmadex. Implementation of Pharmadex will enhance the regulatory processes, improve data flow and quality, and optimize decision making, resource utilization, and overall regulatory efficiency of the DDA.

The MTaPS **Philippines** team continued to work with the National TB Program, the Pharmacy Department, and Knowledge Management and Information Technology Service to identify and address software enhancement needs for PViMS to address local implementation issues. These include interoperability between PViMS and Integrated Tuberculosis Information System to avoid duplication of data entry by health facilities. MTaPS also trained DOH and FDA staff on PViMS, including system administration, data entry, and data processing to operationalize an aDSM system for the programmatic management of drug-resistant TB.

Please refer to objective 3 for details.

Advancing Regional Regulatory Harmonization Efforts

As part of advancing regional medicine harmonization, MTaPS assisted the Pharmaceutical Society of Kenya in hosting a webinar on strengthening regulatory systems and compliance for local manufacturers. The webinar covered regulatory compliance, PV, and safety monitoring, as well as challenges/gaps and solutions for the **EAC/IGAD** pharmaceutical industry activity on good regulatory compliance. A total of 570 people were trained in regulatory compliance, good regulatory compliance adherence, and PV.

MTaPS collaborated with the **South-East Asia Regulatory Network** to provide a virtual online GMP training course for manufacturers and regulators to increase compliance with regulatory requirements, drawing on international best practices from WHO and the US FDA. MTaPS conducted a competency mapping exercise in four Asian countries, to identify gaps and weaknesses and make recommendations to address them. The exercise will allow for a more structured approach to strengthening the region's capacity to regulate the pharmaceutical market.

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

HIGHLIGHTS FROM PROGRAM YEAR 3 (FY21)

Bangladesh: To advance the automation at the Directorate General of Drug Administration, an electronic pharmacy inspection and licensing system developed in collaboration with Better Health Bangladesh is being piloted at two sites within Dhaka city. The Bangladesh Chemist and Druggist Samity is the key user of the system for license application. Once rolled out, the system will contribute to streamline the licensing and inspection processes and ensure quality of pharmacy services provided to the population.

Mozambique: MTaPS and the National Directorate of Pharmacy/Autoridade Nacional Reguladora de Medicamentos de Moçambique (DNF/ANARME) achieved key agreements to implement the online version of the regulatory information management system software, Pharmadex, and are working to enhance Pharmadex to follow the Common Technical Document (CTD) format for evaluation of marketing authorization (MA) dossiers in the product registration process. MTaPS is finalizing the CTD format functionality in Pharmadex for review of product dossiers in alignment with DNF requirements. The import module was finalized and installed on the Amazon web server. These functionalities for the Import and Registration modules will contribute to improved customer service, reduced time needed to register a medicine, and reduced backlog of dossiers at the DNF.

Nepal: The Department of Drug Administration (DDA) management information system (MIS) technical working group (TWG) is leading the transition from its Drug Administration Management System (DAMS) to the Pharmadex electronic regulatory information system. The Pharmadex registration module was customized to Nepal's context based on system requirements specifications (SRS). The Pharmadex modules for pharmacy, wholesaler, and importer registration and renewal was demonstrated in September 2021 to the DDA staff and the system is now planned to go live next month following training of DDA staff and finalization of guidelines for the applicants. The implementation of Pharmadex will improve data quality, ensure a strong information and reporting system that can optimize decision making and resource utilization, strengthen efficiency and effectiveness, and allow for better adherence to WHO best practices.

Philippines: MTaPS supported the Department of Health (DOH) in identifying technical requirements and planning a road map for implementing an end-to-end, integrated electronic logistics management information system (eLMIS). MTaPS worked with the DOH to develop and release a solicitation document and select an eLMIS solution provider to implement a standard off-the-shelf eLMIS solution throughout the Philippines to manage the procurement and supply chain management system in a more timely and efficient way. MTaPS also upgraded the pharmacovigilance information management system (PViMS) software to version 2 and completed 87 enhancements to the software features as requested by the DOH to use PViMS for active drug safety monitoring to ensure treatment safety for multi-drug-resistant tuberculosis (TB) patients.

QUARTER PROGRESS FOR FY21Q4

INTEROPERABILITY OF PHARMACEUTICAL MISS THAT LINK PATIENTS AND PRODUCTS

In **Nepal**, the DDA decided to implement Pharmadex, with a focus on detailing the requirements and customizing Pharmadex. The SRS for the registration module was finalized, approved by the TWG, and used to customize Pharmadex. MTaPS also started drafting the SRS for inspection, building on the electronic inspection tools that capture information on all registered license holders, and the inspection outcomes.

As a continuation of the DOH's eLMIS initiative, MTaPS **Philippines** supported the DOH in assessing existing DOH systems and requirements for implementing a standard open source/license-free eLMIS software application against the agreed requirements identified in a DOH-approved terms of reference and capabilities evaluation criteria. Based on the assessment, MTaPS worked with the DOH to issue a solicitation document, and through a transparent and collaborative evaluation process selected a standard off-the-shelf eLMIS solution to be adapted and deployed by the DOH. MTaPS Philippines continued to work with the National TB Program (NTP), Pharmaceutical Division, and Knowledge Management and Information Technology Service to identify and address software enhancement needs for PViMS, and to address interoperability between PViMS and the Integrated TB Information System to avoid duplication of data entry by health facilities.

The PViMS at the **Rwandan** Food and Drug Administration (RFDA) is functional and being used to capture COVID-19 vaccine adverse events following immunization (AEFIs). PViMS data indicates that a total of 385 AEFI reports were received from vaccine recipients and health facilities since the start of COVID-19 vaccination (from March to June 2021). Among the 385 reports, 15 were serious AEFIs and were submitted to the National AEFI Committee for analysis. Finally, the pharmacovigilance (PV) e-learning course was approved by the RFDA and will create a sustainable way to provide continuous training on PV via virtual means to both RFDA staff and health care providers.

In **Bangladesh**, a TWG meeting was held on September 14, 2021, where they approved the scaling-up of eLMIS in selected districts by MaMoni project and United Nations Population Fund. On July 13, the IT vendor provided a preliminary demonstration to MTaPS of the TB eLMIS, including the detailed feature enhancement and functionalities of TB eLMIS; MTaPS will pilot the TB eLMIS in two selected TB centers. In addition, MTaPS is working to transfer the technical knowledge on e-TB Manager. This will help in sustaining the e-TB Manager for the NTP for better TB patient tracking and management.

During the previous quarter, MTaPS **Mozambique** continued to work on obtaining the requirements for enhancing Pharmadex to follow the CTD format for evaluation of MA dossiers. In the current quarter, MTaPS is working on the development of the workflow for MA based on the CTD format, which will result in an international version of Pharmadex. For sustainability, MTaPS will be transferring Pharmadex to the existing local server at DNF/ANARME. MTaPS, in close collaboration with the USAID Mission, advocated the DNF/ANARME and the Ministry of Health IT Department for them to acquire an optical fiber.

Increased and Better Use of Information on Pharmaceutical Systems for Decision Making

MTaPS Rwanda developed two e-learning courses (medicines evaluation and registration [MER] and PV) for deployment to ensure sustained knowledge transfer beyond delivery of the initial trainings facilitated by MTaPS. The MER course will help the RFDA build the capacity of current and future assessors among its staff.

In **Nepal,** MTaPS revised the Pharmadex system and identified a cloud server for Pharmadex, hosted in Nepal. MTaPS hired a consulting pharmacist to assist in transitioning DAMS data to Pharmadex, and by the end of the program year, the MSH IT team had finalized the registration module for pharmacy, wholesaler, and importer registration. The implementation of Pharmadex will improve data quality, ensure a strong information and reporting system that can optimize decision making and resource utilization, and strengthen efficiency and effectiveness. Work has also begun on the development of system requirement specifications for the PViMS component to be added to Pharmadex. MTaPS supported three DDA staff to attend a three days of WHO-Uppsala Monitoring Center-Health Sciences Authorities Inter-Regional Pharmacovigilance training on Enhancing Preparedness for PV.

MTaPS Philippines worked with the **Philippines** DOH and engaged IQVIA to collect, analyze, and report necessary data from the private and public sectors for the couple years of protection (CYP) indicator for the FP program for the periods July 2019–June 2020 and July 2020–June 2021. In addition to CYP indicator data, MTaPS also worked with the DOH to collect, analyze, and present stock and consumption data to review the national and health facility-level stock status for family planning and TB commodities to identify and address stock out and product expiry risks.

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

HIGHLIGHTS FROM PROGRAM YEAR 3 (FY21)

- During project year (PY) 3, MTaPS launched the Health Technology Assessment (HTA) road map document in October 2020. With over 200 attendees, the roadmaps' launch webinar included a five-member panel discussion with HTA program leaders from Colombia, Kenya, South Africa, Taiwan, and Ukraine.
- Building on the core HTA roadmap and guide for policy action in low- and middle-income countries, MTaPS developed an addendum to the roadmap focused on Asian countries. The addendum provided further insights into the status of HTA in nine Asian countries using a balanced scorecard approach. Based on an 18-factor assessment framework, the balanced scorecard helped MTaPS understand country contexts, specific challenges faced, and potential areas for capacity strengthening
- MTaPS' manuscript, developed based on the HTA roadmap findings, was accepted for publication by the Journal of Technology Assessment and Health Care. In addition, the balanced scorecard analysis included in the Asia addendum was successfully presented in poster format at the Professional Society for Health Economics and Outcomes Research 2021 conference.
- In PY3, MTaPS built on the pharmaceutical benefits guidance documents developed in PY, to develop training materials for two regional trainings on costing of pharmaceutical benefit packages in health systems. The two regional training programs on costing of pharmaceutical benefits were conducted across the Asia region for countries including Kyrgyz Republic, Bangladesh, and Nepal. The participants included representatives of the Ministry of Health and Social Development, the Mandatory Health Insurance Fund (Republic of Kyrgyz), Department of Drug Administration and Health Insurance Board, Philippines (representing PhilHealth and the Disease Prevention and Control Bureau), and Bangladesh (12 participants representing the Health Economics Unit; Institute of Epidemiology, Disease Control and Research; Directorate General of Family Planning; Institute of Public Health Nutrition; and Directorate General of Drug Administration) among others.
- In PY3, MTaPS in Jordan started discussions on providing technical support and conducting an analysis on the most appropriate funding modality to facilitate timely and sustainable financing for vaccines as part of the National Operational Plan for Vaccine Procurement Modernization about conducting an analysis.

QUARTER PROGRESS FOR FY21Q4

EVIDENCE-BASED MEDICINE STRATEGIES AND PHARMACEUTICAL BENEFITS PROGRAMS DEVELOPED

During this quarter, MTaPS' systematic literature review manuscript on HTA was accepted for publication by the International Journal of Technology Assessment and Health Care. MTaPS also finalized a journal article based on the Asia HTA addendum analysis and resubmitted it to the International Journal of Technology Assessment in Healthcare. The Balanced Scorecard (BSC) to assess the status of HTA in nine Asian countries was updated with most recent information after a series of key informant interviews with regional HTA experts. This update provided further insight into HTA implementation

across various settings in the region which was incorporated into the summary addendum to the HTA roadmap and will be presented as part of the HTAsiaLink main conference in quarter one of PY4.

In this quarter, several key activities to strengthen country capacity for defining and costing evidence-based pharmaceutical benefits programs were undertaken. MTaPS delivered two training programs on how to use the One Health tool to cost pharmaceutical benefits. The first, a five-day virtual training, was held for representatives from the Ministry of Health and Social Development, the Mandatory Health Insurance fund, members of the local medical association, and relevant stakeholders in the Kyrgyzstan Republic. During this training program, MTaPS provided a general overview of the One Health tool, integration of program- and system-wide costing components of health into broad national health strategic plans, and examining the fiscal space implication for alternative scenarios during priority setting. The second regional training, another five-day virtual program, was delivered to 28 representatives from 3 countries—Nepal, the Philippines, and Bangladesh. Participants included representatives from Department of Drug Administration and Health Insurance Board (Nepal), PhilHealth and the Disease Prevention and Control Bureau (Philippines), and the Health Economics Unit; Institute of Epidemiology, Disease Control and Research; Directorate General of Family Planning; Institute of Public Health Nutrition; and Directorate General of Drug Administration (Bangladesh). The content of both courses was similar and participants provided positive feedback in both instances. Bangladesh expressed interest and need to use the One Health tool for costing of packages in the Shasthyo Suroksha Karmasuchi (government health protection) scheme.

Finally, in this quarter, MTaPS also finalized four deliverables from PY2, including the short report on Pharmaceutical Benefits and Benefits Packages in Asia: A Cross-Country Mapping of Coverage Arrangements, the brief on Defining Pharmaceutical Benefits Packages, and the two-part report reviewing costing tools and offering guidance for costing pharmaceutical benefits packages using the One Health tool.

EFFICIENCY OF PHARMACEUTICAL RESOURCE ALLOCATION AND USE INCREASED

Efficient resource allocation and use are important elements of sustainable financing of pharmaceuticals and related health technologies. During this quarter, MTaPS Bangladesh had a formal meeting with the Health Economics Unit (HEU) of Ministry of Health and Family Welfare to identify potential stakeholders and discuss modalities for running a workshop on tracking pharmaceutical expenditure (PE) of select maternal and neonatal health commodities in Bangladesh. The meeting identified the focal persons from the HEU, MTaPS, and the World Health Organization to lead the planning and implementation efforts for the PE workshop.

To promote transparency and improve value purchasing of pharmaceuticals, MTaPS Indonesia initiated preparations to undertake a landscape analysis of pharmaceutical expenditure tracking data sources in Indonesia. During the quarter, MTaPS held a technical meeting with the Directorate of Health Financing and Insurance and the National Health Accounts team to discuss plans for implementing the development of landscape data sources for tracking pharmaceutical spending and supporting national capacity building of pharmaceutical expenditure data within a focal district. During the quarter, MTaPS initiated discussions with Vietnam on actionable points from the national operational plan for vaccine procurement modernization. This involved conducting an analysis on the most appropriate funding modality to facilitate timely and sustainable financing for vaccines. These discussions led to a consensus

with the National Vaccine Modernization Committee to include a comprehensive activity addressing this actionable point in the agenda of the committee. In FY22, MTaPS will provide technical support to the committee and national counterparts to develop a comprehensive analysis and recommendations of potential sustainable funding mechanisms for vaccines.

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

HIGHLIGHTS FROM PROGRAM YEAR 3 (FY21)

In FY21, MTaPS' support in **Bangladesh** helped the government save over nine million USD through a regular stock data analysis feature built into the Directorate General of Family Planning (DGFP) electronic logistics management information system (eLMIS) developed by MTaPS that helps the DGFP examine the stock status of all family planning (FP) commodities before procurement commences. The stock data analysis informed the cancellation of procurement for 20 million vials of injectable contraceptives and 29.7 million pieces of auto-disable syringes. Routine stock data analysis is instrumental to understand the stock status of any commodity and facilitates supply chain decisions including cancellation of unnecessary procurement.

In the **Philippines**, MTaPS supported the Department of Health (DOH) in developing a Procurement and Supply Chain Management (PSCM) roadmap for the central, regional, and local government which will be instrumental in implementing the Universal Health Coverage (UHC) law. The roadmap provides an analysis of the current and desired PSCM states and key actions and milestones over the next three years with roles and responsibilities at each level. Also in this year, MTaPS Philippines supported the DOH in implementing the PSCM and pharmacovigilance (PV) workforce development plan in hiring staff with relevant skills and trained around 8,000 workers through webinars and e-learning courses that MTaPS developed.

In **Jordan**, MTaPS facilitated the revision of vaccines procurement policy to create a legal enabling environment to modernize vaccines procurement. MTaPS supported the National Vaccines Procurement Modernization Committee (NVPMC) in analyzing existing procurement bottlenecks and proposed key interventions, including legislative and regulatory reforms. When these reforms are implemented, they will ensure effective and efficient vaccines procurement for continuous availability. Strategic procurement interventions, such as framework agreements (FAs) including partial prepayments and competitive negotiations, achieve value for money when backed by legal provisions.

In this FY, MTaPS provided technical assistance to the Communicable Disease Control unit of the Directorate General of Health Services (DGHS) to develop the national standard treatment guideline (STG) for common infectious diseases in **Bangladesh**. The national STG was finalized after review by different professional associations and will be made available as an app for prescribers and dispensers to guide and monitor compliance with recommended protocols and will serve as a key tool to promote antimicrobial stewardship and support antimicrobial resistance containment.

Towards improving patient safety, two major PV milestones were achieved this year in **Tanzania**. MTaPS collaborated with the Tanzania Medicines and Medical Devices Authority (TMDA) to revise the PV technical committee's terms of reference (TOR) to incorporate pediatric expert members and nominate five pediatric experts for approval by management. MTaPS also aided TMDA to draft the "guidelines for safety monitoring of medicines used in pediatrics." These activities will improve the review of pediatric medicine, including antiretrovirals, and improve safety surveillance in the pediatric population.

QUARTER PROGRESS FOR FY21Q4

INCREASED AVAILABILITY OF ESSENTIAL MEDICINES AND OTHER HEALTH TECHNOLOGIES

During this quarter, MTaPS **Philippines**—in partnership with Deloitte—engaged with the DOH, Centers for Health Development, and Local Government Units (LGUs) and undertook an exercise to design a PSCM roadmap for implementing the UHC law in the Philippines. As part of this exercise, MTaPS facilitated a "responsible, accountable, consulted, informed" exercise with various supply chain stakeholders at different levels to clarify desired PSCM governance and implementation roles in the context of the health system devolution transition plan. Building on the analysis and agreements from the PSCM roadmap exercise, in FY22 MTaPS will support the DOH in implementing the roadmap.

During Q4, MTaPS **Jordan** supported the Ministry of Health (MOH) in institutionalizing vaccines procurement best practices and facilitated market entry to increase competitive procurement. MTaPS, through the NVPMC, engaged all stakeholders from national and international health and financial sectors in meeting the Conditions Precedent submitted by USAID, namely allowing partial prepayment during procurement, fast-tracking the process for vaccines registration, extending FAs from two to three years, and allowing negotiations in the procurement process. The above legal and regulatory reforms will introduce strategic procurement of vaccines and help the procurement system become more efficient and effective for continuous product availability.

In this quarter, MTaPS **Bangladesh** responded to a request from the Central Medical Stores Depot (CMSD) to provide training on public procurement. MTaPS customized a four-day training schedule to the needs of the CMSD procurement personnel and facilitated the training. During the peak of the COVID-19 pandemic, MTaPS also capacitated the DGHS managers in the management of public procurement using virtual platforms. A total of 60 DGHS managers participated in the 7-day virtual training. MTaPS prioritized building the capacity of the DGHS procuring entities to manage the changes made by the Government of Bangladesh from a single procuring entity to diversified multiple line directorates. These capacity building activities will improve the procurement performance of the DGHS, as well as mitigate the risks of legal consequences associated with the lack of knowledge of procurement rules.

During FY20 and FY21, MTaPS **Philippines** supported the DOH in conducting a PSCM workforce analysis and produced a PSCM workforce development plan. Employing the PSCM workforce development plan, in this quarter, MTaPS supported the supply chain management service in hiring additional staff for the warehouse operations and regional supply chain logistic hubs. MTaPS also developed and shared e-learning courses on pharmaceutical system strengthening (introduction and overview), warehouse operations, and inventory management for uploading to the DOH Academy. In addition, MTaPS worked with the DOH to convert a previously developed PSCM training course into an e-learning module to be offered through the DOH Academy. All these courses were offered live through webinars prior to uploading them to the DOH e-learning Academy. Building on the PSCM workforce development plan and success of training health care workers through webinars and e-learning modules, in FY22, MTaPS Philippines will further support the DOH and LGUs to professionalize their PSCM workforce. Also in the Philippines, MTaPS conducted a capacity gap analysis for LGUs and developed a curriculum outline and a solicitation document to select and train a pool of local technical

assistance providers, including DOH central and regional staff and local organizations, that can be capacitated to provide PSCM capacity building support at the local level.

In the **Bangladesh** Ministry of Health and Family Welfare, the CMSD is the main entity for procurement, storage, and distribution of health commodities under the DGHS. In this quarter, in responding to a request from CMSD and to address the USAID recommendation, MTaPS facilitated two batches of training on store management for selected CMSD staff. A total of 22 staff (4 female, 18 male) designated in the store management activities attended a 3-day training. MTaPS customized the existing curriculum to the needs of CMSD staff and facilitated the training. Various training methodologies were used during the training session, like administering pre- and post-training knowledge checks, identifying trainees' expectations, presenting lectures, facilitating group work, exercises, interactive question-and-answer sessions, and showing video clips on store management. In addition to MTaPS facilitators, the training was also co-facilitated by CMSD officials. This capacity building activity improved individual knowledge and skills on overall store management, which will support day-to-day work performance and contribute to overall better store management in the CMSD.

In this quarter, MTaPS **Philippines** supported the DOH's Procurement Service in clarifying requirements for participating in FAs, including eligible product lists and justification for establishing FA as a procurement strategy. MTaPS also worked with the National TB Program (NTP), Philippine Pharmaceutical Procurement Inc. (PPPI), and USAID implementing partners to provide a series of orientations and trainings to potential participating LGUs on pooled procurement mechanisms (PPMs) and requirements for taking part in PPM through PPPI. As a result, PPPI is in the process of providing PPM services to participating LGUs in procuring GeneXpert cartridges. Learning from the lessons from FY21 initiatives and based on the request from the Disease Prevention and Control Bureau, in FY22, MTaPS will support the DOH in addressing FAs, PPMs, and other appropriate procurement methods within the concept of strategic procurement.

Also in this quarter, MTaPS **Bangladesh** provided technical assistance to the technical working group (TWG) on priority maternal, newborn, and child health (MNCH) commodity monitoring and tracking in the DGHS. MTaPS facilitated the first meeting since 2019 on September 14, 2021, with agenda items including reviewing the existing MNCH medicines list; reviewing the TWG TOR; and planning and scaling up eLMIS for MNCH. The TWG reached consensus to update the TOR, update existing MNCH medicines list and tracking mechanisms, and approved the scaling up of eLMIS in selected districts by MaMoni project and the United Nations Population Fund. Following the agreement, the MNCH medicines list was updated and approved to be used during the coming procurement cycles which will facilitate the procurement and availability of lifesaving MNCH medicines.

MTaPS **Philippines** developed an Excel spreadsheet-based automatic calculation tool for rational allocation of commodities to health facilities based on calculated average monthly consumption of the health facilities and max-min inventory policies. In this quarter, MTaPS provided orientation to the FP program on using the tool and supported the DOH in drafting a policy on data-driven allocation of health commodities for distribution (rational allocation) practices. More accurate quantification and data-driven allocation will promote increased availability of TB and FP commodities. During FY22, MTaPS will support the DOH in establishing a TWG for quantification and rational allocation in line with the PSCM roadmap. MTaPS also provided training to the Commission on Population and Development's

(POPCOM) central, regional, and warehouse staff on warehousing and PSCM and supported POPCOM in developing a warehouse operation manual. In FY22, MTaPS will support POPCOM in organizing a training-for-trainers for introducing and rolling out the POPCOM warehouse operations manual. This activity is expected to improve staff's capacity on supply chain management, minimize stock and supply disruptions, and contribute to ensuring increased availability of FP products countrywide.

Also during this quarter, MTaPS **Bangladesh**, in collaboration with NTP, has completed a peripheral TB storage system assessment. As part of the assessment, and with the participation of key stakeholders, storage integration options were analyzed, and a phased approach transition plan was proposed. The plan includes the timelines for the transition of the storage from the non-governmental organization sites to the government to ensure government leadership and sustainability in the process. The phases were divided based on overall preparedness scores of each facility in the peripheral level. The assessment report is being finalized and will be ready by next quarter.

IMPROVED PATIENT-CENTERED PHARMACEUTICAL CARE

No activities were held this quarter

IMPROVED PATIENT SAFETY AND THERAPEUTIC EFFECTIVENESS

MTaPS continued to support the Director General of Drug Administration (DGDA) and other stakeholders in strengthening **Bangladesh's** medicines regulatory system including PV. During the quarter, MTaPS supported the Technical Sub-Committee of the DGDA's Adverse Drug Reaction Advisory Committee to conduct causality assessment of 34 serious adverse events and to generate regulatory recommendations based on signals and alerts published in the WHO pharmaceutical newsletter. For instance, the committee advised that Cholecalciferol (Vit D3) had a causal relationship with Eczema/Atopic dermatitis and recommended updating the patient leaflet with that information. MTaPS also assisted the DGDA in drafting a Corrective and Preventive Action (CAPA) plan in response to the draft report of the WHO-assisted self-benchmarking assessment. The CAPA plans were shared with WHO for their review and feedback. The plans cover five regulatory functions, including PV.

With the recent introduction of pyronaridine-artesunate (Pyramax) in **Burkina Faso**, the USAID President's Malaria Initiative allocated funds to MTaPS during FY21 to support PV for this new treatment. MTaPS is supporting local counterparts, including the Agence Nationale de Régulation Pharmaceutique (ANRP) and the Programme National de Lutte contre le Paludisme (PNLP), to establish and implement an active safety surveillance system in two public health facilities to increase knowledge on the safety of Pyramax. MTaPS has supported the ANRP and PNLP to develop the surveillance protocol, draft the training materials, draft TOR, and identify members of the implementing committee, who will soon be officially appointed. It has also translated the PV Monitoring System (PViMS) into French in preparation for its use in the country.

During the quarter, MTaPS **Jordan** was granted official membership of the national PV committee (NPVC) to support the ongoing COVID-19 vaccines safety surveillance. MTaPS participated in committee meetings and worked closely with the rest of the committee members to provide the needed technical support for adverse events following immunization surveillance. With the committee's consensus, MTaPS provided technical support to randomly select a sample of vaccinated individuals and

standardize the information collection process. MTaPS drafted an outline for periodic reporting of the collected data and indicators for COVID-19 vaccines safety surveillance and presented it to the NPVC for review and approval. In September, MTaPS coordinated a high-level meeting to discuss the methodology for active surveillance data collection and conducted a thorough descriptive analysis of the data collected in August. MTaPS will present the outcomes of the initial analysis to the MOH Secretary General during an official meeting next quarter.

MTaPS **Mozambique** continued to provide technical assistance on the active safety surveillance systems for newly introduced HIV and TB medicines by supporting quarterly supervision and follow-up visits to the nine implementing health facilities. In addition, virtual follow-up support was provided to all nine implementing health facilities using phone calls, WhatsApp group messages, and virtual team meetings. The protocol for active safety surveillance of TB preventive therapy regimens was approved by the national bioethics committee after a number of reviews with the National Directorate of Pharmacy/Autoridade Nacional Reguladora de Medicamentos de Moçambique, supported by MTaPS.

In **Nepal**, MTaPS completed a situational analysis of the PV function where it identified the strengths, weaknesses, opportunities, and threats for strengthening the PV program system in the country. MTaPS also shared MSH's comparative analysis of electronic PV data systems, which guided the discussion on the best solution for Nepal. MTaPS supported the Department of Drug Administration (DDA) in establishing a PV unit and developing a PV implementation plan. MTaPS also finalized procurement of PV information sources and reference materials to adequately equip the PV unit and supported the training of three DDA staff in PV. These activities will support the DDA to implement some of the recommendations from the WHO Global Benchmarking Tool assessment toward attainment of maturity level 3 in PV.

As part of addressing gender inequalities in all activities, during FY21, MTaPS **Philippines** developed a study design to analyze potential gender and sex issues in adverse event reporting in the operational research carried out by the Lung Center of the Philippines and presented the design to NTP. Based on the feedback received, MTaPS changed the plan and undertook an analysis of the PSCM and PV workforce development plan instead to identify gender- and sex-related issues. In addition, MTaPS worked with Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) Health to support the BARMM MOH to develop a PV action plan.

In **Rwanda**, MTaPS printed seed copies of the Pharmaceutical Service Accreditation Standards and information, education, and communication materials for public awareness on medicine safety and handed them over to MOH and the Rwanda Food and Drug Administration. The documents were first disseminated during the annual National Pharmacy Council Conference in June 2021 to 440 participants, and there is ongoing planning with the MOH to have a formal extended dissemination plan covering health care providers and institutions. During the quarter, with support from MTaPS, the protocol for active surveillance of dolutegravir-based antiretroviral therapy regimens was finalized and approved by the Rwanda National Ethics Committee for implementation. MTaPS Rwanda supported the MOH and its stakeholders in drafting a Drug and Therapeutics Committee (DTC) operational manual, medicines use evaluation guide, a checklist for the quality of adverse drug reaction reports, and standard operating procedures for guiding supportive supervision and reporting of adverse effects at health facilities. In addition, a survey on the functionality of DTCs at various hospitals was completed, and the report

finalized. The findings will guide the planned orientation of DTC members to enhance the DTCs' capacity to improve pharmaceutical management in health facilities.

During quarter 4, MTaPS—in collaboration with **the Intergovernmental Authority on Development (IGAD**)—continued to engage IGAD/MTaPS cross-border facility focal persons from the counties of Turkana, Mandera, Marsabit, and West Pokot to follow up on and offer technical assistance and mentorship. Two expert working group meetings were organized in July and September to review the validation process of the regional report, review and finalize the baseline assessment, and plan for next year's activities. The program, in collaboration with Pharmacy and Poisons Board of Kenya, trained members of the PV expert review and advisory committee on components of PV and PV data utilization for decision making in September 2021. The committee reviewed its TOR and elected the chairperson and vice chairperson during the event. In the Economic Community of West African States sub-region, the MTaPS team, working with the West African Health Organization, finalized a draft of the data sharing agreement with the member countries to provide data for populating the PV platform. It also developed country-specific pages in the PV portal and the template to be used by the countries to share data on a quarterly basis.

PROGRESS BY REGIONAL BUREAU PORTFOLIO

ASIA REGIONAL BUREAU

HIGHLIGHTS FROM PROGRAM YEAR 3 (FY21)

HEALTH TECHNOLOGY ASSESSMENT ROADMAP LAUNCH AND DISSEMINATION

MTaPS hosted a webinar in October 2020 to launch the roadmap document, which included a panel discussion with health technology assessment (HTA) program leaders from Colombia, Kenya, South Africa, Taiwan, and Ukraine. Approximately 200 attendees joined the webinar. Participants included HTA practitioners, health economists, clinical experts, policy makers, and other global experts engaged in systematic priority setting. The launch helped identify potential countries and associated stakeholders interested in strengthening HTA systems in the region. To date, the webinar recording has been viewed 1,928 times and the HTA roadmap downloaded 519 times.

Building on the core HTA roadmap and guide for policy action in low- and middle-income countries (LMICs), MTaPS developed an addendum focused on Asian countries. The addendum provides a deep dive into the status of HTA in nine Asian countries by using a balanced scorecard (BSC). The BSC is based on research previously conducted by WHO's Asia Pacific Observatory on Health Systems, which identified a set of 18 important "factors (milestones) conducive to the development of HTA in Asia." Countries were scored on each milestone to assess the progress made on HTA institutionalization. The addendum helped MTaPS understand country contexts, specific challenges faced, and potential areas for capacity strengthening and will be useful when developing training content for planned regional workshops. MTaPS and USAID Missions in the region have been discussing sharing the findings of the roadmap and whether countries are interested in participating in country-level capacity building. To date, Vietnam expressed interest, and MTaPS is following up with the stakeholders in the country to further engage in planned activities. MTaPS has been collaborating with the USAID COR and Asia Bureau teams to engage with country Missions.

MTaPS started developing the concept note for the workshop with a detailed agenda based on the feedback received from Missions and country teams. Although the workshop was initially planned for two days in June 2021, MTaPS identified an opportunity to expand the reach by collaborating with HTAsiaLink to develop a preconference, followed by a more technical hands-on workshop on advanced topics. The selection of advanced topics will be contingent on country demand and may include procurement decision making, risk-sharing agreements, pharmaceutical pricing, rapid reviews, multiple criteria decision analysis, and using real-world data and other countries' HTA reports. The program design includes 13 hours of curriculum beginning with the 3-hour HTAsiaLink preconference. After the preconference, participants will be invited to join a community of practice on MSH's LeaderNet platform that will allow them to access prereading material, templates for preparing country-specific slides, and networking with peers. Office hours with global and regional HTA experts will be held a week ahead of the workshop to address participants' questions about the workshop's pre-work and sessions. Similar post-workshop sessions will be held to follow-up on country action plans and provide troubleshooting support on the topics covered in the workshop.

The workshop curriculum has also been customized to meet the varying needs of the participating countries. The Kyrgyz Republic and Vietnam are at early stages of HTA implementation; therefore, parallel sessions may be organized focusing on basics of HTA introduction, institutional structures, and methods. HTA experts from other countries, such as India, and agencies, such as WHO and/or the International Decision Support Initiative, will be invited from the region to share their experiences and common challenges for HTA advancement with participants. MTaPS is currently developing the presentation materials.

MTaPS also developed publications for peer-reviewed journals based on the HTA roadmap findings. The BSC analysis included in the Asia addendum was presented in poster format at the Professional Society for Health Economics and Outcomes Research conference in May 2021 and will also be presented as part of the HTAsiaLink main conference.

One Health Tool

Building on guidance developed in PY2—in which MTaPS reviewed tools to cost pharmaceutical benefit packages and explained how to use One Health for such an exercise—MTaPS developed training materials for two hands-on regional One Health Tool (OHT) trainings. MTaPS reached out to stakeholders in countries across the Asian region to solicit interest in the trainings, explaining how One Health could enable health planners conduct more evidence-based pharmaceutical planning and budgeting. Leaders from Kyrgyz Republic, Bangladesh, Nepal, and the Philippines expressed interest, and in the final quarter of the program year, MTaPS held two virtual trainings for 47 health planners and analysts from these 4 countries. Despite the challenges of conducting a hands-on training remotely across a 10-hour time difference and using simultaneous Russian-English translation, MTaPS demonstrated that a highly engaging, exercise-based training modality could successfully communicate technical content and improve skills.

Regulatory System Strengthening

MTaPS worked jointly with the South-East Asia Regulatory Network (SEARN) to facilitate the virtual online Good Manufacturing Practices (GMP) training course for manufacturers and regulators to increase compliance with regulatory requirements drawing on international best practices spanning the WHO and US Food and Drug Administration.

MTaPS conducted a competency mapping exercise in four Asian countries to determine the gaps and weaknesses and make recommendations to address them. The exercise will enable a more structured approach to strengthening the capacity to regulate the pharmaceutical market.

Survey of Public Pharmaceutical Policies and Practices for Preventing and Managing Conflicts of Interest

MTaPS collaborated with WHO SEARO and WHO Geneva to conduct a survey of conflict of interest (COI) policies and practices in the public pharmaceutical sector in 10 countries in the South-East Asia region (Bangladesh, Bhutan, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Thailand, and Timor Leste). The findings showed that, although policies and processes generally require public pharmaceutical committee members to disclose relevant interests, the policies provided little detail about what should

be declared, when, and how often. Except for a few procurement committees, practices and processes for managing COIs are much less well developed. The survey findings and recommendations were used to inform the development of a how-to manual that will provide practical guidance to help countries improve the prevention and management of COIs in public pharmaceutical committees. The manual has been drafted and is ready for review by external experts.

QUARTER PROGRESS FOR FY21Q4

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

Activity 1.1.1: Apply and disseminate the HTA roadmap guidance document in the region

MTaPS developed the roadmap for institutionalizing HTA in LMICs in consultation with global and regional HTA experts. Because of the COVID-19 pandemic, the planned dissemination workshop with Asia region experts (e.g., HTA practitioners, policy makers, academia, WHO regional experts, and other implementing partners.) was switched to a virtual format and held in October 2020. Given the variability in HTA advancement across countries in the region, this virtual exercise provided a contextualization of the roadmap, including updates on progress, recent experiences, and practical considerations from various settings. In Q4, the systematic review manuscript that was the foundation of the HTA Roadmap was recently accepted for publication in the *International Journal of Technology Assessment and Health Care*.

Based on prior work by Chootipongchaivat et al.,[13] MTaPS created the BSC to assess the status of HTA in nine Asian countries. A literature review prior to the systematic review conducted for the HTA roadmap document provided recent information for the BSC. Key informant interviews were conducted with regional HTA experts to fill information gaps from the desk research. This research provided insight into HTA implementation across various settings in the region which was incorporated into a summary addendum to the HTA roadmap. Feedback received from MTaPS internal reviewers and USAID was incorporated to distill the findings into a journal article. In Q4, the journal article was submitted to the *International Journal of Technology Assessment in Health Care*.

A supplementary regional dissemination workshop for applying the roadmap in selected countries, originally planned for PY3Q4, was postponed to PY4 because of the COVID-19 pandemic and staffing changes within the MTaPS HTA team. The objective of this workshop is 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 recently published WHO HTA guide.[14] By using a roadmap approach, countries can identify the steps and tools needed for HTA institutionalization. During the year, MTaPS has been collaborating with USAID COR and Asia Bureau teams to engage with country missions in Indonesia, Kyrgyz Republic, Philippines, and Vietnam. The Kyrgyz Republic and Vietnam are just

[13] Chootipongchaivat S, Tritasavit N, Luz A, et al. Factors conducive to the development of health technology assessment in Asia: Impacts and Policy Options. 2015. Manila: WHO, Regional Office for the Western Pacific.
[14] Bertram M, Dhaene G, Tan-Torres Edejer T, eds. Institutionalizing health technology assessment mechanisms: a how to guide. Geneva: WHO; 2021. Licence: CC BY-NC-SA 3.0 IGO.

beginning their HTA journeys and expressed interest in the regional workshop. Indonesia and Philippines are further along with established HTA programs. Indonesia seeks targeted support on advanced methods, and the Philippines expressed interest in the workshop for peer learning. MTaPS developed a concept note for the workshop with a detailed agenda based on the feedback received from Missions. It was also important to align the workshop agenda with the capacity-building work plans developed with USAID Indonesia Mission buy-in (separate funding from Asia Bureau regional work) and HTAsiaLink 2021 conference. Because of the aforementioned delays in PY3, the first day of the regional workshop will be conducted as a pre-workshop session for HTAsiaLink 2021 on October 11, 2021. HTAsiaLink 2021 provides an important opportunity for feedback from regional HTA stakeholders to inform the design of other activities related to the regional workshop planned for PY4.

Activity 1.1.2: Develop and disseminate HTA strategic briefs on lessons learned for HTA advancement in the region

This activity has been delayed, and the strategic briefs will be developed after the regional workshop on HTA is completed in FY4.

Activities for next quarter	
Activity and Description	**Date**
1.1.1: Apply and disseminate the HTA roadmap guidance document in the region • Workshop curriculum and agenda • Workshop report • Country action plans	Session 1 to be held on October 11 at HTAsiaLink Section 2 to be scheduled, contingent on countries' participation in HTAsiaLink
1.1.2: Develop and disseminate HTA strategic briefs on lessons learned for HTA advancement in the region • Two HTA strategy briefs	Depends on completion of activity 1.1.1

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

Activity 2.1.1: Build capacities related to the use of OHT to cost pharmaceutical benefit packages

In Q4, MTaPS delivered two trainings for countries in the Asian region on how to use the OHT to cost pharmaceutical benefit packages. The first training was held virtually in July for stakeholders from Kyrgyz Republic; 19 representatives of the Ministry of Health and Social Development, Mandatory Health Insurance Fund, the local medical association, and other local agencies gathered at a hotel for a five-day training. Content of the workshop included:

- General overview and capacity building on the OHT and how the software supports integrated planning processes for pharmaceutical benefits package costing
- Using the OHT to inform the development of a costed plan for various health system components, such as human resources for health and logistics
- How to integrate costing components across programs and system components into a broader national health plan
- Using the OHT to assess the health system implications of a program-specific plan (e.g., a five-year maternal and child health strategy), emphasizing the need for a common assessment of health system implications to harmonize health sector objectives and set priorities

- Priority-setting: developing and comparing alternative scenarios for planning and examining the financial space implications and expected reduction in disease burden (mortality and morbidity)

Feedback received via survey following the first training was very positive; participants reported they would recommend the training to other policy makers, and several mentioned interest in applying the tool to inform upcoming policy and planning decisions.

The second five-day virtual regional training was delivered September 13–19, 2021, for Nepal (6 participants from the Department of Drug Administration and Health Insurance Board), Philippines (10 participants from PhilHealth and the Disease Prevention and Control Bureau), and Bangladesh (12 participants from the Health Economics Unit; Institute of Epidemiology, Disease Control, and Research; Directorate General of Family Planning; Institute of Public Health Nutrition; and Directorate General of Drug Administration). The course covered similar content as listed above for the first training. Feedback received via survey following the second training was again positive. Participants from Bangladesh expressed the need to use the OHT for their Shasthyo Suroksha Karmasuchi (government health protection scheme) costing. Another participant suggested using the OHT for non-communicable disease intervention costing. In the coming year, MTaPS plans to provide light touch help-desk support for the One Health application to participant country teams and more intensive support for applying the tool in one country, based on the interest expressed.

MTaPS also finalized four deliverables from PY2, including the short report entitled *Pharmaceutical Benefits and Benefits Packages in Asia: A Cross-Country Mapping of Coverage Arrangements*, the brief entitled Defining Pharmaceutical Benefits Packages, and the two-part report reviewing costing tools and offering guidance for costing pharmaceutical benefits packages using OHT. The team also began planning for dissemination of the suite of documents, which will be shared through two blogs (one on each topic of defining and costing pharmaceutical benefit packages) and a webinar.

Activity 2.2.1: Promote transparency in pricing policies through development of regional pricing database

In Q4, MTaPS finalized the short report on the landscape analysis of country-level pricing policies and available pricing databases for pharmaceuticals in Asia region countries (PY2 activity). The team documented what information is publicly available on unit prices that public and private sectors are paying for different medicines and reviewed how pricing indexes are used to standardize purchase prices and negotiate the best value in pharmaceuticals. This report will be disseminated along with other PY2 deliverables as described under sub-objective 2.1.

Activity 2.3.1: Support development of a standardized process for pharmaceutical expenditure tracking in the Asia region

MTaPS has secured funding from USAID Indonesia to support pharmaceutical expenditure tracking in the country. The new buy-in focuses on building the capacity of the MOH's Directorate of Health Financing and Insurance on pharmaceutical expenditure tracking methodology developed collaboratively by MTaPS and the Local Health System Sustainability Project in 2020 and 2021. To launch the effort in Indonesia, in Q4, MTaPS leveraged remaining Asia Bureau support under activity 2.3.1. The team prepared materials and presented an overview of potential approaches to support pharmaceutical expenditure tracking based on their experience developing and applying the methodology in a pilot

country and described and recommended approaches to pharmaceutical expenditure tracking suitable for Indonesia's context.

Activities for next quarter	
Activity and Description	**Date**
2.1.1: Build capacities related to using OHT to cost pharmaceutical benefit packages: • Collate results from key informant interviews into report for submission; complete second training report • Establish criteria for selecting one country to conduct pharmaceutical benefits package costing in PY4 using OHT • Provide remote help-desk style technical assistance to other countries from PY3 trainings who choose to apply OHT in their context	Oct–Dec 2021

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

Activity 3.1.1: Collaborate with Asian networks, such as ASEAN and SEARN, to adopt uniform medicine registration processes

MTaPS interacted with the Association of Southeast Asian Nations (ASEAN) secretariat during the fourth quarter to confirm the priority areas to support the ASEAN Pharmaceutical Products Working Group (PPWG). The identified areas were drawn from the survey report compiled by ASEAN from the 10 member states, which focused on the preferred areas for capacity building to improve the regulatory workforce in the region. MTaPS, in close cooperation with the Promoting the Quality of Medicines Plus Program (PQM+) and with the assistance of USAID, would have preferred to communicate directly with the ASEAN PPWG, but the ASEAN secretariat insisted on following internal procedures and requested to present the USAID's planned support, including MTaPS' identified areas of intervention at the 32nd ASEAN PPWG meeting in November 2021.

Activity 3.1.2: Establish collaboration between academic/research institutions to grow pharmaceutical regulatory expertise among the region's workforce in key regulatory functions

The report on capacity building of pharmaceutical manufacturers in Asia through an online course on current GMP was published in the annual WHO South-East Asia Region 2021 report contributing to dissemination of the support provided by MTaPS in the Asia region.

MTaPS followed up with SEARN/the WHO South-East Asia Regional Office (SEARO) to implement the roll out of the course to targeted audiences in Bangladesh. SEARN confirmed that the roll-out of the online GMP training course for manufacturers and regulators was postponed to FY22.

During Q4, MTaPS obtained Mission concurrence to implement activities supporting regulatory system strengthening using the bottom-up approach in Bangladesh, Nepal, Philippines, and Vietnam. A summary of implementing the planned activities during this period is provided below.

Activity 3.2.1: Enhance pharmaceutical regulatory expertise among the region's workforce in product registration and pharmacovigilance

MTaPS worked to accomplish the competency mapping for pharmaceutical regulation exercise in four Asian countries, beginning with Nepal. Plans are in the works to begin work in Bangladesh, Vietnam, and the Philippines to establish contact with national regulatory authorities (NRAs). MTaPS worked with the

NRAs to conduct interviews and collect information on the selected regulatory functions to map out the regulatory workforce's existing competencies using the WHO competency mapping framework. Following the collection of data and information, responses will be validated and analyzed before generating a country report with the findings and recommendations to address the identified gaps and weaknesses for each country that took part in the exercise.

To support virtual capacity building on medicine registration for specialized products for regulators in the Asian region, MTaPS worked during Q4 to gather current information from Bangladesh, Nepal, Philippines, and Vietnam to inform the design of the capacity-building session and to organize a workshop to foster regional convergence of technical requirements and standards for medicine registration. Questionnaires were distributed to the four NRAs. Once the completed questionnaires are received from the countries, the information will be analyzed to inform the design of the intervention, which will take the form of training assessors on product dossier evaluation, focusing on biologics and vaccines.

Activity 3.2.2: Facilitate policy convergence of regional technical requirements for medicines registration among Asian countries

September 27–29, 2021, MTaPS collaborated with the Centre of Regulatory Excellence - Singapore to offer a training session in medicine registration on Good Reliance Practices to participants from Bangladesh, Nepal, Philippines, and Vietnam as part of the initiative to foster use of reliance principles in medical product regulation. The course is designed to build capacity of regulators on how to put theory into practice by applying Good Reliance Principles in their own context to minimize duplication of effort and speed up medicine registration without compromising quality, safety, or local regulations.

MTaPS is gathering data and information from the four aforementioned Asian countries to inform the design of a regional workshop to facilitate convergence of technical requirements and standards for medicine registration.

Activities for next quarter	
Activity and Description	**Date**
Activity 3.1.1: • Present proposed areas of MTaPS support jointly with PQM+ to the ASEAN PPWG	Nov
Activity 3.2.1: • Finalize the competency mapping in the three remaining countries • Hold training on assessment of product dossiers, focusing on biologics and vaccines	Oct-Dec
Activity 3.2.2 • Hold a virtual regional workshop to foster convergence of technical standards and requirements for registering medicines in Asia	Oct-Dec

OBJECTIVE 4: PHARMACEUTICAL SECTOR GOVERNANCE IN ASIAN COUNTRIES STRENGTHENED

N.B.: As approved by USAID, this objective was developed for PY3 to include governance-related activities. Previously, objective 3 included both regulatory and governance activities.

PY2 Activity 3.2.1: Develop a how-to manual on managing COIs

N.B.: This activity was carried over from the PY2 work plan, and it was previously included under objective 3 and sub-objective 3.2: Transparency and accountability in pharmaceutical systems increased.

An important milestone toward raising awareness and motivating countries to improve the management of COIs in public pharmaceutical committees was achieved this quarter with the publication of the 2021 WHO SEARO annual progress report on improving access to medical products in the South-East Asian region, which for the first time included a section on COI management policies and management practices in the region.[15] The section summarized the findings of a study conducted by WHO SEARO's Department of Health System Development, WHO Geneva's Department of Health Products Policy and Standards, and MTaPS in 11 countries in the South-East Asia region as a first step to developing a how-to manual on COI management. Due to the delay in receiving reviews from the MOHs of the countries surveyed, country-specific findings from the survey will be included in the next (FY22) annual report. The report that details the findings and the publication that summarizes the results of the survey have been developed and are ready for publication/submission to a peer-reviewed journal, once country responses are received and addressed, which is expected early in the next quarter.

MTaPS took the lead and collaborated with the lead for Governance and Transparency, WHO Geneva's Department of Health Products Policy and Standards, to develop the first draft of the how-to manual for WHO and MTaPS internal review; the manual incorporates overarching and selected country findings from the survey. The draft was reviewed by four staff from WHO Geneva (including from WHO's Health Ethics and Governance Unit), three MTaPS team members (including subject matter experts on governance, procurement, and regulatory systems), and the USAID Asia Bureau team. The comments received have been positive, and reviewers appreciated the clear definitions, stepwise approach, and rich content, including country examples. Revision of the manual to address internal reviewer comments is underway after which it will be shared with external experts and the WHO regional advisors on pharmaceuticals.

PY3 Activity 4.1.1: Support implementation and dissemination of the how-to manual on COIs

As a first step to developing an eLearning course that will support implementation of the how-to manual on managing COIs, MTaPS held discussions with WHO Geneva on considerations for selecting the eLearning platform where the course will be uploaded.

Activities for next quarter	
Activity and Description	**Date**
Activity 3.2.1 and 4.1.1: Finalize the WHO SEARO survey report and publication and publish/submit to peer-reviewed journal; develop and share second draft for review by experts and WHO regional officers; identify a platform to host the eLearning course and begin development of content based on the draft how-to manual; identify a country to pilot the manual; plan webinars to support dissemination of the survey results and manual	Oct-Dec

[15] WHO SEARO (2021). Access to medical products in the SE Asia region: 2021 progress report. WHO 2021. Available at https://apps.who.int/iris/rest/bitstreams/1367618/retrieve

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 (FY21)

SUPPORT IGAD TO ESTABLISH AND OPERATIONALIZE GOVERNANCE STRUCTURES FOR PV

During the past year, MTaPS held several meetings with the IGAD and EAC Secretariats to plan and implement joint activities. MTaPS worked closely with the IGAD and EAC Secretariats and respective IGAD/EAC member/partner state focal persons on the medicine regulatory harmonization agenda.

During the year, MTaPS, in collaboration with the IGAD and EAC Secretariats, was able to convene quarterly meetings of the expert working groups (EWGs) on pharmacovigilance (PV) to discuss activity implementation, monitor progress, and support development and adaptation of regional documents. The EAC EWG on PV developed harmonized standard operating procedures to operationalize the EAC PV compendium and drafted a curriculum for in-service training of health care workers on PV.

During the IGAD EWG meetings, participants discussed and deliberated on the results and findings of the baseline assessment of the PV system in IGAD member states and were able to review and validate the regional report. They also discussed the roadmap for the development of an IGAD-led PV in-service training curriculum by borrowing from the EAC process and adapting content from the training packages used to train cross-border health facilities. The IGAD PV training curriculum will also adapt content from other related curricula and will assist in capacity building of regional trainings of trainers. The curriculum development and training are scheduled to be finalized and implemented in PY4.

BUILD CAPACITY OF SELECTED NMRAS AND CROSS-BORDER SITES IN IGAD AND EAC TO ANALYZE AND USE PV DATA FOR REGULATORY DECISION MAKING

MTaPS, in collaboration with the IGAD Secretariat, supported the PV baseline assessment in Djibouti using harmonized indicator-based PV assessment and monitoring tools and finalized analysis of the data received from member states. A regional report from the findings of the assessment was drafted and reviewed by the member states before being validated by the PV EWG in PY3 Q4.

MTaPS engaged with the Pharmacy and Poisons Board (PPB), Kenya's national medicines regulatory authority (NMRA), which is a designated regional center of regulatory excellence (RCORE) in Africa in PV and post-market surveillance (PMS). They discussed and agreed on areas for capacity building of PPB's PV experts and strengthening their PV processes to analyze collected safety data and utilize the data for decision making.

Using the continuous quality improvement (CQI) approach, MTaPS engaged cross-border facilities trained on PV to support their implementation of facility work plans developed during the trainings with

the aim of improving their identification, management, and reporting of adverse events (AEs) with a focus on adverse events following immunization (AEFI) in the face of COVID-19 vaccine deployment.

SUPPORT LOCAL MANUFACTURERS IN THE IGAD/EAC REGIONS TO BETTER COMPLY WITH REGIONAL AND NATIONAL PHARMACEUTICAL REGULATORY STANDARDS AND REQUIREMENTS

MTaPS worked closely with the EAC and IGAD Secretariats to assess local pharmaceutical manufacturers' capacity to adhere to good regulatory practices (GRP) and ensure that local manufacturers participated in the validation forums/workshops to provide feedback to the local pharmaceutical industry and NMRAs on the assessment findings.

MTaPS also engaged local manufacturers to discuss the sustainability of support on regulatory compliance and train them on GRP principles, PV, and safety monitoring as well as possible solutions to existing gaps and challenges on regulatory compliance in the sector.

Through the Pharmaceutical Society of Kenya (PSK), MTaPS held a training webinar on September 21, 2021, on Strengthening Regulatory Systems and Compliance for Local Manufacturers, which focused on challenges/gaps and solutions in the areas of regulatory compliance, PV, and safety monitoring for the local pharmaceutical industry on GRP. Approximately 570 participants were trained on good regulatory compliance, adherence to GRP, and PV.

SUPPORT PV ACTIVITIES ALONG IGAD CROSS-BORDER POINTS TO PROMOTE PATIENT SAFETY

MTaPS, in collaboration with the IGAD Secretariat, built capacity of prioritized IGAD/MTaPS cross-border facilities in West Pokot/Amudat and Turkana/Moroto (Kenya/Uganda), Moyale (Kenya/Ethiopia), and Mandera (Kenya/Somalia) in November and December 2020. Follow-up trainings to support implementation of facility work plans were held in March 2021 for Mandera and Turkana, May 2021 for West Pokot, and June 2021 for Moyale. The aim of the trainings was to strengthen the system for monitoring the quality and safety of medical products at cross-border areas in the IGAD region. This intervention hopes to improve monitoring of AEs and adverse drug reactions (ADRs) and rational medicines use in cross-border health facilities to improve patient care and quality of care and to facilitate medicine safety research and PMS. Participants developed facility, sub-county, and county/district action plans to be implemented for institutionalizing and strengthening PV and patient safety. These were monitored and evaluated through the CQI approach and supportive supervision.

MTaPS and the IGAD Secretariat sensitized county/district health management teams of the cross-border sites on the importance of and need to institutionalize PV and patient safety as a critical component of service delivery.

QUARTER PROGRESS FOR FY21Q4

OBJECTIVE 1: IMPROVE PHARMACEUTICAL-SECTOR GOVERNANCE

IGAD Activity 1.1.1: Support IGAD in establishing and operationalizing governance structures for PV

MTaPS continually engaged the IGAD Secretariat to discuss and review activity implementation and discuss modalities to finalize pending activities. Several coordination meetings were held, including on

July 8 and 15, August 5, and September 2 and 9, 2021. The meetings were important to ensure seamless implementation of activities in the IGAD region, including prioritization of activities and timelines.

In collaboration with the IGAD Secretariat and IGAD member states, MTaPS planned for IGAD PV EWG meetings on July 21, September 29, and October 7, 2021, to review and validate the regional report on the baseline assessment of the PV system in IGAD member states. The meetings also deliberated on areas of support for IGAD member states on PV as an outcome of the assessment recommendations. Additional meetings are planned to finalize the regional plan of activities and costed work plan to support PV activities in the region.

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

MTaPS engaged the PPB as the RCORE on PV and PMS in Africa to build its capacity to review and use PV data for decision making. A training for PV expert review and advisory committee (PERAC) members on the components of PV and PV data utilization was carried out on September 23, 2021, in collaboration with the PPB. The committee reviewed its terms of reference and elect the chair and vice chair during the event. This committee, which is made up of experts in the health industry, will assist the PPB with a review of ADR reports, including carrying out a causality assessment to ascertain the probable causes of ADRs and support regulatory decision making.

Dr. Ndinda Kusu, MTaPS, gives opening remarks and highlights objectives of the PPB RCORE and MTaPS-supported training for PERAC experts. Photo credit: Margaret Ndung'u

MTaPS continued to offer CQI support to cross-border health facilities on implementing PV work plans developed during PV trainings carried in Q3 to enhance reporting of AEs. The work plans developed by facilities were aimed at institutionalizing PV activities, and objectives included setting up structures at the facility level, such as Medicines and Therapeutics Committees, to anchor and support PV activities through a multidisciplinary approach.

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

MTaPS continually engaged IGAD/MTaPS cross-border facility focal persons from the counties of Turkana, Mandera, Marsabit, and West Pokot to follow up and offer technical assistance and mentorship

on the implementation of the work plans developed during trainings held on PV and safety monitoring in Q2 and Q3 with a goal of enhancing reporting of AEs, including AEFI.

Throughout the quarter, MTaPS provided technical assistance and support to the IGAD Secretariat and NMRA PV experts to review the PV baseline assessment and draft a regional report. The baseline assessment of the PV systems in IGAD member states focused on cross-border health facilities as well as national public health programs, marketing authorization holders, and the national PV center on their capacity to undertake PV activities. The findings from this report are of critical importance to develop appropriate interventions at the regional and country levels with a focus on cross-border facilities.

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

MTaPS held a consultative meeting with local pharmaceutical industry stakeholders on August 12, 2021, to discuss sustainable support for local manufacturers toward building their capacity to adhere to GRP. The meeting deliberated on approaches to sustain regulatory compliance, including strengthening the collaborative mechanisms among local manufacturers and between local manufacturers and regulators and avenues of enhancing stakeholder engagement and effecting policy changes that support local manufacturers through advocacy.

Through the PSK, MTaPS held a training webinar on September 21, 2021, on Strengthening Regulatory Systems and Compliance for Local Manufacturers, which focused on challenges/gaps and solutions in the areas of regulatory compliance, PV, and safety monitoring for the local pharmaceutical industry on GRP. Approximately 570 participants were trained on good regulatory compliance, adherence to GRP, and PV.

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 continued to review and update the PV/PMS training package for IGAD cross-border areas. The two training packages (a one-day package and a five-day course) are being used in the training of facility and county focal persons to create awareness, build capacity, and instill skills on PV/PMS as part of implementing action plans and CQI within their facilities with the expected outcome of improved patient safety and outcomes and increased reporting.

Activities for next quarter (QUARTER 1 FY 22)		
Activity	**Description**	**Dates**
Support IGAD in establishing and operationalizing governance structures for PV	• Support quarterly meetings of the PV EWG • Support the development of a costed work plan and monitoring and evaluation plan for IGAD	October–December 2021
Support PV activities along IGAD cross-border points to promote patient safety	Provide CQI support and mentorship of cross-border facilities on work plan implementation	October–December 2021
Build capacity of selected NMRAs and cross-border sites in IGAD and EAC to analyze and use PV data for regulatory decision making	Support PPB Kenya to build capacity of the PERAC to review and analyze safety data for regulatory decision making	October–December 2021
Support local manufacturers in the IGAD/EAC regions to better comply with regional and national pharmaceutical regulatory standards and requirements	Undertake joint planning and preparation for the IGAD-led Local Manufacturers' Stakeholders' forum with IGAD	October–December 2021
Strengthen and harmonize PV processes and tools in IGAD and EAC regions and support uptake by border sites and regional stakeholders	• Support the development of a harmonized PV in-service training curriculum • Train regional (and cross-border) trainers on PV • Develop, adapt, and disseminate harmonized PV guidelines/compendium/curriculum	January– March 2022

PROGRESS BY COUNTRY

BANGLADESH

For progress on MTaPS/Bangladesh's COVID-19 activities, click here. For additional information on country progress in COVID-19 activities this quarter, refer to Annex 1.

MISSION-FUNDED ACTIVITIES

HIGHLIGHTS FROM PROGRAM YEAR 3 (FY21)

- Data analysis generated through the Directorate General of Family Planning (DGFP) electronic logistics management information system (eLMIS) developed by MTaPS helped the DGFP save more than $9 million by cancelling the procurement of 20 million vials of injectable contraceptives and 29.7 million auto-disable syringes in FY21.
- With technical assistance from MTaPS, the Directorate General of Health Services (DGHS) modified the essential maternal, neonatal, and child health (MNCH) medicine list and reformed the technical working group (TWG) with some modifications to the terms of reference (TOR). Health managers at different levels will be able to follow this approved medicine list during their annual procurement, thus contributing to increased availability of MNCH commodities to the population.
- The monitoring mechanism established by MTaPS in collaboration with other partners of the Directorate General of Drug Administration (DGDA) with respect to the World Health Organization (WHO) Global Benchmarking Tool (GBT) is functional and contributed to the DGDA attaining maturity level 3. MTaPS provided guidance for the formation of different teams for various regulatory functions and supported them in addressing and implementing the institutional development plans (IDPs) from the GBT assessment.
- To advance automation at the DGDA, an electronic pharmacy inspection and licensing system developed in collaboration with the Better Health in Bangladesh project is being piloted at two sites within Dhaka city. The Bangladesh Chemist and Druggist Samity is the key user of the system for license application. Once rolled out, the system will contribute to streamlining the licensing and inspection processes and will ensure quality of pharmacy services provided to the population.
- MTaPS supported the Communicable Disease Control unit (CDC) of the DGHS to develop the national standard treatment guideline (STG) for common infectious diseases in Bangladesh. The CDC/DGHS established a core working group (CWG); MTaPS provided technical assistance in this process; and an STG for infectious diseases was developed, including the incorporation of the WHO Access, Watch, Reserve (AWaRe) categorization of antibiotics. The national STG was finalized this year after review by professional associations. Once endorsed and disseminated, the STG will be made available as an app. STGs guide clinicians' prescribing, assist in monitoring compliance to recommended protocols, and are a key tool to promote antimicrobial stewardship (AMS) and support antimicrobial resistance (AMR) containment and universal health coverage. This STG activity will help make progress toward moving to level 3 for the Joint External Evaluation (JEE) 2 indicator P3.3 on AMS. It specifically contributes to the following WHO benchmark action: *Develop/update*

and disseminate national stewardship and clinical/treatment guidelines that include the Essential Medicines List AWaRe categorization for antibiotics promoting appropriate use of antimicrobials (level 3).

- MTaPS, in collaboration with the International Centre for Diarrhoeal Disease Research, Bangladesh (icddr,b), provided technical assistance to the CDC/DGHS, to use the WHO Infection Prevention and Control Assessment Framework (IPCAF) tool to conduct a repeat assessment of the two initial health facilities where MTaPS commenced facility-level support: Cumilla Medical College Hospital (COMCH) and Munshiganj District Hospital (MDH). The results of the assessment showed that the diligent implementation of facility infection prevention and control (IPC) improvement plans developed after the baseline assessment, under the leadership of IPC committees and work teams, resulted in major improvements in all core components except workload, staffing, and bed occupancy. In addition to contributing to the country's progress toward achieving key JEE-2 P3.3 level 3 and 4 activity related to the use of the IPCAF assessment to identify gaps and develop actions, MTaPS used this opportunity to further build the capacity of managers at the national and facility levels to use the IPCAF tool as a reliable measurement of progress in IPC program improvements.
- MTaPS assisted the National TB Control Program (NTP) to assess the existing TB storage facilities of the government and implementing partners for TB commodity flow and to develop an integration plan. The assessment report is in final preparation. The integration plan will help to optimize peripheral storage into the government systems, ensuring government leadership in effective supply management of TB commodities with increased availability and sustainable access to these critical products by the population in need.

QUARTER PROGRESS FOR FY21Q4

OBJECTIVE 1: PROCUREMENT AND SUPPLY CHAIN SYSTEMS IMPROVED AND MODERNIZED

Procurement management

During this quarter, MTaPS responded to a request from the Central Medical Stores Depot (CMSD) to provide training on public procurement. MTaPS customized a four-day training schedule to the needs of CMSD procurement personnel and facilitated the training, including playing the role of resource persons. During the peak of the COVID-19 pandemic, MTaPS capacitated DGHS managers in the management of public procurement using virtual means. Sixty DGHS managers participated in the seven-day virtual training. MTaPS prioritized building the capacity of the procuring entities of the DGHS in the context of the Government of Bangladesh's decision to change from a single procuring entity for the DGHS—the CMSD—to diversified multiple line directorates. MTaPS is working with the DGHS to train senior officials on procurement management and oversight functions. These capacity building activities will improve the procurement performance of the DGHS and mitigate the risks of legal consequences associated with the lack of knowledge of procurement rules.

The activity of assigning reference prices for the Medical and Surgical Requisites (MSR) list started with several meetings of the MSR list updating committee of the Ministry of Health and Family Welfare (MOHFW). However, the committee was not able to update the list due to the lack of consensus on the procedures to be followed. A follow-up meeting to resolve the issue was held in the reporting period, and another meeting of the committee is planned for the next quarter. MTaPS has been

providing technical assistance to the Procurement and Logistics Management Cell of the MOHFW, which is responsible for the approval process of the procurement documents submitted by the procurement entities. There has been discussion that common findings observed by MTaPS during the assistance will be discussed in a workshop with the aim to prevent recurrences of missing information. The workshop is awaiting notification of the MOHFW.

Supply chain management

The CMSD under the MOHFW is the main entity for procuring, storing, and distributing DGHS health commodities. In response to a request from the CMSD and to address the recommendation from USAID, MTaPS facilitated two trainings (August 31–September 2 and September 12–14, 2021) on store management for 22 CMSD staff (4 female, 18 male) involved in store management activities. MTaPS customized the existing curriculum to the needs of CMSD staff and facilitated the training following a structured schedule. Various methodologies were used during the training session (e.g., administering pre- and post-training for knowledge checks, identifying trainees' expectations, presenting lectures, facilitating group works, exercises, interactive question and answer sessions, showing video clips on store management). The training was co-facilitated by MTaPS facilitators and CMSD officials. This capacity building activity improved individual knowledge and skills on overall store management, which will support participants in their day-to-day work and contribute to better store management in the CMSD.

MNCH is one of the priority areas of the DGHS for which MTaPS has been providing technical assistance since 2019. The TWG on priority MNCH commodity monitoring and tracking in the DGHS was formed during the MTaPS predecessor program, and the group was supposed to meet quarterly but has not for the last few quarters. The long-awaited TWG meeting was held on September 14, 2021, at the DGHS MIS unit and was chaired by the MIS director. The line director, Maternal, Neonatal, Child, and Adolescent Health (MNCAH) of the DGHS, and other DGHS officials and representatives from partner organizations also attended the meeting. The meeting agenda included reviewing the existing MNCH medicines list, reviewing the TWG TOR, and future planning to scale up the MNCH eLMIS. Participants discussed and came to consensus on:

- Modifying the existing TWG committee and its TOR
- Revising the existing essential MNCH medicines list and tracking system
- Approving the scale-up of the eLMIS in selected districts by the MaMoni project and United Nations Population Fund with technical assistance from MTaPS

The MNCAH line director of the DGHS took the lead in reviewing the existing MNCH medicines list and TWG. Participants from different professional bodies provided feedback on the medicines list, and a final list of essential MNCH medicines has been approved by the forum. All levels of health managers will be able to follow this medicines list during their procurement cycle, and MNCH medicines will be procured and available for use.

During this quarter, the DGFP organized a review workshop on the stock situation analysis and way forward of some selected commodities (e.g., Tab. misoprostol, $MgSO_4$, oxytocin and other MCH drugs, FP commodities). A total of 43 participants (21 female, 22 male) from two districts attended the one-day workshop to review the status of those commodities in their districts. During the workshop, MTaPS facilitated the technical session and demonstrated the online data of consumption and stock status from

the DGFP eLMIS. It is expected that monitoring will be strengthened. The secretary of the MOHFW, Mr. Ali Noor, attended the session virtually and provided guidance on the way forward. Mrs. Shahan Ara Banu, Director General of the DGFP, and other line directors were also present in the workshop. The Director General mentioned the importance of product availability at service delivery points and pointed out discrepancies on service and consumption data and data quality. Recommendations from participants included:

- Strengthening monitoring at all levels of service
- Ensuring cross-validation of service data with logistics data
- Introducing a dashboard for selective MCH drugs in the DGFP eLMIS

Also during this quarter, MTaPS, in collaboration with the leadership of the NTP, completed a peripheral TB storage system assessment. As part of the assessment and with participation of key stakeholders, storage integration options have been analyzed, and a phased approach transition plan has been proposed. The plan includes the timelines for the transition of storage from nongovernmental organization sites to the government to ensure government leadership and sustainability in the process. The phases were divided based on the overall preparedness score of each peripheral-level facility. The assessment report is being finalized and will be ready by the next quarter.

MTaPS participated in one procurement supply management (PSM) working group meeting this quarter. Major decisions made this quarter include exploring options for renting a new storage facility to act as a central TB warehouse, agreeing to and finalizing the modification of the quarterly TB medicine report, and increasing coordination with chest disease hospital stores to make stock data available in a timely manner. As the frequency of PSM working group meetings has increased, the decision making and implementing process have been quicker and more effective.

As a continuation of technical assistance to the DGHS on the COVID-19 response mechanism fast track procurement, MTaPS has provided support in developing a memorandum of understanding between the DGHS and procuring agent UNOPS to carry out the planned procurement of oxygen supply-related equipment and consumables. MTaPS is assisting the DGHS in reviewing the specifications and price offers from UNOPS to match the needs of the country and ensure value for money. MTaPS is also coordinating closely with the DGHS in effectively engaging different government bodies (Health and Engineering departments) relevant to the commissioning of Pressure Swing Adsorption (PSA) plants in 29 health facilities in the country. The facilities were selected by the DGHS based on patient load, geographical location, and space availability.

OBJECTIVE 2: PHARMACEUTICAL REGULATORY SYSTEMS STRENGTHENED

In response to the DGDA's request, MTaPS served as an observer in the interim WHO benchmarking exercise in July 2021 to assess the DGDA's readiness to achieve maturity level 3. MTaPS collaborated with the DGDA to develop the IDP; address gaps and indicators that were not fully implemented; and respond to assessor recommendations in the regulatory functions supported by MTaPS, including product registration/marketing authorization, pharmacovigilance, regulatory inspections, and licensing of establishments. Measurement of DGDA functions using the WHO GBT will determine the authority's functionality and how effective it is in regulating the safety and quality of medical products within its mandate.

MTaPS assisted the DGDA in drafting corrective and preventive action (CAPA) plans in response to the draft assessment report of the authority issued by the WHO benchmarking team. The CAPA plans were shared with WHO for review and feedback. The plans cover five DGDA functions (marketing authorization, regulatory inspection, licensing establishment, regulatory system [quality management system], and vigilance). MTaPS will continue to provide assistance toward finalizing the CAPA plans after addressing feedback received from the WHO assessors. These will help the DGDA determine the required budget and address the recommendations quickly to improve the national regulatory authority's WHO GBT regulatory maturity score. The CAPA plans for the various regulatory functions will guide the authority on the resources required and how to address the gaps identified in the WHO benchmarking exercise to fully implement the indicators and achieve maturity level 3, which is considered a stable functioning authority.

This quarter, MTaPS supported the DGDA in the causality assessment of 34 serious adverse events and generated regulatory recommendations of signal and alerts published in the WHO pharmaceutical newsletter through the technical subcommittee of the Adverse Drug Reaction Advisory Committee. Classification using the WHO causality assessment method was as follows: certain-0, probable-15, possible-6, unlikely-11, unclassified/unclassifiable-2 adverse reactions. The committee decided cholecalciferol (Vit D3) has a causal relation with eczema/atopic dermatitis and recommended updating the patient information leaflet (PIL) to incorporate the text "not to use for children under 2 years of age without doctor's consultation". The committee also recommended checking four medicines (cetuximab, nivolumab, obeticholic acid, and thalidomide) published in the WHO pharmaceutical newsletter (issue #3, 2021) to determine whether the adverse events against which other countries' regulatory agencies took action are mentioned in the PIL. All of these activities are geared toward improving patient and drug safety.

OBJECTIVE 3: SYSTEMS FOR EVIDENCE-BASED DECISION MAKING INSTITUTIONALIZED

The IT vendor provided a preliminary demonstration to MTaPS of the TB eLMIS on July 13, 2021. The demonstration included the detailed feature enhancement and functionalities of the TB eLMIS. The MTaPS team provided feedback on the enhancement and features that were customized for the TB eLMIS. The enhancement looks good and is going as planned. Once it is done, MTaPS will conduct user acceptance testing and, if the COVID-19 situation improves, MTaPS will pilot it in two selected TB centers. The TB eLMIS is expected to improve TB logistics management and decision making at health facilities and nationally through stock analysis, redistribution, procurement planning, quantification and forecasting, and early warning.

MTaPS' health information system team attended a workshop arranged by the Climate Change and Health Promotion Unit (CCHPU) of the MOHFW, which was led by the DGHS Management Information System Unit, to discuss the inclusion of climate change and health promotion (CCHP)-related commodities to the eLMIS. The CCHPU discussed the importance of making CCHP-related items available in case of a disaster in the coastal districts. At the end of the workshop, the CCHPU proposed establishing a subcommittee with MTaPS as a member. As the eLMIS is going to be the permanent system for the DGHS, it is important to consider CCHP commodities in its implementation. This will help make the eLMIS more useful in managing health services in coastal regions of the country.

MTaPS attended a meeting organized by the World Bank to discuss the challenges of implementation of disbursement-linked indicators (DLIs). One DLI is the implementation of the electronic asset management system (eAMS). This DLI has been in place to push the implementation of the eAMS to achieve the goal of tracking medical equipment. However, several challenges and mitigation measures were discussed, and the World Bank requested USAID to provide support to make the eAMS functional in at least 30 district hospitals. MTaPS promised USAID that the program would provide technical assistance to the ministry to meet the DLI. If the eAMS can be made functional, medical equipment management would be tremendously efficient, and an optimal amount of functional equipment will be in place for better health care service.

The local IT consultant and the international consultant are working together to transfer the technical knowledge on e-TB Manager. Once the knowledge transfer is complete, the local consultant will provide necessary support for fixing bugs, maintenance and further enhancement, and interoperability with the Janao app and DHIS2 (if necessary). The activity will help sustain e-TB Manager for the NTP for better TB patient tracking and management.

The letter of agreement for hosting e-Learning courses under the a2i platform is in its final stage. Once the letter is signed, MTaPS will collaborate with a2i to upload content to the platform and start capacity building.

Although the pandemic hampered process, MTaPS has completed a country-wide rollout of e-TB Manager, which is running in all 867 drug-susceptible TB (DS-TB) and drug-resistant TB (DR-TB) facilities. The NTP is leading the e-TB Manager rollout and ensuring the use of data generated from e-TB Manager. Moreover, MTaPS collaborated with USAID Alliance for Combating Tuberculosis (ACTB) to integrate e-TB Manager with the Janao app to increase TB case notification and reduce missing cases that visit private practitioners. The NTP has decided to go paperless in a phased manner with the aim of increased reporting of cases and availability of data to make decisions. The move will contribute to improving the TB health care system in the country. At present, e-TB Manager is running in all TB reporting sites across the country. The NTP announced paperless reporting in all DR-TB sites as of January 1, 2021, and is collecting e-TB Manager-generated reports. The NTP has issued notification for paperless reporting in DS-TB sites and will implement it in a division manner (administrative unit). The first division is Rajshahi, which has 91 TB reporting sites and will be effective October 1, 2021.

MTaPS also collaborated with WHO and the ACTB to implement the online active drug safety monitoring (aDSM) system in the National Institute of Diseases of the Chest and Hospital using e-TB Manager as part of the rollout to all DR-TB sites. An online orientation on aDSM for physicians from icddr,b and Damien Foundation hospitals was conducted to improve reporting through e-TB Manager for better active monitoring and management of TB drugs to ensure the safety of the TB patients.

MTaPS participated in a preparatory meeting to conduct a rapid assessment initiative of the Global Fund for better understanding of the status and mechanisms of TB surveillance, with a special focus on real-time case-based TB notification. MTaPS also participated in the NTP's Monitoring and Evaluation Working Group meetings. The NTP organizes and leads these quarterly meetings to discuss the implementation status of the various activities implemented by the NTP and partners (e.g., e-TB Manager training status/rollout status, TB preventive therapy coverage status, TB case finding status, child TB diagnosis

status, reporting status). As per findings, the Monitoring and Evaluation Working Group recommends action points, and respective departments execute accordingly. MTaPS will continue its participation in different meetings such as the biannual partners coordination meeting on DR-TB and quarterly partners coordination meetings at the NTP to further strengthen the coordination mechanism and ensure use of e-TB manager data for decision making at the national and subnational levels.

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

MTaPS facilitated four small CWG meetings to revise the National Strategic Plan for Antimicrobial Resistance Containment (ARC) during Q4. Incorporating all feedback, the CDC/DGHS arranged a national CWG workshop on September 1, 2021, supported by MTaPS. A draft of the National Strategic Plan for ARC is ready with adjustments recommended at the workshop and will be shared with the CDC for the next course of action.

OBJECTIVE 5: PHARMACEUTICAL FINANCIAL RESOURCE ALLOCATION AND USE OPTIMIZED

MTaPS had a formal meeting with the Health Economic Unit (HEU) of the MOHFW to hold a discussion workshop of concerned stakeholders on the modalities to track pharmaceutical expenditure of selected MNCH commodities. The meeting identified focal persons for the HEU, MTaPS, and WHO to develop the workshop.

ACTIVITIES FOR NEXT QUARTER	
ACTIVITY AND DESCRIPTION	**DATE**
Activity 1.1.1: Work with DGHS to develop a standardized price list of MSR in line with updated specifications	Dec. 2021
Activity 1.2.1: Enhance the capacity of national- and subnational-level managers on using data for decision making and compliance of monitoring the functionality of existing systems	Dec. 2021
Activity 1.2.2: Assist NTP to assess the peripheral TB storage system and develop an integration plan followed by capacity building on storage and logistics management in selected geographical areas	Dec. 2021
Activity 3.2.2: Enhance and integrate the existing eLMIS for DGHS and conduct user acceptance testing on TB logistics systems and piloting in one selected area	Dec. 2021
Activity 3.2.3: Assist NTP to address the 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	Dec. 2021
Activity 5.1.1: Support the Health Economics Unit to conduct pharmaceutical expenditure tracking for selected MNCH products	Dec. 2021

GLOBAL HEALTH SECURITY AGENDA FUNDED ACTIVITIES FOR FY21Q4

RESULT AREA 1: EFFECTIVE MULTISECTORAL COORDINATION ON AMR

MTaPS, the Fleming Fund Country Grant/DAI, and CAPTURA came to consensus to work together to develop a common, web-based platform to disseminate AMR information, data, and other materials under the leadership of the CDC/DGHS in a "four corner" meeting. The CDC/DGHS requirement is for an integrated, web-based portal for AMR activities of the CDC/DGHS and different sectors based on the One Health approach to store IPC guidelines, facility self-assessment on IPC, any research activities on AMR at universities or medical colleges, an AMR newsletter, AMS, laboratory-based surveillance,

capacity development materials, and laboratory assessment materials in a single place where the DGHS can link to them or can be hosted on the MIS/DGHS server.

Joint workshop of the core working group and other AMR stakeholders on September 1, 2021. Photo Credit: Dr. Amany Ayub, MTaPS Bangladesh

The CDC/DGHS established a small CWG to develop the National Strategic Plan and operational plan for ARC. The CWG comprised 11 members from the CDC/DGHS, Institute of Epidemiology Disease Control and Research, DGDA, Department of Livestock Services, Bangladesh Livestock Research Institute, Bangladesh Food Safety Authority, and the Department of Pharmacology at BSMMU. The CWG met weekly under the leadership of the CDC/DGHS with technical assistance from MTaPS consultants from the human and animal health sectors, and members provided suggestions, comments, and recommendations for further updates to the ARC strategic and operational plan. The CDC/DGHS incorporated all feedback from the CWG and planned to present the updated documents in a joint stakeholder workshop. The joint workshop of the CWG and other AMR stakeholders was held with 41 (12 female, 29 male) multisectoral participants representing government counterparts and development organizations. The main objective of the workshop was to present the National Strategic and National Action Plan for ARC in Bangladesh (2021–2026), disseminate the findings of the "Political Economic Analysis for ARC Advocacy in Bangladesh", and gather feedback. A decision has been made to incorporate feedback from participants in the drafted plan and to share with the national technical committee to contain AMR in Bangladesh as soon as possible. Planning and coordination mechanisms of all activities, including their respective TOR, included in the updated National Strategic Plan for ARC are based on suggestions from the local Mission.

RESULT AREA 2: INFECTION PREVENTION AND CONTROL

MTaPS is continuously advocating for the MDH and COMCH IPC committees to consistently apply strict IPC measures to minimize the risk of transmission of COVID-19 to staff, other patients, and visitors. They are overburdened and have increased beds in COVID-19 units, but many patients are still lying on the floor. These hospitals have an IPC focal point and a dedicated, trained IPC team. IPC teams monitor IPC activities of health care workers and their adherence to IPC policies. The IPC committees provide input on IPC action plans, guidelines, and management issues during monthly meetings. The chair (i.e., hospital director) and member secretary (i.e., resident medical officer) of the COMCH IPC committee provided necessary guidance to improve IPC practices in the COVID-19 unit, focusing on improving hand hygiene, respiratory hygiene, and cough etiquette practices; improving environmental cleaning; building a separate waste management zone and conducting proper waste management; ensuring proper laundry management; and promoting health for patients, caregivers, and staff. The application of 5S (Sort, Set, Shine, Standardize, and Sustain) was also emphasized. The COMCH Gynaecology Department is regularly reviewing the surveillance data of health care-associated infection (HAI) registers and identifying areas for intervention. The department's IPC team ensured staff orientation on practices for environmental cleaning, sterilization, and visitor restrictions based on identified areas and applied the most appropriate methods for preventing infection. The MDH IPC committee hired cleaners through outsourcing and organized an orientation on IPC focusing on personal protection, preparation of disinfectants, and safe practice in handling medical waste.

A repeat IPC assessment, using the WHO IPCAF tool and additional components for COVID-19, was conducted in COMCH, and results were shared with the IPC committee in the presence of two Quality Improvement Secretariat/MOHFW representatives. According to its overall IPCAF score, in the baseline evaluation MTaPS found that COMCH is at the basic level (273.5), and the follow-up evaluation revealed that it has increased to intermediate level (557.5). However, due to patient influx related to COVID-19 admissions, effort must be focused on workload, staffing, and bed occupancy and improvement of the HAI surveillance system. In the meeting with the MOHFW representatives, it was decided to convert the IPC team into a work improvement team (WIT) to improve workflow and teamwork. Training is needed to build the capacity of the WIT on the use of 5S for improving the quality of hospital services and to add Plan-Do-Check-Act cycle for continuous quality improvement of IPC practices.

RESULT AREA 3: USE OF ANTIMICROBIAL MEDICINES OPTIMIZED

The CDC/DGHS reviewed the STG on common infectious diseases, and a consultative workshop to finalize the STG was held. Senior professional associations provided suggestions to incorporate antibiotic lists according to recent hospital antibiotic protocol, and comments and recommendations were made on the integration of the AWaRe categorization of antibiotics into the final STG. A decision has been made to incorporate feedback from participants in the STG and share it with the CDC/DGHS as soon as possible for endorsement. MTaPS will support the CDC/DGHS to develop printable and app versions of the STG, with the mobile phone app deployed nationally to increase the use of the WHO AWaRe categorization among physicians.

ACTIVITIES FOR NEXT QUARTER	
ACTIVITY AND DESCRIPTION	**DATE**
1.1.1: Continue to support governance, functionality, and implementation capacity of the national MSC mechanisms • One National Technical Committee core working group meeting will be held in collaboration with the CDC/DGHS • Draft costed operational plan for the NAP-AMR 2021–2026	Nov. 2021
2.2.1: Strengthen the technical and managerial capacity of IPC committees and providers to implement the updated IPC standards based on revised national guidelines • Update IPC training materials and develop internal monitoring checklist for facility IPC committee • Two trainings in selected new hospitals	Nov. 2021
2.5.1: Continue to strengthen IPC activities in the four currently participating facilities and scale up similar initiatives to six additional facilities • Continue to strengthen IPC practices in four facilities • Select six facilities and initiate baseline assessment for scaling up IPC interventions	Dec. 2021
3.1.1: Strengthen AMS governance structures at the national level • Initiate rapid assessment of stewardship policies, regulations, and practices conducted in the human and animal health sectors • Draft national AMS guidelines for the human health sector	Nov. 2021
3.5.1: Improve AMS practices and services at the facility level • App version of STG • Training of trainers on STG • Select six facilities and initiate baseline assessment for scaling up AMS interventions	Dec. 2021

BURKINA FASO

For progress on MTaPS/Burkina Faso's COVID-19 activities, click here. For additional information on country progress in COVID-19 activities this quarter, refer to Annex 1.

HIGHLIGHTS FROM PROGRAM YEAR 3 (FY21)

During fiscal year (FY) 21, despite the delay in signing the ministerial order to enable the full operation of the seven Technical Thematic Committees (TTCs), MTaPS—in collaboration with the Ministry of Health (MOH), World Health Organization (WHO), and Jhpiego—provided technical and financial support to review the previous 2017–2020 National Action Plan to control AMR (NAP-AMR) in Burkina Faso to provide recommendations for the 2021–2023 NAP-AMR. The process involved first assessing the previous plan and then proceeding with the development of the new NAP-AMR. The assessment workshop was held in Ziniaré from April 21 to April 23, 2021. The assessment highlighted achieved results, strengths, weaknesses, future perspectives, and lessons learned. The analysis of the plan also focused on its coherence, efficiency, and sustainability. Following the assessment, participants identified challenges and made recommendations. To begin the development of the 2021–2023 NAP-AMR, WHO organized two workshops from September 6 to September 10, 2021, and September 27 to October 1, 2021, with technical support from MTaPS. The 2021–2023 NAP-AMR is a milestone indicator of the country's progress towards improving its Joint External Evaluation scores. The new NAP-AMR will be finalized and adopted by the respective ministries during the first quarter of FY22.

For the first time in Burkina Faso, MTaPS supported the Ministry of Animal Resources and Fisheries to develop and validate guidelines for the rational use of antimicrobials in the animal sector. The development workshop took place at Koudougou July 9–10, 2020, and the guidelines were validated during a virtual meeting held on December 9, 2020, in Ouagadougou. These guidelines were used as a basis to develop a training toolkit (i.e., guidelines, trainer's guide, participant handbook). The toolkit was used to conduct a training of trainers for 15 veterinarians from June 2 to June 4, 2021, in Ziniare and 45 livestock technicians July 14–August 25, 2021. The validated guidelines and training toolkit are now national reference documents for practitioners in the animal sector.

Other key contributions from MTaPS included the incorporation of the WHO AWaRe categorization of antibiotics into the Essential Medicines List (EML) and the review of the standard treatment guidelines (STGs) to treat infectious diseases. MTaPS also supported the printing and dissemination of 1,500 copies of the EML and 500 copies of the STGs through 3 workshops for a total of 73 participants (pharmacists and physicians) from all health regions of Burkina Faso. The EML and STGs will help health care professionals with proper prescribing practices and ensuring patients' safety.

MTaPS collaborated with the MOH Directorate of Hospital Pharmacy to establish and train drug therapeutic committees (DTCs) in eight out of the ten planned health care facilities (Zorgho, Gaoua, Tenkodogo, Boulmiougou, Ziniare, Banfora, Kaya, and Ouahigouya). Each of the facilities has developed an action plan as part of the continuous quality improvement approach to be implemented during the remaining two years of implementation of the MTaPS program. The remaining two DTCs will be established during the first quarter of FY22.

QUARTER PROGRESS FOR FY21Q4

GLOBAL HEALTH SECURITY AGENDA ACTIVITIES

RESULT AREA 1: EFFECTIVE MULTISECTORAL COORDINATION ON AMR

Activity 1.1.1: Support the Technical Secretariat (TS) of the One Health Platform (OHP)

During this quarter, MTaPS—in collaboration with WHO—provided technical support to the OHP to begin the development of the 2021–2023 NAP-AMR through two workshops held September 6–10, 2021, and September 27–October 1, 2021. The new NAP-AMR will be finalized and adopted by the respective ministries during the first quarter of FY22.

RESULT AREA 3: USE OF ANTIMICROBIAL MEDICINES OPTIMIZED

Activity 3.2.1: Support the Directorate General of Veterinary Services (DGSV) to develop and validate an antimicrobial stewardship (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 and the National Veterinary Council, conducted two three-day training of trainers sessions to build the capacities of livestock technicians. The first training took place July 14–16, 2021, in Ziniaré, and the second training was held August 23–25, 2021, in Bobo Dioulasso. A total of 45 livestock technicians were trained using the training toolkit.

Activity 3.5.1: Support implementation of DTCs in five additional hospitals

During this quarter, MTaPS supported the training of 67 DTC members. This included 21 participants from the Centre Hospitalier Régional (CHR) of Kaya July 26–30, 2021; 17 participants from the DTC at the Centre Médical avec Antenne Chirurgicale of Zorgho August 18–20, 2021; and 29 participants from the CHR of Ouahigouya September 27–October 1, 2021. These trainings aimed to build the capacity of the DTC members on AMS and enable them to begin implementing AMS activities within their health care facilities following the development of their DTC action plans.

Activities for Next Quarter		
Activity	**Description**	**Date**
Activity 1.1.1: Support the TS of the OHP	Task 1: Review and finalize the multisectoral NAP-AMR Task 2: Develop the terms of reference of the AMR-TTC and the AMS technical working group Task 3: Obtain the signed Ministerial Order Task 4: Carry out the induction workshop	October 2021 November 2021 November 2021 December 2021
Activity 1.1.2: Provide technical assistance to the AMR-TTC to complete the establishment of and capacitate the AMS sub-committee, including its human, animal, agricultural, and environmental-sector technical working groups	Task 1: Establish AMS subcommittees and technical working groups within the AMR-TTC Task 2: Organize effective coordination through regular meetings	November 2021 November 2021

Activities for Next Quarter		
Activity	**Description**	**Date**
Activity 3.2.2: Support the DGSV to print and disseminate the guidelines for the rational use of antibiotics in the animal sector	Task 1: Print and disseminate national stewardship and clinical/treatment guidelines that include antimicrobials with OIE categorization for antibiotics promoting the appropriate use of antimicrobials	November 2021

PRESIDENT'S MALARIA INITIATIVE ACTIVITIES

With the recent introduction of pyronaridine-artesunate (Pyramax) in Burkina Faso, the United States Agency for International Development/President's Malaria Initiative (USAID/PMI) allocated funds to MTaPS during FY21 to support pharmacovigilance (PV) for this new treatment. Under the work plan—which was approved on May 4, 2021—MTaPS will provide support to national institutions already working on PV of antimalarial drugs, notably the Agence Nationale de Régulation Pharmaceutique (ANRP) and the Programme National de Lutte contre le Paludisme (PNLP). These institutions work in collaboration with other national and international institutions, including WHO and USAID/PMI, to support the establishment of a functional PV program in the country that can generate and use safety data for clinical and regulatory decisions in order to prevent medicine-related problems and improve treatment outcomes for patients.

MTaPS will support the ANRP and the PNLP to conduct active safety surveillance of Pyramax in two public health facilities to increase knowledge on the safety of Pyramax, as it has been recently introduced into the national malaria treatment guidelines. To date, MTaPS has supported the ANRP and PNLP to:

- Develop the surveillance protocol
- Draft the training materials, which are under review
- Identify the members of the implementing committee, who will soon be officially appointed
- Translate the PV Monitoring System into French

CAMEROON

HIGHLIGHTS FROM PROGRAM YEAR 3 (FY21)

In FY21, the MTaPS program in Cameroon has implemented about 90% of planned activities for the year. Some of the major achievements from the year include:

MTaPS supported the installation of the Moodle eLearning platform on the Direction de la Pharmacie, du Médicament et des Laboratoires (DPML) and the Centrale Nationale d'Approvisionnement en Médicaments et Consommables Médicaux Essentiels websites and the training of resource persons on the management of the platform. Empower uploaded modules on infection prevention and control (IPC), as well as those on antimicrobial stewardship (AMS) on the Moodle platform. The e-learning platform will go a long way to complement face-to-face trainings. MTaPS also supported the organization of a three-day, capacity building workshop of 20 national experts from different ministries of the One Health Platform on antimicrobial resistance (AMR). These experts will serve as resource persons on the containment of AMR, including updating of the AMR national action plan. MTaPS also continued supporting the organization of routine meetings of the IPC and AMS technical working groups (TWGs) and the technical secretariat to monitor and coordinate the implementation of AMR activities.

In its effort to improve IPC practices in Cameroon, and in addition to the six previously established IPC committees, MTaPS supported the MOH to scale up the establishment of IPC committees to six additional health facilities in four regions (Central, South, Littoral, and West). MTaPS supported the onsite training of 67 committee members from the following six health facilities–Mbouda district hospital (11), Bangante district hospital (11), Edea regional hospital annex (11), Nkongsamba regional hospital (12), Obala district hospital (11), and Sangmelima reference hospital (11).

To ensure effective progress on IPC activities in all 12 MTaPS-supported health facilities, MTaPS supported the committees to design and implement a continuous quality improvement (CQI) approach with incremental self-improvement targets. The CQI process started with an evaluation of IPC practices using the WHO IPC assessment framework tool, followed by the development of facility IPC action plans including an implementation timeline. MTaPS supported the Direction de la Promotion de la Santé (DPS) to carry out supportive supervision of IPC activities in all 12 selected health facilities as a continuation of the CQI process. The establishment of IPC committees and the CQI approach improved the compliance of health staff with standard IPC protocols in all MTaPS-supported health facilities. This initiative was very much appreciated by the MOH, which saw the minister of public health sign a circular instructing all health facilities to put in place IPC committees. This action showcases the ownership of the activity by the health system, thereby ensuring sustainability.

MTaPS is also supporting the MOH to draft the national IPC action plan. This plan will highlight priority IPC activities to be considered at both the national and operational levels and could also be used to advocate for funding to continue to improve IPC activities in Cameroon.

Another remarkable achievement of MTaPS in FY21 has been the establishment of drug and therapeutics committees (DTCs) in 11 health facilities. MTaPS provided technical support to the DPML for the onsite training of 170 DTC members from the 11 health facilities: Ebolowa regional hospital (9), Sangmelima reference hospital (10), Bertoua regional hospital (23), Mbalmayo district hospital (13), Yaounde

emergency center (10), Douala laquintini hospital (27), Bonassama district hospital (11), Ngaoundere regional hospital (25), Bafoussam regional hospital (22), and Foumbot district hospital (10). MTaPS also supported the DPML to select baseline and process indicators to be used to monitor the DTCs. This activity has been owned by the MOH, as the minister of public health signed a service note on September 9, 2021—three months after the establishment of the DTCs—requesting a report on their activities, including the process indicators.

QUARTER PROGRESS FOR FY21Q4

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

To strengthen the coordination of AMR activities, MTaPS collaborated with other USAID Global Health Security Agenda implementing partners, such as the Infectious Disease Detection and Surveillance (IDDS) program and the UN Food and Agricultural Organization (FAO), to support national counterparts on the following:

Celebration of World Zoonoses Day with the theme: Prevent the next pandemic: How to break the zoonoses transmission chain

MTaPS participated in the celebration of the World Zoonoses Day on July 6, 2021, at the invitation of the National Zoonoses Control Program. During this event, MTaPS joined the other USAID implementing partners working on AMR and gave a presentation on the relationship between AMR and zoonosis and the efforts made by MTaPS to contain AMR.

Workshop to sensitize stakeholders in the animal sector on the prevention of zoonotic diseases and AMR

Within the framework of the fight against AMR and the prevention of zoonotic diseases, FAO supported the Department of Veterinary Services of the Ministry of Livestock, Fisheries, and Animal Husbandry to organize a sensitization workshop of stakeholders in the animal sector, both public and private, on the prevention of zoonotic diseases and AMR. The workshop took place on July 27, 2021, in Garoua. During the workshop, MTaPS presented progress to date on supported AMR activities in Cameroon. This was an opportunity for MTaPS to collaborate with FAO and share knowledge and experiences on efforts to contain AMR with workshop participants.

Workshop to review data on antimicrobial susceptibility testing and surveillance of AMR supported by IDDS

Within the framework of the fight against AMR, IDDS supported the National Public Health Laboratory to organize a workshop to review the diagnosis and reporting of antimicrobial resistant pathogens. During the two-day workshop—which took place in Kribi August 16–17, 2021—the MTaPS Senior Technical Advisor facilitated some of the discussion sessions on the assessment of surveillance system attributes (consistency, timeliness, and completeness of data reporting) and antimicrobial sensitivity testing. The workshop brought together 12 laboratory staff from 6 pilot health facilities (Douala Laquintini hospital, Yaounde CNPS hospital, Yaounde University teaching hospital, Yaounde military hospital, Yaounde general hospital, and the National Public Health Laboratory). During this two-day workshop, participants received training on the use of the WHO tool (WHONET) for the surveillance of AMR, reviewed data on antimicrobial sensitivity testing, discussed challenges faced in AMR data reporting, harmonized data collection and

reporting methods, validated the key variables and indicators of the antibiotic resistance surveillance system, and assessed some attributes of the surveillance system (consistency of data collected, timeliness of reporting, completeness of data collected).

Workshop to draft and validate a COVID-19 resurgence plan

MTaPS and other partners have been instrumental in supporting the country to respond to the COVID-19 pandemic, especially regarding IPC, through cascade training of health care workers and CQI of IPC practices at the health facility level. These efforts have helped to improve compliance of health staff with IPC protocols. Despite this, a third wave of the pandemic is anticipated. To better prepare for the early detection of and effective response to subsequent waves of the pandemic, the MOH organized a four-day workshop in Kribi August 25–28, 2021, to draft a resurgence plan. MTaPS participated in the workshop and led discussions in the IPC group to identify priority activities to be considered in the plan, while referring to the USAID global health COVID-19 technical guidance. The draft document was later finalized and validated September 16–17, 2021, in Mbankomo, Yaounde.

Strengthen the technical capacity of 20 key AMR government stakeholders

Given the need to equip government stakeholders with the latest knowledge and evidence on tackling AMR and to enable them to provide technical leadership on AMR issues in Cameroon, MTaPS supported a three-day, in-person workshop in Kribi August 18–20, 2021, to strengthen the technical capacity of 20 government stakeholders on AMR-related topics. This workshop brought together participants from the AMR TWG; the technical secretariat of the MSC committee on AMR; the regional level and health facilities; and staff from the ministries of environment and nature protection, agriculture and rural development, and fisheries and animal husbandry. MTaPS had previously supported the MOH to develop some AMR-related training modules on IPC and AMS. MTaPS complemented these existing modules with AMR courses from the Global Health eLearning Center for use during the training. The training was facilitated by three expert trainers (from the DPML, the National Public Health Laboratory, and the Ministry of Livestock, Fisheries, and Animal Husbandry), with the technical support of MTaPS and IDDS.

RESULT AREA 2: IPC

Activity 2.1.2: Support the drafting of the national IPC action plan

As a first step to develop the national IPC action plan, MTaPS supported the DPS at the MOH to hire a national consultant to lead the development of a first draft of the document, which will subsequently be reviewed and validated by national experts in a workshop. The consultant gathered the relevant IPC assessment reports and documentation and held a working session with key stakeholders to identify the gaps in IPC. The consultant is currently drafting the action plan, in collaboration with the DPS and with the technical support of MTaPS. MTaPS is planning to support the organization of a four-day workshop of 20 national experts in Kribi October 12–15, 2021, to review and finalize the action plan.

RESULT AREA 3: USE OF ANTIMICROBIAL MEDICINES OPTIMIZED

Activity 3.5.1: Support the establishment of effective and functional DTCs in 12 selected health facilities

During the previous quarter, MTaPS supported health facilities to develop AMS action plans and select process and result indicators to monitor implementation progress of DTC activities as a starting point for the CQI process. Prior to field supervision of the DTCs to evaluate the implementation of their AMS action plans as a continuation of CQI, a WhatsApp forum for these DTCs was created to regularly keep in touch with the DTCs and encourage interaction between them. During this quarter, MTaPS supported the DPML to collect information on the process indicators to monitor progress made by the DTCs on the implementation of their respective AMS action plans. The minister of public health has signed a service note instructing the MTaPS-supported health facilities to send their activity reports to the DPML, including information on indicators. This is a milestone towards ownership and sustainability of efforts made to improve AMS in health facilities in Cameroon.

Activities for next quarter		
Activity	**Description**	**Dates**
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.	October–December 2021
Support finalization and validation of the IPC national action plan	MTaPS will support the DPS to organize two workshops: a four-day workshop to review and finalize the action plan and a two-day workshop to validate the action plan.	October–December 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.	October–December 2021
Support the COVID-19 response	MTaPS will support the national emergency operations center to respond to the COVID-19 pandemic specifically in the areas of IPC, waste management, and supply chain management.	October–December 2021
Support the registration of malaria drugs	MTaPS will support the DPML to improve the registration of malaria commodities.	October–December 2021

CÔTE D'IVOIRE

For progress on MTaPS/Côte d'Ivoire's COVID-19 activities, click here. For additional information on country progress in COVID-19 activities this quarter, refer to Annex 1.

HIGHLIGHTS FROM PROGRAM YEAR 3 (FY21)

MTaPS supported the antimicrobial resistance (AMR) secretariat to prepare the annual report, develop the roadmap, and conduct an AMR risk assessment in March 2021. MTaPS then supported the AMR technical working group (TWG) to organize a five-day workshop September 6–10, 2021, to draft the 2021–2025 national action plan on AMR (NAP-AMR).

MTaPS supported the organization of routine meetings of the TWGs and the technical secretariat to monitor and coordinate the implementation of AMR activities. During this year, MTaPS supported five AMR-TWG coordination meetings, six MTC bi-monthly meetings, and 56 meetings and events organized by the multisectoral body on AMR. These TWGs are leading all the MTaPS-supported activity implementation and reporting through regular online and face-to-face meetings, as well as active participation in field activities.

MTaPS has initiated discussions with organizations that have an eLearning training platform to launch the eLearning program: Adapted capacity building and training materials and tools for the eLearning platform. Two eLearning platforms have been identified: the Directorate of Pharmaceutical Activity (DAP) and National Institute of Public Health. MTaPS is in ongoing discussions with the new USAID implementing partner, the One Health workforce project (OHW-NG), to launch an eLearning program at universities.

In the area of infection prevention and control (IPC), all activities planned for FY21 have been implemented. These include IPC baseline assessments and IPC assessment framework (IPCAF) evaluations at eight facilities, and an assessment of the national IPC program on using the IPC assessment tool 2 (IPCAT2). MTaPS has strengthened the functionality of IPC committees in the human health sector and the capacity of health care providers to implement IPC. There have been 12 IPC committees established, and IPC documents (toolkit, terms of reference [TOR] specifying roles and responsibilities, the IPCAF tool, and a template for hygiene and IPC committee activity reports) disseminated. MTaPS supported competency-based trainings for 131 health care workers and conducted monitoring and supervision visits to 11 health facilities, including 10 human hospitals and 1 animal health facility. In 10 health facilities, MTaPS supported a second IPCAF assessment, the firsthand hygiene assessment using the World Health Organization (WHO) hand hygiene audit tool, and a water, sanitation, and hygiene (WASH) assessment using the WASH Facility Improvement Tool (WASH FIT) from WHO and UNICEF. MTaPS participated in a workshop with the Directorate of Medicine Hospital and Proximity (DMHP), the Directorate of Public Hygiene and Health and the Environment (DHPSE), the AMR-TWG, and the Multisectoral Technical Committee in charge of IPC and sanitation (MTC4) to develop the national protocol for the health care-associated infections (HCAIs) prevalence survey in Côte d'Ivoire.

MTaPS supported the AMR-TWG to establish a governance and oversight system for antimicrobial stewardship (AMS) in health facilities. In practice, MTaPS supported the assessment of capacities and functionality of the drug and therapeutics committees (DTCs) in 12 health facilities. The AMS-TWG

members trained 87 DTC members from 9 health facilities. The training of one DTC, initially planned for September 2021, was postponed to October 2021 at the request of the medical director of the facility. A training of management of veterinary medicines unit (MVMU) members of two veterinary clinics is also expected in October 2021. In addition, MTaPS supported the seven DTCs to develop their continuous quality improvement (CQI) plans, and AMS-TWG members conducted one supervision visit to monitor CQI in the DTC of Bouake in July 2021. Following the implementation of the CQI approach, the supervision team noted improvements in the DTC of Bouake's functioning from the baseline assessment.

Finally, MTaPS and the AMS-TWG—in collaboration with the national association of pharmacists, the Ivorian Pharmaceutical Regulatory Authority (AIRP), and DAP—organized a one-day meeting to orient pharmacists on the rational use of antimicrobials. 86 health care workers (mainly pharmacists) from both the private and public sectors participated in the orientation, which focused on the fight against AMR in Côte d'Ivoire and the issue of AMR in the human, animal, and environmental sectors. Togo's AMR focal point participated and shared the experience of his country in the fight against AMR.

QUARTER PROGRESS FOR FY21Q4

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

Activity 1.1.1: Support the AMR-TWG to review plans and progress on implementation of the NAP-AMR with a view to define priorities for the period 2021–2025.

MTaPS helped the AMR secretariat and the US Centers for Disease Control and Prevention (CDC) office in Abidjan to organize three preparatory meetings for NAP-AMR revision. MTaPS provided logistical support to the meetings (conference room, internet access, and coordination of the organization). These meetings helped the MTC1, MTC2, and MTC3—which are responsible for governance, communication, and surveillance, respectively—to revise their activities to facilitate the revision of the 2019–2020 NAP-AMR. The first preparatory meeting on August 26–27, 2021, brought together 10 participants from the 3 MTCs. During this meeting, the AMR secretariat formally appointed the members of the multisectoral committee responsible for governance (MTC1) and reviewed the following strategic objectives: strengthen the organizational framework for the fight against AMR (strategic objective 1); improve AMR awareness and understanding through communication, education, and training (strategic objective 2); and strengthen knowledge and evidence on AMR through surveillance and research (strategic objective 3). The second and third meetings for the revision of the NAP-AMR took place for MTC2 on September 1, 2021, and for MTC3 on September 2, 2021.

MTaPS also supported the AMR-TWG to organize a five-day workshop September 6–10, 2021, to draft the 2021–2025 NAP-AMR. A total of 36 participants attended the workshop, representing the human, animal, and environmental sectors.[16] The participants reviewed the 2019–2020 NAP-AMR and then developed and validated the 2021–2025 NAP-AMR. The next steps to finalize the document are to:

[16] MTaPS. 2021. September NAP-AMR 2021–2025 Workshop Report.

- Consolidate each strategic objective of the 2021–2025 NAP-AMR (strategic plan, operational plan, and monitoring and evaluation plan)
- Finalize the 2021–2025 NAP-AMR narrative (situational analysis; strengths, weaknesses, opportunities, and threats analysis; socio-demographic data)
- Edit the 2021–2025 NAP-AMR
- Present the NAP-AMR to stakeholders, ministries, donors, and implementing partners
- Disseminate and implement the NAP-AMR

Activity 1.1.2: Strengthening functionality of the Multisectoral Coordination Committee (MCC)—organize effective coordination through regular meetings of the AMR-TWG.

MTaPS supported the AMS-TWG to organize a meeting on July 1, 2021, to review progress on activity implementation. The following topics were discussed at the meeting: (1) update on training of DTCs, (2) update on the categorization of antibiotics, (3) review of progress on the situational analysis of antimicrobial use and consumption surveillance, and (4) preparation of the AMS training for private pharmacists.

MTaPS also supported the AMS-TWG to hold a coordination meeting with 11 participants on September 29, 2021, to review progress on implementing activities planned for the quarter and identify the AMS-TWG's priorities for the next quarter. Out of five activities planned, two were completed (update on the AMS plan and training of pharmacists on the rational use of antimicrobials), and three are in progress (access, watch, and reserve [AWaRe] categorization, training of DTC members of the university teaching hospital, and the assessment of existing surveillance of antimicrobial use and consumption). Activities planned for the next quarter include completing antibiotics AWaRe categorization, completing the assessment of antimicrobials use and consumption, world antimicrobial awareness week, and assessment of functionality and capacities to implement AMS activities of DTCs in 10 regional hospitals.

RESULT AREA 2: IPC

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

MTaPS provided support to the AMR-TWG through the MTC4 to conduct the second evaluation of the IPC program at the national level using the IPCAT2. This evaluation, which took place during a one-day workshop on July 6, 2021, at the Pasteur Institute of Côte d'Ivoire was attended by 15 people and carried out by 3 experts from USAID, WHO, and CDC. The IPCAT2 was administered to four Ministry of Health (MOH) entities, namely the Sub-Directorate General of Health in charge of Public Hygiene, the DMHP, the DHPSE, and the National Institute of Public Hygiene (INHP).

Compared to the first evaluation conducted on June 14, 2020, all the IPC components of the IPCAT2 showed significant improvements (figure 12).

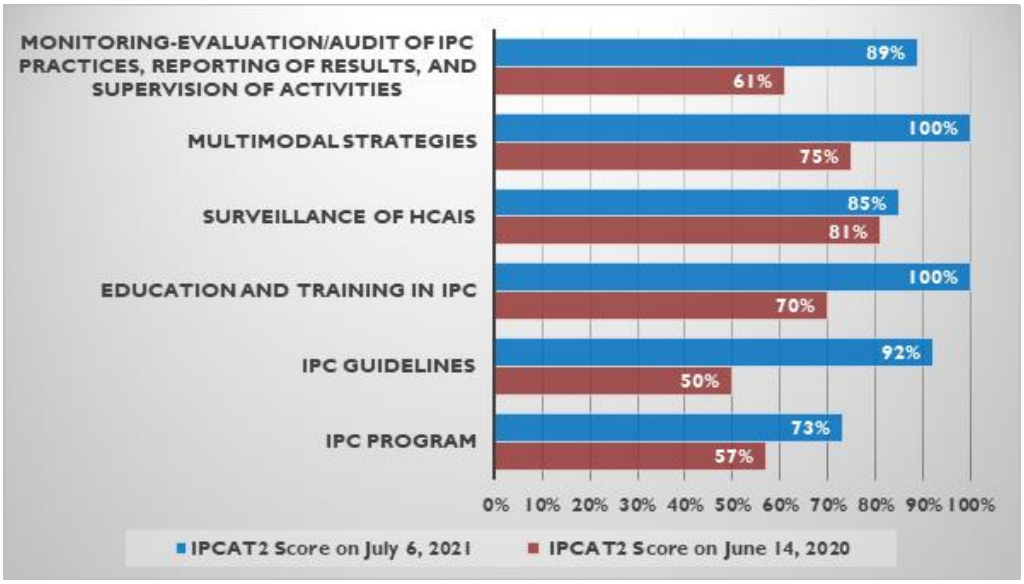

Figure 12. Comparative results of the IPC program at national assessments using the IPCAT2 tool (June 14, 2020, and July 6, 2021)

Participants in the assessment made the following recommendations:

- Translate all the shortcomings into an Operational Improvement Plan
- Include laboratory staff in IPC capacity building programs
- Send the evaluation forms back to the DGS, DMHP, DHPSE, and INHP
- Share hard and electronic copies of the IPC activities reports (conducted by the IPC task force and the MTC4) with the DGS, DMHP, DHPSE, and INHP
- Use IPCAT2 for self-assessments of the different entities at the central level
- Strengthen the link between IPC committees and other programs or organizations of the MOH

Activity 2.3.1: Support the AMR-TWG to conduct a survey on the incidence of HCAIs

MTaPS supported the AMR-TWG through the MTC4 to organize a workshop to develop the national protocol for the survey on HCAI prevalence in Côte d'Ivoire. The workshop took place September 22–24, 2021, in Agboville and brought together 11 participants. The objectives of the workshop were to: (1) present the HCAIs prevalence survey protocol of the European Centre for Disease Prevention and Control (ECDC), (2) adapt the ECDC HCAIs prevalence survey protocol to the national context, and (3) finalize the national HCAIs prevalence survey protocol.

The developed national HCAI prevalence survey protocol will be validated during another workshop organized by the AMR-TWG.

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

MTaPS supported the IPC TWG to conduct the supervision of health workers September 1–24, 2021. To date, the IPC TWG has visited 11 out of 12 health facilities (4 centres hospitaliers régionaux, 4

centres hospitaliers universitaires [CHU], 2 private clinics, and 1 animal health facility). The IPC TWG has not yet conducted the supervision of the Cocody veterinary anti-rabies center, as the agents have all been mobilized for activities related to avian influenza. Thus, the supervision in this center, which has been rescheduled several times, has been postponed to a later, unspecified date.

RESULT AREA 3: USE OF ANTIMICROBIAL MEDICINES OPTIMIZED

Activity 3.1.1: Support the AMR-TWG to improve the national Essential Medicines List (EML) using the WHO AWaRe categorization

MTaPS supported the AMS-TWG to collect data on antibiotic resistance in 20 facilities (2 universities, 5 research centers, and 13 health facilities) July 13–28, 2021. MTaPS then supported the antibiotic AWaRe categorization experts' group to analyze the data collected on antibiotic resistance in the 20 facilities and on publications selected online using PubMed. Once completed, the AMS-TWG will organize the AWaRe categorization workshop, which is tentatively planned to begin in late October 2021.

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 AMS-TWG to organize a two-day joint visit to evaluate the functionality and capacities of the MVMU at the veterinary clinic of the regional directorate of the Ministry of Animal Resources (MIRAH) of Bouake. The evaluation took place July 27–28, 2021, with seven participants (four from the facility, two from the AMR-TWG, and one from MTaPS). The evaluation showed:

- The lack of a MVMU at the veterinary clinic of the regional directorate of the Bouake MIRAH
- The lack of inventory management tools (e.g., stock cards, stock inventory registers)
- The lack of traceability of drug prescriptions, pharmacovigilance, and the promotion of the rational use of antimicrobials

The evaluation team recommended the establishment of an MVMU within the facility and the training of potential MVMU members on AMS.

MTaPS also supported the AMS-TWG to organize a supervision visit to the DTC of the Bouake CHU on July 27, 2021, with six participants (three DTC members and three supervisors). The DTC was represented by three members, including the president, the head of the AMR subcommittee, and a member of the pharmacy. At the end of the supervision visit, discussions focused on improvements and challenges the committee encountered. The supervision visit showed improvements in the functioning of the DTC and implementation of AMS activities at the CHU of Bouake (regular meetings, display of the list of products with restricted access, training awareness in pharmacovigilance, training awareness of staff on the proper use of antibiotics, and computerization of the pharmacy for better monitoring of drug consumption). The challenges are mostly linked to the implementation of the action plan, including a lack of a formulary and therapeutic guide. The DTC therefore plans to develop a formulary and therapeutic guide in 2022. The supervision team noted the commitment of the medical director and DTC members to advance the fight against AMR at the CHU of Bouake. However, limited funding for activities could represent a major challenge that could impact the implementation of the committee's action plan.

The DTC of Bouake's assessment score increased from 15/55 (in December 2019) to 40/55 (in July 2021).

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

MTaPS supported the AMS-TWG to organize a one-day meeting on September 22, 2021, to train pharmacists on the rational use of antimicrobials with 86 participants from both the private and public sectors. The selection of the participants was coordinated with the national association of pharmacists. The meeting was organized in collaboration with the national association of pharmacists, AIRP, and DAP. During the meeting, participants learned about the fight against AMR in Côte d'Ivoire and the issue of AMR in the animal and environmental sectors. Some of the presentations focused on the regulatory aspects of antimicrobial dispensing, best antimicrobial use practices, and antimicrobial categorization. Togo's AMR control focal point shared his country's experience with the participants. Several recommendations came out of the meeting:

- Apply regulations on dispensing prescription-only medications
- Complete the categorization of antibiotics to support stewardship activities
- Establish a system for the reporting of antimicrobial distribution data
- Strengthen collaboration with the DNSV with a view to better manage antimicrobials, considering the law establishing the Veterinary Public Health Code
- Improve the management of purification stations as well as pre-treatment methods before the discharge of pollutants into nature
- Revitalize the DTCs in health care facilities to optimize their functioning
- Raise awareness among pharmacists for greater support and understanding of the One Health approach

EBOLA RESPONSE ACTIVITIES

IPC, INCLUDING WASH

MTaPS provided support to the IPC task force to conduct two-day trainings of health care providers from 17 health facilities in the western Ivorian border on IPC for Ebola Virus Disease (EVD) July 25–August 14, 2021. The onsite trainings were conducted by 2 IPC regional trainers and one master trainer from the IPC task force and focused on 10 topics: introduction to IPC; introduction to EVD; hand hygiene; additional precautions; decontamination of surfaces, materials, and equipment; injection safety; PPE; triage, isolation, and notification procedure in the context of EVD; use of IPC scorecard during EVD outbreaks; and demonstration on wearing and removing PPE. A total of 204 people were trained on IPC for EVD.

Activities for next quarter		
Activity	**Description**	**Dates (2020)**
Activity 1.1.2 Support the AMR-TWG to set up a monitoring and evaluation system to monitor implementation of the NAP-AMR and provide timely feedback		

Activities for next quarter		
Activity	**Description**	**Dates (2020)**
Support the One Health Platform, through the AMR-TWG, to assess the performance of the National Action Planning for Health Security	Hold a three-day workshop for resource mapping and the impact analysis on health security investment and State Party Self-Assessment Annual Reporting to support the AMR secretariat to update AMR data	December 2021
Activity 1.4.1: Support the AMR-TWG in identifying and mapping sustained funding for planned activities in the NAP-AMR		
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	November 2021
Activity 2.1.1: Support the AMR-TWG to strengthen the IPC program at the national and facility levels		
Conduct baseline assessments in ten additional health facilities (regional hospitals of Korhogo, Odienné, Bondoukou, Bouaflé, Divo, Man, San Pedro, and Gagnoa; the Polyclinique International Indenie; and the Clinique Centrale d'Abobo) using the WHO IPCAF tool	Site visits in 10 health facilities to conduct IPC baseline assessments	November 2021
Activity 2.2.1: Support the AMR-TWG to design and deploy interactive eLearning courses on AMR/AMS/IPC for health professionals		
Support the AMR-TWG to identify and select additional universities to host the AMR course	Organize a one-day meeting with the USAID-funded OHW-NG project to discuss way forward to expand eLearning to additional university platforms	October–November 2021
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		
Conduct a rapid situational analysis of IPC committee capacity and functionality in the ten additional health facilities using the DMHP tool	Site visits in ten health facilities to conduct the evaluation of the functionality and capacities of IPC committees	November 2021
Activity 3.1.1: Support the AMR TWG in improving the national EML by using the WHO antibiotic AWaRe categorization		
Support the AMR-TWG in improving the national EML by using WHO antibiotic AWaRe categorization	Organize a three-day workshop to categorize antibiotics of the EML	November 2021
Activity 3.1.2: Support the AMR-TWG to update the national AMS guidelines		
Support the AMR-TWG to review and validate the updated guidelines	Organize a two-day workshop to validate the updated guidelines	November 2021
Activity 3.1.3: Support the AMR-TWG in establishing standard operating procedures (SOPs) and tools for monitoring antimicrobial use in humans and animals		
Support the AMR-TWG to conduct a national-level assessment of systems to monitor antimicrobial use by using a multisectoral approach	Hold two one-day stakeholder meetings attended by AIRP and DPA to conduct the assessment and draft the report Organize a one-day workshop to review and validate the assessment report drafted by the group of experts and validate SOPs for monitoring antimicrobial use in the human sector	October 2021
Activity 3.5.1: Support the AMR-TWG in establishing a governance and oversight system for AMS in health facilities, including monitoring implementation of policies, guidelines, and standards		
Support the AMR-TWG to train DTC members in eight additional health facilities in the human sector Support the AMR-TWG to train MVMU members in two health facilities in the animal sector	Organize four-day onsite competency-based trainings for DTC members in one university teaching hospital (CHU of Angre) Organize two-day, competency-based trainings for MVMU members of two veterinary facilities (Centre antirabique of	October 2021 October 2021

Activities for next quarter		
Activity	**Description**	**Dates (2020)**
	Cocody and veterinary clinic of the regional directorate of MIRAH - Bouake)	
Support the AMR-TWG to conduct two-day joint site visits to assess the existence and functionality of DTCs in the ten facilities related to AMS	Organize two-day joint visits in ten human health facilities to evaluate the functionality and capacities of DTCs	November–December 2021

DEMOCRATIC REPUBLIC OF CONGO

GLOBAL HEALTH SECURITY AGENDA ACTIVITIES

HIGHLIGHTS FROM PROGRAM YEAR 3 (FY21)

MTaPS, in collaboration with the World Health Organization (WHO), supported the Drug Regulatory Authority (DRA) in conducting a national survey/study on the consumption of antimicrobials. The study revealed that there was an increase in the aggregate consumption of antimicrobials in terms of the Anatomical Therapeutic Chemical (ATC)/defined daily dose (DDD) from around 12 DDD per 1,000 persons/year in 2018 to 16 DDD per 1,000 persons/year in 2019. It also found that at least 70% of the antibacterial medicines consumed were in the access category of the AWaRe categorization, which is higher than the WHO recommendation that at least 60% of antibacterial medicines consumed fall in the access group. On December 4, 2020, the DRA presented the results of the survey, and the USAID local Mission handed over the deliverable to the Democratic Republic of the Congo (DRC) government authorities. DRC's minister of health chaired the presentation ceremony, which was attended by more than 100 participants, including the USAID DRC Mission health team director; WHO country representative; and representatives of the Ministry of the Environment, Ministry of Agriculture, and Ministry of Fisheries and Livestock.

USAID Health Director, Christopher Barrett (right), presenting the DRC's Minister of Health, Eteni Longondo, with the report of the rapid assessment and other deliverables achieved under MTaPS DRC. (Photo credit: Junio Kiama)

MTaPS supported the Directorate of Pharmacy and Medicine (DPM) and National Commission on Antimicrobial Resistance (NC-AMR) to develop a three-year antimicrobial stewardship (AMS) work plan using the findings from two rapid assessments (AMS policies and regulations and antimicrobial consumption). On November 20, 2020, MTaPS and WHO supported the DRA in presenting and defending the developed AMS action plan during a meeting of the MOH's technical coordination committee for approval, and the AMS action plan was unanimously approved. This committee has the authority to approve all technical documents before dissemination.

MTaPS continued to support the NC-AMR and related technical working groups (TWGs), notably the AMS and IPC subcommittees, to hold their respective quarterly meetings. 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 infection prevention and control [IPC]) held their two-day meetings during which participants conducted a stocktaking of WHO benchmark capacity-level actions and assessed progress on implementing those actions. On March 30-31, MTaPS, in collaboration with WHO, supported the NC-AMR in holding a two-day multisectoral coordination (MSC) meeting. A total of 50 people from the MOH, Ministry of Agriculture, Ministry of Fisheries and Livestock, and Ministry of Environment attended the meeting.

Between March 5 and 19, 2021, MTaPS, in collaboration with the Centre National de Pharmacovigilance, established four additional drugs and therapeutics committees (DTC) 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 four health institutions before AMS interventions and 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 (CQI) plan.

MTaPS supported the DPM in conducting the annual Tripartite AMR Country Self-Assessment Survey (TrACSS) 2021, which helps monitor country progress on implementing the AMR action plan. TrACSS 2021 revealed significant improvements from TrACSS 2020, as shown in table 11.

Table 11. Results of TrACSS 2021 showing significant improvement from TrACSS 2020

TrACSS scoring key	
A	No capacity
B	Limited capacity
C	Developed capacity
D	Demonstrated capacity
E	Sustainable capacity

Spotlight from DRC: Follow-up TrACSS

- MTaPS supported Directorate of Pharmacy and Medicine to conduct the 2021 TrACSS
- TrACSS 2021 showed significant improvements from TrACSS 2020

TrACSS indicators	TrACSS score*	
	2020	2021
Multisectoral and One Health coordination	B	D
Progress on NAP-AMR development	C	D
Rising awareness of AMR risks & response	B	C
Training and professional education on AMR in farming, food, environmental sectors	A	B
National monitoring system for consumption/ rational use of antimicrobials in human health	A	B
Adoption of AWaRe in the national EML	B	C
Optimizing antimicrobial use in human health	A	C

* TrACSS scoring aligns with JEE/benchmarks and PVS Pathway scorings

From April 25 to May 22, MTaPS supported the NC-AMR and Directorate General for Health Services Organization and Management (DGOGSS) in conducting an IPC rapid assessment in the seven MTaPS-supported facilities in Nord Kivu, Ituri, and Kinshasa provinces using the WHO's Infection Prevention and Control Assessment Framework (IPCAF) tool. This assessment aimed to strengthen implementation of IPC measures and provide baseline data to facilitate future comparative analyses and assess improvements in IPC activities. During the visits, the team supported assessments of IPC and hand hygiene activities at the provincial level by using standardized and validated tools; monitored the progress of planned IPC and hand hygiene activities; collected data on health care-associated infections (HCAIs); and developed improvement plans.

Key findings include the following:

- The average prevalence of HCAIs in the establishments visited was 7.2%. The highest prevalence was noted at the Centre Médical Evangélique de Bunia with 14.4% prevalence. Surgical site infections, followed by gyneco-obstetric and urinary catheter infections, are reported as the main sources of contamination.
- Standard IPC precautions in four of the seven health facilities (HFs) visited were poorly applied. Weaknesses were identified in all IPC capacities on the WHO IPC scorecard.
- Heal Africa Hospital (Goma) and Monkole Hospital (Kinshasa) were the best performing of all HFs visited, with approximately 1.5% prevalence of HCAIs and a score of 92.5% in implementing WHO IPC standards.

In the HFs visited, greater efforts are needed to educate health care workers and patients on the correct use of invasive devices/critical instruments (e.g., catheters), the rational use of antibiotics, and hand washing under aseptic conditions.

QUARTER PROGRESS FOR FY21Q4

RESULT AREA 1: EFFECTIVE MSC ON AMR

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

From September 30 to October 2, MTaPS supported the NC-AMR in holding the last quarterly meeting of the year. During the meeting:

1. The AMR focal point provided a report of the activities conducted since April 2021 with MTaPS' support, which consisted of the IPC and AMS subcommittees' workshops, rapid assessment of IPC in the human sector (four hospitals), rapid assessment of IPC in the animal sector, MSC supervision visits in the animal and environmental sectors, and establishment of DTCs in Nord Kivu and Ituri provinces.
2. The AMS and IPC subcommittees reported on the progress of implementing their planned activities. The subcommittees reported a low implementation rate, citing limited funds for all the planned activities as the main reason. To this end, the NC-AMR recommended that other donors/partners, such as the World Bank/REDISSE project, be contacted and encouraged to support the AMS and IPC subcommittees' interventions.
3. The AMS, IPC, and detection and surveillance TWGs presented their action plans for the next quarter, which were validated by the members of the NC-AMR.

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

From July 21 to 24, MTaPS, in collaboration with the WHO, supported the rational use of antimicrobials, IPC, and Detection and Surveillance TWGs of the NC-AMR in holding their quarterly MSC meetings.

During these meetings, participants:

- Reviewed the quarterly action plan (July-September) for each subcommittee, assessed implementation progress, and updated the action plan for the next quarter
- Conducted a stocktaking of WHO benchmark capacity-level actions to assess progress on their implementation

Participants in these MSC meetings included representatives from the MOH, Ministry of Agriculture, Ministry of Fisheries and Livestock, and Ministry of Environment.

A quick evaluation of progress revealed the following:

- Regarding IPC activities, only 8.3% (1/12) of planned IPC activities were completed, 75% (9/12) were in progress, and 16.6% (2/12) had not yet been started. Participants recommended more advocacy efforts in funding IPC-related interventions.
- Regarding AMS, 2 out of 16 AMS planned activities (12%) were completed, 8 (50%) were ongoing, and 6 (37%) had not yet been started.

The AMS subcommittee members pointed to the lack of financial resources as the main bottleneck in carrying out activities. Meeting participants recommended that the issue be discussed in the upcoming quarterly NC-AMR meeting to put in place strategies to improve the effectiveness of implementing planned activities.

RESULT AREA 2: INFECTION PREVENTION AND CONTROL

Activity 2.1.1: 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

From August 2 to 10, MTaPS supported the Animal Disease Control Department (DLMA) and DPM in conducting an IPC rapid assessment in the animal sector by using the IPCAF tool adapted for the animal sector. During this assessment, seven facilities were visited: Ferme SOCEP, Ferme agro-pastorale Kakudi, Ferme N'Gray, Ferme New DAIPN, Cliniques vétérinaires de la Gombe, Abattoir SOGENAC, and Abattoir Ndanu.

The IPCAF adapted for the animal sector has five components: prevention and control of animal diseases; guidelines on animal disease prevention and control; education and training; monitoring and evaluation; and environment/building/material/equipment). All five components were assessed. Table 12 summarizes the total score for each animal institution assessed.

Table 12. IPCAF assessment in five selected health institutions

		Score per component assessed							
Institution	**Type of institution**	**Prevention and control of animal diseases (sub-total: 87)**	**Guidelines for animal disease prevention and control (sub-total: 98.5)**	**Education and training (sub-total: 107.5)**	**M&E (sub-total: 100)**	**EBME* (sub-total: 98.5)**	**Total (491.5)**	**%**	**IPCAF scoring**
Socep	Farm	84.3	71.1	29.6	0	94.4	279.4	57	Intermediate
AP Kakudi	Farm	42.5	50.5	15	0	56	164	33	Basic
N'Gray	Farm	37.5	80	77.5	60	64.5	319.5	65	Advanced
New Daipn	Farm	41	43.5	40	0	54	178.5	36	Basic
Clinique Vet Gombe	Vet clinic	51	52.5	10	0	41	154.5	31	Basic
Abb Sogenac	Abbatoir	42.5	50.5	15	0	56	164	33	Basic
Abb Ndanu	Abbatoir	30	33	25	0	31	119	24	Basic

*EBME = environment, building, material, and equipment

Table 12 shows that only one animal health institution (N'Gray Farm) met the criteria for an advanced IPCAF score, and only one animal health institution (Socep Farm) obtained an intermediate score. The scores of the remaining five health institutions lagged, falling within the IPCAF basic score range.

Monitoring and evaluation scored lowest of all the five components, as all of the facilities assessed reported a total absence of monitoring and evaluation mechanisms.

At the SOGENAC slaughterhouse, which feeds animals prior to slaughter. (Photo credit: Augustin Mwala)

RESULT AREA 3: USE OF ANTIMICROBIAL MEDICINES OPTIMIZED

Activity 3.1.1: Support the NC-AMR in strengthening oversight of compliance to AMS policies and regulations in the human, animal, and environmental health sectors

From August 2 to 7, MTaPS supported the DPM and DLMA in carrying out multisectoral visits in three facilities, two of which were animal facilities (Abattoir de Masina and Cliniques vétérinaires Kinoises de Ma Campagne) and one an environmental/agricultural facility (Cliniques des plantes de Kinshasa). These visits aimed to assess implementation of AMS activities, especially antimicrobial use in the animal and environmental sectors, and recommend actions to address gaps. For this purpose, MTaPS supported the update of the supervision tool previously developed with MTaPS' support. The components assessed include antimicrobial use, knowledge on AMR-related issues, risk assessment for infection prevention, and collaboration with other institutions/sectors. The visits found:

- Limited knowledge on AMR-related issues
- Antimicrobial sensitivity tests not conducted
- No risk assessment conducted to prevent infection

- Good, but limited, collaboration with other sectors, such as the human sector: this collaboration needs to be strengthened (i.e., improve collaboration with DPM and National Supply Program [PNAM] to ensure that antimicrobials procured for use in the animal and agricultural sectors are of standard quality)

A sick dog is examined at the Kinshasa Veterinary Clinic. (Photo credit Tatiana Banze)

RESULT 3.5: AMS PRACTICES AND SERVICES IMPROVED

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

From July 8 to 30, MTaPS conducted a series of trainings on AMS CQI for the members of DTCs in six MTaPS-supported health institutions, including two in Kinshasa (Cliniques Universitaires de Kinshasa [CUK] and Saint Joseph Hospital), two in Nord Kivu (Heal Africa and Kyeshero Hospitals), and two in Ituri province (HGR Bunia and CME Bunia). A total of 92 health service providers were trained on CQI, with 16 participants in Bunia, 26 at CUK, 24 at Saint Joseph Hospital, and 26 in Nord Kivu. The purpose of the training was to equip DTC members with knowledge and tools to continuously track the progress of DTC interventions; assess improvement using a predefined set of medicine use-related indicators; and implement an iterative process of data collection, analysis, and reporting to ensure CQI. DTC members agreed that data will be collected, analyzed, and reported on a quarterly basis to allow comparative and trend analyses.

On August 11, MTaPS supported the DTC of CUK to organize its monthly DTC meeting. During the meeting, participants reviewed the previously planned activities to assess progress on implementation

and plans for the upcoming quarter. In addition, MTaPS took this opportunity to present the data collected during the CQI refresher training in July 2021 (table 13). Thirty-two participants from different departments, including internal medicine, obstetrics and gynecology, and surgery, attended the meeting.

The CQI refresher training was conducted in the seven MTaPS-supported facilities to help DTC members understand how to collect and analyze the rational use of medicine indicators and implement a regular data collection and reporting process through a CQI program. MTaPS then supported the seven health facilities in collecting and analyzing data for the indicators on prescribing behaviors and patients' knowledge of treatments.

Methods

1) Prescribing behaviors

   Data for indicators on prescribing behaviors were collected retrospectively using outpatient department patient files. As per WHO recommendations, 30 patient files were randomly selected for this study.

2) Patients' knowledge of medicines

   Data for the indicators on patients' knowledge of medicines were collected prospectively through patient exit interviews. For these indicators, 20 patients were interviewed after collecting their medicines from the pharmacy to assess their knowledge of the treatment/medicines prescribed.

Table 13. Data from the CQI review workshop (reported as "review 1" in comparison to baseline data)

	Monkole		CUK		St Joseph		Heal AF		Kyeshero		HGR Bunia		CME Bunia	
	Baseline	Review 1	Baseline	Review 1	Baseline	Review 1	Baseline	Review 1	Baseline	Review 1	Baseline	Review 1	Baseline	Review 1
Indicators on prescribing behaviors														
Average # of medicines per prescription	3		3,1	2.9	3,6	2.9	3	3.7	3.5	3.2	2	2.5	2.8	2.6
% medicines in generics	22%		29,2%	20.9	14,8%	25.6	10	64.3	56.6	64.9	91.7	86	55	49
% prescriptions with an antibiotic	43%		11%	50%	60%	37.7	19	86.6	73.3	70	18.3	50	47	16
% prescriptions with an injectable	10%		1,6%	10.3	3,3 %	8%	4.7	66.6	13.3	6.6	6.7	6	3.3	1.3
% medicines in NEML	85%		50%	71.6	88,03%	28.7	90	58.9	80.2	85.6	93.3	89	67	66.2
Indicators on patients' knowledge of medicines prescribed														
Knowledge of medicine	100%		75%		50%		100%		100%		100%		100%	
Knowledge of route	100%		40%	65%	100%	100%	100%	75%	100%	755	100%	90	100%	100%
Knowledge of dose	90%		40%	35%	95%	100%	90%	85%	80%	85%	100%	86	100%	89%
Knowledge of frequency	90%		40%	35%	95%	100%	100%	85%	100%	85%	89.40%	86	87.30%	89%
Knowledge of duration	75%		20%	26%	45%	62%	63.30%	70%	61.50%	70%	72.30%	76	82.30%	95%

Table 13 shows that the overall results did not improve much at Monkole Hospital –the only facility that conducted two reviews—in terms of health care workers' prescribing behaviors. However, there was a slight improvement in the percentage of prescriptions of antibiotics. This may be linked to the fact that the newly established management committee was not part of the DTC training conducted early last year, and thus did not support DTC activities for the entire year. To address this, MTaPS plans to conduct a refresher training for all DTC members, especially new members.

Patients' knowledge of medicines decreased at all facilities except Saint Joseph Hospital. This may be a reflection of bias in the baseline data. Additional reviews will provide a more realistic picture.

Figure 13 shows the prescribing behaviors in terms of the percentage of prescriptions with at least one antibiotic.

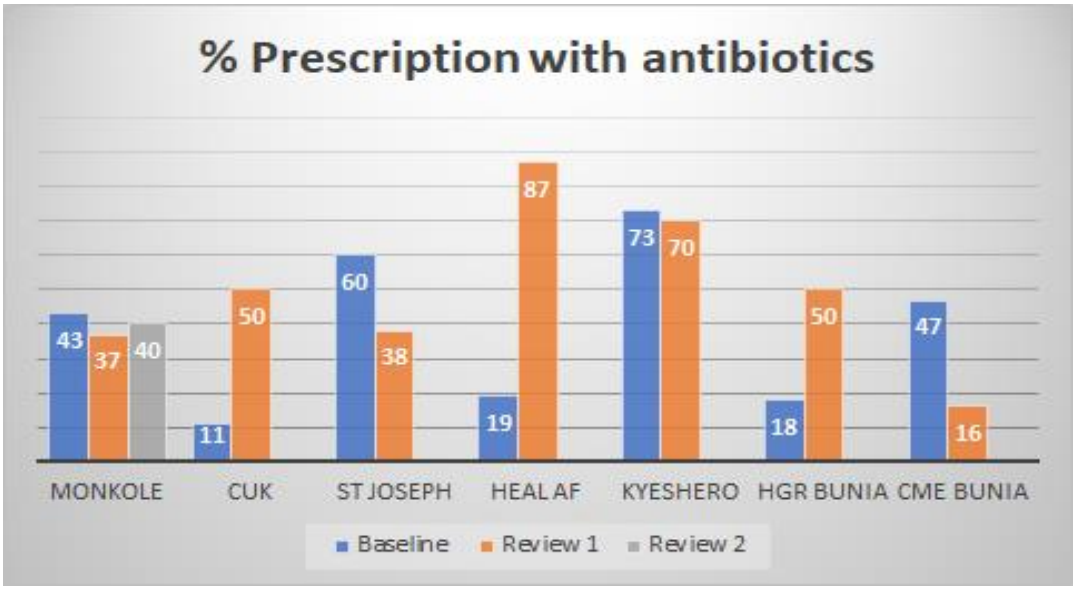

Figure 13. Percentage of prescriptions containing antibiotics

Figure 13 shows improvements at Monkole, Saint Joseph, Kyeshero, and CME Bunia Hospitals, whereas an increase in antibiotic prescriptions was seen in the other three facilities. This may be also linked to bias in the baseline data. For example, the baseline data at CUK was collected from the cardiology department where antibiotics are rarely prescribed. Thus, the CUK baseline of 11% does not reflect the real usage of antibiotics in the facility, which is one of the highest consumers of antibiotics in the country. DTC members should pay particular attention during the data collection stage to prevent such situations.

ACTIVITIES FOR NEXT QUARTER	
ACTIVITY AND DESCRIPTION	**DATE**
Conduct CQI refresher training at Monkole Hospital and finalize data collection and analysis	October 2021
Provide technical and logistical support to the NC-AMR for effective monitoring and planning of AMR interventions	December 2021
Establish/strengthen DTCs to oversee implementation of AMS interventions and conduct stewardship practices at designated health care facilities	November–December 2021

MATERNAL, NEWBORN, AND CHILD HEALTH, FAMILY PLANNING AND TUBERCULOSIS

HIGHLIGHTS FROM PROGRAM YEAR 3 (FY21)

The MTaPS MNCH/FPRH/TB work plan aims to support the Divisions Provinciales de la Santé (DPS) to strengthen and improve the management and provision of MNCH, FP/RH, and TB medicines, medical products, commodities, and pharmaceutical services in 10 selected health zones (HZs) for 166 HFs in Nord Kivu and Ituri provinces.

The HZs supported in Nord Kivu province are Goma, Karisimbi, Rwanguba, Nyiragongo, and Kirotshe, consisting of 86 HFs; in Ituri province, these are Bunia, Rwampara, Nizi, Lita, and Gethy, covering 80 HFs.

During FY21, MTaPS supported the DPS in Nord Kivu and Ituri provinces to organize a training workshop in each of ten supported HZs. The trainings aimed to engage community and civil society groups in overseeing medicine management at the HF and community care site (CCS) levels, as well as to clarify their roles and responsibilities. The trainings focused mainly on stock management, accountability between the HF and the community, logistics data collection, and storage conditions; 350 members of comité de développement de l'aire sanitaire (CODESAs) were trained. MTaPS also supported one-day quarterly meetings for community members/organizations (community health workers [CHWs]) in supported HZs. During these meetings, community members discussed issues pertaining to transportation and distribution of medicines, findings from the stock taking, and any other medicine management issues.

In December 2020, MTaPS supported the DPS in establishing provincial quantification committees in Nord Kivu and Ituri to address quantification-related weaknesses at the provincial and HZ levels. These quantification committees are responsible for estimating the need requirements of medical products for their respective provinces. In addition, MTaPS, in collaboration with the European Union and Global Fund, supported a quantification training of the committee members. The training was coupled with a provincial quantification exercise. During these workshops, provincial forecasts were made for HIV, malaria, TB, FP, and MNCH. A gap analysis was also completed at the national level, in collaboration with the PNAM, the USAID/Global Health Supply Chain-Technical Assistance (GHSC-TA) Project, Global Fund, and other MOH-specific programs. A supply plan will be developed in the coming quarter.

MTaPS, in collaboration with the USAID/Integrated Health Program (IHP), supported the national MNCH program (DGFGS/D10) in organizing a five-day workshop to update/develop treatment protocols and job aids for using oxygen, heat-stable carbetocin, tranexamic acid, folic acid, and amoxicillin DT. Participants included members of the National Acute Respiratory Infections Control Program (PNIRA), National RH Program, and DPM; anesthesiologists and resuscitators from the University of Kinshasa; the DRC national president of gynecologists and obstetricians; and representatives of partners (MTaPS and IHP) and DSFGS, including the director.

After supporting the DPM earlier in the year to revise the Directory of Registered Medicines, MTaPS continued to support the DPM in holding a two-week quarterly session to facilitate the timely registration of needed MNCH, FP/RH, TB, and other essential medical products. A total of 328 product candidates were submitted for registration, including 23 MNCH, 1 FP/RH, and 2 TB products. The

registration committee noted with concern that (with the exception of tranexamic acid injection) none of the medicines that the MTaPS registration mapping report found lacking had products (i.e., hydralazine injection, gentamicin 20 mg injection, ORS flavored sachets) submitted for registration.

Regarding locally manufactured products, the commission received 26 samples for marketing authorization (MA). MTaPS supported the national RH program (PNSR) in organizing a five-day workshop in each of the provinces to define the FP community package, specifically the contraceptive kit for CCSs, and estimate the needs for CCSs in Nord Kivu and Ituri provinces. Participants included CHWs, DPS, and HZ teams, as well as representatives of partners (MTaPS, UNFPA, IMA-PATHFINDER), Centrales de Distribution Régionale [CDRs], CADIMEBU in Ituri, and ASRAMES in Nord Kivu). The workshop selected the following six FP products to be part of the reduced package: cycle beads, subcutaneous DMPA (Sayana Press), oral combined pill, progestogen-only pill, and female and male condoms.

MTaPS supported the Ituri provincial TB program in organizing the first ever training of CHWs on directly observed treatment (DOT) and TB product management in Bunia and Nizi HZs. The training aimed to strengthen the capacities and engagement of CHWs in providing effective care that reduces patients' suffering by preventing and/or curing TB in the community. Patients will be closer to the health care system, thereby reducing indirect treatment costs and improving adherence. During the training, orientation was provided on data collection and reporting forms, which were also distributed for routine monitoring of TB treatment. This training was conducted in Bunia and Nizi HZs as a pilot, with 34 participants in Bunia and 16 in Nizi.

MTaPS supported pharmacist inspectors in conducting field visits to pharmaceutical wholesalers in Nord Kivu and Ituri to inspect whether imported products/medicines are registered and authorized for sale in the DRC market. Using the DPM's Directory of Registered Medicines, the inspection consisted of identifying unregistered medical products that are being imported by local companies and products with MAs expiring in the next six months and notifying wholesalers to renew their registration. The visits were extended to the Directorate General of Customs Services and the National Quality Control Agency (OCC).

Key findings include the following:

- More than 150 unregistered products (including HIV, TB, and malaria products procured by Global Fund) did not have MA.
- The OCC, which is one of the customs services, now systematically uses the MA directory to check whether medical products are registered before engaging any quality control analyses for such products at the country's points of entry.

Based on the findings, the provincial health inspectorates took the following actions:

- Importers can obtain MAs for unregistered products within the next three months. A three-month moratorium has been granted for this purpose.
- Wholesalers are instructed to renew registration for all products with an MA expiring in the next six months.

QUARTER PROGRESS FOR FY21Q4

OBJECTIVE 1: PHARMACEUTICAL SECTOR GOVERNANCE STRENGTHENED

Activity 1.1.1. Assist the DPM in strengthening medicine registration procedures for essential medicines, especially MNCH, FP/RH, and TB medicines

On July 2, the DPM concluded a two-week quarterly medicine registration session, with MTaPS' support, to facilitate the timely registration of MNCH, FP/RH, TB, and other essential medical products; 43 Medicine Registration Committee members attended the meeting, including internal and external assessors.

A total of 328 candidate products were submitted for registration, including 23 MNCH, 1 FP/RH, and 2 TB products. The session resulted in the following:

- 92.07% (302/328) of products submitted were evaluated
- 66.56% (201/302) of products evaluated were eligible for MA, including 13 MNCH products
- 33.11% (100/302) of products evaluated were put on hold for additional information, including 2 TB products and heat-stable carbetocin
- 0.33% (1/302) of products evaluated were rejected
- Evaluation of 7.93% (26/328) of products submitted was postponed to the next session, including 1 FP/RH product and tranexamic acid

The registration committee noted with concern that (with the exception of tranexamic acid injection) none of the medicines that the mapping report found lacking had products (i.e., hydralazine injection, gentamicin 20 mg injection, ORS flavored sachets) submitted for registration. As recommended through the registration mapping report, the MOH's Maternal and Child Health Directorate will advocate for MNCH medicines that are not registered or have only one registered product to be added to the list for priority review at the DPM.

Regarding locally manufactured products, the commission received samples of 26 local products: 22 cosmetic products, an oral antiseptic, a cough suppressant, an anti-asthmatic, and a food supplement. None of the MNCH, FP, and TB products were locally produced products.

Regarding other products that only had one registered product (as per the mapping report), such as methyldopa injection, magnesium sulfate injection, calcium gluconate, chlorhexidine 7.1% gel, procaine benzyl penicillin 4 mega injection, and amoxicillin DT, no new registration application was submitted, with the exception of magnesium sulfate injection 500 mg/ml and procaine benzyl penicillin 4 mega injection.

Additionally, MTaPS continues to support the DPM in updating the *Directory of Registered Medicines*, which will be completed in October 2021. Once completed, the updated directory will be published on the DPM website. Pharmacist inspectors and customs officers use the directory to track unregistered products, including MNCH, TB, and FP/RH products.

Activity 1.1.3. Improve the functioning of provincial TWGs on medicines in Nord Kivu and Ituri

To continue improving coordination among partners, MTaPS supported the DPS in conducting a provincial TWG meeting in Ituri on August 10. Participants included representatives from partners (such

as Caritas and Sanru), CDR CADIMEBU (Centrale d'Achat et de Distribution des Médicaments Essentiels de Bunia), DPS, and specific program members (including the TB, malaria, reproductive health, HIV programs). During the meeting, participants approved the medicine distribution plan submitted by the CADIMEBU and recommended that:

- HZs conduct an inventory of all expired products and share the results with the Inspection and Control Office to plan for their destruction with CORDAID's support.
- CDR CADIMEBU reallocate near-to-expiry products contained in UNICEF family kits to HZs for redistribution in HFs.

Activity 1.2.1. Enhance the role of CODESAs and community outreach units in medical product management at the health center and community levels

Between July 19 and 31, MTaPS supported the HZs in organizing one-day quarterly meetings of CODESAs in Karisimbi, Kirotshe, Nyiragongo, and Rwanguba HZs in Nord Kivu.

These meetings aimed to increase community engagement in health product management, build communities' capacity, and ultimately improve the management of medical products at the HF and CCS levels. Participants included health center managers and 166 community members. This joint participation was an opportunity to have rich exchanges on managing health commodities. Taking advantage of the participation of health center managers, the HZ teams provided a quick update, with emphasis on the co-management of medicines and finances to strengthen transparency and improve product availability. During these meetings, community members from Nyiragongo HZ reported poor storage conditions, including the lack of a temperature monitoring system in pharmacies. To address the temperature monitoring issue, the HZ manager purchased wall thermometers for all HFs' pharmacies, using their own funds. This is encouraging and can be considered progress toward ownership by government counterparts.

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

Activity 5.2.1. Support DPS in strengthening MNCH health care capability by disseminating updated MNCH treatment protocols and related job aids to HFs and training health care providers on their appropriate use

From August 26 to 30, MTaPS, in collaboration with the USAID/IHP project, supported the national MNCH program (DGFGS/D10) in organizing a five-day workshop to develop treatment protocols and job aids for using oxygen, heat-stable carbetocin, tranexamic acid, and folic acid. The workshop also validated amoxicillin DT dispensing job aids that were developed by PATH in 2015 and updated by MTaPS in 2020. Participants included members from PNIRA, the National RH Program, and DPM; anesthesiologists and resuscitators from the University of Kinshasa; the DRC national president of gynecologists and obstetricians; and representatives of partners (MTaPS and IHP) and DSFGS, including the director.

The workshop included refresher sessions on the use of medicines (oxytocin, misoprostol, ergometrine, heat-stable carbetocin, and tranexamic acid) for prevention and treatment of postpartum hemorrhage and other obstetric purposes; an advocacy plan for the availability of medical oxygen and pulse

oximeters; and the contribution of oxygen therapy in managing respiratory distress and related innovations.

Key results of the workshop include the following:

- Draft protocols and job aids for using medical oxygen
- Draft protocols and job aids for use and administration of heat-stable carbetocin, tranexamic acid, and folic acid were developed
- Amoxicillin DT dispensing job aids were updated and validated

MTaPS will support the MNCH program to facilitate the official adoption by the national steering committee (CNP) and dissemination of the protocols and job aids.

Activity 5.2.2. Collaborate with the USAID/MOMENTUM Safe Surgery in Family Planning and Obstetrics project implemented by Engender Health in Ituri and the USAID/MOMENTUM Integrated Health Resilience project implemented by IMA World Health in Nord Kivu to support the DPS in integrating a reduced FP package for use at the community level in Nord Kivu and Ituri provinces

From August 2 to 7, MTaPS supported the PNSR in organizing a five-day workshop to define the FP community package, specifically the contraceptive kit for CCSs, estimate CCS' contraceptive needs, and develop the quarterly distribution plans in Ituri. The same activity took place in Nord Kivu from August 10 to 14. This activity aimed to increase demand for FP and eventually increase contraceptive prevalence by progressively bringing FP services closer to the community.

Participants included CHWs, DPS, and HZ teams, as well as representatives of partners (MTaPS, UNFPA, IMA-PATHFINDER) and CDRs (CADIMEBU in Ituri and ASRAMES in Nord Kivu).

To select the reduced package of contraceptives to be used in CCSs, participants used an approach based on CCS clients' needs. The list of contraceptives in the reduced package was also defined using two important documents: the 2020 National Essential Medicines List and the 2015 FP guidelines for the community level. A focus group discussion was also conducted to collect opinions and preferences of CHWs on the contraceptive methods to be promoted at the community level. At the end of this exercise,

6 FP products were selected to be part of the reduced package: cycle beads, subcutaneous DMPA (Sayana Press), oral combined pill, progestogen-only pill, and female and male condoms.

During the workshop, participants also estimated the need for contraceptives to be used at community level. Since there were no consumption data or community-level service statistics, a demographic forecasting approach was used to estimate the number of clients to be supplied by CCSs. Couple years of protection was then calculated to convert the number of clients into the quantity of contraceptives needed for service delivery.

Focus group discussing contraceptive methods to be promoted at the community level. (Photo credit: César Kasongo)

Activity 5.2.3. Strengthen community DOT, short-course (DOTS) strategy in the fight against TB in Ituri

To address issues that hinder the successful delivery of TB services, such as TB patients lost to follow-up, reductions in treatment adherence among certain patients, and the turnover and demotivation of CHWs, MTaPS supported the Ituri provincial TB program in organizing a four-day training on DOT and TB product management at the community level. This training was conducted in Bunia and Nizi HZs August 16-19 and August 26-29, respectively; 34 CHWs attended the training in Bunia HZ and 16 in Nizi HZ.

The training aimed to strengthen the capacities and engagement of CHWs in providing effective care that reduces patients' suffering by preventing and/or curing TB in the community. This will allow patients to be closer to the health care system, thereby reducing indirect treatment costs and improving adherence. During the training, data collection and reporting forms were also distributed for routine monitoring of TB treatment.

Activities for next quarter	
Activity and Description	**Date (2021)**
Support the DPM in completing the update of the Directory of Registered Medicines.	October
Support the MOH in developing, printing, and disseminating selected materials on pharmaceutical management, such as job aids and supervision checklists.	October
Support the national MNCH program (DGFGS/D10) to validate, print, and disseminate protocols and job aids for the use and administration of heat-stable carbetocin, tranexamic acid, and folic acid, as well as amoxicillin DT job aids.	October
In collaboration with Action Damien, organize a refresher training for CHWs so they can identify suspected TB cases and refer them to the Centre de Santé de Dépistage et de Traitement de la Tuberculose/Centre de Santé de Traitement de la Tuberculose (CSDT/CST). In collaboration with Action Damien, organize a campaign on active TB screening, coupled with voluntary HIV screening. Support the collection and transportation of sputum samples to the CSDT and ensure that TB medicines are available at CST, CSDT, and Bureau central de la zone de santé level for screened patients.	October
Support the DPS in collecting contraceptive consumption information from the private sector to determine contraceptive information gaps.	October

INDONESIA

QUARTER PROGRESS FOR FY21Q4

Note: Due to the timing of initiation of technical activities, no annual update will be provided for Indonesia

OBJECTIVE 1: STRENGTHEN THE INSTITUTIONALIZATION OF MORE SYSTEMATIC, TRANSPARENT, AND EVIDENCE-INFORMED DECISION MAKING IN INDONESIA

Activity 1.1.1 Strengthen the topic selection process for the HTA committee, Indonesian Health Technology Assessment Committee (InaHTAC)

The country coordinator for MTaPS in Indonesia started on July 1, 2021, and has been introduced to stakeholders. On July 21, 2021, an official letter was sent to the Directorate of Health Financing and Insurance (PPJK) to propose a follow-up meeting with the head of the PPJK, which was held on August 10, 2021. As a result of the meeting, the head of the PPJK allowed objective activities 1 and 2 to be carried out immediately.

A consultant for Objective 1 has been selected and started work. The consultant was introduced to the PPJK technical team and the InaHTAC by email on August 23, 2021.

A technical meeting to discuss Goal 1 was held on August 27, 2021. For activity 1.1.1, the PPJK needed MTaPS' support to develop national guidelines for the health technology assessment (HTA) topic selection through focus group discussions, a literature review, and drafting of guidelines.

Activity 1.1.2 Build capacity of key stakeholders on HTA methods

The initial discussion on the need for capacity building was held during a technical meeting on Objective 1 on August 27, 2021. This activity will be synchronized with the HTA agenda at the Asian regional level, where MTaPS has an HTA activity agenda.

Capacity building for HTA teams in Indonesia will specifically focus on the use of advanced HTA analysis, such as multicriteria decision analysis and real-world evidence. The discussion regarding the plan to increase the capacity of the HTA team will be carried out after HTAsialink is held October 11–13, 2021.

Activity 1.1.3 Support HTAsialink 2021

Between July and September 2021, intensive communication was carried out between the PPJK and MTaPS teams, including three technical meetings between the two teams.

A PPJK proposal submitted to USAID on August 30, 2021, names three activities to be supported by MTaPS: the HTA webinar at the preconference workshop on October 11, 2021; provision of translators for three days during the event; and preparation of digests and publications of salient learning stemming from HTAsialink.

OBJECTIVE 2: PROMOTE TRANSPARENCY IN PHARMACEUTICAL EXPENDITURE TRACKING TO IMPROVE VALUE IN PURCHASING IN INDONESIA

Activity 2.1.1 Landscaping of pharmaceutical expenditure tracking data sources

On August 20, 2021, a technical meeting for Goal 2 was held with the PPJK and the National Health Accounts (NHA) team, with a follow-up, in-depth discussion on September 15, 2021. As a result of the second meeting, MTaPS will support an internal meeting between the PPJK and related units at the Directorate General of Pharmacy to discuss plans for implementing the development of landscape data sources for tracking pharmaceutical spending.

Activity 2.1.2 Support the NHA team's capacity to compile pharmaceutical expenditure data in one focal district

No activities were held this quarter

ACTIVITIES FOR NEXT QUARTER	
ACTIVITY AND DESCRIPTION	**DATE**
HTA webinar at the preconference workshop	October 2021
Prepare terms of reference for data source landscape development activities for tracking pharmaceutical spending and organize meetings with the PPJK	October–November 2021

JORDAN

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

HIGHLIGHTS FROM PROGRAM YEAR 3 (FY21)

In February 2021, MTaPS started supporting the National Vaccine Procurement Modernization Committee (NVPMC) which includes 15 members representing 10 different national and international entities. Aligning the interests and having a consensus among different stakeholders is a key issue to advocate and adopt legislative reforms. Through a multisectoral approach, MTaPS successfully engaged the committee members and leveraged knowledge, expertise, and resources, benefiting from their combined and varied strengths. MTaPS convened the committee in regular meetings, created an enabling environment, and provided technical and legal support toward legislative and regulatory reform to accomplish the five points defined by USAID in their Conditions Precedent (CP) with the Government of Jordan (GOJ)—including partial prepayment, fast-track process for vaccines registration, framework agreement, and price negotiation—to ultimately improve the procurement of vaccines in Jordan.

In collaboration with the Ministry of Health (MOH) Infection Prevention and Control Department (IPCD) and Nursing Directorate, MTaPS successfully organized a series of IPC training sessions for selected MOH staff during FY21. Participants were highly engaged with the training and provided positive feedback to the MOH on the usefulness of the training materials. Therefore, the MOH requested that MTaPS conduct additional training sessions to an increased number of participants from the COVID-19 field hospitals with follow-up mentoring visits. These trainings will contribute to improving the capacity of the hospital's IPC units in implementing effective IPC interventions to reduce nosocomial transmission to health care workers, patients, and visitors.

During FY21, MTaPS achieved remarkable progress in supporting the MOH efforts in COVID-19 vaccines safety surveillance. MTaPS was granted official membership to the National Pharmacovigilance and COVID-19 Vaccines Adverse Events Monitoring Committee (NPVC) in July and started to participate in committee meetings to provide the needed technical support for adverse events following immunization (AEFI) surveillance. The main achievements to date have been providing the needed technical support to the MOH Electronic Transformation and Health Information Directorate (ETHID) to ensure systematic randomization to the sampling of those vaccinated and standardization of the information collection processes. This was an important step to ensure data was being collected from a representative sample of the vaccinated population. Moreover, MTaPS provided the needed technical support to the MOH to analyze the first data set from the COVID-19 vaccines AEFI surveillance system. MTaPS processed, cleaned, and analyzed the collected data from August to produce meaningful reports to share with the MOH to inform future decision-making processes.

QUARTER PROGRESS FOR FY21Q4

OBJECTIVE 1: STRENGTHEN PHARMACEUTICAL-SECTOR GOVERNANCE

During Q4, MTaPS continued its multisectoral approach by engaging all stakeholders from national and international health and financial sectors and leveraging their combined and varied strengths, knowledge, and expertise as they worked toward completing the five following CP points:

1) Institutionalizing vaccine procurement best practices

- The MOH, the Ministry of Finance (MOF), and the Government Procurement Department (GPD) to amend the new government procurement bylaw to extend the maximum limit of the framework agreement to three years instead of two years
- The MOF, MOH, and GPD to institutionalize partial pre-payment for vaccines through activation of government procurement bylaw article 93, with further amendment to allow additional pre-payment for vaccines
- The Jordan Food and Drug Administration (JFDA) to modify the principles of drug registration to include pricing of vaccines in order to provide a reference for their costs
- The MOH, Ministry of Industry and Trade, and GPD to 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

2) Facilitating market entry and increasing competitiveness

- The JFDA to amend bylaws to ensure WHO-prequalified registered vaccines are accepted for fast-track registration regardless of their registration status in reference countries like the USFDA or the European Medical Agency

Through continuous cooperation with the MOH Assistant Secretary General for Financial and Administrative Affairs—and in coordination with the Project Management and International Cooperation Directorate Director—MTaPS successfully facilitated the issuance of an official letter on August 30, 2021, to institutionalize the prepayment process. The letter—which was sent to the GPD director and the MOH Supply and Procurement Directorate director by his excellency the minister of health—clearly directed both directorates to institutionalize the utilization of the prepayment process for procuring vaccines and pharmaceuticals. This letter serves to encourage more suppliers to participate in the biddings, thus increasing the competition which will result in achieving extra savings in the procurement process.

On August 30, 2021—with MTaPS support—the NVPMC held a meeting that aimed to review and discuss implementation progress of the five interventions, upon which the GOJ and USAID agreed as conditions precedent. The meeting also served to (1) review the results of previously reported meetings with the JFDA, GPD, and Legislation and Opinion Bureau (LOB); (2) inform how to proceed with implementation within the agreed timeline; and (3) prioritize the implementation of the remaining interventions in the national plan for vaccine procurement modernization.

In this meeting, USAID emphasized the importance of completing the five points related to the precondition agreed between the GOJ and USAID before September 30, 2021, and encouraged the

committee to continue its work to build on its achievements in modernizing the procurement mechanisms. The committee prioritized the remaining interventions in the original operational plan and MTaPS committed to include them in its PY4 work plan.

A letter from the LOB was sent to the MOH on September 9, 2021, confirming their adoption of the suggested amendments on the procurement bylaw, which will advance efforts to modernize vaccine procurement in Jordan. The amendments include the extension of the framework agreement to three (or five) more years and the addition of an article permitting negotiation in the procurement process. LOB informed MOH that it is difficult to anticipate when the revised procurement bylaw will be issued as there are several steps needed before its official issuance in the national gazette, but they anticipated that it may be by the end of the 2021 calendar year.

MTaPS is finalizing a comprehensive report titled, "Required amendments in the Jordanian government procurement bylaw to modernize Jordan's vaccine procurement policies and processes" that will be submitted during next quarter to USAID.

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

On July 27, 2021, the JFDA sent a letter to the MOH confirming their approval of and commitment to amend the registration principals and to provide the international reference prices to the GPD on an annual basis in accordance with the CP. This will contribute to expediting the registration process of the WHO-prequalified vaccines in addition to providing the GPD with guidance on the ceiling of vaccine prices, which will help in their negotiation process with the suppliers.

USAID and MTaPS teams met with the JFDA management on August 17, 2021, and they reconfirmed their commitment to accomplish the CP before the end of September 2021. Nevertheless, the JFDA insisted in the meeting that it is their responsibility to follow internal procedures which cannot have external interference or support from other entities. The JFDA did not attend the NVPMC meeting on August 30, 2021, and requested MTaPS to convey to the committee the results of the meeting on August 17.

MTaPS is finalizing a report on the "Legal Mechanisms Available to Accelerate the Registration of Vaccines" and it will be submitted to USAID next quarter.

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

In Q4, MTaPS initiated discussions of the actionable point from the National Operational Plan for Vaccine Procurement Modernization about conducting an analysis on the most appropriate funding modality to facilitate timely and sustainable financing for vaccines. These discussions led to consensus with the NVPMC to include a comprehensive activity addressing this actionable point in the agenda of the committee. In FY22, MTaPS will provide technical support to the committee and national counterparts to develop a comprehensive analysis and recommendations of potential, sustainable funding mechanisms for vaccines.

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

MTaPS held several meetings with the MOH Pharmacy and Clinical Pharmacy Directorate (PCPD), Communicable Diseases Directorate (CDD), and IPCD to discuss priority focus areas on antimicrobial resistance (AMR), pharmacovigilance (PV), and IPC for PY4. Counterparts were highly engaged in the discussions and provided useful feedback which was incorporated into the PY4 work plan activities.

In Q4, MTaPS supported the MOH in COVID-19 vaccines safety surveillance. MTaPS advocated for joining the NPVC as an official member and was granted membership in July. MTaPS participated in committee meetings to provide the needed technical support for AEFI surveillance. MTaPS worked closely with the committee members on strengthening the technical and systematic functions of the MOH's COVID-19 vaccines active surveillance efforts. With the committee's consensus, MTaPS provided technical support to the MOH ETHID to ensure systematic randomization for the sampling of vaccinated individuals and standardization of the information collection process. Moreover, MTaPS developed a suggested outline of reports and indicators for COVID-19 vaccines safety surveillance and presented it to the NPVC for their review and approval.

In September, MTaPS coordinated a high-level meeting with the Assistant to the Secretary General for Primary Healthcare and the Project Management Specialist from USAID/Jordan to discuss the methodology for active surveillance data collection with the CDD, PCPD, and ETHID. During the meeting, the group agreed on the methodology for conducting active surveillance phone calls and detailed the necessary action points from the ETHID to support the agreed methodology. In consensus with the Director of the CDD and the Project Management Specialist from USAID/Jordan, the ETHID agreed to provide MTaPS with the active surveillance data for August 2021 to start the data analysis process and produce an initial report for the MOH. MTaPS conducted a thorough descriptive analysis of the data collected and presented it to the PCPD for their feedback. MTaPS discussed the challenges faced during the analysis with the Director of the PCPD who committed to communicate them to the ETHID and data collectors to improve the quality of collected data. MTaPS will present the outcomes of the initial analysis to the MOH Secretary General during an official meeting next quarter.

To understand whether the COVID-19 pandemic has had an impact on antimicrobial consumption, MTaPS continued to support the MOH PCPD by analyzing antimicrobial dispensary records across four hospitals (Prince Hamza, Al-Bashir, AL-Karak, and Jordan University) from 2019 to 2020 for their retrospective descriptive observational study. The study was using antimicrobial dispensing as a proxy for antimicrobial use. This quarter, MTaPS coordinated a meeting with the national electronic health records company, Hakeem, and the MOH PCPD to resolve queries regarding the collected data. MTaPS continued cleaning the data and started to analyze prescriptions using WHO's Anatomical Therapeutic Chemical/Defined Daily Dose methodology to compare trends and summary statistics of outcomes previous to and during the COVID-19 pandemic to understand whether any observable changes in antimicrobial use had occurred.

In collaboration with the MOH IPCD and Nursing Directorate, MTaPS organized a series of IPC training sessions for selected MOH staff. Training materials were jointly developed by MTaPS in close collaboration with the MOH IPC department and Nursing Directorate. Participants were highly engaged

with the training sessions and provided positive feedback to the MOH on the usefulness of the training materials. MTaPS provided 14 training sessions in Amman, Aqaba, and Ma'an to 279 participants.

Moreover, the head of the IPCD requested MTaPS support in developing a draft terms of reference (TOR) for the newly established multisectoral advisory committee for IPC. The head of the IPCD also requested MTaPS' technical, logistic, and administrative support during the committee's first meeting in August. During the meeting, MTaPS presented the draft TOR and facilitated a discussion session among members to obtain their feedback. Following the meeting, MTaPS prepared the minutes of the meeting, updated the TOR, and shared them with committee members for final review. MTaPS will follow up on the official approval of the TOR next quarter. Having a fully functional committee is an important step to ensure IPC interventions are sounded and effectively implemented in the health facilities and disseminated at the community level, contributing to AMR containment in the country.

Activities for next quarter	
Activity and Description	**Date**
Coordinate meeting(s) with the NVPMC to initiate the implementation of the prioritized activities in the National Vaccine Procurement Modernization Operational Plan	October–December 2021
Initiate the desk review for the study on the best modality to fund vaccine procurement in Jordan	October–December 2021
In coordination with the GPD, initiate drafting the negotiation instruction and framework agreement guidelines	October–December 2021
Start the supply chain assessment in coordination with the Procurement and Supply Directorate	October–December 2021
Meet with the Health Communication and Awareness Directorate and relevant technical directorates at the MOH to develop community awareness health messages for AMR and PV	October–December 2021
Developed vaccine contact procedures and data management methodology for COVID-19 vaccines safety surveillance	October–December 2021
Meet with the IPCD and the Advisory Committee for IPC (ACIPC) to start developing the national IPC program	October–December 2021
Provide technical, logistic, and administrative support to the ACIPC	October–December 2021
Meet with the PCPD and antimicrobial stewardship (AMS) committee to select priority antimicrobial prophylaxis and treatment guidelines for review and update	October–December 2021
Meet with the AMS committee to review and update the TOR for hospital-level AMS teams	October–December 2021

KENYA

For progress on MTaPS/Kenya's COVID-19 activities, click here. For additional information on country progress in COVID-19 activities this quarter, refer to Annex 1.

HIGHLIGHTS FROM PROGRAM YEAR 3 (FY21)

KENYA ANTIMICROBIAL RESISTANCE (AMR) MONITORING AND EVALUATION (M&E) FRAMEWORK FOR IMPLEMENTATION OF THE KENYA AMR NATIONAL ACTION PLAN (NAP)

MTaPS provided technical assistance for the development and dissemination of the national AMR M&E framework. Development was done in collaboration with the One Health AMR secretariat, the National Antimicrobial Stewardship Interagency Committee-Technical Committee (NASIC-TC) members and other AMR partners. This M&E framework was launched during the World Patient Safety Day celebrations on September 17, 2021.

KENYA NATIONAL INFECTION PREVENTION AND CONTROL (IPC) POLICY 2021–2025 AND KENYA NATIONAL IPC STRATEGIC PLAN

MTaPS provided technical assistance for the review and dissemination of the Kenya National IPC Policy 2021–2025 and the Kenya National IPC Strategic Plan in May 2021. The review process was led by the Ministry of Health's (MOH) Division of Patient and Health Worker Safety, in collaboration with MTaPS, the National Infection Prevention and Control Advisory Committee (NIPCAC), and other IPC stakeholders. These two documents were launched during the World Patient Safety Day celebrations on September 17, 2021.

UNIVERSITY OF NAIROBI (UON) PRE-SERVICE ANTIMICROBIAL STEWARDSHIP (AMS) CURRICULUM

MTaPS has been working with the UON School of Pharmacy to develop and finalize a pre-service curriculum on AMS. This curriculum was launched by the principal of the UON College of Health Sciences in a high-level event that was also attended by USAID, the Pharmacy and Poisons Board (PPB), Pharmaceutical Society of Kenya (PSK), students, and other AMR stakeholders.

COUNTY- AND FACILITY-BASED IPC AND AMS INTERVENTIONS

Over program year 3, MTaPS added Kilifi and Murang'a Counties to its initial focus counties of Nyeri and Kisumu. In addition, MTaPS increased the focus health facilities for IPC from 16 to 20 and those for AMS from 20 to 24. MTaPS undertook baseline assessments for IPC and AMS in Kilifi and Murang'a to identify prevailing gaps and needs to tailor targeted continuous quality improvement- (CQI) linked interventions for improvements. Additionally, MTaPS undertook mid-term assessments in Q1 for IPC and AMS in Kisumu and Nyeri Counties. The findings from these mid-term assessments showed significant improvements compared to the baseline assessments of 2019. MTaPS continued to provide supportive supervision and mentorship for MTaPS focus counties and health facilities to enhance performance and address emerging capacity needs.

Continuing professional development (CPD) for IPC

Over the past year, MTaPS worked with the National Nurses Association of Kenya (NNAK) and other health professional associations (Kenya Clinical Officers Association, Association of Kenya Medical Laboratory Scientific Officers [AKMLSO], Kenya Pharmaceutical Association (KPA), Kenya Society for Physiotherapists, Kenya Medical Association (KMA), and PSK) to develop and implement relicensure-linked CPD training courses on IPC. Over 3,000 health professional members from the 7 professional associations have been trained, which has strengthened human resource capacity in IPC practices in health facilities and communities.

CPD for AMS

Over the past year, MTaPS worked with the PSK to develop relicensure-linked CPD training courses on AMS. Implementation has been done through PSK and other health professional associations, such as the NNAK, AKMLSO, KPA, and KMA. Over 1,100 health care workers (HCWs) (100 doctors, 323 nurses, 720 pharmacists, and 30 medical laboratory scientific officers) were trained on the practical aspects of AMS in health care settings, which developed their capacity on AMS. Their participation earned the participants points from their respective regulatory bodies, including the Pharmacy and Poisons Board (PPB), the Nursing Council of Kenya, and the Kenya Medical Practitioners and Dentists Council. The CPD points are crucial for annual renewal of practice licenses.

Support for One Health national and county AMR coordination structures

MTaPS provided technical assistance for the relaunch of the NASIC-TC and supported establishment of County AMS Interagency Committees (CASICs) in four MTaPS focus counties. This intervention was done in collaboration with the national AMR secretariat team, county leadership, the FAO, and Infectious Disease Detection and Surveillance (IDDS).

Dissemination of Government of Kenya AMR-related documents

MTaPS disseminated various AMR documents in its target counties in support of the AMR NAP, including the National AMS Guidelines for Health Care Settings, National Infection Prevention and Control Guidelines for Health Care Services in Kenya, AMR communique, and Kenya Essential Medicines List 2019. These were disseminated during MTaPS' county-focused activities, such as advocacy meetings with county officials, capacity development workshops for HCWs, CASIC workshops, and AMS supportive supervision activities. For example, 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-supported 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 the five moments of hand hygiene, techniques for hand washing and using alcohol-based hand rub, and donning personal protective equipment (PPE), among others.

REGULATORY GUIDANCE TO THE PPB ON ACCESS, WATCH, AND RESERVE (AWARE) IMPLEMENTATION IN HEALTH CARE FACILITIES

MTaPS, in collaboration with the PPB, developed two regulatory guidance documents targeting the public and HCWs on appropriate use of antimicrobials, including AWaRe categorization of antibiotics as a key strategy to optimize prescribing antibiotics. Optimizing the prescribing of antibiotics contributes to preventing and containing AMR. The PPB communiques appeared in the local *Daily Nation Newspaper* (print media) on April 7, 2021, and the PPB Facebook page at https://m.facebook.com/story.php?story_fbid=4172734412745145&id=110132515672042.

QUARTER PROGRESS FOR FY21Q4

RESULT AREA 1: EFFECTIVE MULTISECTORAL COORDINATION ON AMR

Activity 1.1.1: Strengthening the NASIC's capacity for coordination, policy direction, and M&E of the national AMR plan

M&E framework for the AMR NAP

MTaPS, in collaboration with the MOH's national AMR secretariat, finalized the M&E framework for the AMR NAP. Implementing the M&E framework at national and county levels is set to begin in Q1 of Y4.

World Patient Safety Day Celebrations

USAID MTaPS participated in the World Patient Safety Day celebrations that were held on September 17, 2021. During this year's event, a virtual meeting was held, bringing together various stakeholders from the national and county levels. During the event, MTaPS presented on its patient safety initiatives, and several MTaPS-supported MOH documents were launched, including:

- M&E framework for the NAP: Developed with MTaPS support
- National IPC policy: Reviewed with MTaPS support
- National IPC Strategic Plan 2021–2025: Reviewed with MTaPS support
- IPC/AMR/Patient Safety ECHO Platform
- Clinicians' handbook on diagnostic stewardship

Establishing and institutionalizing CASICs in Kilifi and Muranga Counties

MTaPS, in collaboration with the national AMR secretariat and the departments of human health, animal health and agriculture, and environment in Kilifi County, established its CASIC. Representatives from each department were formally appointed and inducted on their mandate on August 16, 2021. In addition, the team developed a two-year costed work plan that will be officially launched during World Antimicrobial Awareness Week (WAAW) in November 2021.

In Murang'a, MTaPS, in collaboration with the national AMR secretariat, FAO, and IDDS offered technical assistance to the CASIC in developing its two-year costed work plan. The work plan will be officially launched during the WAAW in November 2021. Subsequently, in PY4, MTaPS will offer technical assistance in implementing prioritized activities jointly agreed upon with the Kilifi and Murang'a CASICs.

CASIC orientation package

MTaPS, in collaboration with the AMR national secretariat, reviewed and updated the CASIC orientation package. This is a standard reference guide for the establishment and operations of multisectoral governance structures for AMR at the county level.

NASIC and TWG meetings

MTaPS provided technical assistance in convening and participated in the NASIC-TC meeting held August 4–5, 2021. The NASIC-TC is a national government coordinating mechanism responsible for technical oversight, overseeing implementation of the national policy for AMR, and ensuring close coordination with stakeholders. The key takeaways from the meeting were:

- Appreciation for support provided from various AMR partners: A concern was that some areas overlap with the work already presented; hence, the AMR secretariat will seek to identify ways of obtaining partner reports and incorporating them into the routine reports. Of note is that MTaPS is working with the AMR secretariat to develop a reporting tool/template.
- Mapping and coordination: Mapping of all work is to be done for partners implementing AMR in various counties, and the specific AMR activities by partners. This will help the AMR secretariat better coordinate and align implementation of AMR interventions as outlined in the NAP.
- Establishment of a calendar: Because the NASIC-TC has not met for a long time, the AMR secretariat will make a standing calendar so that teams can plan well in advance.
- Guiding the planning and monitoring of progress nationally using the NAP M&E framework: MTaPS and other partners will use the M&E framework to support a situational assessment/analysis of the AMR-NAP implementation before reviewing the AMR NAP 2017–2022. The M&E framework is already being used in the ongoing establishment of CASICs.
- Strengthen NASIC-TC by including additional non-MOH AMR experts (not organizations) to advance containment of AMR
- Lack of partner support: Some counties/facilities are missing out on comprehensive partner support. It was noted that partners should be specific in their planned activities, scope, focus counties/facilities, and related implementation instead of generalizing that a partner is in a particular county while only supporting a component of AMR in only one facility.
- Partners to discuss/share annual work plans with the AMR secretariat prior to approvals
- Partners to share quarterly reports/updates of activities conducted with the AMR secretariat

In addition, MTaPS participated in NASIC's quarterly IPC and AMS TWG meetings during the year to review progress in implementing work plans.

One Health AMR bulletin

To ensure that AMR progress is captured in a bulletin/newsletter, MTaPS provided technical support in developing and consolidating various articles, in collaboration with the AMR secretariat and other stakeholders. The bulletin was published in September 2021.

RESULT AREA 2: INFECTION PREVENTION AND CONTROL

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

MTaPS engaged the Ministry of Health Occupational Safety and Health (MOH-OSH) focal person on July 14, 2021, to discuss implementing OSH activities in target facilities in focus counties. This was followed by a joint meeting with MOH officials drawn from the Health Worker Safety and Occupational Safety and Health Divisions on July 23, 2021. The overall aim was to discuss ways of integrating key OSH components into IPC services, especially in counties and health care facilities that suffer acute shortages of staff. July 29–30, 2021, MTaPS supported a workshop that developed a new OSH training module to be incorporated in the national IPC curriculum and revised TOR for the MOH-OSH committee. A representative from the Directorate of Occupational Safety and Health (DOSH) under the Ministry of Labour provided technical support during the workshop. This activity is geared to both strengthen existing OSH committees and establish new ones to enable auditing, assessment, and reporting of occupational safety and health issues to the DOSH for compensation.

MTaPS provided technical assistance in developing the National Policy on Patient and Health Worker Safety and Quality of Care and the National Patient and Health Worker Safety and Quality of Care Action Plan 2021–2026. This workshop, held August 12–18, 2021, brought on board representatives from the Ministries of Health and Labour, county departments of health services, referral hospitals, teaching institutions, WHO, and other implementing partners.

Additionally, MTaPS held a meeting with the health leadership of Kisumu County on September 1, 2021, to discuss establishing the IPC management and coordination structures in the county. This led to orienting the County Infection Prevention Control Advisory Committee (CIPCAC) members and action planning in a workshop held September 23–24, 2021.

Activity 2.2.1: Provide technical assistance to implement a CPD- and relicensure-linked in-service IPC training course for delivery through professional associations

MTaPS continued to collaborate with professional associations in conducting and facilitating IPC CPD events in Q4 on a virtual platform. MTaPS, in collaboration with the PSK, facilitated a webinar on health worker safety in the context of COVID-19 on August 24, 2021. The webinar was attended by 453 HCWs across all disciplines. On September 23, 2021, MTaPS, in collaboration with the Kenya Association of Private Hospitals, held a webinar attended by 45 participants on IPC in the context of health worker safety and COVID-19.

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

MTaPS held meetings with county departments of health leadership to strengthen collaboration, lobby, and advocate for budgetary allocation for IPC programs and activities in the departmental annual work plans and to integrate IPC into existing programs to ensure their sustainability . MTaPS engaged the leadership of Kilifi County on June 15, 2021, and Murang'a County on July 26, 2021, regarding the support of the IPC CQI projects initiated in the counties.

During Q4, MTaPS offered technical support to hospital IPC committees and hospital management teams (HMTs) in five focus health facilities from Murang'a, Kilifi, and Kisumu Counties. The aim of the visits was to give technical support to IPC committees, monitor implementation of their roles and

responsibilities, and lobby for support for managing and implementing IPC programs at the facility level. The HMTs pledged support for ongoing IPC CQI projects in their respective health facilities. In addition, the Murang'a hospital IPC committee has formed sub-committees on OSH, CQI, and surgical site infection surveillance.

MTaPS continued to support counties, sub-counties, and health facilities in implementing IPC/OSH/WASH activities. In Kisumu County, the team attended virtual meetings hosted by the department of health to discuss the IPC situation every Monday afternoon. The meetings bring on board all partners implementing IPC activities in Kisumu and facilities implementing IPC CQI projects under MTaPS. The meetings help in defining each partner's role in to avoid duplication of efforts and strengthens support in implementing IPC programs in the county.

Further, implementation of IPC CQI action plans developed by focus health facilities was monitored on a weekly basis. Rounds of joint supportive supervision visits were made in collaboration with the county teams in 11 health facilities that are implementing IPC CQI projects during Q4.

Q4 supervision visits were made on August 11 in Murang'a County and August 31–September 3 and September 16–17, 2021, in Kilifi County. Onsite feedback was given to health facility staff, and technical support, on-the-job training, and mentorship sessions were held based on the needs of individual facilities. Best practices are enhanced, best performers encouraged, and identified gaps are bridged by supporting facility management, MTaPS, and other implementing partners.

Additionally, MTaPS has continued to provide technical and financial support during facility-based continuous medical education (CME) sessions in Murang'a, Nyeri, and Kisumu Counties. The CMEs are aimed at building capacity of HCWs for implementing IPC practices and cascading IPC training in modules in the facilities. At Murang'a County Referral Hospital, biweekly CMEs on hand hygiene and health care waste management were held for different departments with an attendance of 80 participants in Q4. Mukurwe-ini Hospital and Jaramogi Oginga Odinga Hospital held a CME on surgical care bundles on August 13 and September 22, 2021, attended by 13 and 25 participants, respectively. Provision of SOPs and job aids on hand hygiene and donning and doffing PPE has been on-going in all supported health facilities.

RESULT AREA 3: USE OF ANTIMICROBIAL MEDICINES OPTIMIZED

Activity 3.1.1: Strengthen national and county AMS governance structures

Establishing county-level AMS TWGs

The Murang'a and Kilifi County AMS TWGs were established in June and August 2021, respectively. Appointed members were issued formal letters of appointment and TOR. The TWGs are responsible for overseeing implementation of the AMS sections of their respective CASIC's work plans.

The Kisumu County AMS TWG will be established in October 2021 during the workshop to inaugurate the newly appointed CASIC members and develop a work plan. Nyeri County does not have an AMS TWG because of human resource constraints but has an AMR focal person who also oversees implementation of county AMS action plan activities.

National AMS training curriculum

The national AMS training curriculum was developed and is currently being finalized. It will be used to develop the capacity of HCWs on AMS with the aim of establishing AMS programs in health care facilities in Kenya.

Biannual AMS publication

This is currently being developed and will be published in October 2021.

Activity 3.1.2: Support national Medicines and Therapeutics Committees (MTCs) in institutionalizing and implementing AWaRe categorization of antibiotics

Development of national medicines formulary (NMF) by national MTC (NMTC)

Over the quarter, MTaPS, in collaboration with the NMTC and MOH, held workshops where the first NMF that incorporates the AWaRe categorization of antibiotics was developed. A TWG was officially appointed by the director general of MOH to lead the process of developing the formulary, with MTaPS support. AWaRe categorization underscores the importance of optimal use of antibiotics to reduce the potential for AMR. The formulary is currently being finalized and will be published in October 2021.

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

Implementing the pre-service AMS curriculum

MTaPS, in collaboration with the UON School of Pharmacy, officially launched the pre-service AMS curriculum on September 28, 2021. The curriculum will be used to develop the capacity of students in health sciences courses (e.g., medical students, pharmacists, and nurses) on AMS as a key strategy to contain and prevent AMR. Upon completion of the AMS course, students will be equipped with the knowledge and skills for establishing and running AMS programs in health care facilities. The launch was attended by representatives from USAID, MOH, UON, USAID implementing partners, the national AMR secretariat, and the directorate of veterinary services, among others.

Developing the capacity of HCWs on AMS through CPD sessions

MTaPS, in collaboration with health professional associations, has been providing CPD sessions on AMS for their members. The professional associations involved were AKMLSO, KMA, KPA, NNAK and PSK. During this quarter, MTaPS partnered with AKMLSO to train 30 medical laboratory scientific officers.

Some of the highlights and emerging issues from the CPD sessions were as follows:

- It is imperative that clinicians are competent in the syndromic approach for managing infections in low-resource settings where laboratory capacity is nonexistent. AMS needs to be introduced in community pharmacies and far-flung health care facilities where laboratory services are not robust.
- Consultants and senior doctors need to be sensitized on the need to adhere to standard treatment guidelines as a way of standardizing antimicrobial prescribing. Senior prescribers are known for not being very good on following guidelines.
- One challenge with the shortage of surveillance data is that the data that is available is often from tertiary health care facilities or critical care units where patients have failed other therapies and are thus not applicable to other settings; this could drive inappropriate use of antimicrobials.

- Ceftriaxone, a third-generation cephalosporin, is widely prescribed by many cadres of health care practitioners for several conditions, including upper respiratory tract infections (URTIs) because systems to control prescribing antimicrobials in low-resourced health care facilities are lacking.
- Prescribers are often pressured to prescribe antimicrobials for their patients, even when not warranted. Prescribers should be encouraged to seize their consultation opportunities to educate patients on the importance of appropriate use of antimicrobials. On the other hand, some health care facilities are reluctant to offer public health talks on managing URTIs without antimicrobials because there is the fear that their patient numbers will decline.
- Tight, in-country regulatory measures to prevent entry of substandard and falsified antimicrobials, which also drives AMR, are needed.
- Health care facilities need to survey the use of antimicrobials and share results widely for other facilities to gain insights on approaches used, results, recommendations, and even potential areas for future research.
- The NAP on prevention and containment of AMR 2017–2022 should be disseminated to the public to increase awareness on the burden and negative impact of AMR.
- Practical laboratory-based training on AMR research should be provided to tertiary-level students.
- Policy makers need to take into consideration the risk of AMR when developing guidelines for managing infections. For instance, last year, concern was raised over mass uptake of isoniazid preventive therapy for HIV/AIDS patients in Kenya. This year, the country is faced with isoniazid mono-resistance and the recently released guidelines recommend use of rifampicin and isoniazid.

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

Over the quarter, MTaPS undertook supportive supervision visits in Nyeri and Kilifi Counties to follow-up on respective AMS CQI action plans and provide mentorship. MTaPS continued to review the medicines formulary for Jaramogi Odinga Oginga Teaching and Referral Hospital. Supportive supervision is aimed at strengthening AMS programs to play a key role in preventing and containing AMR. In addition, MTaPS continued to provide targeted technical assistance to MTaPS-focus health facilities to reduce inappropriate use of antimicrobials, such as ceftriaxone and amoxicillin, based on action plans developed in Q1, e.g., at Chulaimbo Hospital in Kisumu County; the focus is amoxicillin, and the status of the prospective study in August is shown below:

AMS program CQI initiative to reduce inappropriate use of amoxicillin at Chulaimbo Sub-County Hospital

Objective

Reduce inappropriate use of amoxicillin in the outpatient unit by 20% by August 31, 2021.

Baseline evaluation

- Baseline evaluation was done for October and November 2020.
- Sample size for data collection was 24 prescriptions.
- Method of data collection was random.

Results

- Out of 24 prescriptions with amoxicillin, only 5 prescriptions had amoxicillin correctly prescribed, i.e., 21% of patients had amoxicillin correctly prescribed.
- 58% of the prescriptions had the correct diagnosis indicated.
- 79% of the prescriptions had the correct dosage of amoxicillin indicated.
- 41% of the prescriptions had the correct route of administration indicated.
- 91% of the prescriptions had the correct frequency indicated.
- 95% of the prescriptions had the correct duration indicated.

Interventions

Pharmacy personnel offered direct feedback to prescribers whenever gaps were identified in prescriptions. This was done before medicines were dispensed to patients.

Midline evaluation

- Evaluation was conducted March and April 2021 (three months after the baseline evaluation).
- Sample size for data collection was 24 prescriptions.
- The random data collection method was used.

Results

- Out of 24 prescriptions, 7 prescriptions had amoxicillin correctly prescribed; 29% of patients had amoxicillin correctly prescribed. Slight improvement from 21% of the baseline assessment conducted in November and December 2020.
- 75% of the prescriptions had the diagnosis correctly indicated.
- 75% of the prescriptions had the amoxicillin dosage correctly indicated.
- 62% of the prescriptions had a correct route of administration.
- 91% of the prescriptions had the frequency of the amoxicillin correctly indicated.
- 87% of the prescriptions had the duration of use correctly indicated.

Observations

- Amoxicillin is being used to treat viral infections, e.g., flu, common cold, and allergic cough.
- It is also being used empirically for treating urinary tract infections.

Interventions

- In addition to direct feedback offered to prescribers on gaps identified in prescriptions, it was resolved that a CPD session should be held to senstize prescribers on the appropriate prescribing of amoxicillin.

Challenges

- Medical students prescribe antimicrobials without verification by qualified clinicians.
- Standard prescription pads (prescribers use plain papers for prescribing) are lacking.

In Kenyatta National Hospital, MTaPS provided technical assistance for the revision of guidelines on surgical antimicrobial prophylaxis in Q4. The guidelines are currently being finalized and will be printed and launched in Q1 of PY4. Thereafter, efforts to improve adherence to the guidelines will contribute to preventing and containing AMR in the hospital and community.

Over the quarter, MTaPS has also been following up on the implementation status of MTC/AMS action plans for the new counties of Kisumu and Murang'a. These plans were developed in the previous quarter and are largely focused on antibiotic prescribing and use.

Activities for next quarter	
Activity and Description	**Date (2021)**
Activity 1.1.1: Continue strengthening NASIC's capacity for coordination, policy direction, and M&E of the national AMR plan	
Implement AMR NAP M&E framework	Oct–Dec
Produce quarterly or biannual AMR bulletin or newsletter	October
Activity 2.1.1: Continue strengthening governance for IPC at the national, county, and facility levels	
Develop IPC M&E framework	Oct–Dec
Produce high-level flyer/communique/brief on IPC	Oct–Dec
Launch Kilifi CIPCAC	Oct–Dec
Review national IPC policy	Oct–Dec
Activity 2.2.1: Provide technical assistance to implement a CPD- and relicensure-linked in-service IPC training course for delivery through professional associations	
None	
Activity 2.5.1: Support county-, sub-county-, and facility-level IPC/OSH/WASH activities	
Implement OSH, including OSH training and sensitization	Oct – Dec
Activity 3.1.1: Strengthen national and county AMS governance structures	
Produce biannual AMS publications	Oct-Nov
Activity 3.1.2: Support the National MTC in institutionalizing and implementing AWaRe categorization of antibiotics	
Develop a national medicines formulary incorporating AWaRe concept	Oct-Nov
Develop costed county AMS TWG work plans incorporating implementation of AMS guidelines and AWaRe concept	Oct – Dec.
Activity 3.2.1: Develop health care human resource capacity to manage AMS through pre- and in-service trainings	
Implement AMS CPD activities for AKMLSO and KPA	Oct – Dec.
Activity 3.5.1: Support county, sub-county, and facility-level AMS activities	
Implement AMS CQI action plans	Oct – Dec.
Implement AMS guidelines in health care facilities	Oct – Dec.

MALI

For progress on MTaPS/Mali's COVID-19 activities, click here. For additional information on country progress in COVID-19 activities this quarter, refer to Annex 1.

HIGHLIGHTS FROM PROGRAM YEAR 3 (FY21)

In FY21, MTaPS Mali's planned GHSA activities focused on three components: multisectoral coordination, infection prevention and control (IPC), and optimization of antimicrobial use. COVID-19 has impacted activity implementation, as key members of the coordination group have been heavily involved in COVID-19 activities. The first half of the year was also marked by significant socio-political unrest that led to multiple postponements of the implementation of activities. However, the achievements recorded during FY20—and more specifically the IPC COVID-19 activities—have made it possible to make further progress on the GHSA IPC component.

During FY21, the National Multisectoral Coordination Group for Antimicrobial Resistance (GCMN-RAM) was only able to organize two out of the four initially planned coordination meetings to monitor progress on implementing the national action plan on antimicrobial resistance (NAP-AMR). These two meetings mainly focused on objectives 2 (surveillance), 3 (IPC), and 4 (antimicrobial stewardship [AMS]) of the NAP-AMR, including some activities supported by WHO and MTaPS. The progress made included the sharing of the first bulletin on the sensitivity profile in the 5 sentinel sites, the establishment of drug and therapeutics committees (DTCs) and IPC committees in certain health facilities, and the sharing of documents developed with MTaPS' support in the field of animal health during FY20. All these achievements have contributed to advances in the joint external evaluation (JEE) score. This progress was seen during the 2021 self-assessment carried out by Mali, which noted a score of 3 out of 5 for coordination, surveillance, and optimization of antimicrobial use. For the IPC component, although MTaPS supported all the level- 2 benchmark actions, Mali scored a 2 on the self-assessment due to the lack of national norms on environmental health and water, sanitation, and hygiene. The IPC technical working group (TWG) organized one meeting to fill out the IPC assessment tool 2 (IPCAT2). During this meeting, the IPC TWG found that Mali had a score of greater than or equal to 50% on four of the six IPC components assessed at the national level in 2021, compared to just one component scoring at this level in 2020. However, Mali received a low score for the other two components (health care-associated infection surveillance and monitoring/audit of IPC practice feedback and control activities) as indicated in figure 14.

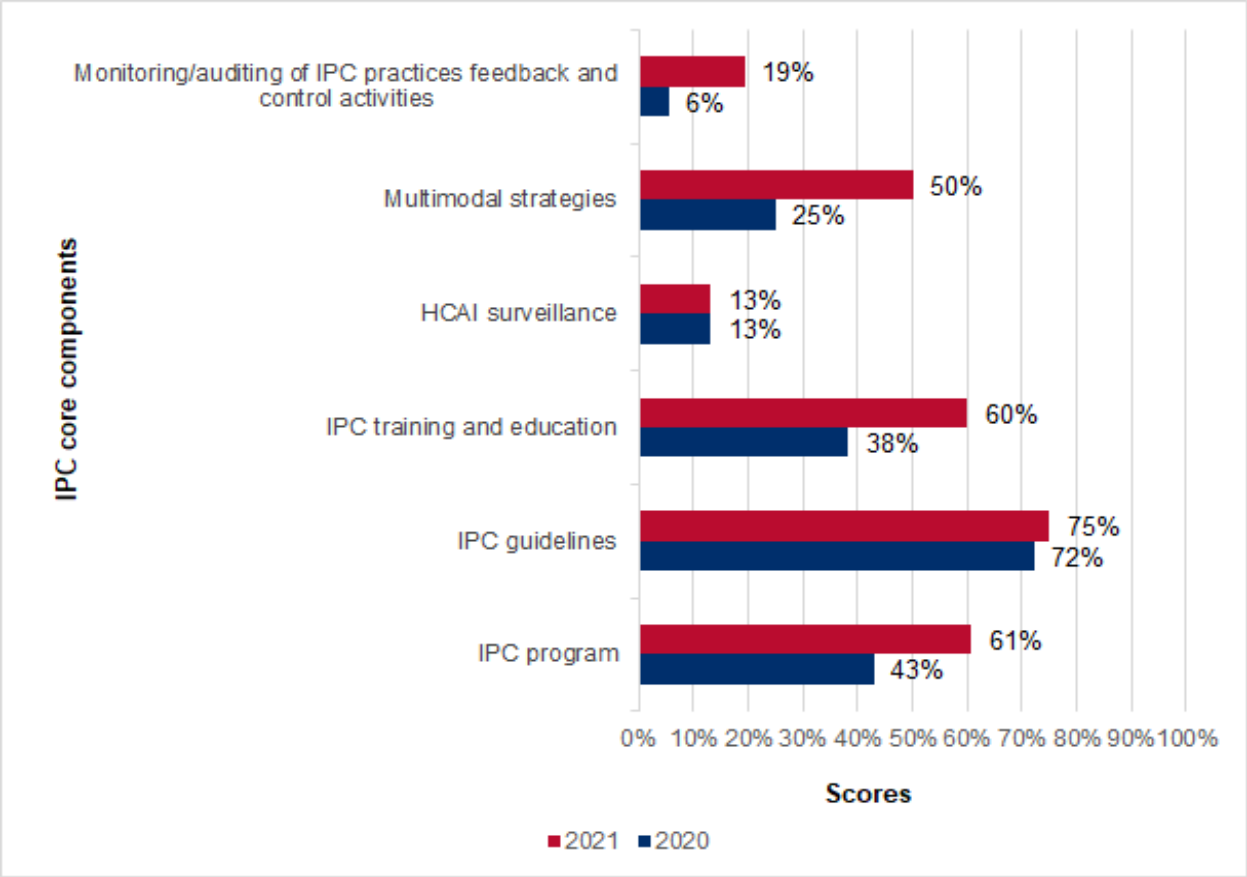

Figure 14. Comparison of the results of IPCAT2 assessments from 2020 and 2021

In February 2021, the Minister of Health and Social Development, Dr. Fanta Siby, officially launched the online learning platform on standard IPC and COVID-19 IPC with the financial and technical support of MTaPS, and in collaboration with Institut National de Santé Publique, Direction Générale de la Santé et de l'Hygiène Publique (DGSHP), Faculté de Médécine et d'Odonto-stomatologie, and Institut National de Formation en Sciences de la Santé. 91 people participated in the launch ceremony, including representatives from the human health, animal health, environment, agriculture, and education sectors, as well as USAID, WHO, UNICEF, the Food and Agriculture Organization Emergency Centre for Transboundary Animal Diseases (FAO ECTAD), Terre des Hommes, USAID Breakthrough Action, and World Vision. Currently, these courses are accessible to all health care providers and students in human health to improve practices in health facilities.

MTaPS supported the DGSHP and Agence Nationale d'Evaluation des Hôpitaux (ANEH) to establish IPC committees in four new facilities (Gabriel Toure University Teaching Hospital, Dermatological Hospital, Mali Gavardo Hospital, and Segou Regional Hospital). This brought the number of health facilities supported by MTaPS to 16, which was the target. MTaPS then provided technical and logistical support for a virtual meeting with the 16 facilities to monitor their progress and ensure continuous quality improvement (CQI) of IPC practices. The meeting found that all 16 facilities made progress on the implementation of their action plans and followed recommended IPC practices. The meeting results were confirmed through a supervisory visit carried out in FY21 Q4.

Another notable achievement of MTaPS in FY21 was supporting the GCMN-RAM through the Direction de la Pharmacie et du Médicament (DPM) to establish DTCs in seven health facilities to improve AMS practices. MTaPS' capacity building of the DPM concerning the establishment of DTCs enabled it to give clear orientations to the structures based on the achievements of the previous year. Despite the socio-political events in Mali, seven DTCs were established in 2021, compared to five in 2020, with the process to establish the four remaining DTCs ongoing. Additionally, MTaPS supported the training of 98 members of the seven DTCs in 2021 on the optimization of antimicrobial use—and more specifically on the AWaRe approach—compared to 56 members of the five DTCs in 2020. The DTCs' members were not previously familiar with the AWaRe approach.

Regarding the Ebola response, MTaPS—in collaboration with the DGSHP—developed 16 Ebola IPC training modules and six Ebola IPC standard operating procedures (SOPs). In total, MTaPS Mali provided technical and financial support for the development of 22 national documents for Ebola response. MTaPS also supported the Ebola baseline assessments with the scorecard tool in seven health districts bordering Guinea. The developed documents were used to train 100 health workers in the seven health districts, namely: Kenieba, Kati, Selingue, Kita, Kangaba, Yanfolila, and Sagabari. Virtual meetings were organized with IPC subcommittee members and representatives from the seven health districts to monitor the implementation of the improvement plans developed in each facility.

QUARTER PROGRESS FOR FY21Q4

RESULT AREA 1: EFFECTIVE MULTISECTORAL COORDINATION ON AMR

Activity 1.1.1. Provide technical and operational support to the GCMN-RAM and its two subcommittees (IPC and AMS).

MTaPS supported the One Health Platform to prepare for its monthly meeting on July 30 at the Ministry of Health and Social Development. Participants came from four key sectors: health, agriculture, livestock and fisheries, and the environment. During this meeting, the AMR focal point gave a presentation on GCMN-RAM activities prepared with MTaPS' support. Following discussions, it was recommended (i) to expedite the adoption of the AMR action plan by the government and (ii) to expedite the official establishment of the GCMN-RAM, as they are bottlenecks for the financing of the NAP-AMR and the functioning of the multisectoral coordination group, respectively.

MTaPS supported the GCMN-RAM to hold its coordination meeting on August 25, 2021. The meeting focused on animal sector progress on AMR. The National Directorate of Veterinary Services and Central Veterinary Laboratory (LCV) presented on the achievements made. Major achievements include the development of (i) a national animal health AMS action plan, (ii) an animal health sector guidelines document, and (iii) an IPC action plan for the animal health sector. Some key discussion points from the meeting were:

- The use of antibiotics by non-veterinarians
- The evolution of the fight against AMR in the animal health sector
- Rational management of antimicrobials in animal health
- Regulation of the sale of antibiotic drugs in the animal health sector (prescriptions by veterinarians)

- Failure to distribute IPC guidelines and other documents developed in the animal health sector
- LCV's participation in quality control

Following discussions, participants made the following recommendations:

- Develop advertising sketches to encourage the population to contribute to the fight against AMR, notably combating the illicit sale of medicines in animal health
- Adopt good breeding practices (biosecurity, hygiene, vaccination)
- Ensure that antimicrobials are prescribed after diagnosis and under veterinary supervision
- Ensure strict compliance with prescriptions (animal species treated, dosage, frequency/duration, withdrawal period)
- Request antibiogram tests in each case of suspected major bacterial disease before starting any antimicrobial treatment (field agents)
- Stop the practice of antimicrobial use to promote growth

MTaPS supported the AMS TWG to organize its meeting on August 31 under the leadership of the DPM and with the presence of the USAID Mission. It focused on the WHO Benchmarks for International Health Regulations (IHR) Capacities tool, the technical areas of the benchmarks, and the capacity level for the optimization of antimicrobial use. The meeting also reviewed the activities that were carried out; the implementation of the NAP-AMR's AMS component; the IHR JEE scores, which highlighted the main achievements; and the prospects and the challenges for implementing AMR control activities. Meeting participants assessed the AMS core components at the national level using the WHO AMS toolkit. The assessment found that one AMS core component (regulations and guidelines) had a score of 50%, while the other three components (national plan and strategy; awareness, training, and education; supporting technology and data) had scores greater than 75%.

Other Activities

MTaPS and FAO ECTAD met with the permanent secretary of the One Health Platform to discuss accelerating the officialization of the platform's AMR thematic group, the GCMN-RAM. During this quarter, MTaPS participated in the following meetings to continue its advocacy for the formalization of this group:

- A meeting with USAID supply chain implementing partners on August 25, 2021, to review progress and identify challenges and opportunities for a synergy of action between implementing partners
- A One Health Platform meeting on August 27, 2021, whose overall objective was to share data on surveillance activities in various key departments of the national One Health Platform and consider strengthening multisectoral collaboration
- A virtual meeting on August 23, 2021, on the preparation and submission of Confidence-Building Measures under the Biological Weapons Convention
- A virtual meeting on the mapping of resources for the implementation of the Plan d'Action National de Sécurité Sanitaire regarding the IHR objectives on August 24, 2021
- A meeting with the dean of the Faculté de Médecine on August 25, 2021, to discuss the IPC COVID-19 study project of the Faculté de Médecine financed by WHO. According to the dean, this study will be carried out in three French-speaking countries (Mali, Côte d'Ivoire, and DRC).

Activity 1.2.1: Strengthen technical capacity of key government AMR stakeholders

In collaboration with the GCMN-RAM, MTaPS provided financial support to two technical staff from the GCMN-RAM to attend the month-long Antibiology and Antibiotherapy Interuniversity Diploma training (September–October 2021) for sub-Saharan Africa, organized by Nazi Boni University and the University of Montpellier in Burkina Faso and held September 13–October 15, 2021. This support specifically covered the tuition, training materials, lodging, meals, and incidentals. In consultation with the GCMN-RAM, MTaPS will work with the two trainees on an implementation plan to translate their newly gained policy knowledge into practice as it applies to the GCMN-RAM's priorities.

RESULT AREA 2: IPC

Activity 2.5.2: Support the GCMN-RAM and DGSHP to monitor the implementation of IPC practices at health facilities

MTaPS supported the GCMN-RAM and DGSHP to conduct field visits in September to monitor progress and ensure CQI of IPC practices in the 16 health facilities, with 1 health facility yet to be visited due to poor road conditions during the rainy season. The use of the IPC assessment framework tool in the health facilities during the supervisory visit showed progress in the health facilities, including 2 facilities moving from the basic to the intermediate level and 2 other facilities moving from the intermediate to the advanced level. Currently, there are 3 health facilities at the advanced level compared to just 1 during the baseline evaluation before MTaPS' interventions.

Regarding hand hygiene, the tool showed that 9 health facilities have moved from the basic level to the intermediate level. 11 structures are now at the intermediate level compared to only 3 during the baseline assessment. For the monitoring of IPC COVID-19 interventions, the scorecard showed that 5 health facilities regressed in terms of score. This is due to the structures relaxing measures to triage visitors at the entrance. The supervisory visits also identified inadequacies in the sorting of waste in some facilities. Recommendations were made to the facilities to (i) triage visitors at the entrance to health facilities and (ii) raise awareness among health personnel about waste sorting.

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

MTaPS supported the DGSHP team to orient 45 people on the use of the eLearning platform. Following the orientation, the DGSHP eLearning platform registered 40 new participants, including 23 people registering for standard IPC courses and 17 for COVID-19 courses. The AMS eLearning modules developed by MTaPS will also be uploaded to the same platforms.

RESULT AREA 3: USE OF ANTIMICROBIAL MEDICINES OPTIMIZED

Activity 3.5.1: Support the GCMN-RAM, DPM, and ANEH to establish DTCs in 11 new sites

MTaPS worked with DPM to prepare and hold a training workshop for the Dermatologic Hospital and Gavardo Mali Hospital's DTC members in July. Eighteen participants were trained on AMS modules, followed by the development of an action plan for improving AMS interventions in the facilities. Action plans were informed by baseline data that had been collected and analyzed. MTaPS also met with the

DPM to plan for the training sessions to establish DTCs in the remaining four health facilities, which are planned for October 2021.

MTaPS supported the DPM to prepare for and organize a virtual meeting in August, during which the 12 facilities shared their progress on the implementation of their respective action plans. The results shared were confirmed by supervisory visits done in five of the 12 facilities in September. In these facilities, the implementation of the action plans is lagging. Only Kayes Hospital has drawn up the list of medicines authorized for the hospital in accordance with its action plan. However, several activities not initially foreseen in the action plan were carried out, including the distribution of the essential medicines list to the Luxembourg hospital and the consensus reached at the CSRéf of Keniéba to limit the use of antibiotics in surgery. Interviews conducted at the exit of the pharmacies in the five facilities showed that 55% (55/100) of patients knew the dosage and the frequency of administration of their prescribed antibiotic. The baseline assessment indicated that 44% (43/97) of the patients interviewed in the same facilities knew that information, showing a slight improvement in patients' knowledge of the dosage and frequency.

EBOLA RESPONSE ACTIVITIES

HUMAN RESOURCES FOR HEALTH, TRAINING, SUPERVISION

Support coordination mechanisms, working groups, and stakeholders

MTaPS supported the IPC subcommittee to hold two virtual meetings on August 16 and 20, 2021. During these meetings, committee members shared the results of the training and assessment in the seven districts bordering Guinea. The seven health districts participated in the August 20 meeting, sharing their progress on the implementation of their action plans. During these meetings, partners shared the activities that they plan to support, allowing a synergy of action to avoid duplication in financing activities.

Conduct rapid assessment of IPC readiness

In July, MTaPS supported DGSHP's team to assess IPC Ebola interventions in the Sagabari health district using the scorecard tool. The data collected with the scorecard found that Sagabari health district is at an intermediary level in terms of IPC Ebola. To pass from the intermediate to the advanced level, the assessment team recommended that the health district:

- Use the scorecard tool two to three times per week to conduct internal self-evaluations
- Triage visitors at the entrance to health facilities
- Raise awareness among health personnel about waste sorting
- Identify a quarantine site
- Post education materials on the wearing and removal of PPE
- Strengthen capacity of health personnel on IPC
- Set up a registry of trainers

Strengthen human and organizational IPC capacity

MTaPS supported IPC Ebola training for 14 health workers in the Sagabari health district July 7–9, 2021. The training used the 16 modules and six SOPs adapted for Ebola with MTaPS' support.

Activities for next quarter	
Activity and Description	**Date**
GHSA	
(Year 2) Activity 3.5.1: Support the GCMN-RAM, DPM, and ANEH to establish DTCs in 11 new sites, train the members of the 4 remaining DTCs, and monitor AMS practices	October 2021
(Year 3) Activity 1.1.1: Provide technical and operational support to the GCMN-RAM and its two subcommittees (IPC and AMS)	October–December 2021
(Year 3) Activity 2.1.1: Support the GCMN-RAM in developing a national IPC action plan for the human health sector	October–December 2021
(Year 3) Activity 2.5.1: Support the GCMN-RAM and DGSHP in monitoring the implementation of IPC practices at health facilities	October–December 2021
(Year 3) Activity 2.5.2: Strengthen capacity of three local training institutions to manage eLearning on IPC and AMS for both pre- and in-service health care workers	October–December 2021
(Year 3) Activity 3.5.1: Support DPM in developing and disseminating a DTC training toolkit	October–December 2021
(Year 3) Activity 3.5.2: Support the GCMN-RAM, DPM, and ANEH in monitoring the functionality of DTCs in 16 facilities	October–December 2021
Ebola response	
Support coordination mechanisms, working groups, stakeholders; monthly meeting	October–December 2021
Monitor compliance with IPC guidelines and SOPs	October–December 2021

MOZAMBIQUE

For progress on MTaPS/Mozambique's COVID-19 activities, click here. For additional information on country progress in COVID-19 activities this quarter, refer to Annex 1.

HIGHLIGHTS FROM PROGRAM YEAR 3 (FY21)

IMPROVING PHARMACEUTICAL SECTOR GOVERNANCE

The *Autoridade Nacional Reguladora de Medicamentos de Moçambique* (ANARME) statute was approved in November 2020, and the chairman of the Board of Directors of ANARME was nominated by the government. Since 2019, MTaPS has supported the National Directorate of Pharmacy (DNF) in its transformation process into the autonomous ANARME by establishing an effective regulatory framework, providing a foundation for strengthening the regulatory framework, building capacity to improve DNF's knowledge and technical skills, and providing inputs on the DNF strategic plan (listed as one of the achievements below). This transformation will ensure more independence for decision making on regulatory issues, strengthen standards for performing investigations, and protect the public from unethical business conduct in the pharmaceutical sector. Another important advantage is that DNF will be officially authorized to carry out pharmaceutical inspections that are currently done by the Ministry of Health (MOH). Transforming DNF into ANARME will improve its capacity to ensure the safety, efficacy, and quality of drugs, as well as enhance the accuracy, timeliness, and appropriateness of information made available to the public.

This year, MTaPS also supported DNF/ANARME in developing two regulations and two guidelines to operationalize Law 12/2017. MTaPS drafted the Guidelines for Good Regulatory Practices (GRP) and the Reliance Guidelines and developed the Price Control Regulation and the Regulation on Distribution, Import, and Export of Medical Products. The Price Control Regulation will enable DNF/ANARME to control product price mark-ups in the pharmaceutical sector to stop excessive charging of medicines as they move through the supply chain, hence stimulating wider availability of and access to medicines and other health products in manufacturing, import, procurement, distribution, and retail mechanisms.

STRENGTHENING INSTITUTIONAL CAPACITY TO MANAGE PHARMACEUTICAL SYSTEMS

MTaPS and DNF/ANARME achieved key agreements to implement the online version of Pharmadex, the regulatory information management system software, and they are working to enhance Pharmadex to follow the common technical document (CTD) format for evaluating marketing authorization (MA) dossiers in the product registration process. MTaPS is finalizing the CTD format functionality in Pharmadex for review of product dossiers in alignment with DNF requirements. MTaPS finalized the import module and installed it on the Amazon web server (AWS) to be tested and deployed. These functionalities for the import and registration modules will improve customer service, reduce time needed to register a medicine, and reduce the backlog of dossiers at DNF.

STRENGTHENING SYSTEMS FOR PROVIDING PATIENT-CENTERED PHARMACEUTICAL CARE AND SERVICES

The enrollment stage of the tenofovir/lamivudine/dolutegravir (TLD) regimen active surveillance program was completed with 3,115 patients, with MTaPS support. There was an increase in the number of follow-up visits from 1,228 in November 2020 to 4,920 in September 2021. MTaPS also supported DNF and the HIV program in implementing two rounds of on-site supervisory visits to nine active surveillance program implementation sites. MTaPS is working on the data cleaning process, including for coding of medicines and reported adverse events (AEs). MTaPS performed an initial statistical analysis of the data obtained on the Pharmacovigilance Monitoring System (PViMS) and has generated reports showing progress achieved in the number of patients enrolled and followed up and AEs reported in the ongoing active surveillance of TLD. As of September 2021, 49 AEs had been recorded of which 44 were mild, 4 were moderate, and 1 was severe.

MTaPS also supported DNF/ANARME, TB, and HIV programs to get approval of the bioethics committee to implement the protocol for monitoring the safety of TB preventive therapy (TPT). These achievements will enhance the capacity of DNF/ANARME to collect good quality data from monitoring the safety of novel HIV and TPT medicines introduced in the country.

MULTISECTORAL COORDINATION TO COMBAT AMR

The membership structure and governance arrangement for the antimicrobial resistance (AMR) multisectoral coordination committee (MCC) was developed with MTaPS support and has been validated by government representatives. The terms of reference (TOR) for the MCC, the MCC-secretariat, general TOR for the technical working groups (TWGs), and specific TOR for the antimicrobial stewardship (AMS) and infection prevention and control (IPC) TWGs, which were drafted with MTaPS support, have all been validated by MOH and are pending formal approval by the government. MTaPS also supported the government in composing the TWGs for AMR multisectoral coordination (MSC) and undertaking regular meetings for each TWG. Several meetings and two virtual AMR-MCC workshops were successfully held with MTaPS and the Food and Agriculture Organization's (FAO) collaborative support in March and September 2021. This will contribute to building a functional multisectoral coordination system in place for the national response to combat AMR with a One Health approach in human, animal, and environment health areas, in line with implementing and monitoring progress of the national action plan (NAP)/section plans on AMR.

INFECTION PREVENTION AND CONTROL

MTaPS supported MOH in assessing IPC practices at the national level using the IPC assessment tool version 2 (IPCAT2) and generated an assessment report. Using the IPCAT2 results, a national-level IPC action plan for the national IPC TWG was developed. Subsequently, capacity-building actions for the national IPC TWG members using continuous quality improvement (CQI) methodologies to oversee IPC implementation, monitoring, and reporting were implemented. Health facility (HF) assessment using the IPC assessment framework tool at the facility level (IPCAF) was conducted by MTaPS in select provincial hospitals, and, based on the results, facility IPC action plans were developed to focus on areas of intervention, including IPC education and training and strengthening health care-associated infection (HCAI) surveillance, among others, to address the identified gaps. Subsequently, both onsite and virtual

monitoring of action plans being implemented have been undertaken. These efforts will contribute to preventing AMR by strengthening IPC in HFs.

MTaPS faced a challenge on implementing a capacity-building program to facilitate peer-to-peer and micro-learning in the seven selected provincial hospitals. The capacity-building program was designed to be implemented via the WhatsApp group platform to allow virtual knowledge/ experience sharing sessions, however, they were not possible because of phone network problems commonly experienced by HF staff in the seven hospitals. Further, the HF staffs do not yet value online learning preferring in-person learning sessions. MTaPS is working with IPC TWG members to address the challenge. Virtual sessions with airtime support for the IPC TWG and HF IPC focal points are being considered as the solution to offer, with advantages of lower cost and higher potential for replication.

USE OF ANTIMICROBIAL MEDICINES OPTIMIZED

MTaPS concluded the desktop review of the rapid assessment of AMS policies and regulations at national level for the human health sector and collaborated with other implementing partners (FAO and the French Agricultural Research Center for International Development [CIRAD]) for similar assessment in the veterinary and agricultural sectors. The results and findings of the rapid assessment will inform the development of an NAP for AMS, incorporating actions to control and reduce resistance to antimicrobials in the human sector and in the veterinary and agricultural sectors via collaboration with other implementing partners (FAO and CIRAD).

QUARTER PROGRESS FOR FY21Q4

OBJECTIVE 1: PHARMACEUTICAL SECTOR GOVERNANCE IMPROVED

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

Development/review of regulations and guidelines to operationalize Law 12/2017

In the last quarter, MTaPS developed the draft Price Control Regulation requested by DNF/ ANARME and shared the document with the authority for technical inputs. DNF/ANARME agreed with the technical content of the draft shared, but requested that MTaPS refine the Portuguese translation, which MTaPS is currently doing. The translated version will ensure appropriate fidelity with the source document developed in English, allowing MTaPS to focus on the purpose of each section of translated text that must consider regulatory terms and language for each party, such as DNF/ANARME, the regulated sector, scientific committees, and the public. After translation, the document will be shared with DNF/ANARME for final inputs, after which it will be edited and formatted for submission to the mission. The Price Control Regulation will allow the national medicine regulatory agency (NMRA), ANARME, to regulate the pharmaceutical sector in terms of using mark-up controls to prevent excessive charges being added to medicines as they move through the supply chain. This will help secure the pharmaceutical supply chain and enable initiatives to increase the availability and accessibility of medicines and other health products through manufacturing, import, procurement, distribution, and retail mechanisms.

In the second quarter, MTaPS developed a draft Regulation on the Distribution, Import, and Export of Medical Products as requested by DNF/ANARME, which covers regulating Good Distribution Practices (GDP), draft provisions for import and export process for medical products, vaccines and biological products, and provisions for transportation and cold chain. The document was shared with the authority for technical input, based on which MTaPS refined the regulation's content this quarter to incorporate an annex of GDP guideline and a review of the provisions to ensure compliance with the WHO GDP guideline. As a next step, MTaPS is translating the draft regulation to ensure technical consistency with the source document developed in English. The draft regulation will be shared with DNF for final inputs after it has been translated into Portuguese. This regulation expands on Law 12/2017, allowing ANARME as the NMRA to further regulate the pharmaceutical sector, in terms of securing the pharmaceutical supply chain to ensure the quality and safety of medical products from manufacture through the various distribution channels to the end-user. The GDP guideline annex will ensure compliance with regulatory provisions and reinforce the establishment of an effective regulatory framework to control the medical product distribution chain and ensure drug quality. The GDP regulation aspects will also assist to regulate the pharmaceutical sector, primarily wholesalers and distributors, on the minimum standards that must be met to ensure the quality and integrity of medicines throughout the supply chain.

Further, MTaPS is finalizing the draft guidelines for GRP, which will support DNF/ANARME capacity building on GRP that will take place in the coming quarter and guide the authority in implementing and maintaining regulations, guidelines, and controls developed to operationalize Law 12/2017, as well as in the development of new regulations and guidelines required by the authority. GRP will allow DNF/ANARME to ensure creation of regulations in a transparent, non-discriminatory, and predictable process that involves robust stakeholder engagement. GRP will also allow that development of regulations by the authority is preceded by rigorous assessment of the need for a regulatory instrument, its legal basis, and an evaluation of potential alternatives and impacts, such as benefits and cost-effectiveness.

MTaPS is also finalizing the draft GRP guideline as requested by DNF/ANARME this quarter. The document will serve as a guide for the authority in monitoring and assessing the impact of regulatory interdependence in Mozambique and the region, as well as sharing their experiences with other regulatory authorities. A good reliance practice guideline will also provide knowledge on the principles of universality, decision sovereignty, and transparency, which will guide the authority in adopting new, more efficient ways of conducting regulatory operations, both locally and internationally. This guideline will aid the authority in strengthening international collaboration and work-sharing with WHO, within the region (Southern African Development Community [SADC] and its ZAZIBONA initiative) and with NMRAs from other countries, which will allow cost savings, increased efficiencies in the number of products reaching the Mozambique market, and redirection of scarce resources to areas of greater regulatory risk.

Finalizing report on review of the DNF/ANARME's strategic plan

In the first quarter, MTaPS supported the DNF/ANARME to review and elaborate on the specific areas and structure on its strategic plan (2021–2025). MTaPS produced a review and feedback report that was sent to the authority who then told MTaPS that the report informed the review of the strategic plan (2021–2025). The revised draft strategic plan was sent to the Ministerial Council for validation and final

approval. In this quarter, MTaPS is performing further technical review of the strategic plan review report to ensure that the strategic plan was reviewed in line with best practices and principles to provide information on key aspects of the pharmaceutical regulatory strategy for the coming five-year period. After the technical review, the report will be edited and submitted to the Mission. MTaPS support to DNF to establish a strategic plan will allow DNF to address the WHO GBT indicator: RS03 Strategic plan with clarified objective in place.

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)

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, DNF/ANARME revealed that it had allowed development of a parallel import module by another software developer using support from the Global Fund to Fight AIDS, Tuberculosis, and Malaria. In addition, DNF requested that MTaPS link this parallel import module software to Pharmadex, hence MTaPS met with DNF and the developer of the parallel module to identify possible ways to establish interoperability of the module to Pharmadex. To MTaPS' best understanding, the Global Fund-supported module is based on an enterprise resource planning system, captures physical quantities of products, and is not a workflow-based system, like Pharmadex, which supports the approval process of issuing import licenses. Based on the existing knowledge MTaPS has of the Global Fund-supported module, MTaPS has proposed two options, from which DNF/ANARME can choose, to potentially solve the challenge:

- Pharmadex import module: Pharmadex is currently deployed on a cloud server and available for the DNF to test and use for issuing import licenses.
- Should DNF decide to continue with the parallel import module, MTaPS would make the technical documentation available to the developer for the parallel import module, and then it will be up to DNF and the developer to ensure interoperability with Pharmadex.

During this quarter, the MTaPS country and management information systems teams discussed the information collected from the meeting with DNF and the developer of the parallel module. The data collected from the demo of the parallel module showed that the Pharmadex import module should be used by DNF to issue import licenses. Pharmadex import is less expensive and allows easier interoperability with the registration module and with other Regulatory MIS such as the PViMS, linkage with future modules of Pharmadex, and benefits from the global Pharmadex version currently under development. Should DNF/ANARME decide to continue with the parallel import module, MTaPS determined that a further assessment of the Global Fund-supported module should be conducted to identify which data elements should be transmitted from Pharmadex into the Global Fund module, e.g., the list of products with a current MA to enable interoperability between the two systems.

A draft report on approval and final deployment of the import certification module and functionality to allow the DNF/ANARME to issue import licenses via Pharmadex is available. MTaPS is also preparing a

related report that will provide information on the challenge regarding the duplication of resources with the parallel import system.

Aligning Pharmadex to incorporate the CTD format for review of product dossiers

During the previous quarter, MTaPS continued to work on the requirements for enhancing Pharmadex to follow the CTD format for evaluating MA dossiers, which necessitated that DNF/ANARME provide the current medicine registration standard operating procedures. In the current quarter, MTaPS is developing the workflow for MA based on the CTD format, which will result in an international version of Pharmadex that will benefit the Mozambique DNF/ANARME. CTD format functionalities are being developed to meet WHO and SADC guidelines. The workflow design will allow configuration for Mozambique based on the documents provided by DNF/ANARME which describe in detail the process of the CTD-based medicines registration process. DNF specificities about the MA process from application receipt, validation, scientific review (that includes primary and second review, questions for the MA applicant, and final report), approval and issuing of certificates, CTD format checklist, letter templates (including confirmation of receptions, requesting approval certificates, requesting additional information) will be covered. When the workflow has been configured, the developed test version will be installed on the AWS for DNF/ANARME to test and be trained on before going live.

For sustainability, MTaPS will be transferring Pharmadex to the existing local server at DNF/ ANARME, which requires a good, stable internet connection. MTaPS, in close collaboration with the USAID Mission, worked on advocating to DNF/ANARME and the MOH IT Department for them to acquire an optical fiber connection to allow MTaPS to continue to provide server technical support after Pharmadex is transferred. MTaPS also renewed a contract with the information technology company LINK, who will be supporting the optical fiber installation, maintaining the system and server, and building the capacity of DNF staff.

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

Support the DNF and HIV program to conduct quarterly supervisory exercises

During this quarter, the DNF/ANARME and the National STI/HIV/AIDS Control Program (hereafter, the HIV program) in Mozambique, with technical support from MTaPS, continued to provide follow-up support to implementing HFs by guiding HF focal persons through phone calls, WhatsApp group messages, and virtual team meetings on areas that need to be improved to ensure that all enrolled patients in the active safety surveillance program are followed-up to document any AEs they may experience.

MTaPS supported the DNF/ANARME and the HIV program in undertaking supervisory phone calls to Gondola District Hospital in Manica province, Cuamba HF in Niassa province, Macia HF and Carmelo HF in Gaza province, and Machava II HF in Maputo province to reinforce the protocol implementation and follow up on the observations and recommendations from previous rounds of support supervision. The supervisory phone calls complement on-site supervisory visits and allow for more frequent follow-

up with HF focal points to ensure early detection of challenges, timely provision of mitigation strategies, and improved tracking of enrolled patients. The supervisory phone calls also allow identification and resolution of problems with data entry in the PViMS.

During this quarter, MTaPS supported the DNF and the HIV program in undertaking on-site support supervisory visits to Namacurra HF in Zambezia province and Macia HF and Carmelo HF in Gaza province. The supervisory visits allow the DNF and HIV program to discuss active surveillance implementation status with the facilities, improve physical record archiving and registration, review progress and implementation of proposed improvements, improve data quality, and develop action plans to be implemented at the HF level to overcome challenges. Some specific achievements and recommendations from this quarter's supervisory visits include:

- Refreshers provided to HF staff on implementation of the protocol
- The need to fill out form B (follow-up form) for all patients at all follow-up visits
- Follow-up of clinicians to correct errors and provide missing information on forms A (baseline form) and B
- Data collectors to improve the quality of writing on the forms to facilitate the reading and transcription of data into PViMS
- Data collectors to include missing data, review data in the forms, and assign missing active safety monitoring code on the sheets
- PV focal persons to enter missing data in PViMS and attach photos for all forms without photos in PViMS

Enrollment and patient follow-up status

Table 14 provides a breakdown of enrolled patients, follow-up visits, and AEs up to September 2021. There was an increase in the number of follow-up visits reported, from 3,138 in the previous quarter to 4,920. There was an increase in the number of AEs reported, from 23 in the previous quarter to 49. In terms of severity, 44 were mild, 4 were moderate and 1 was severe.

Table 14. Patients enrolled since start of active surveillance system as of September 2021

HF	# of enrolled patients (form A)	# of follow-up visits (form B)	# of enrolled patients (form C-birth outcome and newborn screening)	# of AEs reported
Carmelo	305	803	1	0
Cuamba	328	145	30	7
Machava II	362	403	3	0
Macia	412	332	31	7
Mavalane	316	1231	3	0
Namacurra	427	320	6	5
Ndlavela	300	268	1	13
Gôndola	338	1123	20	6
Marrere	327	295	21	11
Total	3,115	4,920	116	49

3.1.2: Develop and implement an active pharmacovigilance program for safety monitoring of TPT scale-up (new activity)

Approval of the active surveillance protocol by the ethical committee

During this quarter, the protocol for an active surveillance system for TPT, developed with MTaPS support, was approved by the national bioethics committee after many reviews where MTaPS supported the DNF/ANARME in addressing the comments from the committee. The protocol approval provides the scientific authorization from the national bioethics committee for MOH and MTaPS to move forward with implementing the study and detailing the study design, sample size, selection criteria and definition of the sites, and study procedures, including training, enrollment and follow-up visits, supportive supervision, coordination, data collection, data analysis, and causality assessment.

The next steps include piloting the data collection forms, training of trainers and health providers, and enrolling patients into the TPT active surveillance program. Besides the HIV and TB programs and DNF/ANARME, MTaPS worked collaboratively with the CDC and USAID Mission teams in developing and finalizing the protocol, which is also undergoing a review by the CDC team for a non-research determination.

Activities for next quarter	
Activity and description	**Date (2021)**
Activity 1.1.1: Support the MOH in operationalizing new legislation for establishing ANARME, a semi-autonomous regulatory authority	October–December
• Train on GRP for DNF and review the guideline for GRP • Conduct workshop to explain the main provisions included in the newly established regulations/guidelines • Develop how-to materials to facilitate implementation of and compliance with the newly established regulations/guidelines	
Activity 2.1.1: Strengthen use of electronic IT solutions for efficient and transparent medicine regulatory processes	October–December
• Implement AWS 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 • Conduct risk analysis and develop a plan to migrate existing data to the new structure	
Activity 3.1.1: Provide technical assistance to establish an active surveillance system for newly introduced medicines in HIV and TB programs	October–December
• Continue to support staff at participating sites in following up enrolled patients to record any AEs that may occur • Plan and support DNF in performing the final round of on-site supervisions and 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 • Finalize data cleaning process for all data elements • Start and conclude causality assessment • Prepare report on implementation of AE surveillance, including training, supervision of personnel and activities, data management, and dissemination of findings	
3.1.2: Develop and implement an active PV program for safety monitoring of TPT scale-up	October–December

Activities for next quarter	
Activity and description	**Date (2021)**
• Pilot the data collection forms at a selected HF • Undertake training of trainers for national-level focal persons and training health care providers on the protocol and their roles and responsibilities • Start enrolling patients	

GLOBAL HEALTH SECURITY AGENDA ACTIVITIES

RESULT AREA 1: EFFECTIVE MSC ON AMR

Activity 1.1.1: Support the governance and organizational capacity of the AMR-MCC

AMS TWG

During this quarter, MTaPS continued to provide technical assistance to the Government of Mozambique to establish and strengthen the AMS TWG, which reports to the national-level multisectoral AMR-MCC. The AMS TWG hybrid (in-person and virtual) meeting was held September 14, 2021, and the TWG discussed its TOR. It was agreed that the objectives of the NAP against AMR should be included in its TOR and that the TWG members would insert their contributions into the TOR prior to its validation. MTaPS' support on the TOR will facilitate the AMS TWG in providing technical support and oversight to optimize the use of antibiotics in human and animal health, to change incentives that encourage the overuse of antibiotics, and to advise the AMR-MCC on issues of AMS under the One Health approach on implementing the NAP.

During the meeting, CIRAD presented the preliminary results of a study on antibiotic use in the animal sector, while preparations for the upcoming WAAW were initiated by the TWG. All sectors were invited to contribute topics and names of speakers for the WAAW. As result of this first AMS-TWG meeting, on September 21, 2021, there was a follow-up virtual meeting organized by MTaPS in preparation for the WAAW, in which stakeholders from various sectors participated, among them, the animal health sector (Ministry of Agriculture, veterinary faculty of *Universidade Eduardo Mondlane*, FAO, and CIRAD) and human health sector (DNF/ANARME, Pharmacy Hospital Department [DHF], National Institute of Health [INS], general health inspection, and MTaPS). During the meeting, the proposed concept note of the WAAW event was presented. For the next steps, it was decided that each sector should propose topics to be discussed at the meeting to be held on September 29, and DNF should coordinate with other institutions to identify any needs for support from stakeholders.

MTaPS support on organizing the WAAW will facilitate DNF, DHF, INS, and the animal health area to explore opportunities to develop stakeholder dialogues, roundtables, and other forums to highlight/discuss strategies to increase awareness of AMR and to encourage best practices among health workers, policy makers, and the public to avoid the spread of drug-resistant infections in Mozambique.

AMR-MCC meetings for improving coordination among stakeholders

During this quarter, MTaPS continued to provide technical assistance to the Government of Mozambique to facilitate meetings to coordinate AMR-related activities in all sectors and provide input

into implementing the NAP. MTaPS worked with the DNF, INS, and FAO to prepare for AMR-MCC meetings. A FAO-funded AMR-MCC virtual meeting was held on September 13, 2021, within the agreement between MTaPS and FAO to rotate support for these meetings. At this meeting, a plan for assessing the diagnostic laboratory capacity of the animal sector was presented. The Ministry of Agriculture, Ministry of Public Works, Ministry of Environment, and MOH were represented. It was agreed that findings of this assessment should be shared in the coming meetings with both the animal and human health sectors, and the human health sector assessment can be done with support from WHO. MTaPS' support on the AMR-MCC meetings contributes to building capacity for coordination among stakeholders for a functional system for the national response to combat AMR with a One-Health approach for the human health, animal health, and environment areas, in line with implementation and progress monitoring of the NAP.

RESULT AREA 2: INFECTION PREVENTION AND CONTROL

Activity 2.2.1: Support the national IPC TWG in IPC oversight and management

Implementation of prioritized IPC interventions in selected HFs

The report for the IPCAF assessment of the four MTaPS-supported HFs receiving remote support (Chimoio, Lichinga, Pemba, and Matola Provincial Hospitals) is undergoing editorial review before being submitted to the Mission. In supporting the National Directorate of Medical Assistance (DNAM) on the IPCAT2 and IPCAF assessments at the 7 assessed HFs, there has been capacity building on IPC standards and guidelines on the 8 main IPC components, which have a total of 80 indicators for implementing IPC programs, as well as assessing existing activities/resources for IPC and identifying central-level and facility-level strengths and gaps, which will be addressed through facility improvement action plans. MTaPS support to DNAM on the IPCAT2 and IPCAF assessments at the seven assessed HFs will strengthen the prevention of AMR in HFs, food production, and the community through IPC measures. DNAM and HFs will be able to periodically utilize the data collected from the IPCAF self-assessment to identify intervention areas and address them and to replicate the experience from the supported hospitals as models for other HFs in the country.

Building the capacity of the national IPC TWG members on using CQI methodology

During this quarter, MTaPS oriented the national IPC TWG members on using CQI methodology for identifying IPC performance challenges and developing, testing, and mainstreaming interventions into the three directly supported HFs, i.e., Xai-Xai, Tete, and Inhambane Provincial Hospitals. MTaPS used the visits for supervision and monitoring of implementation of the facility action plans whereby internal IPC performance measurements were undertaken at the hospital level and the national level undertook external measurements. The use of CQI methodology at the national and HF levels will allow better implementation of IPC interventions, including hand hygiene practices, development of IPC improvement plans, and establishment of hospital infection control committees, and will avoid an increased financial burden on health systems and patients.

Building the capacity of the national IPC TWG to oversee IPC implementation, monitoring, and reporting

During this quarter, MTaPS used the visits for supervision and monitoring of implementation of facility action plans to build the capacity of the national IPC TWG members to oversee IPC implementation,

monitoring, and reporting. This was done through two visits each to the directly supported provincial hospitals of Xai-Xai, Tete, and Inhambane. The IPC TWG will be able to leverage experience from the three intervention hospitals and apply it to other hospitals without MTaPS' support, identify and allocate adequate resources to support selected HFs to implement IPC action plans, comply with IPC guidelines, train an adequate number of health workers on IPC, and monitor IPC implementation by using designated assessment tools in line with WHO Joint External Evaluation (JEE) benchmark actions on IPC (P.3.3.)

Activity 2.5.1: Support implementation of prioritized IPC interventions in selected HFs

Monitoring visits for IPC

During this quarter, MTaPS performed virtual monitoring visits for the four remotely supported provincial hospitals: Chimoio, Matola, Lichinga, and Pemba. It was noted that one of the biggest challenges in all hospitals was HCAIs. As such, DNAM, with support from MTaPS, is developing a specific TOR for a planned intra-hospital infection control commission. The monitoring visits, combined with capacity building for CQI, will ensure an iterative process to improve IPC practices in HFs and encourage all health care team members to establish, improve, implement, and monitor compliance with IPC standards.

Design and implement a capacity-building program for IPC

During this quarter, MTaPS worked to design a virtual capacity-building program for IPC to build the knowledge and skills of the national IPC TWG and enable them to facilitate expansion of IPC interventions in HFs in various provinces. A WhatsApp group platform for AMR knowledge exchange was set up for the seven MTaPS-supported hospitals to facilitate discussion among IPC committee members from the various hospitals; serve as a forum to discuss and share ongoing progress in IPC, challenges, obstacles, solutions, lessons learned, and best practices; and promote the sharing of selected and updated information relevant to the practice of IPC in the fight against HCAIs and AMR. The WhatsApp group also offers opportunities to facilitate mentorship and knowledge exchange in multiple ways, such as photos, videos, audios, group discussions, and messaging. Another advantage is that using WhatsApp has no cost to the HF as it uses the same internet data plan used for email or web browsing.

During this quarter, MTaPS also worked to implement this capacity-building program in the seven selected hospitals aiming for peer-to-peer learning and micro-learning; however, MTaPS was not able to fully implement it for two reasons: poor internet access and the HF staff not finding sufficient value in online learning. The HF staff is interested in this method but suggested their preference is for in-person learning, not virtual.

RESULT AREA 3: USE OF ANTIMICROBIAL MEDICINES OPTIMIZED

Activity 3.1.1: Support development of AMS policies at the national level

During this quarter, MTaPS worked in collaboration with the national AMS TWG to undertake a rapid assessment of stewardship policies and activities. MTaPS reviewed existing regulatory frameworks, policies, and legislation covering selected aspects of MA, licensing, inspection, post-marketing surveillance, pharmacovigilance, prescribing, dispensing, and use as relevant to antimicrobials. The desktop review of existing reports and documents was completed and will be discussed by the AMS

TWG in October. The results and findings of the rapid assessment will inform the development of a NAP for AMS, incorporating actions to control and reduce resistance to antimicrobials in the human, veterinary, and agricultural sectors. The rapid assessment will also support the country in achieving a key benchmark action requirement on AMS (P.3.4.) for the WHO International Health Regulations JEE capacity level 2.

Activity 3.5.1: Support the design and implementation of AMS interventions in priority HFs

During this quarter, MTaPS worked to support the Hospital Pharmacy Department (HPD) in following up and monitoring implementation of AMS action plans at the seven MTaPS-supported hospitals. MTaPS prepared the AMS knowledge, attitude, and practice (KAP) survey tools for hospital AMS activities. Two AMS KAP survey tools were developed, one for doctors and the other for pharmacists, nurses, and other staff. These AMS KAP surveys will be used to assess the knowledge of people previously trained on AMS by MTaPS in February 2020. The two survey tools have been uploaded into Google forms and are currently at the test phase prior to administration of the AMS KAP survey.

To collect the information required by the survey and to monitor implementation of AMS action plans and because of COVID-19 travel restrictions, virtual meetings were held with five of the seven supported hospitals (Xai-Xai, Inhambane, Lichinga, Chimoio, and Tete), including staff trained on AMS in February 2020. As one of the results of these meetings, hospital pharmacy records on procurement of priority antimicrobials for 18 months (January 2020–June 2021) were obtained.

MTaPS faced challenges in organizing on-site visits for the three directly supported hospitals, among them the COVID-19 travel restrictions, which were addressed through a proposal that was accepted by MOH to allow MOH technicians to visit the three hospitals. The second challenge was regarding funds to support the cost of having one more MOH staff in the team undertake the planned AMS visits. To solve the challenge, MTaPS met with DNF/ANARME, DFH, and INS virtually to define the team for the in-person visits, propose dates for this activity for the three hospitals, and prepare TOR. The four institutions agreed on TOR that DNF/ANARME will submit for approval.

Activities for next quarter	
Activity and description	**Date (2021)**
Result area 1: Effective MSC on AMR	
Activity 1.1.1: Support the governance and organizational capacity of the AMR MCC • Support AMR-MCC secretariat and TWG in organizing regular meetings with documented agendas, preparation, distribution of meeting notes, and following up on action items • Facilitate updated mapping of AMR stakeholders and activities; strengthen AMR MCC processes and systems to facilitate decision making and NAP operationalization among stakeholders • Identify other implementing partners who can support AMR MCC in other activities • Provide technical support to the AMR MCC and its TWGs to commemorate WAAW in November 2021	October–December
Result area 2: Infection prevention and control	
Activity 2.2.1: Support the national IPC committee in IPC oversight and management • Support the IPC TWG in organizing routine meetings and providing suitable updates to the AMR-MCC secretariat • Review the implementation status of the national IPC action plan that was developed by the IPC TWG in April 2021 • Build the capacity of provincial health authorities to deliver IPC trainings to HFs that have never been trained on IPC or that need refresher training	October–December

Activities for next quarter	
Activity and description	**Date (2021)**
• Support the national IPC TWG in overseeing implementation of IPCAF in additional HFs in various provinces • Provide remote support to provincial health authorities to finalize IPCAF assessment reports and review action plans based on IPCAF assessment findings **Activity 2.5.1: Support implementation of prioritized IPC interventions in selected HFs** • Build on IPC training efforts implemented during response to the COVID-19 pandemic and continue to design a capacity-building program (continuous assessments, coaching, mentoring, peer-to-peer learning, micro-learning) • Facilitate peer-to-peer learning by inviting HF champions to present their ongoing work and experiences • Based on IPC action plans developed in the previous program year, support IPC committees in developing detailed implementation plans for specific activities • Provide technical assistance on selected IPC interventions based on action plans for the seven intervention hospitals • Support implementation of CQI methodology, an iterative process for identifying IPC performance challenges, and developing, testing, and mainstreaming interventions into facility practices	
Result area 3: Use of antimicrobial medicines optimized	
Activity 3.1.1: Support development of AMS policies at the national level *AMS rapid assessment and development of a NAP for AMS* • In collaboration with the national AMS TWG, conclude the interviews to add information to finalize rapid assessment of stewardship policies and activities drafted for FY21Q4 • Provide technical support to the national AMS TWG to draft a multisectoral action plan for AMS in both human and animal health areas *Access, watch, and reserve (AWaRe) classification* • Under aegis of the AMS TWG and essential medicines list committee, establish a sub-committee responsible for initiating AWaRe classification; implement methodology as outlined in WHO AWaRe classification approach and in MTaPS-developed mini-guide on AWaRe classification • Include a provision on appropriate use of antimicrobials in existing regulatory framework for medicines • Review existing national regulatory framework on appropriate use of medicines supported by the MTaPS field-support work plan, which aims to strengthen the medicine regulatory system *Draft regulation on prescription-only sales of key antibiotics* • Assess existing legislation on pharmaceuticals, building on efforts supported by MTaPS field-support work plan, which aims to strengthen the medicine regulatory system; identify a provision for inserting a regulation on prescription-only sales of key antibiotics **Activity 3.5.1: Support the design and implementation of AMS interventions in priority HFs** • Support the HPD in following up and monitoring implementation of AMS action plans at the seven hospitals • Provide a refresher on applying the CQI approach to conduct a suitable baseline assessment and AMS audits • Design a capacity-building program that incorporates continuous assessments, coaching, mentoring, peer-to-peer learning, and micro-learning • Facilitate peer-to-peer learning by inviting HF champions to present their ongoing work • Conduct antibiotic use studies to identify targets for stewardship; encourage a culture of data use for decision making and incorporate gender considerations in AMS interventions	October–December

NEPAL

HIGHLIGHTS FROM PROGRAM YEAR 3 (FY21)

In year 3, the US Agency for International Development's (USAID) Medicines, Technologies, and Pharmaceutical Services (MTaPS) Program Nepal made progress in all areas, despite the frequent cancellation and postponement of meetings and activities and travel restrictions due to COVID-19 and the leadership change at the Department of Drug Administration (DDA).

To decentralize and establish a combined Food and Drug Administration (FDA), MTaPS' partner, Celsian, conducted an options analysis based on selected countries' drug regulatory authorities' organizational structures and autonomy, which was presented at a high-level consultative workshop. This analysis formed the basis of a proposed reorganization of the DDA with new organograms and staffing norms so it could carry out its expanded regulatory mandate. The technical working group (TWG) on policy, legislation, and reorganization organized several follow-up meetings to finalize the report on the proposed organograms with staffing norms and terms of reference for divisions and departments and selected job descriptions. To facilitate the approval process of the revised structure and staffing norms, MTaPS drafted a concept note to submit to the Council of Ministers. Once in effect, the revised organogram will help the DDA perform its key regulatory functions more efficiently and ensure sustainable access to and appropriate use of safe, effective, quality-assured, and affordable essential medical products for the population.

MTaPS' partner, the International Law Institute-African Center for Legal Excellence (ILI-ACLE), assisted in finalizing a legislative gap analysis to inform the drug law revision and a zero draft drug law was finalized, which included legislative recommendations identified by the WHO Global Benchmarking Tool (GBT) assessment of the DDA's regulatory maturity level. MTaPS supported the DDA Policy, Legislation, and Reorganization TWG in organizing a consultative meeting with the Ministry of Health and Population (MOHP) and Ministry of Law, Justice, and Parliamentary Affairs representation on August 27-29 and a new drug law was drafted. To facilitate the process, a local legal expert with experience in governmental legislative work was hired and a legal drug law and reorganization concept note has been prepared for the approval of the Council of Ministers. The new drug law will serve as the foundation for overall improvement in pharmaceutical management and is fundamental to increasing the DDA's regulatory maturity level.

MTaPS supported several activities to strengthen the DDA's information management. The DDA management information system (MIS) TWG is leading the transition from its Drug Administration Management System (DAMS) to the Pharmadex electronic regulatory information system. The Pharmadex registration module was customized to Nepal's context based on system requirement specifications (SRS). The Pharmadex modules for pharmacy and wholesaler and importer registration and renewal were demonstrated in September 2021 to DDA staff, and the system is now planned to go live next month after training DDA staff and finalizing guidelines for applicants. The remaining registration modules for products and manufacturers are expected to be implemented in the next quarter. The implementation of Pharmadex will improve data quality, ensure a strong information and reporting system that can optimize decision making and resource utilization, strengthen efficiency and effectiveness, and allow for better adherence to WHO best practices.

MTaPS helped draft the Good Pharmacy Practices (GPP) and Good Distribution Practices (GDP) guidelines and piloted an electronic inspection tool for GPP inspections; the GDP inspection tool is ready for piloting. A multipronged strategy for GPP implementation has been drafted that strengthens the DDA, supports the limited inspection resources, automates reporting, capacitates DDA inspectors and pharmacy owners, and builds community awareness of GPP best practices. Introducing the WHO GPP and GDP inspection will radically improve service provision and patient care and will greatly improve quality assurance of products moving in the market.

This year, the establishment of a quality management system (QMS) at the DDA included capacity building for 36 DDA and National Medicine Laboratory (NML) staff, including their top management teams, and the formation of a QMS TWG. The DDA quality policy, the standard format for standard operating procedures (SOPs), a list of required SOPs for DDA functions, a detailed implementation plan, and the quality manual were finalized with MTaPS' support. Development and implementation of the QMS will ensure that the DDA has a sustained and uniform process in place to effectively execute its critical regulatory functions.

QUARTER PROGRESS FOR FY21Q4

OBJECTIVE 1: PHARMACEUTICAL SECTOR GOVERNANCE STRENGTHENED

Activity 1.1.1: Assist DDA in organizational restructuring

Earlier in the year, MTaPS Nepal, with support from Celsian, collaborated with the DDA to finalize a report on the comparative analysis of the autonomy, scope, and structure of national medicine regulatory agencies from selected countries. Based on the comparative analysis, MTaPS Nepal proposed different organogram options for an FDA, which had been planned for the DDA but was put on hold by the MOHP. A consultative workshop for building consensus on autonomy and restructuring decisions, which was postponed several times, took place in March 2021. The workshop was organized by the DDA with support from MTaPS Nepal, and high-level staff from MOHP, DDA central and provincial levels, NML, MOHP's FDA Drafting Committee, Pharmacy Council, WHO, USAID, MTaPS, and PQM+ discussed revised organogram options for the DDA and NML and started drafting them. In a follow-on workshop, participants finalized DDA and NML organograms and developed new staffing norms. The DDA submitted the organograms, terms of reference for coordination and oversight mechanisms, and staffing norms to MOHP for approval.

MTaPS prepared and shared with the DDA a job matrix that identifies positions for primary activities from the WHO GBT. It is called a RACI[17] matrix. The matrix will be helpful in preparing job descriptions for 32 key positions in the new DDA organogram. MTaPS drafted seven job descriptions for the director general and division heads as part of the deliverables for year 3. The format for formulating job descriptions was approved, and MTaPS Nepal submitted the draft for selected job descriptions based on

[17] RACI: Responsible, Accountable, Consulted, and Informed https://miro.com/templates/raci-matrix/?utm_source%3Dgoogle%26utm_medium%3Dcpc%26utm_campaign%3DS|GOO|NB|SE|ALL-EN|Core%26utm_adgroup=dsa%26utm_custom%3D1180894219%26utm_content%3D516180164818%26utm_term%3D%26matchtype=b%26device=c%26location=1005010&gclid=CjwKCAjwjJmIBhA4EiwAQdCbxhKpW-ayuRfqi7cC2Z4yKDq3EX3PJPdXb9_aKziOXJIB0LFoZBDyVRoCP_UQAvD_BwE

the new staffing norms and the new organogram; this work will continue next year. The DDA established a policy, law, and reorganization TWG, supported by MTaPS, in January 2021, and the TWG played a crucial role in the reorganization process. MTaPS helped draft a concept note to be submitted to the Government of Nepal to obtain consent to replace the current law with a new act that will exclude food and include health technology products and cosmetics and to approve the new proposed structure and staffing norms.

Once in effect, the revised organogram will help the DDA perform its key regulatory functions more efficiently and ensure sustainable access to and appropriate use of safe, effective, quality-assured, and affordable essential medical products for the population.

Activity 1.2.1: Update drug act, regulations, rules, and guidelines

With support from ILI-ACLE, MTaPS carried out a gap analysis of Nepal's pharmaceutical legal and regulatory framework and submitted its report to the DDA. ILI-ACLE held consultations with the DDA, NML, MTaPS, and PQM+ to prepare and submit a zero draft of the drug law. The TWG for policy, legislation, and reorganization held several meetings to incorporate the many legislative recommendations identified in the WHO GBT maturity-level assessment and finalize the zero draft drug law. Around the same time, the DDA drafted a new law. Seeing this deadlock, MTaPS Nepal, in August 2021, hired a local lawyer to review the existing draft laws and consult with stakeholders. MTaPS supported the DDA in organizing a consultative meeting on August 27–28, 2021, with the Policy, Legislation, and Reorganization TWG to discuss the drug law draft. The consultation was attended by representatives from the MOHP; Ministry of Law, Justice, and Parliamentary Affairs; DDA senior management and key staff; NML; WHO; PQM+; and MTaPS. Based on the new draft, the consultant, DDA officials, MTaPS, and ILI-ACLE helped finalize the draft law to be shared with concerned government agencies. MTaPS also assisted the DDA in preparing a legal concept note for MOHP submission to the Council of Ministers for approval.

Mr. Man Bahadur Aryal, Joint Secretary, Ministry of Law, Justice, and Parliamentary Affairs (right) and Mr. Man Bahadur Basnet, Under Secretary from the MOHP (left) participating in consultation meeting with the Policy, Legislation, and Reorganization TWG to draft the drugs and health products act at Chandragiri Hills Resort, August 27–28, 2021. (Photo credit: Prabin Tamang)

It will be some time before the government approves the final draft of a new drug act; however, MTaPS will continue to focus on updating regulations, guidelines, and codes under the existing drug act while preparing the regulations, guidelines, and codes for the new drug act when it is approved.

MTaPS Nepal supported the DDA in translating four existing codes and guidelines from Nepali to English and uploading them to the DDA website. MTaPS also supported the DDA and the TWG in mapping current regulations, codes, and guidelines and prioritizing regulations to update or draft. For example, during the year, the revision of regulations and guidelines started with updates to the GPP and GDP guidelines.

The new drug law will serve as the foundation for overall improvement in pharmaceutical management and is fundamental to increasing the DDA's regulatory maturity level. The new drug law will help streamline regulation of health products under the DDA's mandate while also improving their safety, quality, and efficacy.

Activity 1.2.2: Explore feasibility and prepare background documents to update the Nepal National Drug Policy

To support the government in developing an evidence-based policy on price control for pharmaceutical products and MOHP in revising the medicine pricing policy, MTaPS shared two important resources with the DDA and MOHP—*Review of Pricing Policies and Price Lists Available in Asia Regional Countries*[18] and *Pharmaceutical Prices in the 21st Century*.[19] MTaPS also supported capacity building in pharmaceutical pricing and reimbursement policies, and staff from the MOHP, DDA, and MTaPS attended a virtual course organized by a WHO collaborating center.

To support updating the national drug policy, MTaPS drafted a concept note in English and Nepali to lay out the roadmap, starting with a policy options analysis. As an initial step, the scope of work has been drafted for a local consultant to coordinate the policy option analysis. Next year, MTaPS will help MOHP finalize the policy options analysis and hold a high-level conference with multiple stakeholder participation and international experts to update and finalize the national medicines policy. A revised medicines policy will be a critical component of ensuring sustainable access to affordable essential medical products for the population of Nepal.

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

Activity 2.2.1: Develop a five-year strategic plan for strengthening functionality of medicines regulation

WHO conducted the GBT assessment February 8–March 10, 2021, and the DDA developed the institutional development plan (IDP) with the assistance of two WHO-appointed assessors. In a demonstration of its commitment to improve its regulatory maturity level, DDA leadership took part in all sessions, including a discussion of the 198 recommendations to help the DDA reach maturity level 3. Several issues cut across all eight assessment areas, including 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 summarized the process and the GBT findings and shared the summary and the two-year strategic plan with USAID as a confidential report.

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[18] 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.
[19] Babar ZU. Pharmaceutical prices in the 21st century. Springer International Publishing AG; 2015 Jan 1.

Based on the IDP, MTaPS drafted the annual implementation plan for the highest-priority indicators targeting maturity level 2 in all areas and level 3 in the cross-cutting areas. The DDA/NML Maturity Level Annual Plan will be important in ensuring maturity-level progress and it covers all DDA and NML functions and has been prepared with inputs also from NML and PQM+. Implementation will be tracked and managed by the proposed Regulatory System Strengthening TWG with support from WHO, PQM+, and MTaPS.

Activity 2.2.2: Strengthen regulatory systems for medicines and medical product registration, PV, and good distribution and pharmacy practices

Registration

The medicines and facility registration process in Nepal is challenged by the workload of more than 50,000 registration activities annually, including new registrations and renewals, with a very limited number of qualified assessors. To strengthen dossier review practices and bring them in line with WHO best practices, DDA assessors and registration holders need to build their capacity in the process, and registration practices need to be optimized. The transition from DAMS to Pharmadex will introduce best practices in dossier review, including having more experts and specialized assessors involved in the process. The Pharmadex registration module was finalized and will be implemented early next quarter, followed by capacity building and new guidelines for registration application. An increase in qualified assessors is critical and was addressed in the new staffing norms, but it will not happen immediately. To address the backlog of paper-based registration applications and ensure data transfer from the existing DAMS to Pharmadex, scopes of work for employing two short-term pharmaceutical technical assistants were developed; the consultants should start work early next quarter, in conjunction and coordination with Pharmadex implementation of the registration module.

The introduction of Pharmadex is a major step in improving the information system for optimal decision making and improved registration review processes and workflows, as well as regulatory efficiency. However, the limited number of DDA staff will be a major challenge in implementation and best practices.

Pharmacovigilance

The MTaPS PV/M&E technical advisor worked closely with the DDA PV focal person and other stakeholders, including MOHP disease-specific programs and referral hospitals, to clarify their roles in PV and adverse drug reaction monitoring. MTaPS assisted the DDA in preparing a situational analysis that identified strengths, weaknesses, opportunities, and threats (SWOT) for building a PV program by using results from the GBT assessment. The situational analysis also included recommendations on how to build on the identified strengths, eliminate the weaknesses, exploit the opportunities, and mitigate the threats. MTaPS also shared MSH's comparative analysis of electronic PV data systems, which guided discussion on the best solution for Nepal. MTaPS hired a PV consultant to support the DDA in establishing a PV unit and developed a PV implementation plan. This year, MTaPS also procured PV information sources and reference materials to adequately equip a PV unit. Work has also begun on the development of SRS for the PV information system (PViMS) component to be added to Pharmadex. MTaPS supported three DDA staff in attending the three-day WHO-Uppsala Monitoring Center-Health Sciences Authorities Inter-Regional PV Training Workshop on Enhancing Preparedness for PV. Pharmacopoeias were procured in collaboration with NML and PQM+. These activities will support the

DDA in implementing some of the sub-indicators in the WHO GBT PV module to attain maturity level 3 in PV, considered a stable and functional level of operation. They will also strengthen generation and use of medicine information to support appropriate use of safe and effective essential medicines, including vaccines and medical devices by the population.

Good Practices for Pharmacy and Distribution of Medical Products

Like other divisions, the DDA inspectorate has a huge workload, with more than 22,000 private-sector pharmacies, 3,000 wholesalers and importers, and an increasing number of local manufacturers (now reaching 95 allopathic manufacturers) that need to be regularly inspected, licensed, and reauthorized annually, with only 15 inspectors. In addition, only about half of the pharmacies met the WHO best practices for GPP, with frequent sale of prescription medicines, including antibiotics, without prescriptions and medicines not labeled appropriately. Strengthening GPP and GDP implementation will require a multipronged approach that involves legislative updates; new inspection tools and guidelines; a stronger MIS; providing additional resources to increase inspections; changing norms; updating codes and guidelines; and building capacity in WHO best practices in GPP and GDP among pharmacies, wholesalers, importers, and communities.

In Y3, MTaPS and DDA inspectors developed GPP guidelines and electronic tools for WHO best practices in GPP inspection that cover both private and public sectors and the abbreviated GPP inspection. The tool has about 200 sub-indicators covering 6 domains[20], and indicators are classified as critical, major, or minor. All tools were developed in Kobo-toolbox, which makes data collection, report generation, and data storage easy. The tools were piloted by a team of MTaPS staff and DDA inspectors in two provinces comprising four districts. Introducing the WHO GPP inspection will radically improve service quality and influence the number of pharmacies allowed to operate. The GPP strategy has been drafted and initial discussions with the DDA were held to identify the most feasible strategy for implementing the WHO GPP requirements in Nepal and the best way to strengthen inspection capacity.

MTaPS also developed GDP guidelines that the TWG will finalize. Like the GPP inspection tool, MTaPS developed an electronic GDP inspection tool that will be piloted and finalized in the coming year. The shift in inspection requirements to the WHO GDP inspection will be substantial, as the revised inspections emphasize quality assurance and documentation for wholesalers and importers. Implementing the strengthened GDP requirement will take time and requires considerable capacity building at the DDA, wholesalers, and importers. Improving GDP requirements will ensure quality and traceability of medicines and medical products in Nepal.

MTaPS hired a principal technical advisor with extensive regulatory experience with about 20 years of employment in the DDA, including the inspectorate, and they are in the process of employing a technical advisor in inspection for support in year 4.

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[20] The GPP tool was developed based on WHO GPP best practices, and the tool that is customized to both Nepal and the private and public sectors has the same set of indicators used in Uganda and Zimbabwe. The six domains include pharmacy information, premises, dispensing and prescribing, storage management, operating requirements, and procurement. Trap et al. First regulatory inspections measuring adherence to Good Pharmacy Practices in the public sector in Uganda: a cross-sectional comparison of performance between supervised and unsupervised facilities. J Pharm Policy Pract. 2016. 9:18 DOI 10.1186/s40545-016-0068-4

Activity 2.2.3: Assist DDA in developing a QMS

With support from Celsian, a DDA QMS and quality manual progressed well. MTaPS trained 28 members of the DDA and NML staff, including senior management, in QMS basic awareness, risk management in QMS, and internal quality auditing. The training materials developed by MTaPS will continue to be used to virtually orient staff at the DDA and NML. Moreover, eight DDA and NML staff members and one MTaPS staff member took part in the QMS assessor training implemented by the Quality Forum from the Federation of Indian Chambers of Commerce and Industry. The Quality Forum has set up QMSs at medicine regulatory bodies in other countries. All participants passed the exam and became certified as QMS auditors. The DDA and NML, led by the QMS TWG, finalized the quality manual, prepared and approved the DDA quality policy, and finalized a standardized format for SOPs and prioritized them for DDA functions that are required as part of the QMS. To further facilitate QMS implementation, MTaPS developed scope of work to hire a local QMS expert. The QMS TWG holds regular meetings and has strong leadership to ensure that the DDA's regulatory functions are of consistent quality. Development and implementation of the QMS will ensure that the DDA has a sustained and uniform process in place to effectively execute its critical regulatory functions to become an ISO certified regulatory body.

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

Activity 3.1.1: Develop SRS for selected regulatory modules of an integrated electronic MIS

Based on the MIS and IT infrastructure options analysis of usability and user satisfaction with DAMS, combined with demonstrations of Pharmadex, the DDA decided to implement Pharmadex, and the focus this year was on detailing the requirements and customizing Pharmadex for Nepal. MTaPS started developing the SRS by mapping current processes and comparing them with WHO global standards. The SRS for registration processes compares DAMS with Pharmadex, particularly in terms of good practices and legal requirements. MTaPS organized several meetings for DDA managers and staff in the registration and inspection units to finalize the SRS for registration of products, manufacturers, importers, wholesalers, and pharmacies. The SRS for the registration module was finalized, approved by the TWG, and used to customize Pharmadex. MTaPS also started drafting the SRS for inspection, building on the electronic inspection tools that capture information on all registered license holders and inspection outcomes. The SRS ensures implementation of Pharmadex customized to the Nepal context.

Activity 3.1.2: Assist strengthening MIS for registration, inspection, importation and exportation, and PV

MTaPS revised the Pharmadex implementation plan to include a modular-based, phased strategy to roll out the modules designed for Pharmadex in Nepal over 12 months. Initially, the registration modules will be rolled out followed by inspection modules, then import/export modules and PV modules to become a fully functional information and reporting system for the regulatory authority. MTaPS procured the needed hardware and software, including a local area network configuration, and designed

the platform for improved IT infrastructure at the DDA. MTaPS identified a cloud server for Pharmadex that is hosted in Nepal and set up the registration module and a plug-in for customization.

MTaPS also procured a file server and IT equipment needed at the DDA to manage data storage, website data backup, and DAMS MIS data. MTaPS hired a consulting pharmacist to assist in transitioning DAMS data to Pharmadex, and by the end of the program year, the MSH IT team had finalized the registration module for pharmacy, wholesaler, and importer registration. The module was successfully demonstrated on September 17, 2021, and will be implemented phase-wise in October 2021. The product and manufacturer registration module will follow shortly after. The effectiveness of Pharmadex requires adequate staffing to optimize workflows, data entry, verification, and use to be functioning optimally and with improved workflows. Implementation of Pharmadex will improve data quality, ensure a strong information and reporting system that can optimize decision making and resource utilization, and strengthen efficiency and effectiveness.

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

No activities under this objective

OBJECTIVE 5: PATIENT-CENTERED CARE TO IMPROVE HEALTH OUTCOMES IMPROVED

Activity 5.1.1: Explore strategies to strengthen GPP and medicine management in government and private-sector health facilities and pharmacies

MTaPS developed a concept paper that describes the potential for supervision, performance assessment, and recognition strategy (SPARS) to strengthen supply chain management, reporting quality, and prescribing and dispensing quality in public-sector health facilities in Nepal. The paper includes the study method for piloting SPARS in selected districts or municipalities and outlines the SPARS implementation plan, approach, and needed resources and the pilot's impact assessment strategy. SPARS is a multipronged strategy that was developed based on evidence from Uganda and the experiences of the Global Alliance for Vaccines and Immunization.[21,22] MTaPS presented the SPARS concept note to the Department of Health Services, and a technical assistant - SPARS has been employed to pilot SPARS in selected districts.

Implementation of the proposed SPARS can ensure that medicine management at public-sector health facilities is strengthened and adherence to WHO GPP is increased.

ACTIVITIES NEXT YEAR

MTaPS Nepal's Y4 work plan covering July 16, 2021–July 15, 2022, has been approved by USAID, and MTaPS will continue implementing activities initiated this year, along with several proposed new

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[21] Trap B, et al. Article 1: Supervision, Performance Assessment, and Recognition Strategy (SPARS) - a Multipronged Intervention Strategy for Strengthening Medicines Management in Uganda: Method Presentation and Facility Performance at Baseline. J Pharm Policy Pract. 2016. 9 (1): 1–15. https://doi.org/10.1186/s40545-016-0070-x.

[22] Trap B, et al. First regulatory inspections measuring adherence to Good Pharmacy Practices in the public sector in Uganda: a cross-sectional comparison of performance between supervised and unsupervised facilities. J Pharm Policy Pract. 2016, 9:18; doi:10.1186/s40545-016-0068-4; URL: http://www.joppp.org/ content/9/1/18.

activities. Only a few deliverables were carried over from the previous year: developing drug registration guidelines, procedures, and practices and strengthening the PV system to reach GBT maturity level 2.

MTaPS activities are aimed at establishing a stronger, reorganized, and better-staffed DDA and NML with high-quality data to support decision making and a DDA that is ISO certified.

To implement the Y4 work plan, MTaPS Nepal will recruit five new technical staff. With additional staff, MTaPS will be able to support several new regulatory functions, including:

- Health technology product regulation and registration
- PV and adverse drug reaction reporting
- WHO GPP, GDP, and good hospital pharmacy practices adherence using a public-private partnership
- A Pharmadex system expanded beyond the registration module
- A pilot of a strategy to build medicine management and GPP in the public sector
- Stronger antimicrobial resistance containment efforts
- Updated national medicines policy, regulations, and guidelines

Activity and Description	**Date**
Activity 1.1.1: Assist DDA in organizational restructuring	
• Implement DDA competency mapping	Q1
Activity 1.2.1: Update regulations, rules, and guidelines	
• Finalize and submit the drug act to MOPH	Q1
Activity 1.2.2: Revise and update the Nepal national medicines policy	
• Develop detailed implementation plan and initiate development of the policy options analysis	Q1-Q2
Activity 2.2.1: Strengthening regulatory capacity and maturity	
• Update IDP's annual implementation plan for all functions to move toward maturity level 3	Q1
• Establish IDP taskforce or TWG and facilitate regular meetings	Q1
Activity 2.2.2: Strengthen regulatory systems for medical product registration	
• Review and update all registration processes and implement Pharmadex product registration	Q1-Q2
• Harmonize and build capacity in dossier review (MTaPS Asia Bureau activity)	Q1
Activity 2.2.3: Strengthen regulatory system for medical device registration	
• Employ a technical advisor-medical devices registration	Q1
• Develop Pharmadex medical device registration module	Q1
Activity 2.2.4: Strengthen PV at national and provincial levels	
• Update regulation for PV to align with the revised Nepal drug act	Q1
• Finalize detailed implementation plan	Q1
• Establish expert committee for safety of medicines	Q1
• Train DDA staff in key PV functions	Q1
Activity 2.2.5: Strengthen GPP	
• Finalize strategy and implementation plan	Q1
• Orient private-sector organizations on revised GPP requirements and implementation strategy	Q1
• Support DDA in increasing the number of inspections	Q1
Activity 2.2.6: Strengthen GDP	
• Finalize GDP guidelines and inspection tool in private and public sectors with critical indicators and reporting format	Q1
Activity 2.2.7: Strengthen Good Hospital Pharmacy Practices	
• Review current hospital pharmacy directives, consult with stakeholders, and update directives	Q1-Q2

Activity 2.2.8: Assist DDA in developing a QMS	
• Finalize quality manual to be in line with ISO 9001: 2015	Q1
• Develop and implement document management system	Q1-4
• Develop and implement SOPs for various regulatory functions to reach maturity level 3	Q1-4
• Develop and implement internal audit plan	Q1-4
• Conduct management reviews	Q1
Activity 3.1.1: Implement pharmaceutical MIS, Pharmadex for registration, inspection, importation and exportation, and PV	
• Implement Pharmadex registration module, train, and roll out	Q1-Q2
Activity 5.1.1: Strengthen medicine management in government sector health facilities	
• Finalize intervention strategy for strengthening medicine management/GPP at district level	Q1
• Finalize implementation plan for SPARS pilot in selected districts	Q1
• Present strategy in selected districts, sign contract, and provide guidance on selecting medicines management supervisors	Q1
• Start implementation of SPARS strategy	Q1
Activity 5.3.1: Improve antimicrobial resistance containment	
• Implement a rapid situational analysis of the Global Health Security Agenda and AMR landscape	Q1

MATERNAL, NEWBORN, AND CHILD HEALTH

Based on MTaPS' assessment of the registration of maternal, newborn, and child health (MNCH) products in nine countries, including Nepal, MTaPS Nepal shared with the USAID Mission, MOHP, and 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 *Mapping of Registration of Maternal, Newborn, and Child Health Medical Products in Nepal*. Nepal's sub-optimal performance identified in the studies is linked to the poor data quality of the DDA's DAMS, a limited number of assessors, and a weak drug regulatory setup; MTaPS is supporting the DDA in addressing each of these areas through revision of the drug act, proposed reorganization and staffing norms, implementing Pharmadex, and increasing the regulatory maturity.

As part of another study to improve sub-national procurement for MNCH medicines in Nepal, MTaPS hired a local consultant to assist in implementing a study on decentralized and sub-national procurement and to clarify regulations, procedures, and systems for procuring MNCH products. The study includes key players involved in pharmaceutical procurement, quality, and logistics; data collection has been implemented from selected provinces, districts, and municipalities. The report will be presented, and recommendations drawn up in the next quarter.

ASIA BUREAU ACTIVITIES

The 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—has started implementation by mapping capacity and performance using a questionnaire. The findings will be used to develop tailored training that will be implemented next quarter.

Training for MOHP staff on using the One Health Tool for pharmaceutical expenditure tracking and costing of benefit packages was conducted September 13–17, 2021, with six participants from Nepal.

The Asia Bureau activity on staffing competency mapping was implemented in several MTaPS countries, including Nepal, in September 2021. The mapping is based on the WHO competency mapping and was implemented at the DDA with participation of DDA senior managers. The tool was customized to Nepal to rule out any duplication of effort with the earlier PQM+ generalized staff survey. The mapping will be followed by development of a training and capacity-building activity in the next quarters.

CROSS-CUTTING ELEMENTS

PRIVATE-SECTOR ENGAGEMENT

During this year, MTaPS held virtual meetings with the chair of the Pharmacy Association of Nepal and the Nepal Pharmacy Council as part of developing GPP and GDP guidelines. A meeting with Professor and Head of Pharmacology Kumud Kafle, College of Medicine, Nepal Army Institute of Health Sciences, Kathmandu, discussed how to involve public- and private-sector universities in strengthening clinical pharmacy and rational drug use. After lifting of the lockdown, MTaPS is planning more meetings to explore partnerships in the areas of SPARS training and antimicrobial stewardship and use.

Through collaboration with the DDA central and provincial levels, private-sector pharmacies, wholesalers, and importers will be reformed toward achieving the WHO level of GPP and GDP best practices. This reform will result in significant improvements and raise quality standards in pharmacy practice and introduce quality assurance and governance in GDP to the benefit of private-sector entities and for the benefit of patients being provided better quality medicines and services.

COLLABORATION AND SYNERGY

MTaPS Nepal continued to develop collaborations and synergies despite the many cancelled face-to-face meetings and the continued lockdown. Collaboration with the USAID-funded PQM+ program progressed through regular monthly update meetings and ad hoc meetings between technical advisors to benefit from lessons learned within mutual areas of work. MTaPS and PQM+ acknowledged the importance of allocating leads and complementary functions to all activities and strengthened information sharing, including joint work planning and implementation, where relevant. In addition, the DDA established several TWGs that held many meetings over the year. However, to reduce meeting frequency and staff burden, several DDA technical focal points were appointed to work directly with the MTaPS activity lead, which has led to a well-functioning solution.

GENDER EQUALITY TOOL DEVELOPMENT AND MEETINGS

To enable gender to be considered in work planning, activity implementation, and committee appointments (such as TWGs), MTaPS Nepal took part in the MTaPS Gender Working Group and attended monthly meetings to discuss the group's objectives and deliverables.

CONSTRAINTS, REPORTING REQUIREMENTS, AND OTHER UPDATES

COVID-19 continued to hamper progress throughout the year with lockdowns and travel restrictions and caused the MOHP and DDA to shift resources and priorities to combating the pandemic. MTaPS applied virtual strategies and platforms for communication and meetings in adherence with the

Government of Nepal, Management Sciences for Health (MSH), and USAID guidance and the risk mitigation plan developed by MTaPS Nepal that guide safety restrictions and address precautions to be taken. All planned consultancies that involved traveling to Nepal were cancelled and changed to virtual trainings or assessments. For example, the QMS basic and auditor training transitioned into a virtual training; the planned legislative consultation was replaced with several virtual consultations; the GBT assessment became virtual; and the planned reorganization consultancy was implemented by the MTaPS team using recorded presentations.

To mitigate the effect of leadership change at the DDA, MTaPS reintroduced the program and its planned activities and provided a detailed status description with monthly update meetings to be put in place. Part of the mitigation strategy was to institutionalize as many of the decisions linked to our activities by establishing TWGs and focal persons; rethinking the DDA's organizational structure and autonomy to transition to an FDA is no longer planned, and political party changes stalled the government's approval of new DDA staffing norms.

PQM+ and MTaPS managed the potential overlap of their activities by increased collaboration, coordination, and work planning. To avoid duplication, PQM+ has been involved with MTaPS' work planning for next year, and the two organizations jointly identified lead and complementary support for all activities.

MTaPS Nepal presented its next year's work plan (July 16, 2021–June 15, 2022) to the MOHP and DDA and incorporated feedback. MTaPS shared quarterly progress reports with the DDA, PQM+, MOHP, and WHO throughout the year.

PROGRAM MONITORING, EVALUATION, AND LEARNING

MTaPS Nepal updated its MEL plan based on the latest indicator findings, and the new technical advisor on M&E and PV was trained to report indicator results to USAID's Development Information Solution (DIS) and MTaPS' M&E system. MTaPS made field visits to test the GPP inspection tool and collect data from 36 randomly selected public- and private-sector facilities. The GPP data collection also served as a baseline for specific MEL indicators. The public-sector facilities represented all levels of care, and the private-sector pharmacies were located in Province 1 and Karnali Province. MTaPS got additional baseline data from the government's eLMIS and uploaded data from the remaining baseline indicator survey to those two databases. A data quality assessment (DQA) was carried out by USAID on August 19, 2021, on three USAID standard indicators and five other indicators. MTaPS Nepal reported on 19 indicators in Y3 (annex 1); they were further revised in the Y4 work plan, and six new indicators were proposed, five of which were approved after a DQA follow-up meeting on September 10, 2021. These additional five indicators will not be reported in USAID's DIS for 2022.

LESSONS LEARNED

Particularly during the COVID-19 pandemic, MTaPS Nepal learned that the only way to reach its goals was to change its usual approaches. Some examples follow.

1) After doing a comparative analysis of organizational structures of national medicine regulatory agencies in selected countries, the planned key informant interviews and SWOT analysis (to draft a

suitable organogram for the DDA) could not happen, so MTaPS Nepal itself decided to propose a DDA organogram.

2) When MTaPS Nepal submitted a report based on the gap analysis of the existing pharmaceutical legal and regulatory framework, revision of the drug law began. However, the country ended up with two more separate drafts of the drug law. To move forward, MTaPS Nepal hired a local lawyer to combine all the drafts into a final submission to MOHP.
3) The limited number of DDA staff affects the implementation of WHO best practices, requiring more resources and time. MTaPS has supported the move toward WHO best practices within the existing staffing norms by updating the Pharmadex registration module to include GPP-related questions, thereby increasing the GPP requirements though the registration process rather than through an inspection. MTaPS has also prepared a proposal for covering reimbursables, such as transport allowance, data time, lunch, and per diem linked to inspection implementation. This would allow for more inspections to be implemented.

MTaPS Nepal drafted one success story on the establishment of a QMS at the DDA entitled *Underpinning Nepal's Pharmaceutical Manufacturing with a Quality Management System.*

MTaPS Country Program Director Birna Trap (left) and Senior Technical Advisor Rabin Shrestha (far right) piloting the GPP inspection tool with Pharmacy Supervisor Jitendra Khadka (next to Birna Trap) from Morang, Biratnagar Branch Office in Province 1. (Photo credit: Mahesh Yadav)

BEST AND PROMISING PRACTICES

Despite the challenges, MTaPS has remained relentlessly committed to having an eye to the long-term goal and ensuring that technical assistance strengthens systems and technologies in a sustainable manner. MTaPS has—by applying system approaches and gap and SWOT analysis—ensured implementation plans that addressed and prioritized all angles of the regulatory functions, shifting system set-up and ensured capacity building as an integrated part of the system strengthening approaches. MTaPS capacitated DDA

staff in QMS to develop their own QMS, making a new drug act, developing and customizing new electronic tools and systems that supports introduction of WHO best practices and facilitate reporting for the DDA to perform better and optimize efficiency and quality in performance.

When travel restrictions prohibit international experts from coming to Nepal, and though they have provided virtual inputs and consultations, we recognize the need to have experts on the ground. Therefore, MTaPS has started to employ local experts to assist in the analysis, legislative changes, and system change, in collaboration with international experts.

When your counterpart or audience is busy, you have a small window of opportunity to make your point. The DDA's workload is so high that MTaPS Nepal learned to seize the opportunity when it occurs by being fully prepared to deliver a short and powerful message. The best practice, therefore, is to rehearse what you are going to say in meetings and presentations or even when you have a chance to communicate one-on-one. Likewise, the current situation does not allow a group of people from the DDA and MTaPS to sit around a drawing board and start working on a solution to a problem. A best practice has been for MTaPS Nepal to prepare the first draft of the relevant document and then let the DDA comment on it, which takes less time and accelerates finalization.

THE PHILIPPINES

For progress on MTaPS/Philippines COVID-19 activities, click here. For additional information on country progress in COVID-19 activities this quarter, refer to Annex 1.

HIGHLIGHTS FROM PROGRAM YEAR 3 (FY21)

MTaPS in the Philippines employed a systems strengthening approach with a focus on the following priority areas in FY21:

GOVERNANCE AND SYSTEM DESIGN

MTaPS progressed further in assisting the Department of Health (DOH) in developing and institutionalizing a fully functional procurement and supply chain management (PSCM) governance mechanism with clear role clarifications among different units of the DOH central office, Center for Health Development (CHD), and local government units (LGUs). During FY21, MTaPS supported the DOH in designing and developing a PSCM road map for the central, regional, and local government levels to implement the universal health coverage (UHC) law of the Philippines. MTaPS and Deloitte engaged with CHDs; LGUs; and various DOH units, including the Disease Prevention and Control Bureau (DPCB), Supply Chain Management Service, Pharmaceutical Division (PD), and Health Policy Development and Planning Bureau, in analyzing the current and desired PSCM organizations, roles of different units, and key actions over the next three years to achieve the next level of PSCM maturity.

WORKFORCE DEVELOPMENT

MTaPS continued to support the DOH in implementing a PSCM and pharmacovigilance (PV) workforce development plan. MTaPS supported the DOH in hiring the PSCM workforce and developing and offering webinars and e-learning modules to train the workforce. Approximately 8,000 people were trained in FY21 through webinars and e-learning courses that MTaPS supported to develop.

INFORMATION SYSTEMS

MTaPS supported the DOH in identifying technical requirements and planning a road map for implementing an end-to-end, integrated electronic logistics management information system (eLMIS). MTaPS worked with the DOH to develop and release a solicitation document and select an eLMIS solution provider to implement a standard off-the-shelf eLMIS solution throughout the Philippines to manage the PSCM system in a more timely and efficient way. MTaPS also upgraded the pharmacovigilance information management system (PViMS) software to version 2 and completed 87 enhancements to software features as requested by the DOH to use PViMS for active drug safety monitoring (aDSM) to ensure treatment safety for multidrug-resistant TB (MDR-TB) patients.

FINANCING AND RESOURCE MANAGEMENT

MTaPS supported the DOH, LGUs, and Philippine Pharmaceutical Procurement Inc. (PPPI) in introducing framework agreements (FAs) and pooled procurement mechanisms (PPMs) for increased efficiency in procurement and availability of health commodities. MTaPS also worked with the DOH and USAID's ReachHealth Project to design and develop a concept note and road map to test an innovative use of a

digital platform to facilitate exchange of information, cross referral, and cost reimbursements among members of local health care provider networks, including private pharmacies, to integrate public and private providers into local health systems.

PSCM AND PV SERVICES

MTaPS supported the DOH in updating and finalizing a warehouse operational manual. MTaPS worked with the Philippines Food and Drug Administration (FDA), DOH, and World Health Organization (WHO) to continue efforts to optimize the product registration system and establishing a national medicine safety advisory committee to improve availability of medical products and ensure patient safety. MTaPS took part in joint activities with other USAID implementing partners and supported the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) Ministry of Health to develop a PSCM action plan for the BARMM region to design and set up an organized PSCM system, especially for the family planning (FP) and TB commodities. This activity will contribute to promoting increased availability of and sustainable access to essential medicines for this region.

QUARTER PROGRESS FOR FY21Q4

OBJECTIVE 1: PHARMACEUTICAL-SECTOR GOVERNANCE STRENGTHENED

MTaPS and Deloitte engaged with the DOH, CHDs, and LGUs and undertook an exercise with the DOH to design a PSCM road map for implementing the UHC law in the Philippines. As part of this exercise, MTaPS undertook a RACI (responsible, accountable, consulted, informed) exercise with various DOH units to clarify desired PSCM governance and implementation roles among DOH central, regional, and local government levels in the context of restructuring the DPCB's role and developing a health system devolution transition plan by the DOH. Building on the analysis and agreements from the PSCM road map exercise, in FY22, MTaPS will support the DOH in implementing the road map.

MTaPS worked with the FDA to strengthen its governance structure and processes for strengthening national PV governance. To promote the concept of active surveillance in PV, MTaPS supported the FDA to organize a national event for lessons learned from operational research conducted by the National TB Program (NTP) and the Lung Center of the Philippines to monitor adverse effects of a new drug and a novel treatment regimen for MDR-TB using active surveillance. MTaPS also had a series of discussions with the FDA on the need to develop an FDA policy, guidelines, and standards for active PV and to constitute a national medicine safety advisory committee. As a result, the FDA agreed to take steps to institutionalize a national medicine safety advisory committee and revise the administrative order on PV to include active surveillance in the national PV standards and guidelines. In FY22, MTaPS will support the FDA in updating the PV policy to establish national standards, guidelines, and regulatory policy on active PV surveillance.

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

During FY20 and FY21, MTaPS supported the DOH in conducting a PSCM workforce analysis and drafting a PSCM workforce development plan. MTaPS supported the Supply Chain Management Service in hiring additional staff to support warehouse operations and regional supply chain logistic hubs. In

addition to courses on infection prevention and control (IPC), health care waste management (HCWM), and emergency supply chain management (SCM) previously uploaded to the DOH Academy, MTaPS also developed and shared e-learning courses on pharmaceutical systems strengthening (introduction and overview), warehouse operations, and inventory management to upload to the DOH Academy. MTaPS also worked with the DOH to convert a previously developed training course on PSCM into an e-learning module to be offered through the DOH Academy. All of these courses were also offered live through webinars prior to uploading them to the DOH Academy. Approximately 8,000 people were trained in FY21 through these webinars and e-learning courses. Building on the PSCM workforce development plan and success of training health care workers through webinars and e-learning modules, in FY22, MTaPS will further support the DOH and LGUs to professionalize their PSCM workforce.

To support LGUs in setting up a functioning PSCM system for implementing the UHC law, in FY21, MTaPS conducted an LGU capacity gap analysis and developed a curriculum outline and solicitation document to select and train a pool of local technical assistance providers, including DOH central and regional staff and local organizations, that can be capacitated to provide institutional capacity-building support to provincial health offices and city health offices on PSCM.

MTaPS worked with the DOH and USAID implementing partners to identify the list of FP and TB products that required registration in the Philippines. MTaPS followed up with the FDA to learn the status of the pending registrations of these products and identify registration bottlenecks. MTaPS also organized a national dialogue to discuss challenges and opportunities for the FDA to enhance its product registration system. It was identified and agreed to by the FDA that the product registration system can be enhanced by streamlining the registration process; adopting multiple pathways (e.g., reliance pathway); and using technology. In FY22, MTaPS will provide follow-up support to the FDA to optimize the product registration system through process harmonization with reference to international and regional guidance and using technology. The improvement of the product registration system for FP and TB medicines would lead to faster assessments, resulting in increased access to quality-assured medicines for patients and improved health outcomes.

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

As a continuation of the DOH's eLMIS initiative, MTaPS supported the DOH in assessing existing DOH systems (COVID-19 Supply Management Tracking System, Integrated TB Information System [ITIS], Pharmaceutical Management Information System, and Online HIV and AIDS Surveillance Information System) and requirements for implementing a standard open source/license-free eLMIS software application against the agreed upon requirements identified in DOH-approved terms of reference and capabilities evaluation criteria. Based on the assessment, MTaPS worked with the DOH to issue a solicitation document and through a transparent and collaborative evaluation process selected a standard off-the-shelf eLMIS solution to be adapted and deployed by the DOH. During FY22, MTaPS will engage the selected eLMIS technology provider, the DOH, WHO, and the Global Fund principal recipient in a co-creation workshop to develop the eLMIS project implementation road map and identify the implementation approach, phases, timelines, roles and responsibilities of various partners, and associated costs.

MTaPS also worked with the DOH and engaged IQVIA to collect, analyze, and report necessary data from the private and public sectors for the couple years of protection (CYP) indicator for the FP program for July 2019–June 2020 and July 2020–June 2021. In addition to CYP indicator data, MTaPS also worked with the DOH to collect, analyze, and present stock and consumption data to review national and health facility-level stock status for FP and TB commodities to identify and address stock-outs and product expiry risks.

MTaPS continued to work with the NTP, PD, and Knowledge Management and Information Technology Service to identify and address software enhancement needs for PViMS to address local implementation issues, such as interoperability between PViMS and ITIS to avoid duplication of data entry by health facilities. MTaPS also arranged for DOH and FDA staff to be trained on PViMS, including system administration, data entry, and data processing, to operationalize an aDSM system for programmatic management of drug resistant TB. In FY22, MTaPS will focus on capturing aDSM data from the priority regions in PViMS to start rolling out the system for aDSM. MTaPS will also focus on building local capacity for regular maintenance and upgrading of PViMS.

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

MTaPS supported the DOH's Procurement Service in introducing and explaining the requirements for participating in FAs. MTaPS also supported DOH end-user units (TB and FP programs) in putting together the list of products for FA, including eligible product lists in annual procurement plans, and writing analyses and justifications required for establishing FAs as a procurement method. As a result, the DOH went for bidding for procuring adult first-line TB drugs through FAs. However, the bidding process for FAs failed because of the lack of sufficient vendor response, and the DOH decided to pursue FAs together with applying for multiyear contracting authority to maximize benefits from FAs. MTaPS also worked with the NTP, PPPI, and USAID implementing partners to provide a series of orientations and training to potential participating LGUs on PPMs and requirements for taking part in PPM through the PPPI. As a result, the PPPI is in the process of providing PPM services to participating LGUs in procuring GeneXpert cartridges. Based on lessons learned from FY21 initiatives and the request from the DPCB, in FY22, MTaPS will support the DOH in addressing FAs, PPMs, and other appropriate procurement methods within the concept of strategic procurement.

MTaPS worked with USAID's ReachHealth Project to develop a concept note and implementation road map for integrating public and private health care service providers, including hospitals, clinics, diagnostic service providers, and pharmacies, into health care providers' networks at the LGU level. The initiative is part of implementation research on UHC implementation, especially to see the effects of using a digital platform for information exchange, cross-referral, and cost reimbursement on local health system integration. MTaPS developed and launched a solicitation document to procure services from a digital platform provider to support this initiative, called PIES.

In FY22, MTaPS will continue working with ReachHealth and a selected digital platform provider to test using a digital platform by members of the health care provider network and participating LGUs.

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

During FY20 and FY21, MTaPS supported the DOH in conducting quantification of TB and FP commodities and periodic review of the quantification. MTaPS also developed an Excel spreadsheet-based automatic calculation tool for rational allocation of commodities to health facilities based on calculated average monthly consumption of the health facilities and max-min stock levels for TB and FP commodities. MTaPS also provided orientation to the FP program on using the tool and supported the DOH in drafting a policy on data-driven allocation of health commodities for distribution (rational allocation). More accurate quantification will contribute to enhanced PSCM practices, which in turn will promote increased availability and sustainable access to these commodities and ultimately improve health outcomes.

During FY22, MTaPS will support the DOH in establishing a technical working group (TWG) for quantification and rational allocation in line with the PSCM road map.

MTaPS worked with the DOH's FP Program and USAID's ReachHealth Project to support the Commission on Population and Development (POPCOM) in operationalizing a segmented subnational-level supply chain management system for FP commodities by using POPCOM's warehouses and workforce. MTaPS provided training to POPCOM's central, regional, and warehouse staff on warehousing and SCM and supported POPCOM in developing a warehouse operations manual. In FY22, MTaPS will support POPCOM in organizing a training of trainers for introducing and rolling out the POPCOM warehouse operations manual. This activity is expected to improve staff capacity on SCM, minimize stock and supply disruptions, and contribute to ensuring increased availability of critical products countrywide.

As part of its COVID-19 response work in FY20, MTaPS supported the DOH to develop e-learning courses on IPC and HCWM and uploaded them to the DOH Academy. During FY21, health care workers continued to be trained on IPC and HCWM through these e-learning courses. MTaPS also followed up with Health Facility Development Bureau (HFDB) and planned to develop training materials for providing a training of trainers to a pool of selected staff from the DOH and CHDs to support health facility visits and compliance with IPC and HCWM. In FY22, MTaPS will work with the HFDB, DPCB, and PD to provide training to a pool of trainers on using facility assessment tools and onsite support to health facilities on IPC and HCWM.

MTaPS regularly took part in the USAID Office of Health's UHC TWG and provided PSCM-related input to USAID implementing partners when needed. MTaPS also worked with BARMMHealth to support the BARMM Ministry of Health in developing a PSCM and PV action plan. MTaPS also worked with ReachHealth to support POPCOM in subnational-level management of FP commodities. In FY22, MTaPS will continue taking part in TWGs related to UHC implementation organized by USAID's Office of Health.

As part of addressing gender inequalities in all activities, during FY21, MTaPS disseminated the gender analysis of PSCM and PV to the DOH. MTaPS planned to work with the DOH and other USAID implementing partners to undertake a gender analysis of aDSM data for TB drugs coming from PViMS. For this purpose, in FY21, MTaPS developed a study design to analyze gender and sex issues in adverse event reporting in operational research of the Lung Center of the Philippines and presented the design

to the NTP. However, after careful consideration of the comments from the NTP and the fact that treatment regimens related to the target adverse event reports have been changed, MTaPS undertook a collaborating, learning, and adapting measure and changed the plan of the analysis. Instead of adverse event reporting data, MTaPS undertook an analysis of the DOH's PSCM and PV workforce development plan to identify gender- and sex-related issues. In FY22, MTaPS will work with the DOH to develop an e-learning course on sex and gender in PSCM and pharmaceutical services to train policy makers and service providers to adopt gender-sensitive policies related to pharmaceutical services.

Activities for next quarter	
Activity and Description	**Date**
Activity 1.1.1: Support DOH in implementing PSCM road map as part of implementing UHC law	March 31, 2022
Activity 1.2.1: Support DOH in implementing the PSCM workforce development plan for institutional capacity building of DOH and LGUs	December 31, 2021
Activity 1.3.1: Support DOH in implementing the road map for an end-to-end eLMIS	September 30, 2022
Activity 1.4.1: Support DOH and LGUs in institutionalizing practices related to procurements through FAs and PPMs for FP and TB commodities	June 30, 2022
Activity 1.5.1: Support DOH in institutionalizing a practice of evidence-based quantification and allocation of TB and FP commodities to inform procurement, supply planning, and distribution	September 30, 2022
Activity 2.1.1: Support DOH and FDA in strengthening the national PV governance structure and processes for aDSM	June 30, 2022
Activity 2.2.1: Support DOH and FDA in registering FP and TB products through optimization and enhancement of product registration process and targeted support	June 30, 2022
Activity 2.3.1: Support health facilities on improved practices on infection prevention and control and health care waste management related to climate risk mitigation	March 31, 2022
Activity 2.4.1: Support DOH in rolling out active PV information system	June 30, 2022

RWANDA

For additional information on country progress in COVID-19 activities this quarter, refer to Annex 1.

HIGHLIGHTS FROM PROGRAM YEAR 3 (FY21)

MTaPS is currently working with the Ministry of Health (MOH) and related institutions, which include but are not limited to the Rwanda Food and Drug Authority (RFDA), the Rwanda Biomedical Center (RBC), and the National Pharmacy Council (NPC), to carry out several activities to improve the pharmaceutical sector's governance, national regulatory system, and service delivery.

SUPPORTED RFDA IN ESTABLISHING A SOLID REGULATORY FRAMEWORK FOR REGULATING MEDICAL PRODUCTS AND ADAPTING INTERNATIONAL MECHANISMS FOR RELIANCE IN REGISTRATION OF MEDICINES

To strengthen the RFDA's medicine regulatory capacity, including pharmaceuticals used in HIV/AIDS; maternal, newborn, and child health (MNCH); and family planning (FP)/reproductive health (RH) programs, MTaPS worked with RFDA and its stakeholders to draft, review, and validate key guidance documents for good governance of the pharmaceutical sector.

MTaPS, RFDA, and stakeholders worked to strengthen the national regulatory system in the following key areas to improve RFDA's ability to control the market for all regulated products under its mandate:

- Finalized the four-year RFDA Strategic Plan (2021–2024), which was approved and signed in June 2021 by the chair of the RFDA board of directors
- Supported the RFDA in conducting a quality management system (QMS) internal audit and training 28 internal auditors (10 females, 18 males), which contributed to RFDA's journey toward ISO 9001:2015 certification. In December 2020, MTaPS facilitated a capacity building and awareness session on the purpose, implementation, and requirements of a QMS for 28 operational staff (8 females, 20 males) following a September 2020 session conducted with 12 RFDA senior management team members. Both sessions helped create awareness among RFDA personnel on the need to implement a QMS based on ISO 9001:2015 requirements. A quality manual and corresponding standard operating procedures (SOPs) for undertaking RFDA regulatory functions were also approved by the RFDA board in May 2021.
- Oriented 68 RFDA staff (44 males, 24 females) on the RFDA's laws, regulations, guidelines, SOPs, and process flow charts to equip regulators with the required regulatory instruments and ensure effective application at a workshop that concluded on September 3, 2021.
- Supported the RFDA during the World Health Organization (WHO)-led RFDA self-benchmarking assessment to measure progress and identify remaining gaps on the RFDA's journey toward maturity level 3 according to the WHO Global Benchmarking Tool (GBT).
- Developed guidelines on regulating medical gases, especially during the COVID-19 pandemic where medical oxygen is an essential part of treatment
- Developed two e-learning courses (medicines evaluation and registration [MER] and pharmacovigilance [PV]) for deployment to ensure sustained knowledge transfer beyond delivery of the initial trainings facilitated by MTaPS. The MER course will help RFDA build the capacity of current and future assessors on its staff.

- Provided support to MOH to develop a list of antibiotics classified according to the WHO AWaRe (access, watch, and reserve) classification, which will assist Rwanda's efforts in meeting the strategic objectives of the draft national action plan on antimicrobial resistance (AMR), including improving awareness and understanding of AMR by optimizing the use of antimicrobial medicines in human health. MTaPS supported the final validation of the antibiotics categorized according to AWaRe, which will be part of the National Essential Medicines List (NEML). The final NEML and national standard treatment guideline (STG) documents have been submitted to ministerial authorities for approval. The NEML and STGs will help prescribers use antibiotics more effectively and prevent AMR.
- Developed a draft four-year business plan currently under review by RFDA, which includes a financial sustainability strategy. The business plan is aimed at strengthening financial management, enhancing accountability, and ensuring financial sustainability, with the long-term objectives of reducing RFDA's dependence on government and donor funding and attaining financial autonomy.

Among the lessons learned is that RFDA should capitalize on best practices and lessons learned by the Rwanda Development Board and Rwanda Revenue Authority to strengthen its online digital services, part of which will mean setting in place a proper information and communications technology (ICT) team with a director who can set strategic direction, decide on competing priorities, and evaluate the overall ICT strategy for RFDA.

EMPOWERED DRUG AND THERAPEUTICS COMMITTEES, HEALTH CARE PROVIDERS, AND RFDA PERSONNEL TO MONITOR MEDICINE SAFETY AND STRENGTHEN PV

To strengthen PV, the costed national PV implementation plan has been approved and launched (MTaPS supported the RFDA in developing it). The plan is an important document that provides clear steps and required resources to support and guide implementation of medicine safety monitoring and PV activities.

RFDA, with MTaPS support, had previously prepared and submitted a protocol on active surveillance monitoring for dolutegravir-based regimens to the Rwanda National Ethics Committee (RNEC). The protocol and its implementation plan, SOPs, and a patient consent form were approved by the RNEC on September 15, 2021, and preparations for the active surveillance study implementation have commenced.

As part of efforts to strengthen the capacity of health care workers (HCWs) in medicines safety monitoring and reporting, the MOH and RFDA, with support from MTaPS, developed an operational manual to be used by hospitals to support the establishment of drugs and therapeutics committees (DTCs) or to strengthen existing ones. The manual is currently being reviewed by the MOH. In addition, MTaPS supported the development of a medicine use review guide and SOPs that will operationalize the DTC/MTC (medicines and therapeutics committee) manual. The manual, SOPs, and guide will be used to orient DTCs to enhance their capacity to monitor pharmaceutical management in health facilities. In June 2021, during the annual NPC Conference, MTaPS supported MOH and RFDA in disseminating information on the Pharmaceutical Service Accreditation Standards and information, education, and communication (IEC) materials for public awareness on medicine safety to 440 participants (295 males, 145 females). Seed copies of the printed documents are with MOH and RFDA for further dissemination.

Further, the Pharmacovigilance Monitoring System (PViMS), an electronic online reporting tool used to monitor the safety of medical products and strengthen PV activities, at RFDA is being used to capture COVID-19 vaccine adverse events following immunization (AEFIs), which will ensure that medicine

safety monitoring reports are quickly received and analyzed by RFDA and that feedback to clients, patients, and health facilities is disseminated in a timely manner. PViMS data indicates that 385 AEFI reports were received from vaccine recipients and health facilities since the start of COVID-19 vaccination (over the period March–June 2021). Among the 385 reports, 15 were serious AEFIs and were submitted to the National AEFI Committee for analysis. Finally, the PV e-learning course was approved by RFDA and will create a sustainable way to provide continuous training on PV via virtual means to both RFDA staff and HCWs.

A lesson learned is to use various forums, such as professional association meetings, as a channel to create awareness on reporting safety of medical products among different health care workers.

IMPROVING QUALITY AND USE OF MEDICINES FOR REPRODUCTIVE, MATERNAL, NEWBORN, AND CHILD HEALTH

Working with the RBC and the sub-working group on Safe Motherhood, which is composed of several MNCH stakeholders, MTaPS provided technical support in drafting and developing the oxytocin storage and management manual. It was tabled to and endorsed by the sub-working group on August 2, 2021; validation is pending under the main MNCH technical working group (TWG) before proceeding for approval by the MOH for implementation. A checklist for DTCs was developed to monitor MNCH medicine use in the districts. MTaPS had earlier finalized a report on the assessment of supply and availability and use of oxygen, equipment, and medical devices, which complements the final validated report on the MOH-led nationwide inventory assessment (supported by the Clinton Health Access Initiative) awaiting release.

Among the lessons learned is to adopt virtual means to continue providing technical support to the MOH, RBC, and RFDA in implementing already-planned activities and identifying new areas for additional MTaPS support for implementation.

EBOLA RESPONSE ACTIVITIES

The MTaPS team completed drafting a set of technical deliverables, including the National Ebola IPC guidelines. In addition, MTaPS provided technical support in reviewing the draft IPC policy and strategic plan, for which consultative meetings with stakeholders on the two documents were concluded during the week of September 24, 2021.

QUARTER PROGRESS FOR FY21Q4

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

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

During the quarter, MTaPS worked with RFDA to implement the following activities to strengthen the current regulatory system:

- Facilitated a two week-workshop to orient 68 RFDA staff (44 males, 24 females) on the existing RFDA laws, regulations, guidelines, SOPs, and process flow charts. The workshop, which took place

August 24–September 3, 2021, aimed to improve staff understanding of the guidance documents they use and their ability to explain the contents to clients.

- Supported training of 39 RFDA staff (22 males, 17 females) in basic good manufacturing practices (GMP) inspections. The exercise was conducted August 9–13, 2021. The knowledge acquired by the RFDA inspectors will enable them to perform quality inspections of manufacturers, a prerequisite for granting marketing authorization for medicines.
- Participated and provided inputs in the validation of two RFDA regulations (governing GMP of pharmaceutical products and establishment-licensing of medicated cosmetics, pesticides, laboratory, and household chemicals). The validation workshop took place on September 13, 2021, and fulfills the principle of meeting Good Regulatory Practices, which necessitates the requirement to conduct stakeholder consultations to validate regulations and ease their implementation.
- Participated in the two-week WHO-led RFDA self-benchmarking assessment (September 6–17) to determine RFDA's readiness for formal benchmarking for GBT maturity level 3 (tentatively planned for May 2022). The WHO GBT is used to measure the functionality of a national regulatory authority. By participating in the self-benchmarking exercise, MTaPS was able to observe and track the significant progress registered and areas that need further support for RFDA to reach maturity level 3.
- Partnered with Pharmaceutical Systems Africa (PSA) to develop a business plan and financial strategy that will aid RFDA in creating a financial sustainability mechanism. The draft business plan has been shared with RFDA for review and is expected to be finalized by quarter 1 of program year 4. The recommendations in the plan will assist the RFDA, which currently relies on government funding to operate and provide services, in charting a course toward financial sustainability and reducing reliance on government revenue.
- Supported the final validation of the WHO AWaRe classification of antibiotics, which are part of the NEML, in a workshop in Musanze August 30–September 3, 2021. The NEML and the national STG final documents have been submitted to the MOH for ministerial approval. The NEML and STGs will help Rwandan prescribers use antibiotics more effectively and prevent AMR.

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

MTaPS supported the development of guidance regulatory documents for registering essential medicines and medical devices, which are currently undergoing editing before being shared with the RFDA. SOPs on assessing generic medicines, including WHO prequalified products, are included in the guidance documents, as well as an SOP on registering vaccines and biological products. A guideline for the regulation of medical gases was also developed. Guidance documents will help address the gaps identified during the WHO GBT benchmarking process and will provide RFDA with tools to ensure quality assessments and consistent evaluations by assessors, as well as a proper understanding of the registration requirements by applicants for marketing authorization.

Implementing Good Reliance Practices is critical for national regulatory authorities in low-resource settings. As a result, MTaPS assisted RFDA in enrolling three staff members in a three-day training course on Good Reliance Practices. The Centre of Regulatory Excellence-Duke-National University of Singapore, a core partner of MTaPS, provided the training. The knowledge gained will enable RFDA staff

to put into practice the issued WHO guidelines on Good Reliance Practices as well as RFDA's registration guidance. As a result, quality assessments are facilitated by expedited registration pathways to improve access to RFDA-regulated medicines and other health products.

1.1.3: Enhance capacity of RFDA to ensure quality of food products

To address the issue of poor-quality and unsafe food products, it is necessary to strengthen regulatory and oversight systems by establishing food safety and quality regulations and guidelines. MTaPS assisted RFDA in developing the following guidance documents:

- Regulation governing food safety surveillance
- Guidelines on recall, seizure, and disposal of unfit food products
- Guidelines for post-market surveillance of food products
- Revised guidelines for registering processed food products
- Guidelines for the National Food Safety Surveillance system
- A draft risk-based inspection plan that will be used to conduct inspections of selected food product premises

MTaPS is reviewing the:

1) Regulation governing the registration of prepackaged food

2) Revised regulation governing the registration of food products

3) Guidelines on registering food products.

MTaPS is following up with RFDA on the review and issue of the above developed documents, as well as on conducting an orientation workshop before they can be used for implementation.

1.2.1: Support functionality of DTCs and enhance their capacity to facilitate transitioning of patients to tenofovir/lamivudine/dolutegravir and monitoring pharmaceutical management in supported health facilities

During the quarter, MTaPS supported the MOH and its stakeholders in drafting a DTC/MTC operational manual. The draft operational manual, a medicine/drug use review guide, a checklist for data quality checks in adverse drug reaction (ADR) reports, and SOPs for guiding support supervision and reporting adverse effects at facility level have been shared with the MOH for technical review. In addition, a survey of the functionality of DTCs at various hospitals was completed, and the report is being finalized. Its findings and the manual, SOPs, checklist, and guide will direct the planned orientation of DTC members to enhance the DTCs' capacity to monitor pharmaceutical management in health facilities.

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 by developing pharmacy service standards aligned with Rwanda's health care quality and accreditation system

Under this activity, MTaPS supported the MOH and RFDA in printing seed copies of the Pharmaceutical Service Accreditation Standards and IEC materials for public awareness on medicine safety. The documents were first disseminated during the annual NPC Conference on June 30, 2021, to 440 participants (295 males, 145 females), and there is ongoing planning with MOH to have a formal extended dissemination plan covering HCWs and institutions.

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

MTaPS finalized a report on a rapid desk review of storage and management of oxytocin in 10 districts and worked with the Integrated Maternal Child and Community Health (IMCCH) division of the MOH/RBC and its stakeholders to develop guidelines to ensure oxytocin is stored in cold conditions throughout the cold chain. The developed oxytocin storage and management manual guidelines were shared with RBC, who recommended input from Rwanda Medical Supplies (RMS). The RMS requested addition of information on central-level management of oxytocin, which has been done; the revised draft guidelines were submitted to RMS for feedback. Later, on August 3, 2021, the manual was reviewed by the sub-working group on Safe Motherhood and approved with minor changes and recommended for submission to the extended MNCH TWG for further review and input during the next meeting, which is likely to take place in October 2021.

After discussions with the IMCCH unit, weaknesses were identified in the capacity of community health workers (CHWs) to provide FP services. It was determined that MTaPS will support refresher training of CHWs by developing modules on management and use of FP products for use by the health center teams in their monthly meetings. Additionally, the situation analysis of provision of FP services to youths is underway, through key informant interviews.

MTaPS is also working with MOH to improve access to and administration of oxygen, beginning with identification of existing gaps. MTaPS supported drafting the terms of reference (TOR) for the proposed steering committee that will guide MOH and its stakeholders on matters related to oxygen use, availability, and management in the country. The TOR has been submitted to MOH and is pending review by an extended team that includes RBC, RFDA, and other partners, such as the Clinton Health Access Initiative. MTaPS is also in discussions with MOH on how to update the 2018 proposal for increasing access to medical oxygen in public hospitals across Rwanda into a roadmap.

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

During the quarter, MTaPS supported the MOH/RBC in finalizing the active surveillance protocol and its implementation plan for active monitoring of patients on dolutegravir-based antiretroviral therapy regimens. The protocol was submitted for ethical approval in June 2021. The protocol, related SOPs, and a patient consent form were approved by the RNEC on September 15, 2021, and currently, preparations for study implementation have commenced.

EBOLA RESPONSE ACTIVITIES

INFECTION PREVENTION AND CONTROL, INCLUDING WASH

MTaPS completed drafting a set of Ebola virus disease (EVD) technical deliverables that include:

- National Ebola IPC guidelines
- 14 Ebola IPC SOPs for health facilities
- Ebola IPC job aids
- An electronic Ebola IPC health facility assessment and compliance monitoring tool
- Ebola IPC training materials for HCWs

Additionally, MTaPS provided input into the national IPC strategic plan to include Ebola preparedness considerations. These materials have been submitted to MOH for validation. Following validation by the MOH TWG, MTaPS will proceed with the planned training of HCWs. The validation is a multistep process involving key national stakeholders that includes technical and process consultations, document review by technical experts, and leadership review. Validation of the EVD technical package prepared by MTaPS was expected to take place during July–August 2021, but has been postponed because MOH counterparts were fully occupied with addressing COVID-19 demands, including vaccinations.

RISK COMMUNICATION AND COMMUNITY ENGAGEMENT, INCLUDING SOCIAL AND BEHAVIOR CHANGE

Ebola risk communication and community engagement materials have been drafted and submitted to MOH for validation.

SURVEILLANCE AND CONTACT TRACING

MTaPS began developing materials for planned drills at designated ports of entry (POEs) to test communication systems between POE health authorities, the nearest district hospitals, and the national health surveillance system. MTaPS has also initiated procurement of materials to be utilized by facilities and during the drills (i.e., flash thermometers, tablets, modems, and internet airtime). Following validation by the MOH TWG, MTaPS will proceed with the planned POE drills.

ACTIVITIES FOR NEXT QUARTER	
ACTIVITY AND DESCRIPTION	**DATE**
Support finalizing RFDA business plan, including a financial strategy	Oct–Dec 2021
Support development of missing documents that were identified during the supported RFDA WHO GBT self-benchmarking	Oct–Dec 2021
Organize a capacity-building session for RFDA staff in medical device assessment and review of technical files	Oct–Dec 2021
Support RFDA in developing a list of medical devices categorized according to risk and SOPs for listing medical devices	Oct–Dec 2021
Support RFDA in conducting a capacity-building training session on assessing vaccines and biological products	Oct–Dec 2021
Conduct workshop to validate developed food regulation documents and to orient RFDA personnel on the risk-based inspection plan (28 staff estimated)	Oct–Dec 2021

ACTIVITIES FOR NEXT QUARTER	
ACTIVITY AND DESCRIPTION	**DATE**
Support validation of developed documents, including the DTC manual, guide for medicine/drug use review, SOP for supportive supervision during active monitoring, SOP for facility-level ADR reporting, and a checklist for data quality checks	Oct–Dec 2021
Train an estimated 153 DTC members on the developed documents	Oct–Dec 2021
Report on training/orientation of DTC members	Oct–Dec 2021
Support the dissemination and implementation of the approved pharmacy service accreditation standards and IEC materials for public awareness on medicine safety	Oct–Dec 2021
Provide support on training HCWs in storage of oxytocin (128 staff estimated)	Oct–Dec 2021
Support the orientation of DTCs (128 staff estimated) on continuous quality improvement to improve use of medicines for selected MNCH conditions	Oct–Dec 2021
Provide technical support on situational analysis on the supply and use of FP products at facility level and any barriers to access, especially in the teenage population	Oct–Dec 2021
Develop refresher training modules for CHWs managing FP products	Oct–Dec 2021
Support MOH in establishing the oxygen steering committee and developing the oxygen roadmap	Oct–Dec 2021
Train HCWs at selected sites on all elements of the active surveillance protocol	Oct–Dec 2021
Support patient enrollment in the active monitoring cohort and follow-up for occurrence of adverse events	Oct–Dec 2021
Support RFDA in having at least 30 trainees who completed the e-learning course on PV	Oct–Dec 2021

SENEGAL

For progress on MTaPS/Senegal's COVID-19 activities, click here. For additional information on country progress in COVID-19 activities this quarter, refer to Annex 1.

HIGHLIGHTS FROM PROGRAM YEAR 3 (FY21)

MTaPS provided a refresher orientation on the World Health Organization (WHO) benchmarks for International Health Regulations (IHR) capacities tool to participants of the 2021 antimicrobial resistance (AMR) annual action plan review workshop held June 30–July 2, 2021. The participants used it as a guide for prioritizing activities expected for August to December 2021. As a result, 37% of identified activities linked to IHR capacities were prioritized for completion by December 2021.

MTaPS supported the revitalization of five hospitals' infection prevention and control committees (ICCs) during PY3 based on experiences and lessons learned from the three pilot hospitals. The new ICCs have adapted, and started implementing, their IPC guidelines. These guidelines have helped the five facilities strengthen their preparedness and response to the third wave of COVID-19.

MTaPS supported infection prevention and control (IPC) training sessions of the hospitals' ICCs, which included the establishment, roles and responsibilities, and functioning of the ICCs' operational groups. Although eight operational groups are recommended in each ICC based on the number of priority IPC components defined by WHO, some facilities have adjusted the recommended number of groups based on their needs and their local context. For example, the level-two hospital in Kaffrine has ten groups, including a TB group and a hematology group, whereas the level-one hospital in Mbour has six groups, as it merged biomedical waste and bio cleaning into one group. In each facility, the operational groups have created WhatsApp groups to monitor and follow up on IPC activity implementation.

MTaPS supported the Direction de la Qualité, de la Sécurité et de l'Hygiène Hospitalières (DQSHH) to organize a two-day workshop from May 3 to May 4 to review and update the national IPC supervision checklist to include WHO's multimodal strategy and water, sanitation, and hygiene (WASH) in health care settings. The supervision checklist was last updated and used in 2017. Using the updated supervision checklist, MTaPS worked with the DQSHH to conduct supervisory visits to the level-three Hospital General Idrissa Pouye, the level-one hospital Abdoul Aziz Sy of Tivaouane, and the level-two hospital Saint John of God. Overall, the IPC core components such as hand hygiene, biomedical waste management, and bio cleaning have improved. The health care-associated infections surveillance has begun and is ongoing in the level-two and the level-three hospitals. Each of them has developed their own surveillance tool.

From May 25 to May 29, MTaPS provided financial and technical contributions to the Ebola incident management structure (IMS) to prepare for and organize a workshop to update the standard operating procedures (SOPs)/guidelines that Senegal developed for preparedness and response to the Ebola Virus Disease (EVD) outbreak in 2014. A total of 25 SOPs were reviewed and updated for case management (8), IPC (8), and surveillance (9). An additional 7 new SOPs were developed for behavior change communication (4) and psychosocial care (3).

QUARTER PROGRESS FOR FY21Q4

GLOBAL HEALTH SECURITY AGENDA ACTIVITIES

RESULT AREA 1: EFFECTIVE MULTISECTORAL COORDINATION ON AMR

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

June 30–July 2, 2021, MTaPS—jointly with PATH/Fleming Fund—supported the PREVENTION/AMR working group to organize a workshop under the aegis of the One Health (OH) Permanent Secretariat to assess the implementation of the 2021 AMR annual action plan. MTaPS provided participants with a refresher orientation on the WHO IHR capacity tool to ensure that it is used as a guide for prioritizing activities expected during the remaining months of the 2021 AMR annual action plan. After 5 months of implementation, 6% of the 153 planned activities were completed, 41% were ongoing, 37% had not yet started, and 17% were rescheduled to 2022. The AMR working group committed to completing most of the remaining activities by December 2021.

RESULT AREA 2: IPC

Activity 2: Strengthen the capacity of health facilities for implementing IPC programs

MTaPS, in collaboration with the DQSHH, provided continued support to the five hospitals' ICCs. This included supporting training and coaching through supportive supervision visits for the implementation of their improvement action plans. MTaPS supported the organization of five three-day trainings on IPC for the 115 ICC members, including their trainers at the level-one hospital in Mbour (23), the level-two hospital in Fatick (24), the level-two Thierno Birahim Ndao hospital in Kaffrine (22), the level-three Matlaboul Fawzeyni hospital in Touba (21), and the level-three hospital in Dakar (25). The training themes were comprised of the IPC core components, including the WHO multimodal strategy and the continuous quality improvement approach. During these training sessions, the trained health facilities were updated on the use of IPC SOPs and guidelines developed by the pilot hospitals and the DQSHH with MTaPS' support. The trained hospitals adapted the IPC SOPs and guidelines to their local context by using the standardized guidance matrix that the DQSHH developed with MTaPS' support. Furthermore, MTaPS supported the trained ICCs' trainers to train an additional 129 ICC members and health care workers from the level-one hospital in Mbour (40), the level-two hospital in Fatick (45), and the level-three hospital in Dakar (44).

RESULT AREA 3: USE OF ANTIMICROBIAL MEDICINES OPTIMIZED

Activity 3.1.1: Support the implementation of capacity building interventions to increase compliance with antibiotic standard treatment guidelines (STGs)

Following the validation of the antibiotic therapy policy and guidelines by the service delivery commission of the Ministry of Health's Health System Strengthening Platform, the DQSHH shared the final version with MTaPS for printing. The Minister of Health will chair the ceremony for the official endorsement and signature of the antibiotic treatment policy and STGs. The dissemination of the antibiotic treatment policy and STGs will take place during the first quarter of FY22. The dissemination

will consist of conducting a virtual orientation of regional and district health managers, training of AMS subcommittee members from each of the 13 hospitals' ICCs, sharing soft and hard copies with hospitals nationwide, and uploading the antibiotic treatment policy and STGs onto the MOH's eLearning platform. MTaPS plans to work with the National Committee for Antibiotic Therapy to define and conduct dissemination activities during the World Antimicrobial Awareness Week.

EBOLA RESPONSE ACTIVITIES

IPC, INCLUDING WASH

MTaPS continued providing technical support to the EVD IMS and attended weekly IMS coordination meetings.

MTaPS continued advocating for the EVD IMS to prioritize the finalization of the 32 SOPs that were updated/developed. The pending finalization of the SOPs is delaying their use for training the district health management teams and teams in charge of the ports of entry and transit sites. The EVD IMS has opted to organize a national workshop to finalize the 32 SOPs and develop additional SOPs. The EVD IMS is working with another implementing partner to secure its funding contribution for the national workshop, which will be tentatively organized in October 2021.

SURVEILLANCE AND CONTACT TRACING

MTaPS continued advocating for the EVD IMS to prioritize the finalization of the 32 SOPs that were updated/developed, including the 9 SOPs related to EVD surveillance. The SOPs will be used to train the district health management teams and teams in charge of the ports of entry and transit sites.

Activities for next quarter	
Activity and Description	**Date**
GHSA	
MTaPS will work with the DQSHH to conduct IPC monitoring and evaluation visits to the hospitals using the national supervision grid and the IPC assessment framework.	Oct 2021
MTaPS will support the DQSHH to organize a validation workshop of the IPC courses integrated into the e-learning platform and an orientation of health care workers on the use of the e-learning platform.	Oct–Nov 2021
MTaPS will select and assess two additional facilities for the ICC revitalization process.	Nov–Dec 2021
MTaPS will support the National Committee for Antibiotic Therapy to launch and disseminate the antibiotic treatment policy and STGs nationwide through virtual technical orientation sessions at the national and subnational levels.	Nov–Dec 2021
Under the aegis of the OH Permanent Secretary, MTaPS will support the PREVENTION/AMR working group to prepare and organize activities during the World Antimicrobial Awareness Week.	Oct–Nov 2021
Ebola response	
MTaPS will provide technical and financial support to the EVD IMS to finalize the 32 SOPs, develop additional SOPs, and organize the orientation of targeted health district teams on their use.	Oct–Dec 2021

TANZANIA

HIGHLIGHTS FROM PROGRAM YEAR 3 (FY21)

GLOBAL HEALTH SECURITY AGENDA

Effective multisectoral coordination on AMR

MTaPS supported the Awareness Technical Working Group (TWG) of the Multisectoral Coordination Committee (MCC) on antimicrobial resistance (AMR) containment for discussions at the World Antimicrobial Awareness Week (WAAW) commemoration. MTaPS also supported the MCC meeting at the beginning of the WAAW commemoration on November 18, 2020. The MCC issued a press release emphasizing that antimicrobials should never be sold without a prescription and never be taken without consulting a health care provider. The address came after MTaPS presented at the MCC on the status of antimicrobial stewardship (AMS) at health care facilities, which called for action across all levels. The directive from the chair will have a positive impact in steering AMS activities in Tanzania. MTaPS presented at the MCC meeting on July 25, 2021, during which a new chair of the AMS TWG was appointed. In addition, MTaPS presented on project implementation and achievements, highlighting its work toward improving AMS and preventing AMR. These achievements will improve the functioning of the AMS TWG, strengthen the MCC, and enable effective implementation of MTaPS AMS activities in cooperation with the AMS TWG chair. A functional MCC contributes to Tanzania progressing toward 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 benchmarks for International Health Regulations (IHR) capacities.

Infection prevention and control (IPC)

MTaPS worked with the Center for Distance Learning Education (CDE) to strengthen the capacity of local health-related training institutions to provide quality e-learning on IPC for both pre-service and in-service learners. As such, an IPC e-learning course was incorporated into and launched on the national e-learning platform for health, followed by a training of master e-learning facilitators for the central and regional levels to enable them to use the e-learning platform to strengthen the capacity of health professionals to implement national guidelines in IPC interventions. The e-learning facilitators are responsible for training students to use the e-learning platform when taking the course. This activity aligns with benchmark capacity level 3 action in WHO's 2019 IHR capacities benchmarking tool on training adequate health care workers on the IPC guidelines.

MTaPS also provided technical support to the Ministry of Health, Community Development, Gender, Elderly and Children (MOHCDGEC) to develop indicators for the monitoring and evaluation of the national IPC program from the health facility to the national level and integrated them into the health management information system (HMIS). Collection and analysis of IPC data via the HMIS will help the MOHCDGEC analyze health facilities' performance on IPC implementation and plan for supportive supervision. The indicators will also help to monitor the extent of hospital-acquired infections within health facilities in Tanzania and to develop appropriate interventions to address them.

Antimicrobial stewardship

With full engagement of the MOHCDGEC Pharmacy Services Unit (PSU), professional councils, and other experts, MTaPS supported the development of facilitator guides for Standard Treatment Guidelines/National Essential Medicines List (STG/NEMLIT) dissemination, medicines and therapeutics committee (MTC) guideline dissemination, ethical prescribing, and ethical dispensing as well as a guide for developing a hospital formulary. The materials will help hospitals develop their own hospital formularies (including addressing access, watch and reserve [AWaRe] categorization of antibiotics); conduct training on ethical prescribing and ethical dispensing; improve AMS implementation in health facilities; and contribute to AMR containment in Tanzania.

PEPFAR COP20-FUNDED ACTIVITIES

MTaPS conducted an assessment for medicine distributors/importers and health facilities to obtain information on the barriers and bottlenecks encountered during the registration and importation of antiretroviral medicines (ARVs). MTaPS also worked with the Tanzania Medicines and Medical Devices Authority (TMDA) to build the capacity of its medicine evaluators to undertake medicine dossier evaluations. This will provide additional skills to the TMDA pool of experts to perform quality scientific dossier evaluations that will improve the evaluation and registration process of medicines and medical devices in Tanzania, including ARVs. In addition, the TMDA, with MTaPS' support, conducted a meeting September 6–10, 2021, at which participants revised the terms of reference for the Pharmacovigilance (PV) technical committee to incorporate pediatric expert members, drafted a guideline for pediatric PV, and nominated five pediatric experts to the technical committee. This activity will contribute to the establishment of a pediatric advisory sub-committee to assess pediatric adverse drug reactions (ADRs), including for ARVs; improve timely provision of feedback to ADR reporters; and increase reporting of ADRs to pediatric ARVs in the various pediatric sub-populations.

QUARTER PROGRESS FOR FY21Q4

GLOBAL HEALTH SECURITY AGENDA ACTIVITIES

RESULT AREA 1: EFFECTIVE MULTISECTORAL COORDINATION ON AMR

Activity 1.1.1: Review plans and progress through regular MCC meetings

MTaPS conducted a consultation with the MOHCDGEC PSU on preparation for upcoming MCC IPC and AMS TWG meetings to ensure effective coordination of AMR activities through regular meetings. This supports the One Health approach highlighted in Tanzania's National Action Plan on Antimicrobial Resistance (NAPA) and reviews plans and progress through regular meetings of the AMR governance committee. The next MCC meeting is planned for October 2021.

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, in collaboration with the CDE, trained 20 e-learning facilitators (7 female, 13 male) from the regional level to enable them to use the e-learning platform and gain e-learning facilitation skills to strengthen the capacity of health professionals to implement national guidelines on IPC interventions through training. Among the participants were tutors from 10 health-related colleges across Tanzania. The training was done in two sessions, with the first focusing on training participants on how to access the system, the student dashboard, the IPC course home page, and content. The second session focused on training tutors as facilitators; guiding them on using the platform as a facilitator; and instructing them on the role of a facilitator, including creating course materials, updating or modifying uploaded content, enrolling users, creating activities such as discussion forums, and obtaining and analyzing reports on students. The e-learning facilitators are responsible for training students to use the e-learning platform to take the course.

Activity 2.3.1: Develop a system for monitoring and evaluation of IPC program in health facilities

Following the completion of the system design and development of the IPC components in the HMIS (i.e., the district health information systems version 2 [DHIS2] platform) as per agreed system requirements specifications, MTaPS organized a stakeholder meeting in August 2021 with 10 participants (4 female, 6 male) from the MOHCDGEC and the selected referral hospitals, universities, and other nongovernmental organizations. The purpose of the meeting was to conduct user acceptance testing (UAT) to assess the software and determine whether it meets user requirements and expectations. The results of the UAT found that 90% of the use test cases were successful, demonstrating that the HMIS meets both functional and nonfunctional requirements and that the IPC component is ready for migration to the DHIS2 production environment and eventual national rollout.

RESULT AREA 3: USE OF ANTIMICROBIAL MEDICINES OPTIMIZED

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

After the launch of the sixth edition of the STG/NEMLIT with the AWaRe list of antibiotics, MTaPS, in collaboration with the MOHCDGEC PSU, and representatives of the Pharmacy Council of Tanzania (PCT), Medicine Council of Tanganyika (MCT), Laboratory Technologist Council of Tanzania (LTCT), Tanzania Nurses and Midwives Council (TNMC) and a team of experts met August 25–September 10, 2021, to develop a facilitator guide and other dissemination materials that will be used to disseminate the STG/NEMLIT in Tanzania. In the same workshop, the team developed a guide for the development of a hospital formulary (antimicrobial formulary inclusive) and training materials that will be used by hospitals in Tanzania to develop their own formularies. MTaPS will use the developed materials for implementation at 10 MTaPS-supported hospitals while advocating the MOHCDGEC to cascade implementation to other health facilities in Tanzania. The activity is consistent with the recommended actions in WHO benchmark 3.4, capacity level 3 on conducting AMS practices in designated health care facilities and will contribute to the country's progress toward JEE capacity level 3. The next steps are to support the MOHCDGEC to disseminate the STG/NEMLIT, train health care professionals on

development of their own hospital formularies and facilitate experience-sharing among health professionals in the 10 supported hospitals.

Activity 3.2.1: Conduct refresher trainings on professional ethics and enforcement on the use of antimicrobial agents

MTaPS, in cooperation with the MOHCDGEC PSU, conducted an onsite needs assessment for the 10 supported hospitals July 19–August 6, 2021, to understand the knowledge gaps of health care professionals in relation to ethical prescribing and dispensing of antimicrobial agents. The assessment was conducted via a series of three questionnaires on knowledge, attitude, and practices of antimicrobials, completed by 50 prescribers; ethical prescribing of antimicrobials, completed by 47 prescribers; and ethical dispensing of antimicrobials, completed by 54 dispensers. The data from the questionnaires were further supported through focus group discussions among prescribers, dispensers, nurses/midwives, and laboratory experts.

At the workshop conducted August 25–September 10, 2021, MTaPS, in cooperation with the MOHCDGEC PSU, and representatives of the PCT, MCT, LTCT, and TNMC and a team of experts developed an ethical prescribing facilitator guide and an ethical dispensing facilitator guide, along with related training materials based on gaps identified during the needs assessment. The training materials will be used in Tanzania to enhance the capacity of health care professionals using a holistic approach and promote adherence to professional ethics when dealing with antimicrobial agents. It is anticipated that completion of this activity will increase the country's effort to fight AMR and contribute to achieving WHO IHR benchmark capacity level 3 action for P.3.4 (implement AMS programs, including monitoring of antimicrobial use, education/communication, and other interventions to improve antibiotic use at designated facilities). The next step will be to conduct trainings among health professionals in the 10 supported hospitals using the developed training materials.

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, in cooperation with the MOHCDGEC PSU, conducted an MTC onsite needs assessment for four new MTaPS-supported health facilities (Amana regional referral hospital [RRH], Morogoro RRH, Mbeya RRH, and Bugando Medical Centre) July 19–August 6, 2021. The aim was to assess the general performance of the Hospital Medicines and Therapeutic Committee (HMTC) and identify gaps. This was achieved through interviews with HMTC members and by inspecting HMTC files. Some minor gaps, including inadequate knowledge of role and responsibilities, were addressed through discussion, while other gaps, such as inadequate knowledge and skills in developing the hospital formulary and AMS activity implementation, will be addressed through further interventions.

During the August 25–September 10, 2021, workshop, MTaPS, in cooperation with the MOHCDGEC PSU, PCT, MCT, LTCT, and TNMC and the team of experts, developed a facilitator guide for MTC dissemination and related dissemination materials. The activity responds to WHO IHR benchmark 3.4, level 3 capacity actions (i.e., 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). The next steps will be to disseminate MTC guideline to the 10 supported hospitals; provide further capacity

building to MTCs and related committees on AMS activity implementation, including AWaRe categorization of antibiotics; and address gaps identified in the four added hospitals.

MISSION-FUNDED ACTIVITIES

OBJECTIVE 1: STRENGTHEN INSTITUTIONAL CAPACITY TO MANAGE PHARMACEUTICAL SERVICES

Activity 1.1.1: Conduct a process improvement mapping for registering and importing ARVs, including DTG, for the public sector

MTaPS designed two questionnaires to be administered to medicines distributors/importers and health facilities to obtain accurate information on the barriers and bottlenecks encountered during the registration and importation of ARVs. The first questionnaire was distributed via notification to 18 pharmaceutical distributors and importers to solicit their participation in the survey. For the second questionnaire, a sample of health facilities will be selected to participate in the survey to investigate the challenges and barriers that facilities face in obtaining an adequate supply of ARV medicines. This activity contributes to mapping the sequence of activities to register and import ARVs, including dolutegravir (DTG), for distribution and use in the public sector. The mapping report generated by the survey will inform regulators, distributors/importers, government health facilities, and other stakeholders about considerations for process improvements and recommendations for change to provide quality-assured medicines on time and increase access. The next steps include scheduling interviews to gather information, data validation and analysis, and the generation of the mapping report.

Activity 1.1.2: Sustain the capacity of TMDA to assess quality, safety, and efficacy of ARVs

MTaPS facilitated capacity building for the TMDA on medicine dossier evaluation. A total of 30 (12 female, 18 male) TMDA medicine evaluators, including medicines assessors, external assessors, and interns, participated in a training August 2–13, 2021, on medicines evaluation, which was followed by hands-on dossier evaluation to obtain practical knowledge transfer. The training aimed to prepare participants to conduct medicine dossier assessments and to evaluate the quality, safety, and efficacy of medicines such as ARVs. The knowledge gained through training and practical hands-on experience will provide the TMDA pool of experts with additional skills to perform quality scientific dossier evaluations, which will in turn increase efficiency within the TMDA for medicine evaluation and help to maintain the TMDA's maturity level 3 capacity to evaluate the quality, safety, and efficacy of medicines used in the treatment of opportunistic infections associated with HIV/AIDS as categorized using the WHO Global Benchmarking Tool.

OBJECTIVE 2: STRENGTHEN SYSTEMS FOR PROVIDING PATIENT-CENTERED CARE AND SERVICES

Activity 2.1.1: Strengthen existing passive medicine safety surveillance system for pediatric medicines used in national HIV program

The TMDA, with support from MTaPS, conducted a workshop September 6–10, 2021, aimed at reviewing the terms of reference of the current national safety advisory committee to include some pediatric experts and to develop the guidelines for safety monitoring of pediatric pharmaceutical products. During the meeting:

- The terms of reference of the PV technical committee were revised to include pediatric experts
- CVs for potential pediatricians for nomination to the committee were reviewed
- Guidelines for PV of pediatric ARVs were drafted

At the end, five pediatricians were recommended for nomination to the PV committee. This activity will contribute to improving the committee's assessment of reported pediatric ADRs and timely provision of feedback to reporters of ADRs, which will ultimately increase reporting of ADRs related to pediatric ARVs. The next step is to obtain official approval and nomination into the committee for the recommended pediatricians from the management of the TMDA, orientation for new committee members, and training of TMDA staff on risk management.

Activities for next quarter	
Activity and Description	**Date (2021)**
Train trainers for IPC related HMIS/DHIS2	October 2021
Conduct trainings to enhance capacity of health care professionals and promote adherence to professional ethics while dealing with the use of antimicrobial agents	October 2021
Provide further capacity building to MTCs and other related committees on AMS activity implementation, including AWaRe categories of antibiotics	October 2021
Organize stakeholder forums and measure/track performance of the listed NAPA indicators	November 2021
Schedule appointments to conduct interviews for the process mapping exercise; conduct interviews, data validation, and analysis; and share the report	November 2021
Develop hospital antimicrobial formulary based on STG/NEMLIT 2021	December 2021

UGANDA

HIGHLIGHTS FROM PROGRAM YEAR 3 (FY21)

STRENGTHENING HUMAN RESOURCE CAPACITY OF HEALTH FACILITIES (HFS) AND PROFESSIONAL BODIES

During FY21, MTaPS worked with the Pharmaceutical Society of Uganda (PSU) and the national antimicrobial stewardship technical working committee (AMS TWC) to conduct antimicrobial resistance (AMR) symposia in 4 universities reaching 1,377 students (36% males, 64% females) that were subsequently enrolled in AMR interest groups. This included medical, nursing, pharmacy, laboratory, veterinary, and agriculture students maintaining the One Health approach. Initially, an implementation strategy was prepared by the MTaPS country team, followed by inception activities that involved mobilizing the key stakeholders prior to drawing up an agreed tentative implementation plan and schedule. Communication channels between the different stakeholders were established. Next, the universities were engaged through the office of the Deans and student leaders to determine the symposia dates and develop a symposia plan with distribution of tasks among the student leaders (organizing team) done in situ. MTaPS made the logistical arrangements for the symposia. The symposia delivered consistent knowledge about the overview of AMR and AMS, global best practices in AMS, optimizing the health workers' role in AMS and practical aspects for Uganda, and the One Health concept. MTaPS utilized an online platform (Zoom Pro) to deliver two of the symposia that had been scheduled during restrictions on movement enforced because of the COVID-19 pandemic. The symposia were led by faculty, AMS TWC, and the professional bodies for ownership, which ensured concrete participation and motivation of the stakeholders to implement the activity. The symposia provided a much-needed platform for rallying pre-service and future health care workers and antimicrobial users about AMR and motivating them about the prudent use and preservation of antimicrobial medicines.

STRENGTHENING NATIONAL AND SUB-NATIONAL HUMAN RESOURCE CAPACITY THROUGH SUPPORT TO THE INFECTION PREVENTION AND CONTROL (IPC) AND AMS TWCS OF THE NATIONAL AMR SUB-COMMITTEE

MTaPS, working with Makerere University of Kampala (MUK), supported the AMS TWC of the National AMR Sub-Committee (NAMRSC) to develop and publish the first newsletter on AMS, with the theme: "Call to action for AMS." The newsletter features articles and updates about AMS implementation in Uganda through the One Health approach. Initially the process involved the MTaPS technical lead preparing an implementation strategy followed by inception activities that involved mobilizing the key stakeholders including Makerere University and AMS TWC. Inception meetings involved review of the plan, drawing timelines and assigning responsibilities that were collected into an implementation plan. Next, the editorial team was assembled and included technical officers from MUK, AMS TWC, PSU, and MTaPS, all led by MUK. A call was put out for articles and abstracts to be included in the newsletter. The editorial team reviewed the articles and selected those for inclusion in the first draft, which was assembled by the MUK. This also included communications from the chairperson and secretariat of the AMS TWC and the newsletter editorial team. The draft was reviewed by the editorial team and a second draft was developed, which underwent technical review at MTaPS HQ prior to generation of a

third draft. The final version was then shared on different platforms. The involvement of the AMS governing structures and other key stakeholders right from the beginning and assembling a multisectoral editorial team ensured wide participation and acceptance of the activity. The newsletter provides a centralized platform for disseminating AMS activities in Uganda that are implemented by the many stakeholders and builds the capacity of the AMS TWC to improve public engagement about AMS.

Strengthening Centers of Excellence (CoE) for AMS

During FY21, MTaPS worked together with the Ministry of Health (MOH) and the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) to complete a rapid assessment/situational analysis of AMS policies in Uganda with the objective of understanding the current policies and regulatory frameworks that influence AMS. Key findings included: 1) existence of a regulatory structure to support prudent use of antibiotics, 2) poor enforcement of antibiotic use laws, and 3) lack of guidance on human resource use (prescribers, dispensers) of antibiotics in the agricultural sector. The assessment process commenced with development of an implementation plan by the MTaPS technical lead, followed by engagements with the MOH and MAAIF to review and agree on the plan. Two technical consultants for human and animal health respectively were hired to undertake the assessment while coordination was done by the technical leads at MTaPS and the ministries. Working with the line ministries and government agencies and departments, the consultants conducted the assessment and developed the initial draft report, which was shared with the technical officers at the ministries for input/review prior to preparing the final report. This final draft report is to be passed through the different authorization processes in the ministries for approval. After that, it is planned to use the report to inform the development of a national AMS plan for the use of antimicrobials in humans and animals in Uganda. Addressing policy challenges or conflicts for AMS is a key foundation building activity for the national AMS program and is a World Health Organization (WHO) Benchmark 3.4 capacity-2 action.

A key challenge was the limited ability for field activities brought about by the lockdown and restrictions in movement and in-person interactions due to the upsurge in community spread of COVID-19. A lesson learned was that there is need to build capacity (including IT infrastructure) in the supported HFs to conduct activities remotely.

Quarter Progress for FY21Q4

GLOBAL HEALTH SECURITY AGENDA ACTIVITIES

Result Area 1: Effective multisectoral coordination on AMR

Activity 1.2.1: Strengthen national and sub-national human resource capacity through support to the IPC and AMS TWCs of the National AMR Sub-Committee (NAMRsC)

MTaPS worked with Makerere University, supporting the AMS TWC of the NAMRsC, to develop and publish the first AMS newsletter, with the theme: "Call to action for AMS." This first issue featured communications from the chairperson of the AMS TWC and the Secretariat, and ten technical articles highlighting key activities done at all levels of AMS implementation while emphasizing the One Health approach to AMR implementation. The goal of the newsletter is to link the national-level AMS activities to the sub-national-level, support documentation of activities progress, and provide a platform for timely

information sharing while creating a community of practice for AMS. MTaPS will support the AMS TWC and the Ministry of Health to produce this bi-annual publication while building internal capacity of the TWC to sustain long-term production of the publication.

To address gender inequity in AMR work in Uganda, MTaPS is highlighting the work of two women leaders in AMR containment in Uganda. This quarter, MTaPS supported the documentation of the stories that will be published in Q1 of program year (PY) 4 on all relevant MTaPS, NAMRsC, and MOH communication platforms. Through this work, MTaPS is encouraging more women and girls to contribute to AMR control and bridge the gender gap in pharmaceutical system strengthening, while contributing to the USAID goal of gender equity.

RESULT AREA 2: IPC

Activity 2.1.2: Strengthen human resource capacity of HFs and professional bodies

To build human resources for AMR, MTaPS—in partnership with the PSU and Makerere University—conducted am online symposium targeting undergraduate students at Makerere University. The One Health symposium brought together 440 students. Of these, 31.36% (138/440) were female and 68.64% (302/440) were male. Symposium participants included undergraduate students undertaking courses in medicine, pharmacy, nursing, laboratory sciences, veterinary medicine, and agriculture. The symposium focused on AMR principles, IPC, and the role of health workers using the One Health concept. Following the symposium, the students formed an AMR interest group, which will drive the implementation of AMR activities at the university. Cumulatively, MTaPS has supported 4 symposia among undergraduate students at 4 universities, reaching 918 students (36.3% female vs. 63.7% male). As a result of this work, 4 student-led AMR interest groups—1 from each university—were developed, with 1,377 students joining their respective university student structures. MTaPS, PSU, and the AMS TWC continuously engage the student interest groups through various platforms, including WhatsApp, with the goal of creating a students' national AMR charter to foster student interest and role in the containment of AMR. MTaPS has supported the identification of 12 academic and clinical mentors that are faculty members in the respective universities who will serve as patrons to these charters.

Activity 2.5.1: Improve the quality of health care services through strengthening IPC at CoE

During FY21, MTaPS worked with the MOH and the medical bureaus (Uganda Protestant Medical Bureau and Uganda Catholic Medical Bureau) to implement an IPC continuous quality improvement project with a focus on hand hygiene (HH). During FY21 Q4, MTaPS conducted 8 mentorship visits in 5 hospitals, reaching out to 75 health workers (60% males and 40% females). This was less than the planned projections due to restrictions in movement for 42 days because of the upsurge in COVID-19 cases in Uganda. During these sessions, a locally developed IPC mentorship tool that mirrored WHO's eight core components and multimodal strategies for improving HH was applied to track progress of IPC implementation in these hospitals. The results from surveys were disseminated to the hospital staff, and corrective action taken, including continuous medical education to improve IPC and HH knowledge and ongoing mentorship. These activities aimed at providing technical assistance to the health facility IPC committees to develop their facilities as CoE in IPC.

RESULT AREA 3: USE OF ANTIMICROBIAL MEDICINES OPTIMIZED

Activity 3.2.1: Strengthen CoE for AMS

Assessment of AMS policies and regulations

MTaPS completed the assessment of AMS policies in Uganda. The report findings have been provided to MAAIF and MOH for their approval. The report findings were used to inform PY4 work plan development in that MTaPS will support the development of a national AMS strategy as part of the plan to fill the gaps identified.

Working with the National Drug Authority (NDA) to measure and report on antimicrobial consumption at national level

This quarter, the MTaPS continued to work with the NDA to generate a sample report on consumption of antimicrobials at the national level. A repeat data extraction has been undertaken with support from the NDA, and data analysis and cleaning will be undertaken during this quarter. The report will also sub-classify consumption by the WHO Access, Watch, and Reserve categorization of antimicrobials to show how each of the categories are being consumed against the recommended guidelines. To ensure sustainability post-MTaPS, in PY4 the project will support software development for a module within the NDA management information system (MIS) that will allow for routine auto generation of the report on national-level consumption of antimicrobials.

EBOLA RESPONSE ACTIVITIES

LABORATORY STRENGTHENING

During FY21 Q4, MTaPS—working with the MOH, district health teams, and regional implementing partners—adapted a locally developed tool to conduct a laboratory situation analysis for Ebola virus disease (EVD), which guided the subsequent capacity building activities targeting strengthening laboratories and health care delivery for EVD. The assessment was conducted in 48 HFs in 7 districts, of which 36 (75%) were public and 12 (25%) were private; 28 (58%) were at health center level 3 (HC III), 9 (9%) were at health center level 4 (HC IV), and 11 (23%) were at hospital level. Of the assessed HFs, 9 (19%) had Ebola treatment units (ETU) and 39 (81%) did not have ETUs. The summary of the assessed HFs is shown in table 15.

Table 15. Summary of the HFs involved in the laboratory situation analysis

Level of care	No.	GOU	PVT	ETU	Non-ETU
1. Rubirizi district					
HC IIIs	5	5	0	0	5
HC IVs	1	1	0	0	1
2. Bushenyi district					
HC IIIs	6	5	1	0	6
HC IVs	2	2	0	0	2
Hospitals	3	0	3	2	1
3. Rukungiri district					
HC IIIs	4	4	0	0	4

Level of care	No.	GOU	PVT	ETU	Non-ETU
HC IVs	2	1	1	0	2
Hospitals	1	0	1	0	1
4. Kanungu district					
HC IIIs	0	0	0	0	0
HC IVs	1	1	0	0	1
Hospitals	2	0	2	2	0
5. Ntungamo district					
HC IIIs	0	0	0	0	0
HC IVs	0	0	0	0	0
Hospitals	1	1	0	1	0
6,7. Kisoro and Kabale districts					
HC IIIs	13	12	1	0	13
HC IVs	3	3	0	0	3
Hospitals	4	1	3	4	0
Totals	48	36	12	9	39

Three indicators were assessed—sample collection, sample handling, and sample transportation—and each was assigned a percentage score. The average score for sample collection was 65% (SD 15.5), the average score for sample handling was 61% (SD 25.6), and sample transportation had an average score of 55.4% (SD 20.2). This indicated the need to conduct capacity building for all three indicators. Instant feedback was provided to the laboratory focal persons and HF in-charges, while the results were shared with the district laboratory focal persons and the district rapid response teams (DRRTs).

MTaPS conducted a total of 65 capacity building activities—including trainings and mentorship visits—in 48 health facilities, reaching a total of 745 health care workers (HCWs) of which 55% were females and 45% were males. Of the 745 HCWs, 179 (24%) were from ETU HFs and 566 (76%) were from non-ETU HFs. Additionally, the trainings were conducted among 51 members (27% females and 73% males) of the DRRTs from 6 districts, consisting of 90% of all border districts in southwestern Uganda. The trainings and mentorships involved transfer of knowledge on laboratory processes for EVD, IPC measures for EVD and COVID-19, and the organization of IPC and response teams at the district and facility level aimed at screening, identification, and notification for EVD.

IPC, INCLUDING WATER, SANITATION, AND HYGIENE

MTaPS is working in 48 health facilities in 7 border districts of southwestern Uganda to implement capacity building activities for improving EVD IPC as part of preparedness and response activities. During FY21 Q4, MTaPS incorporated IPC into capacity building activities for laboratory processes described above. Dedicated IPC trainings will be conducted in the next quarter with focus on IPC processes, including IPC for the ETUs, contact tracing and surveillance, and capability exercises using WHO materials.

Activities for next quarter	
Activity and Description	**Date**
Complete and publish the second AMS newsletter	November 2021
Publish two articles about women leaders in AMR	October 2021
Conduct mentorship activities (AMS and IPC) in supported health facilities	December 2021
Conduct two AMS and IPC capacity building activities for regional IP partners	December 2021

Activities for next quarter	
Activity and Description	**Date**
Conduct HH trainings in supported health facilities	December 2021
Support one meeting of the AMS and optimal use (ASO) TWC	December 2021
Amalgamate all the students' AMR groups into a national students' AMR charter	December 2021
World Antibiotic Awareness Week activities	November 2021
Dissemination of findings from the assessment of AMS policies in Uganda	December 2021
Engage a consultant for software development of a module within the NDA MIS to routinely generate reports on consumption of antimicrobials at national level	December 2021
National-level report on consumption of antimicrobials	December 2021
Conduct a national-level workshop for reviewing the national EVD preparedness and response plan	October 2021
Conduct a stakeholders' workshop for developing EVD vaccination tracking and reporting system or tools	October 2021
Conduct IPC trainings and mentorships for EVD in border districts	October 2021

MONITORING, EVALUATION, AND LEARNING

HIGHLIGHTS FROM PROGRAM YEAR 3 (FY21)

MONITORING AND EVALUATION

Baseline Report

MTaPS completed and disseminated a report on a baseline assessment that presents the key findings from 16 countries (Bangladesh, Burkina Faso, Cameroon, Côte d'Ivoire, Democratic Republic of Congo [DRC], Ethiopia, Jordan, Kenya, Mali, Mozambique, Nepal, the Philippines, Rwanda, Senegal, Tanzania, and Uganda) receiving MTaPS technical assistance.

Global MEL Plan and MTaPS Indicators Review

MTaPS finalized its revision of the global monitoring, evaluation, and learning (MEL) plan. The revision included changing the naming system for indicators, updating the MTaPS MEL plan goal statement, and redefining and excluding specific indicators.

Support for Country MEL Plans and Work Plans

The monitoring, evaluation, research, and learning (MERL) team supported the work planning process for project year 4 by providing M&E inputs on all MTaPS work plans and collaborating with country teams and the technical team to select indicators for new and ongoing activities. The MERL team also revised the MTaPS country MEL plan template and drafted MEL plans for each MTaPS country program and headquarters-based portfolio.

Data Management and System Review

In Q1, MTaPS reviewed the MTaPS Data Management and Analytics Platform (MDMAP) to address gaps. MTaPS conducted data quality and reporting dialogue with country teams, including discussions with technical teams assessing MDMAP. MTaPS developed a customized data entry and reporting Google sheet to be used by country teams in the short term to optimize data collection and management.

DevResults Data Management System

During Q2, MTaPS completed 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, MTaPS completed the system configuration and uploaded all historical data in Q4. In Q4, development of basic dashboards was finalized.

Ebola and COVID-19 Transition to DevResults

MTaPS has been monitoring and evaluating COVID-19 and Ebola activity by using Google-based tools, SurveyCTO, and PowerBI. In Q3, with the establishment of MTaPS' new data management platform, MTaPS developed a transition plan to transfer COVID-19 and Ebola indicators and reporting to DevResults. In Q4, the MERL team, in collaboration with technical leads and country teams, uploaded historical COVID-19 and Ebola data into DevResults, developed standard operating procedures (SOPs) for routine data collection and reporting for COVID-19 and Ebola, and developed training materials to train country teams entering and managing data in DevResults.

COVID-19 in-Country Activity Reports

MTaPS has engaged with local stakeholders to respond to the pandemic in 13 countries. MTaPS has implemented capacity-building and infection prevention and control (IPC) activities, strengthened emergency supply chain management systems, and developed SOPs to prevent and reduce the spread of the disease. MTaPS country teams have been performing data collections to track the implementation and progress of MTaPS' COVID-19 activities. MTaPS has generated over 100 country reports monitoring and evaluating COVID-19 activity progress, including the number of health workers who received COVID-19 training and facilities in compliance with IPC COVID-19 guidelines. In Q4, MTaPS developed country technical summaries, sharing the critical role the MTaPS Global Health Security Agenda (GHSA) and pharmaceutical systems strengthening (PSS) approach played in the COVID-19 rapid response and key lessons from MTaPS' COVID-19 response implementation.

COVID-19 Data Quality Audit

During PY3, MTaPS partnered with Data.FI to conduct an external COVID-19 data quality audit (DQA). The DQA assessed MTaPS' data management and reporting systems, specifically the process, guidelines, and tools used to collect COVID-19 data and the quality of reported data. In Q3, MTaPS continued to work with Data.FI to complete country DQAs and support Data.FI in developing the COVID-19 DQA final report. In addition, MTaPS held a meeting with USAID/COR and Data.FI to discuss DQA findings and recommendations for MTaPS' data quality procedures and processes. MTaPS will be implementing DQA recommendations and developing resources to strengthen the data management and reporting system.

Ebola in-Country Activity Reports

During PY3, in collaboration with global and local stakeholders, MTaPS played a key role in responding to the Ebola outbreak in Côte d'Ivoire, Mali, Rwanda, Senegal, and Uganda. MTaPS has provided various technical assistance, including conducting rapid IPC assessments, developing and updating strategies and tools, and monitoring compliance with IPC guidelines and SOPs. During Q3, MTaPS generated country activity reports to monitor progress against the outbreak.

RESEARCH

Peer-Reviewed Publications Guidance

To facilitate the process for developing and publishing articles in peer-reviewed publications, MTaPS created a guidance document to support all MTaPS staff seeking to publish articles. The peer-reviewed publications guidance provides a summary of the writing process, including creating a concept note, developing an outline, and writing and submitting a manuscript to the applicable peer-reviewed journal. The guideline goes in-depth, helping the user assess and identify the type of article to write and highlighting key components to consider for choosing a journal and submitting an article, along with several helpful peer-reviewed publication resources.

Global Health Science and Practice Technical Exchange 2021

MTaPS presented four sessions at the Global Health Science and Practice Technical Exchange 2021, which was held April 21–24, 2021:

- 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 Philippines
- Using novel capacity-building approaches to prepare health workers and systems for COVID-19 IPC response
- GBT: Experiences and lessons learned strengthening national regulatory systems

Abstracts

MTaPS prepared two posters and one oral presentation for its participation in the American Public Health Association's (APHA) 2021 Annual Meeting scheduled for October 2021. Additionally, in Q4, MTaPS received notification that the American Society of Tropical Medicine and Hygiene (ASTMH) accepted three abstracts submitted to its annual meeting in November 2021.

LEARNING

Collaborating, Learning, and Adaptation Summary Guide

MTaPS developed a collaborating, learning, and adaptation (CLA) guide focusing on a set of practices, specifically, the systematic integration of the USAID CLA framework into MTaPS country programs. The goal of applying CLA practices is to continue strengthening and creating an effective learning program. In Q1, the MTaPS HQ team translated the guide into French and developed a presentation that provides country teams with an overview of the USAID CLA framework, why CLA matters, and specific actions MTaPS staff can pursue to integrate CLA into country program activities.

Pause and Reflect

Taking time to pause and reflect (P&R) on our work is critical to MTaPS' continuous learning and improved performance. Pausing and reflecting helped MTaPS identify what's working and what needs adapting. It allows MTaPS to consider the impact of changes in the operating environment or context. The PY3 P&R sessions focused on technical performance and legacy, MEL, partner engagement, and learning agenda to inform PY work planning. Between May and June 2021, MTaPS held internal PY3 P&R sessions for 16 portfolios: Asia Bureau, Intergovernmental Authority on Development/East African Community (IGAD/EAC), Bangladesh, Burkina Faso, Cameroon, Côte d'Ivoire, DRC, Kenya, Mali, Mozambique, Nigeria, Nepal, Philippines, Rwanda, Tanzania, and Uganda.

Global Learning Activities

MTaPS advanced the global learning agenda by:

- Presenting at the virtual Global Health Supply Chain Summit November 17–19, 2020, on "The MTaPS Experience: Reconfiguration of the supply chain to balance equity and emergency response in the Philippines during the COVID-19 pandemic."

- Presenting on "Effective Multisectoral Coordination on Antimicrobial Resistance (AMR): A Landscape of Experiences and Lessons from 11 Countries" during the 2020 Global Health Security Agenda Ministerial Meeting titled "Moving Toward Best Practices in Multisectoral Coordination: Integrating Environment and Health to Strengthen Capacities to Prevent, Detect and Respond" on November 4, 2020.
- Developing a microlearning course on maternal, newborn, and child health (MNCH) and PSS to raise awareness and promote understanding of why strengthening the pharmaceutical system is important for improving MNCH outcomes in low- and middle-income countries (LMICs). The course is geared toward MNCH program managers from MOHs, implementing partners supporting MNCH programs, non-state actors, including civil society, and donors, particularly USAID staff involved in MNCH programming.
- Launching "A Roadmap for Systematic Priority Setting and Health Technology Assessment (HTA)," which serves as a practical guide for policy action in LMICs to successfully implement HTA and pave the road to sustainable UHC and self-reliance. Developed by MSH and the MTaPS Program, with contributions from global experts, this roadmap will help countries institutionalize their mechanisms, processes, and institutions to use evidence and data to better inform their resource allocation decisions.
- Launching the PSS 101 e-learning course on LeaderNet. Strengthening the entire pharmaceutical system means taking a holistic approach to addressing its gaps. It means going beyond how medical products are selected, procured, and distributed to include bolstering the knowledge of the people who provide them. MTaPS supports USAID's vision to help countries deliver affordable, quality-assured medicines, related products, and services and, to that end, presents a series of e-learning courses. The PSS 101 e-learning course modules focus on the governance and regulatory policies that support this goal.
- Developing for and disseminating during World Antimicrobial Awareness Week (WAAW) 2020 a technical brief on advancing the GHSA by controlling the global threat of AMR, which relies on robust pharmaceutical systems worldwide that promote access to and appropriate use of medical products, including antimicrobial medicines, which is the core mission of MTaPS.
- Publishing a peer-reviewed article on "National Consumption of Antimicrobials in Tanzania: 2017–2019" in Pharmaceutical Medicine and Outcomes Research, a section of the journal *Frontiers in Pharmacology*, October 30, 2020. The objective of this MTaPS-led study was to measure antimicrobial consumption in Tanzania, given the paucity of antimicrobial consumption data in the sub-Saharan African region and the increasing use of antimicrobials by the private sector that requires careful monitoring in accordance with national policies.
- Publishing a peer-reviewed article on "Antimicrobial Use Across Six Referral Hospitals in Tanzania: A Point Prevalence Survey" in *BMJ Open*, December 15, 2020. The objective of this MTaPS-led study was to delineate the prevalence and factors associated with antimicrobial use across six referral hospitals in Tanzania using WHO point prevalence survey methodology to inform hospital-specific AMS programs.

Global and Country Learning Agenda

MTaPS undertook a program-wide revision of its learning agenda and refined its objectives. In addition to the global learning agenda, review sessions have been conducted with eight portfolios. Global and country learning agendas were finalized in preparation for the implementation of the agenda in PY4.

KNOWLEDGE MANAGEMENT

Standard Requirements for MTaPS Deliverables

The Standard Requirements for Deliverables is a key MTaPS document that provides information on minimum standards requirements for all MTaPS products submitted to USAID or shared externally. These products include SOPs, technical highlights and briefs, case studies, training materials, and websites. The standard requirements document also guides MTaPS staff through the process for developing products. The MTaPS HQ team rolled out the standard requirements to all MTaPS staff in Q1.

Support for Country MEL Plans and Work Plans

MTaPS HQ provided support to country teams to develop, review, and finalize PY3 MEL plans using the standard template.

Advancing Regulatory Systems Strengthening: Technical Program Update

MTaPS drafted a technical program update on MTaPS' support for regulatory system 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 medicine regulatory agencies (NMRAs) ensure the quality, safety, and efficacy of medicines and health products. The technical program update will be disseminated in Y4Q1 after internal technical quality and editorial reviews and USAID review and approval.

Knowledge Exchange

In PY3, MTaPS conducted eight knowledge exchanges:

- National Health Insurance Fund's Engagement of Retail Drug Outlets: Tanzania Case: This presentation focused on MTaPS' experience in learning about the contributing factors and barriers to expanding coverage of medicines in Tanzania's National Health Insurance Fund.
- Effective Governance Structures to Combat Antimicrobial Resistance (AMR) in Côte d'Ivoire: This knowledge exchange discussed the MTaPS/Côte d'Ivoire experience with effective governance structures for mobilizing and supporting multisectoral coordination from the national to the health-facility level for IPC and AMS.
- Improving Access to MNCH Products by Strengthening Registration: Based on findings from a nine-country study, MTaPS' presentation to the Child Health Task Force discussed 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.
- Effective Multisectoral Coordination on AMR: This knowledge exchange discussed MTaPS' technical approach to strengthen multisectoral coordination on AMR in 11 countries to advance the

objectives of the GHSA and focused on overcoming the challenges for effective multisectoral coordination for AMR containment and the lessons learned from the experience.

- Sex, Gender, and PSS: A Focus on AMS: MTaPS held a knowledge exchange on addressing sex, gender differences, and inequities to reduce the global risk of AMR. AMS requires an understanding of both sex (biological differences) and gender (constructed roles, behaviors, activities) to effectively reduce AMR. Only by addressing sex, local gender differences, and inequities will we succeed in reducing the global risk of AMR.
- Establishing an emergency supply chain system in Bangladesh: This knowledge exchange focused on MTaPS' support in establishing an emergency supply chain system to provide government entities with real-time stock status to ensure the availability of COVID-19 commodities in health facilities.
- Subnational Procurement of Medicines: This knowledge exchange explored the results of a data gathering exercise in Tanzania, Nigeria, and Liberia on how subnational procurement is currently conducted, focusing on best practices, key considerations, and recommendations.
- Regional Harmonization of Medicines Regulation: This knowledge exchange focused on how MTaPS is working with multi-institutional collaborators in Africa to foster regional harmonization of medicine regulation to enable use of good reliance practices in regulatory decision making for medical products.

PSS in Practice Knowledge Exchange

In PY3, MTaPS conducted three PSS 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 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 Medicine Registration Systems in LMICs: On February 23, 2021, MTaPS held a knowledge exchange to learn how MTaPS, as part of its strengthening regulatory systems work, is helping LMICs bolster and expedite their medicine registration function in the wake of COVID-19. 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 of 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 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.

Webinar

In PY3, MTaPS conducted two webinars for staff and partners.

- On April 13, 2021, MTaPS hosted a webinar on "Medicines to Markets: Building Effective Medicine Registration System in LMICs" as part of a global learning series. The webinar shared MTaPS' approach and experience in Bangladesh, Mozambique, Rwanda, and Nepal where the program is supporting the NMRA to bolster and expedite medicine registration functions in the wake of the COVID-19 pandemic.
- On June 3, 2021, MTaPS held a roundtable webinar on "What COVID-19 Taught Us About Infection Prevention and Emergency Supply Chains." The roundtable covered insights and takeaways from our multicountry COVID-19 response in 13 countries, focused on improving health workers' IPC capacities and supporting countries' emergency supply chain management to avoid stock-outs. MOH officials and the MTaPS COVID-19 response team shared their experiences in Bangladesh, Côte d'Ivoire, Kenya, and the Philippines.

MTaPS Global Summit

MTaPS 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. 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 and shared their implementation knowledge and insights, drawn from their successes, failures, lessons learned, challenges, and solutions with colleagues and partners.

Global Health Science and Practice Technical Exchange (GHTechX)

On April 22, 2021, MTaPS presented at the virtual Global Health Science and Practice Technical Exchange (GHTechX). This presentation described MTaPS' experience implementing IPC interventions against COVID-19 in the middle of learning about the novel virus. During the session, the panelists described how MTaPS innovated and tailored capacity-building approaches to rapidly establish IPC committees and sustainably strengthen IPC practices in countries as part of USAID's global response to the pandemic.

QUARTER PROGRESS FOR FY21Q4

MONITORING AND EVALUATION

MTaPS Performance Indicator

The MTaPS MERL team and MERL Team collected and reported on FY21Q4 Indicators. In Annex Table 1, MTaPS Performance Indicator Tracking Table with all the MTaPS indicators collected in Q4 can be found.

DevResults Data Management System

The MTaPS MERL team continued development of the new DevResults data management system during Q4. All historical data, including COVID-19 and Ebola data, were entered into the system and a series of dashboards were created to visualize MTaPS progress toward objectives, GHSA result areas, COVID-19, Ebola, MNCH, and each country's and portfolio's performance. Further development and refinement of the

DevResults dashboards will continue during PY4 to ensure all stakeholders (USAID/COR, SMT, country directors, portfolio managers, and TSLs) use DevResults dashboards for day-to-day decision making.

COVID-19 In-Country Activity and Indicator Reporting

Collected and compiled COVID-19 indicators and monthly activity reports. Reports submitted to USAID for review.

M&E SOPs and Training Materials

The MERL team updated and refined M&E SOPs and training materials that will be used to train all MTaPS staff who have M&E responsibilities. The SOPs focus on data collection and management, DevResults, data quality assurance, COVID-19 data reporting, and quarterly/annual MTaPS reporting. Corresponding PowerPoint presentations were developed for each SOP. The MTaPS MERL team plans to facilitate a series of training sessions in PY4Q1 on data collection, management, and reporting data into DevResults.

MTaPS Work Plan and MEL Plan Development for PY4

The MERL team supported the work planning process for PY 4 by providing M&E inputs on all MTaPS work plans and collaborating with country teams and the technical team to select indicators for new and ongoing activities. The MERL team also revised the MTaPS country MEL plan template and began developing MEL plans for each country program and headquarters-based portfolio. As part of the MEL planning process, the MERL team supported all country and portfolio teams in setting annual targets for all PY4 indicators. MEL plans will be finalized in PY4Q1. The MERL team also developed an internal PY4 M&E work plan outlining tasks, deliverables, task leads, and task collaborators.

Miscellaneous M&E Support

- Oriented new MTaPS staff in Jordan and Indonesia on MTaPS M&E system and procedures
- Participated in data quality assessment of MTaPS/Nepal country program led by USAID/Nepal
- Submitted all MTaPS data, including COVID-19 and Ebola to the USAID Data Development Library

RESEARCH

MTaPS advanced efforts on two research projects this quarter. In the Jordan portfolio, the team is conducting a study to examine how trends in antimicrobial use have changed in Jordanian public hospitals during the COVID-19 pandemic. MTaPS obtained dispensing data for six hospitals from the country's electronic system. After cleaning and formatting the data, the team has followed up with MOH counterparts to obtain additional data on hospital occupancy rate, a necessary variable for computing defined daily dose (DDD) using WHO's methodology for computing DDD. Analysis will be completed once the team receives the additional requested data. Under Cross Bureau, MTaPS is conducting a study of the facilitators and constraints of institutionalizing Pharmaceutical Management Information Systems and using data for decision making, focusing specifically on digital health tools that the MTaPS program or its predecessor programs have implemented. The team drafted the research protocol and submitted it to USAID for review. It is currently being revised to reflect USAID's feedback before being submitted for final approval and ethical review.

This quarter, MTaPS prepared for its participation in the APHA 2021 annual meeting scheduled for October 24–27, 2021. We developed content for two posters and one oral presentation:

- Establishing an emergency supply chain system for continuous access to COVID-19 commodities in Bangladesh
- Improving IPC practices: Interventions in six Tanzanian hospitals
- Experiences and lessons from using GHSA perspectives and approaches to implement AMR containment efforts in 11 countries

MTaPS also received notification that the three abstracts it submitted to the ASTMH annual meeting were accepted as poster presentations. The meeting is scheduled for November 17–21, 2021.

MTaPS submitted three conference abstracts this quarter:

- Knowledge and Perception on Hand Hygiene and Correlation with IPC Practices and Structures in Health Facilities in Uganda: Submitted to the 6th International Consortium for Prevention and Infection Control Conference. The abstract was accepted for oral presentation.
- Use of Participatory P&R Sessions to Learn and Improve PSS interventions - Responding and Adapting to the COVID-19 pandemic in East and West Africa: Submitted to the 10th AfrEA Conference scheduled for November 15–19, 2021.
- Harmonizing Pharmacovigilance Activities in Regional Economic Communities in Africa-Experiences from EAC and IGAD: Submitted to the International Society of Pharmacovigilance Conference scheduled for November 8–10, 2021.

The program also started drafting three abstracts for submission to the 5th Biennial Scientific Conference on Medical Products Regulation in Africa (SCoMRA V), scheduled for November 22–23, 2021.

With respect to publications, MTaPS staff had two manuscripts published in peer-reviewed journals this quarter:

- Protocol for Active Safety Monitoring of a Dolutegravir-Based Antiretroviral Regimen in Mozambique, published in *BMJ Open* in September
- Exploring Facilitators and Barriers to Introducing Health Technology Assessment (HTA): A Systematic Review, forthcoming in *International Journal of Technology Assessment in Healthcare*

The MTaPS Philippines team submitted a manuscript entitled Knowledge, Attitudes, and Practices in Adverse Drug Reaction Reporting Among Health Care Providers in the Philippines, which is currently undergoing peer review. The program also continued to work on its publication pipeline, producing a second draft of commentary entitled Moving Beyond Assessment to Implementation: Promising Practices for Strengthening Antimicrobial Resistance Containment Capacity, which the team anticipates submitting next quarter. A second manuscript entitled Registration Status of Maternal, Newborn and Child Health Medical Products: Evidence from Nine Countries is undergoing internal technical review before submission to a peer-reviewed journal.

LEARNING

Learning Agenda Development

This quarter, the MERL team completed revision of the MTaPS project-wide global and country learning agendas. The purpose of the learning agenda is to (1) document and share the latest knowledge, information and best practices to promote learning, improve decision making (adaptive management), and enable innovation; (2) measure progress toward achieving MTaPS' objectives; (3) measure MTaPS' contributions to PSS; (4) set the stage for MTaPS' legacy and the footprint for post-MTaPS; (5) use as a foundation for the end-of-project report and end-of-project events; (6) contribute to the global learning agenda on pharmaceutical strengthening; and (7) serve as a key resource for the end-of-project evaluation.

The MERL team conducted review sessions with all MTaPS country and technical teams to review the learning questions and the state of evidence to determine whether they are still relevant, timely, feasible, and actionable for the respective portfolios. In addition, the proposed activities and learning activities for each question were discussed and revised. The key output of each session is a refined list of learning questions with proposed learning activities and products that each portfolio can incorporate into their PY4 work plan.

Learning Agenda Work Plan for PY4

The MERL team revised the learning section of the MTaPS work plan template to identify learning questions, learning activities that will be undertaken to answer learning questions, and related learning products to be developed from learning activities. During the PY4 work planning process, the MERL team collaborated with country and technical teams to finalize and prioritize learning questions, activities, and products that will advance the project's learning agenda. These prioritized learning questions, activities, and proposed products were included in PY4 country and technical work plans and integrated into a MTaPS learning plan that will be finalized once country and technical work plans are approved by USAID. The MERL team also developed an internal PY4 learning agenda work plan outlining tasks, deliverables, task leads, and task collaborators.

PY3 P&R Sessions and Report

Pausing and reflecting proved critical for identifying what needs adapting in our technical approach and activity design for improved implementation. Between May and July 2021, MTaPS held internal P&R sessions for country portfolios, and outputs from these sessions served as a key resource in developing PY4 country work plans. The P&R sessions covered all strategic objectives and technical activities of the country portfolio work plan. Participants in the P&R sessions included the MTaPS portfolio and country staff who worked on technical activities. During the sessions, participants conducted a stoplight assessment (using the three stoplight colors red, yellow, and green) of each technical activity under the relevant country and technical portfolio program objective, focusing on what was planned and what actually happened, and provided recommendations for course correction.

The MERL team developed a PY3 P&R report based on outputs gathered during the P&R sessions, with inputs from country teams, portfolio managers, and regional technical strategy leads. For each technical activity within the country and/or technical portfolio, the report provides a stoplight assessment, which is intended to present activity performance information for decision making. For each activity, the report identifies the key internal and external enabling factors that facilitated the country/technical

team's ability to carry out the activity. The report also identifies the key internal and external factors that hindered the country team's ability to carry out the activity. Additionally, the report provides recommendations for the country/technical portfolio team to address the factors that hindered the country team's ability to carry out the activity. Based upon the recommendations, the country team developed an action plan with concrete next steps and the people responsible and set due dates (what, who, when) to show how the recommendations from the P&R will be used for adaptive management and to inform work planning for PY4.

Lessons Learned from Program Implementation

Objective 1: Pharmaceutical Sector Governance Strengthened

The standardized WHO GBT process provides a great opportunity for LMICs to strengthen their regulatory systems to mark progress. Governments, funders, and development partners can create synergy by supporting the use of GBT to improve NMRA performance.

Achievement of high-level benchmarks of a globally accepted framework, such as the GBT, may be difficult for the broader global health community to appreciate. More tangible ways to show what these score changes mean—for example, decreases in antibiotic consumption—are more effective.

Stakeholder engagement and coordination between the various government institutions and a clear roadmap for development are critical to establishing an effective regulatory framework for medical products. However, moving an NMRA to maturity level 3 may be constrained by the time it takes to update outdated laws or establish new laws or regulations.

Opportunities to speed up medicine registration processes exist; however, they are hampered by the lack of legal provisions for using mechanisms, such as the recognition of regulatory decisions made by stringent regulatory authorities or reference authorities.

Establishing and implementing a quality management system (QMS) in NMRAs enables efficient service that meets international standards. However, a critical determining step is commitment from top management and a well-informed quality team to drive the process. The knowledgeable and experienced professionals who work at NMRAs may still need to advance their skills in specialized areas, such as running a QMS.

Harmonizing medicine regulation takes a long time; however regional convergence can be achieved through information exchange, work sharing, and using common technical guidance, which can advance larger-scale harmonization efforts. Working with well-established organizations at the continental level provides a good platform to engage regional organizations and implement interventions that move regulatory harmonization forward.

For the **Asia Bureau** portfolio, MTaPS conducted a literature review on key guidance and articles on formal conflict of interest (COI) policies to identify best practices to apply in LMICs. Many countries, regardless of income level, rely on disclosure for addressing conflicts of interest. The review revealed a global gap in evidence on other strategies for prevention, management, and transparency as a result of this reliance on disclosure. As a result of the gap, the manual MTaPS developed on COI policies contains a synthesis of the existing evidence but is less prescriptive than originally intended. Literature reviews

can illuminate the gaps in global knowledge that occur from focusing on replicating singular interventions.

Lengthy bureaucratic processes within Asian networks caused delays in agreement on priority areas of assistance. MTaPS worked with USAID to communicate with the regional networks since their presence allowed MTaPS to secure consent to collaborate with Asian networks. Additionally, liaising with contacts in-country through a bottom-up approach yielded faster results, especially where MTaPS has a local presence. Leveraging existing relationships can promote new areas of collaboration and connection when buy-in is difficult to come by.

In **Bangladesh**, MTaPS is working to promote awareness of AMR and strengthen multisectoral coordination to facilitate operationalization of the AMR National Action Plan (NAP-AMR) and its roadmap. For this activity to be successful, the Bangladesh Center for Disease Control (CDC) and Directorate General of Health Services (DGHS) are working to get buy-in from the Department of Environment to join the AMR working group to enable coordination with the environmental sector. MTaPS will provide technical assistance to develop a costed operational plan for containing AMR to facilitate multisectoral coordination and planning between the CDC, DGHS, and Department of Environment.

In the **IGAD/EAC region**, MTaPS is working with local manufacturers to strengthen good regulatory practices. Lack of collaboration in the local manufacturing industry, especially with regulators and policy makers is an existing challenge. MTaPS brought together industry stakeholders to sensitize them on the need for sustainable support for regulatory compliance. As a result, MTaPS learned that supporting sustainability of local manufacturers requires intentional support from all industry stakeholders and providing clear benefits on the value of regulatory adherence costs.

In **Jordan**, MTaPS convened a National Vaccine Procurement Modernization Committee, which includes 15 members that represent 10 different national and international entities to evaluate existing legislation and regulation and to concur on modifications that will improve the availability of vaccines. Through a multisectoral approach, MTaPS successfully engaged members of the committee to leverage knowledge, expertise, and resources (benefiting from their combined and varied strengths), convened them in regular meetings (created an enabling environment), and provided technical and legal support for legislative and regulatory reform, covering the five points defined by USAID in their Conditions Precedent with the Government of Jordan. Paying attention to the needs and challenges of different stakeholders and helping them find common goals and overall benefits helped gain their credibility and trust, leading to successful evaluation of and concurrence on modifications to existing legislation and regulation.

In **Nepal**, MTaPS is supporting the Department of Drug Administration (DDA) in a comparative analysis of organizational structures of NMRAs in various countries. The originally planned key informant interviews and strengths, weaknesses, opportunities, and threats analysis did not happen because of the pandemic. As a result, MTaPS proposed an organogram based on the comparative analysis mapping and an analysis of the DDA's functions done in collaboration with DDA staff. This analysis allowed MTaPS to identify areas for structural optimization and develop a more efficient organogram.

In **Nepal**, MTaPS is working with the Ministry of Health and Population (MOHP) to revise the drug law. MTaPS prepared a legislative gap analysis of the existing pharmaceutical legal and regulatory framework that formed the basis for the drug law revision. As a result of the implications from the COVID-19 pandemic and competing priorities, drafting of the new law was delayed. MOHP requested that MTaPS prepare a zero draft of the new law, adding to the previous three versions. To move this activity forward, MTaPS Nepal hired a local lawyer to combine all the drafts into a final draft law for submission to MOHP.

In **Rwanda**, MTaPS is supporting the Rwanda FDA to move up a level on the WHO GBT maturity scale. The Rwanda FDA has been actively mobilizing stakeholders to validate key regulatory documents, which has facilitated their completion. Their motivation to do well on the GBT self-assessment has created an urgency around moving activities forward. Sufficient leadership buy-in and a tangible goal can increase motivation and progress on improving regulatory systems.

Objective 2: Institutional and Human Resource Capacity for Pharmaceutical Management and Services Increased, Including Regulation of Medical Products

Rapid human resources mobilization is crucial during emergencies. Blended capacity building was an efficient way to quickly reach many health care workers and facilities. It combined remote and face-to-face training of trainers (and cascaded training via teleconferencing applications and e-learning platforms, such as Moodle) with self-paced courses, access to mini-guides and job aids (online or on handheld devices), and subsequent supervision, mentoring, and feedback. Institutionalizing this approach in the countries will be an effective and cost-efficient solution for strengthening the capacity of public health human resources.

Free open-source eLearning platforms, such as Moodle, are used by MOH in some countries, and it only takes two weeks to establish an instance on the platform in a country where it was not previously available. This proved very efficient in emergency response situations. The platform not only makes emergency-related e-courses easily accessible to health workers, but it can also enable live conferencing, messaging, individual mentoring, and sharing of information and technical resources and could be used to establish communities of practice beyond specific emergency needs.

Setting up efficient supportive supervision and mentorship by identifying and working through champions, mentors, and master trainers fast-tracked emergency response rollout. This cohort of master mentors continues to serve as technical resources for broader IPC beyond COVID-19 pandemic response as a vital element of continuous quality improvement (CQI) and facility-specific IPC improvement plans. Creating a cadre of IPC master mentors with a career profile and providing them with needed resources to participate in health emergency planning and response at all levels is an efficient way to improve the quality of IPC and prepare for future outbreaks.

In **Bangladesh**, a cascaded blended learning approach that comprised the development of six training modules covering all aspects of IPC, mini guides and job aids, face-to-face training, and on-site mentoring by MTaPS staff allowed for a rapid reach to large numbers of health workers. This approach could be mainstreamed for both routine continuous learning and emergency pandemic response settings.

In **Cameroon**, work done under GHSA AMR served as a solid foundation for building a rapid and robust COVID-19 response. The commitment and ownership of the COVID-19 IPC task force synergized with MTaPS' human resources. Relationships established with regional bodies facilitated rapid capacity building and response in a dynamic and timely manner. Cross-country dialogue and knowledge sharing through the MTaPS HQ technical team, online COVID-19 resource hub, and centralized development of e-learning courses and delivery platforms allowed the MTaPS country team to provide efficient technical assistance within a limited timeframe.

In **Kenya**, COVID-19 provided an opportunity to strengthen and institutionalize IPC systems, governance structures, policies, and roles and responsibilities that will continue to benefit the country. Identifying and working through champions, mentors, and trainers accelerated the scale-up of activities, and these people continue to serve as technical resources for a broader IPC and COVID-19 pandemic response. Taking a systemic approach to building institutional and individual capacity was critical for translating knowledge and skills to practice; monitoring practice quality had a positive impact. Strong collaboration with multisectoral stakeholders provided a wider channel for disseminating materials and scaling up approaches.

In **Mali**, COVID-19 provided an opportunity to strengthen and institutionalize IPC systems, governance structures, policies, and roles and responsibilities that will continue to benefit the country. An innovative training approach (e-learning) could be an alternative to face-to-face training or meetings during epidemics and pandemics. The pandemic revealed shortcomings in Mali's preparedness to respond to emergencies, such as the lack of IPC committees in health facilities. During the COVID-19 pandemic, 12 health facilities ultimately benefited from MTaPS' support to establish IPC committees. The reinforcement of achievements requires a closer follow-up, while using approaches like virtual meetings with the sites will supplement field visits. The involvement/commitment of management teams and availability of staff are key elements of successful IPC programs at the facility level. This is one of the important factors in minimizing the delay in carrying out IPC activities and facilitating appropriation by facilities. There is a need to hold regular national crisis committee and IPC subcommittee meetings to allow good ownership at the national level and correct coordination and communication inadequacies around COVID-19.

In **Mozambique**, estimates on the number of cases and supply chain needs based on international standards did not apply in the country, whose epidemic had different dynamics. This affected planning and decisions on human resources, service coverage, and commodities.

In **Nigeria**, MTaPS is supporting AMS, IPC, and multisectoral coordination program implementation in one state in Nigeria which will serve as a model for other state's MOHs to adopt. Beginning state level implementation of the AMR program in Enugu state exposed many gaps in the system, including a shortage of skilled professionals, such as doctors, pharmacists, nurses, and lab scientists. Most state-owned facilities have just one key personnel who is supported by technicians. Task shifting has become a key strategy MTaPS has used to ensure availability of adequately trained personnel to implement key programs at the facility level. If key personnel are unavailable to support workshops, MTaPS solicits the support of pharmacy technicians, auxiliary nurses, and lab technicians. This strategy has worked well for MTaPS because technicians and auxiliary nurses have shown a high level of commitment. If some clinicians or pharmacists decline invitations and/or arrive very late to workshops due to facility

engagements, the technicians are ready and able to support. Choosing facilities with a good balance of technicians and support staff compared to clinicians and pharmacists strengthens implementation of workshops.

In the **Philippines**, MTaPS is developing a procurement and supply chain management (PSCM) and pharmacovigilance workforce development plan for the Department of Health (DOH). As a result of the move to eLearning courses as a mode of training, courses are more accessible to the target audience. MTaPS co-developed the courses with DOH and uploaded them to the DOH Academy. Using the academy as a home for the courses allows DOH to take ownership of the courses. Currently, almost 7,000 individuals have completed the e-learning modules co-developed by MTaPS. Co-development of curriculum and hosting on DOH's eLearning website promotes sustainability of eLearning courses.

In the **Philippines**, live webinars were a good alternative to face-to-face training sessions and were able to reach more than 1,000 participants at one time. Promoting the training webinars via social media proved effective at reaching people from all over the country and even other countries. Encouraging the use of Q&A or a chat box to ask questions during the webinars produced more interactive sessions and allowed participants to validate their IPC practices with the guidance. Keeping abreast of the many and frequent changes in knowledge about coronavirus was challenging but important as recommendations evolved quickly.

In **Senegal**, demonstrating alignment with government-defined priorities and actively participating in coordination activities provided the opportunity to successfully advocate for GHSA IPC activity implementation. MTaPS staff immersion in the IPC COVID-19 commission was a critical opportunity for knowledge sharing among stakeholders during daily meetings to develop SOPs and tools and to implement field activities. The contribution of the COVID-19 response HQ and cross-country dialog and support (e.g., HQ team, MSH COVID-19 Hub, e-learning courses, tools, guideline sharing) to various domains was critical to stakeholders' recognition of the commitment and quality of MTaPS' work. MTaPS staff and hygiene brigade agents found it effective to couple decontamination/disinfection operations with local communication campaigns and to perform decontamination sessions at night—in agreement with families—to minimize the possibility of stigmatization.

In **Tanzania**, we learned that, in a crisis situation, virtual platforms can be an effective way to safely train and communicate. Flexibility in the face of country-specific contexts helped keep the program moving forward. Taking a systemic approach to building institutional and individual capacity was critical for translating knowledge and skills to practice; setting up mentorship processes reinforces and sustains good practices. Coordination among partners, especially those working directly in facilities, increased the efficiency of the country's emergency response and helped maximize training coverage.

In **Uganda**, identifying and working through regional, district, and facility-based champions and mentors accelerated the scale-up of activities, and these people continue to serve as technical resources for a broader IPC and COVID-19 pandemic response. Harnessing district IPC committees to implement IPC interventions in the health facilities they oversee is much more effective than the current regionally led supervision model. Taking a systemic approach to building institutional and individual capacity was critical for translating knowledge and skills to practice. Prioritizing IPC supplies, such as personal

protective equipment, over less essential purchases and including IPC commodities, mentoring, and facility infrastructure improvements would further strengthen IPC programs and their sustainability.

Objective 3: Availability and Use of Pharmaceutical Information for Decision Making Increased and Global Learning Agenda Advanced

Even countries that had invested heavily in strengthening the end-to-end pharmaceutical supply system required assistance to rapidly adjust to the emergency mode created by the pandemic. Increasing the frequency of stock data collection (daily, weekly), developing emergency supply protocols, and having a reliable information system for decision making must be prioritized by countries.

The development of simple web-based applications, dashboards, job aids, and tools for ongoing quantification and IPC commodity stock reporting helped countries increase stock status visibility, ration their supplies, and avoid stock-outs of essential IPC commodities. The elements developed during the COVID response must be streamlined and become part of the national supply system.

Estimates on the number of cases and supply chain needs based on international standards did not apply in many countries where the epidemiology differed, affecting planning and decision making on human resources, service coverage, and commodities, in response to changing pandemic guidance and outbreak estimates.

In **Bangladesh**, the flexibility of the MTaPS-supported national Electronic Logistics Management Information System (eLMIS) and dashboards accommodated pandemic emergency reporting needs, including more frequent reporting, data analysis, planning, and continuing adjustment of distribution schedules. Using eLMIS and dashboards enabled efficient rationing of scarce personal protective equipment and IPC commodities and avoided stock-outs. The DGHS is now considering expanding the tool to manage all health commodities in health service programs, including MNCH and TB.

In **Bangladesh**, MTaPS is developing e-TB Manager, a web-based patient data management system that captures data across all aspects of TB control and management, including information on confirmed patients, medicines, laboratory testing, diagnosis, treatment, and outcomes. The new system enables quick data access and analysis and facilitates real-time data monitoring and decision making but needs skilled manpower to troubleshoot any issues system users may experience. Training a pool of trainers who, in turn, can train National TB Program users in system use can mitigate this issue.

In **Nepal**, MTaPS is partnering with the DDA to strengthen Good Pharmacy Practices (GPPs). A feasibility study conducted by MTaPS convinced the DDA to create a new management information system that includes Pharmadex. MTaPS created a registration module in Pharmadex that includes GPP questions, which will save DDA staff time and allow them to verify responses during inspection. Developing inspection tools and guidelines helped the team make good progress on GPP and good distribution practices and also revealed a need for hiring additional MTaPS staff to support the DDA with the pharmacy and product registration process.

In the **Philippines**, MTaPS is working with the DOH PSCM team to analyze available data for decision making. DOH currently has a wealth of data available to use for program planning and requested support on how to optimize it. MTaPS conducted a PSCM data analysis and use learning session, which was attended by 14 DOH PSCM officers. The team identified the following indicators as useful: three-

month stock-out rates, average monthly consumption, months of stock, and other related PSCM indicators at the warehouse and facilities for TB and family planning (FP) commodities. Collecting data is important but determining the best way to use it is vital for program planning and adaptation.

In **Tanzania**, MTaPS is supporting the Ministry of Health, Community Development, Gender, Elderly and Children in developing an IPC reporting system in DHIS 2. In addition to the usual IPC stakeholders, MTaPS also involved the Department of Policy and Planning, Unit of Health Management Information System, the Monitoring and Evaluation Unit, and the Directorate of Curative Services. Because all these stakeholders have been involved in the design process, MOH had all the inputs needed to approve the system to be rapidly migrated to the live server. Ensuring all the appropriate stakeholders are part of the decision-making process facilitates cross-departmental collaboration and consensus on activity implementation.

Objective 4: Pharmaceutical Sector Financing, Including Resource Allocation and Use, Optimized

In the **Philippines**, MTaPS supported the DOH, local government units, and Philippine Pharmaceutical Procurement, Inc., in introducing framework agreements (FAs) and pooled procurement mechanisms (PPMs) for increased efficiency in procurement and availability of FP and TB commodities. As a result, DOH went for bidding for procuring adult first-line TB drugs through FAs. However, the bidding process failed because of the lack of adequate responses from bidders taking part in FAs. At the request of DOH, MTaPS supported the agency by organizing information sessions for suppliers on PPMs and FAs. Learning from this experience, in PY4, MTaPS will support the DOH in addressing FAs, PPMs, and other appropriate procurement methods within the concept of strategic procurement.

Objective 5: Pharmaceutical Services, including Product Availability and Patient-Centered Care to Achieve Health Outcomes, Improved

Active GHSA-supported programs in countries addressing AMR were instrumental in helping the governments rapidly set up national, provincial, and facility COVID-19 response teams by leveraging existing relationships and building on already strengthened IPC coordination bodies and governance structures.

CQI helped to quickly increase emergency IPC capacity and compliance with pandemic-specific IPC requirements when paired with simple scored checklists. A rapid increase in IPC compliance in the emergency situation helped promote and institutionalize CQI as a national standard for improving IPC in health facilities.

During the pandemic, the line between facility-based and community-based IPC was blurred, given the continual interactions between health care workers and community members. This area must be addressed in a coordinated, multisectoral way by developing outbreak strategies that intertwine the community with facility-based IPC efforts.

Having national policies, guidelines, and standardized training materials in place provides a country's IPC foundation, but investing in facility-level preparedness, including infrastructure, is also important.

Taking a whole-market approach at all levels of the health system by bringing together public, private, nongovernmental, development, and implementing partners increased efficiency and coordination, furthering rapid start and scale-up of the COVID-19 emergency response.

KNOWLEDGE MANAGEMENT

Work Plan and KM Plan Development for PY4

The MERL team revised the KM section of the MTaPS work template to identify and plan for technical documentation and knowledge exchange activities that the project will undertake in PY4. During the work planning process, the MERL team collaborated with country and technical teams to identify knowledge products to be developed by each country and technical portfolio in PY4. The MERL team identified topics for knowledge exchanges and conferences where the country and technical teams will present in PY4. These products and events were included in PY4 country and portfolio work plans and integrated into the MTaPS PY4 KM work plan to inform and track KM activities across the project. The MTaPS KM work plan will be finalized once PY4 country and technical work plans are approved by USAID.

Technical Documentation

MTaPS provided rapid technical assistance in 13 countries under the aegis of the USAID response to the COVID-19 pandemic. In this quarter, the MERL team collaborated with the COVID-19 technical team to develop a short report and a summary of activities undertaken in the 13 countries under USAID's rapid technical assistance response to the COVID-19 pandemic. The report highlights how MTaPS applied evidence-based approaches, drawing upon the multisectoral coordination networks and partnerships developed through its IPC work under the GHSA, to help countries organize a robust response to fight COVID. The report was reviewed by USAID this quarter and will be finalized next quarter after addressing USAID's feedback.

Knowledge Exchange

The MERL team facilitated three knowledge exchanges in PY3 Q4, bringing together MTaPS country and technical teams to share implementation experience and knowledge and learn from each other:

- On July 13, 2021, MTaPS held a knowledge exchange on establishing an emergency supply chain system in Bangladesh that focused on how MTaPS helped provide government entities with real-time stock status to ensure the availability of COVID-19 commodities in health facilities.
- On July 27, 2021, MTaPS held a knowledge exchange on subnational procurement of medicines that focused on the findings of a data gathering exercise in Tanzania, Nigeria, and Liberia on how subnational procurement is currently conducted, focusing on best practices, key considerations, and recommendations.
- On August 31, 2021, MTaPS held a knowledge exchange on regionally harmonizing medicine regulation that focused on how MTaPS is working with multi-institutional collaborators in Africa to harmonize medicine regulation regionally to enable use of good reliance practices in regulatory decision making for medical products.

Success Stories

In Annex 2, Communication and MERL team, produced 3 success stories: (1) Underpinning Nepal's Pharmaceutical Manufacturing with a Quality Management System; (2) Integrating Antimicrobial Stewardship into Continuing Professional Development of Health Care Workers in Kenya; and (3) Building Capacity for COVID-19 Decontamination in Senegal.

ANNEX 1: COVID-19 QUARTER PROGRESS BY COUNTRY

BANGLADESH

In Bangladesh, during the month of September, MTaPS continued to provide technical assistance to the Safety Surveillance Cell of the Directorate General of Drug Administration (DGDA). The support included hosting regular meetings, tracking the online adverse events following immunization (AEFI) reporting system, creating user access accounts, troubleshooting, data management, compilation, and review of the AEFI reports online. Thirteen serious AEFIs were registered in September; the investigation and causality assessment of five serious events were completed with the remaining eight underway. The number of AEFIs received through the online system is increasing quickly in parallel with the acceleration of the COVID-19 vaccination efforts. As of September 2021, a total of 1,035 AEFIs from 58 districts were reported to the DGDA, including 47 serious events, of which 1,007 were processed with MTaPS support.

On September 21st, MTaPS facilitated the 8th workshop of the National AEFI Advisory Committee. During this workshop, five serious adverse events were reviewed as case studies covering issues related to vaccine products, coincidental, and immunization anxiety-related reactions. Following the workshop, MTaPS supported visits to the vaccination centers at Sylhet Medical College Hospital and Sir Salimullah Medical College Hospital to observe the level of compliance with the safety protocols, and disseminated the Pharmacovigilance Newsletter (Issue #7), also developed with MTaPS support. Additionally, MTaPS supported the Safety Surveillance Cell to conduct an awareness program for more than 50 pharmaceutical manufacturers and the Bangladesh Association of Pharmaceutical Industries on the overview of pharmacovigilance and its system, importance of ADR/AEFI reporting, and evaluation of outcomes, among other topics.

In September MTaPS Bangladesh continued a series of planned trainings, and oriented seven health facility managers on vaccination SOPs and infection prevention and control measures for safer vaccination programs. Overall, since the start of this activity in June 2021 MTaPS has trained 440 health professionals.

In September, MTaPS Bangladesh also continued to support the DGDA multisectoral coordination group. Two technical coordination meetings were planned with a specific focus on AEFI reporting, and supply chain issues for COVID-19 vaccines. MTaPS facilitated the discussion and coordination with the government agencies and local and international partners.

BURKINA FASO

In Burkina Faso, MTaPS met with the Director of the Immunization Program on September 2, 2021, where they agreed to move forward with the approved COVID-19 vaccine activities and to start implementation immediately. The first regional workshops were originally planned to take place the week of September 20, 2021, (covering Hauts Bassins, Center-East, Center-West and North regions). However, due to the seasonal malaria chemoprevention campaign and the unavailability of the region health directorates, the Director of the Immunization Program recommended to postpone the workshops to October 11–15, 2021.

CÔTE D'IVOIRE

In Côte d'Ivoire, MTaPS continued to support the weekly Task Force coordination meetings, where all decisions related to vaccine deployment are made. These meetings serve as the only national forum to discuss vaccine deployment performance and challenges and updates, and to make decisions related to vaccines deployment. During the month of September, the Task Force made recommendations around reimbursement of fuel, use of EPI syringes, and storage of vaccines to help to alleviate any reported challenges. Additionally, MTaPS continues to work with the Task Force and the members to support tracking of vaccination data and work with Sah Analytics. During the month of September, MTaPS also supported eight meetings at the regional level in Tonpi, Poro, Iffou, Haut Sassandra, N'zi, Loh Djidoua, Belier and Goh regions.

MTaPS Côte d'Ivoire is also helping to address the gap in supervision activities conducted at the central level. MTaPS therefore supported the organization of a training of 18 supervisors. During the workshop, the group developed the supervision checklist, shared the methods of administration of the checklist, set up supervision teams, and finalized a timetable for the supervision. Supervision visits were then conducted between September 21 and 30.

KENYA

In Kenya, MTaPS is supporting several national and county-level coordination mechanisms. At the national level, in September MTaPS supported the biweekly meetings of the joint national and county COVID-19 task force that focused on the rollout of the microplans within the counties, and the coordination of related technical support needs to ensure timely vaccination and high COVID-19 immunization coverage.

At the subnational level, MTaPS provided technical support to the Kisumu Prison IPC committee to review the draft Health Care Waste Management Plan for prison health facilities in Kibos and Kodiaga prisons based on the findings from the baseline audit of IPC practices. As an implementing partner supporting Kajiado County, MTaPS supported the launch of the Testing Laboratory at Kajiado County Referral Hospital, which was upgraded by the US government via the Defense Threat Reduction Agency (DTRA); the laboratory was opened on September 22nd at a ceremony led by the US Embassy attaché. MTaPS also supported the launch of the accelerated COVID-19 vaccination campaign at the Kiambu County Government Headquarters on September 29, 2021, which was presided by the Cabinet Secretary for Health and the Governor of Kiambu County. The objective of this accelerated campaign is to increase the number of vaccinated individuals to 5.8 million by October 20, 2021, (Mashujaa Day celebration).

In September 2021, MTaPS commenced the training of health care workers (HCWs) from specialized units dealing with aerosol generating procedures, such as dental, ICU, OBGYNs, and operating rooms to ensure the reduction of exposure to COVID-19 and safe continuation of health services. Overall, in September, 231 HCWs representing 32 health facilities from Nairobi, Kilifi, Nyeri, Kiambu, Machakos, Turkana, Nakuru, and Busia counties were trained. Additionally, MTaPS supported a county-led IPC COVID-19 management training for Kilifi prison health care workers on September 8, 2021. Eighteen participants were trained, which completed the series of prison health care worker training in the 13 MTaPS focus counties.

MTaPS Kenya also supported the development of a comprehensive set of training materials, including a module on IPC principles for COVID-19 vaccination, covering standard and additional precautions, and SOPs required for safe vaccine administration and safe waste management in the context of the pandemic. Overall, since the onset of the activity MTaPS has supported the training of 756 HCWs engaged in vaccine administration, including 396 HCWs in September.

Mali

In Mali, MTaPS met with the COVID-19 vaccination pharmacovigilance (PV) committee chairman and the Director of the Directorate of Pharmacy and Medicine (DPM) on September 6th to discuss synergy of PV actions and to ensure there is a meeting between various PV partners to coordinate activities. On September 9th, MTaPS supported the COVID-19 vaccine PV commission to organize a coordination meeting. During this meeting, the group reviewed a serious adverse event following immunization (AEFI) reported in Bamako, and provided recommendations on strengthening AEFI reporting systems. MTaPS also supported the PV subcommittee to carry out supervision visits on AEFI surveillance from September 12th to 21st in Bamako District and Kayes Region (Bafoulabé, Diéma, Kati, Kéniéba Health Districts).

During September 2021, MTaPS Mali supported the Direction Generale de la Santé et de L'Hygiène Publique (DGSHP) to organize a meeting to prepare for a workshop on the development of standard operating procedures for the management of biomedical waste. During this meeting, they (1) finalized the term of reference for the SOP development workshop; (2) determined the three participant groups for the workshop; (3) defined the mandates of the working groups; (4) drafted a working agenda for the workshop; and (5) gathered all available documents and information for the workshop. The SOP and training modules development workshop is scheduled for October 6–8, 2021.

Mozambique

In Mozambique, MTaPS collaborated with national partners to develop the conceptual guidelines for the establishment of the Targeted Spontaneous Reporting surveillance systems for COVID-19 vaccines in Mozambique. During the month of September, work on setting up the system began, which included development of the scope of work for staff involved in surveillance, development of electronic data collection system, and setting up a coordination committee of key stakeholders. Additionally, MTaPS worked with the National Pharmacy Directorate (DNF) to review adverse events reported through the existing report system and vaccine safety communication plans.

MTaPS Mozambique also completed a report summarizing the training of the DNF regulators, which was completed at the end of August 2021. All materials have been uploaded with this report. Additionally, during September 2021, MTaPS began discussions with the DNF regarding the formalized procedures for the emergency use and authorization of COVID-19 vaccines.

Philippines

In the Philippines, MTaPS met with the Department of Health (DOH) and the Department of Information and Communications Technology (DICT) to present on the status of the electronic logistics and management information system (eLMIS) and gather their inputs and feedback during the demo session. With support from MTaPS, the DOH acquired services from a vendor to implement a solution

in the eLMIS, and they began discussions regarding the implementation of the approach. Additionally, based on the inputs from the DOH on the COVID-19 logistics data, the MTaPS team drafted a summary of the proposed supply chain dashboard for the COVID-19 vaccines and related commodities. This draft included the corresponding rationale on why this information is essential for COVID-19 vaccine logistics monitoring at the national, regional, and local levels.

Additionally, MTaPS Philippines supported the DOH to develop the 2022 Terms of Reference for the procurement of a 3PL service provider for the brokerage, warehousing, hauling and delivery of nationally procured and donated COVID-19 vaccines and other COVID-19 related commodities. To develop the 2022 Terms of Reference, MTaPS conducted a workshop on September 3rd with the DOH Supply Chain Management Service. MTaPS presented the recommended enhancements to the terms of reference based on the results of the compliance monitoring review from the 2021 DOH and 3PL terms of reference/contract.

RWANDA

In Rwanda, MTaPS drafted a package of technical documentation on COVID-19 vaccine pharmacovigilance for review/validation by the MOH. This set of documents includes: (1) revised adverse event following immunization (AEFI) surveillance guidelines; (2) an AEFI reporting guide; (3) standard operating procedures on AEFI report analysis, causality assessment, data management, signal detection and investigation, and vaccine safety information communication; and (4) recommendations to enhance the electronic reporting platform (PVIMS).

SENEGAL

In Senegal, MTaPS supported the organization of COVID-19 Vaccination Acceleration Days from September 21st to 25th in the 12 health districts of the Dakar medical region. In total, MTaPS supported the set-up of 24 community vaccination sites (two per district) in high-traffic community locations, vaccinating 12,514 people during this period (results from the 12 districts). MTaPS also participated in and provided technical contributions during a review meeting of the performance of the routine Expanded Program on Immunization (EPI) in the Dakar Medical Region. Recommendations from the meeting included: (1) strengthen the organization of routine immunization units; (2) strengthen the implementation of mobile teams for COVID-19 immunization; and (3) orient/integrate health care providers that are not involved in routine EPI into COVID-19 immunization activities.

ANNEX 2: SUCCESS STORIES

USAID FROM THE AMERICAN PEOPLE

SUCCESS STORY

Nepal has a fairly large pharmaceutical manufacturing industry but lacks an effective regulatory system that can ensure safety, efficacy, and quality of medicines being sold on the market. The establishment of a quality management system within the Department of Drug Administration is helping Nepal build its capacity for adequate regulation of medicines.

About USAID MTaPS

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

Underpinning Nepal's Pharmaceutical Manufacturing with a Quality Management System

PHOTO CREDIT: MTAPS NEPAL

A fully functioning quality management system (QMS) in countries' national medicine regulatory authorities is core to achieving quality objectives that ensure that medical products meet statutory and regulatory standards of quality, safety, and efficacy. Nepal has a sizable domestic pharmaceutical industry (109 listed manufacturers) with a number of them certified for Good Manufacturing Practices (GMP) as per the World Health Organization (WHO) guidelines. However, Nepal's regulatory body—the Department of Drug Administration (DDA)—lacks a functioning QMS for regulatory services, which include ensuring compliance with GMP and quality of manufactured products.

In February 2021, the US Agency for International Development's (USAID) Medicines, Technologies, and Pharmaceutical Services (MTaPS) Program, in collaboration with WHO, assisted the DDA in implementing an interim external benchmarking assessment of the DDA's regulatory maturity level by using the WHO Global Benchmarking Tool. The assessment resulted in several institutional development recommendations aimed at increasing the DDA's regulatory maturity level, including legal and organizational changes and aligning practices and systems with WHO's best practices. A key finding was the lack of a QMS, which would provide uniform, standardized, and transparent implementation and documentation of the DDA's work processes and is requisite to reaching level 3 maturity, signifying a stable, well-functioning system per the Global Benchmarking Tool.

To assist the DDA in increasing its maturity level and capacity to regulate its pharmaceutical industry effectively, the program worked with Celsian, its global partner, to introduce and implement a QMS by using a phased approach.

Establishing a QMS

Given that the concept of a QMS was new for the DDA, MTaPS supported the development of a program to build the QMS skills of the regulatory staff from the ground up, with the ultimate goal of enabling the DDA to achieve International Standard Organization (ISO) 9001:2015 certification. Regulatory staff from the DDA and the National Medicines Laboratory received basic training to establish a conceptual understanding of a QMS, including roles and responsibilities, internal quality auditing, and risk management. For an in-depth QMS assessor training, the program harnessed the expertise of the Quality Forum from the Federation of Indian Chambers of Commerce and Industry.

To date, more than 38 DDA and National Medicines Laboratory staff—about 32%—have received basic training, and 8 staff members completed the 5-day, in-depth QMS assessor training, successfully passing the exam in early February to be certified as auditors for ISO 9001:2015. This achievement has elevated the DDA's capacity to establish a robust QMS. The QMS manual is near completion, and standard operating procedures are in development. These achievements have instilled a sense of enthusiasm, pride, and a belief in the DDA's ability to establish a QMS that can be ISO certified.

"As a customer-driven organization, the training will help us fulfill the needs of our customers. The requirements for a quality management system have become very clear, and the guidelines for ISO 9001:2015 auditing management systems are beneficial."

– Saraswati Dangol, Quality Controller at the National Medicines Laboratory in Kathmandu

PHOTO CREDIT: MD. RABIN SHRESTHA

The DDA and the National Medicines Laboratory staff attend ISO 9001:2015 QMS auditor training delivered at the FICCI Quality Forum.

What's Next

The newly gained awareness of a QMS among key decision makers at the DDA and the increased capacity among implementers has laid the foundation for the next stage of regulatory strengthening. Going forward, additional regulatory staff will receive training to conduct internal audits and implement the QMS in preparation for external audits leading to ISO 9001:2015 certification.

A well-functioning QMS at the DDA will help ensure that medical products sold in the market are quality assured, which will lead to better health outcomes in the country. Also, ensuring compliance of local pharmaceutical manufacturers with GMP will boost confidence in Nepal's pharmaceutical industry, expanding the market and spurring country's economic growth.

Other regulatory strengthening plans include updating the legislative framework; implementing Pharmadex—a web-based tool for medicines registration—and the National Medicines Policy; reorganizing and decentralizing the DDA; and implementing WHO best practices in dossier review and inspections, all of which will increase Nepal's regulatory maturity level as per the Global Benchmarking Tool.

USAID
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SUCCESS STORY

Antimicrobial resistance is a global public health concern that threatens effective response to infectious diseases. In collaboration with various health professional associations, led by the Pharmaceutical Society of Kenya and regulatory authorities, MTaPS developed and implemented an in-service continuing professional development course on antimicrobial stewardship for health care professionals.

About USAID MTaPS

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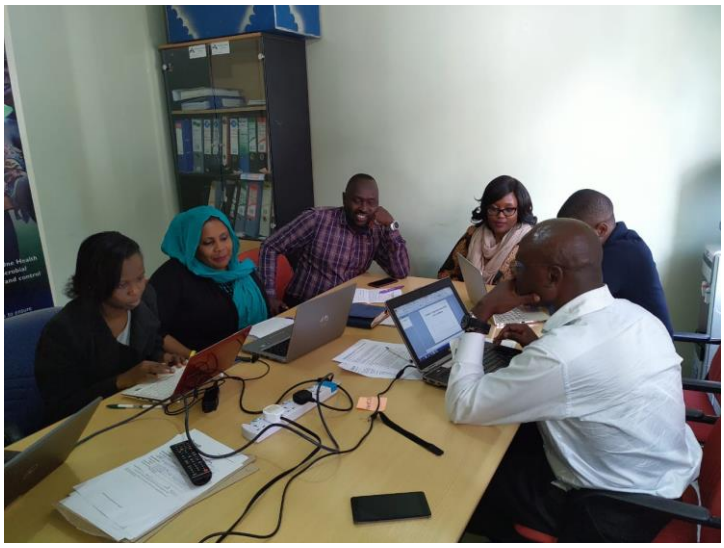
Integrating Antimicrobial Stewardship into Continuing Professional Development of Health Care Workers in Kenya



Discussions during the AMS curriculum development session. Photo credit: Collins Jaguga

Antimicrobial resistance (AMR) is a global public health concern that threatens the very core of modern medicine and effective response to infectious diseases. With few new antimicrobial agents in development, the misuse and overuse of antimicrobials in human medicine and food production places nations at risk. Kenya is no exception, and without concerted and immediate action at the national and local levels, the country stands to lose the tremendous gains made in the fight against infectious diseases.

A large proportion of antimicrobial prescriptions in Kenya are inappropriate. According to WHO, antimicrobial stewardship (AMS)—improving the use of antimicrobials—is one of the key interventions necessary to mitigate inappropriate use and contain AMR. The approach aims to narrow the gap between excess (too many antimicrobials for people who do not need them and too many large-spectrum antimicrobials used as the first choice) and access (not enough antimicrobials for people with severe infections).

Factors underlying suboptimal antimicrobial use include a lack of awareness by prescribers and the public; diagnostic uncertainty due to limitations of diagnostic tests and capacities; lack of access to treatment guidelines that account for local epidemiology; lack of data on the quality of antimicrobial prescribing and use; and an inclination to prescribe large-spectrum antimicrobials, even when narrow-spectrum alternatives are available.

Containment of AMR and access to effective therapy for common infections are critical for ensuring efficacious treatments and attaining Kenya's goals toward universal health coverage. The government, therefore, supports AMS at the national and county levels as articulated in key national AMR policy documents. However, one of the challenges is the lack of focus on AMR in professional education, training, or certification in human and agricultural courses. When it is covered, the curriculum leans toward the biomedical and scientific aspects rather than the practical and public health-related elements critical for responsible and competent application.

Establishing AMS as an Integral Part of Health Systems

Over the past year, USAID MTaPS collaborated with various health professional associations (including Association of Kenya Medical Laboratory Scientific Officers, Kenya Medical Association, Kenya Pharmaceutical Association, and National Nurses Association of Kenya), led by the Pharmaceutical Society of Kenya (PSK) and regulatory authorities. As part of the collaboration, MTaPS used an innovative approach to develop and initiate an in-service continuing professional development (CPD) course on AMS for health care professionals. The nine-module, virtual course aims to integrate AMS into Kenya's health system and workforce.

Recommendations from the AMS CPD Sessions

- Introducing AMS in community-level pharmacies and remote health care facilities
- Building capacity of consultants and senior doctors in standard clinical guidelines to standardize antimicrobial prescription and of prescribers to use patient visits as an opportunity to educate them on appropriate antimicrobial use

Over 1,100 health care workers (100 doctors, 323 nurses, and 720 pharmacists) were trained on the practical aspects of AMS in health care settings. Their participation earned the participants points from their respective regulatory bodies, including the Pharmacy and Poisons Board, the Nursing Council of Kenya, and the Kenya Medical Practitioners and Dentists Council. The points are crucial for annual renewal of practice licenses.

- Addressing the shortage of surveillance data Having health care facilities conduct antimicrobial use surveys
- Promoting the AMR research agenda to tertiary-level students
- Advocating decision makers on factoring AMR in developing guidelines and implementing stringent in-country regulatory measures to prevent the entry of substandard and falsified antimicrobials that contribute to AMR.

These recommendations will be shared with the national AMR secretariat, AMS technical working group members, the National Medicines and Therapeutics Committee, and the Pharmacy and Poisons Board, although some of them have already been addressed.

The next steps in this initiative include scale-up of CPD sessions across the different regional chapters of PSK and other professional associations. Additionally, MTaPS is developing a PSK-led e-learning platform where members of the professional associations can access the AMS course at their convenience and learn at their own pace. These efforts to develop the capacity of health care workers on AMS is crucial for creating the awareness needed to prevent and contain AMR in Kenya.

USAID
FROM THE AMERICAN PEOPLE

SUCCESS STORY

Before the COVID-19 pandemic, effective measures for decontamination and disinfection of facilities were lacking in Senegal. With USAID MTaPS support, Senegal developed a set of skills critical to contain the spread of COVID-19 and other infectious diseases.

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

Building Capacity for COVID-19 Decontamination in Senegal

Decontamination of community health workers during PPE removal. Photo credit: Mame Mbaye/MTaPS

When COVID-19 hit Senegal in late February 2020, the government took aggressive measures to contain the spread of the pandemic. However, the country needed support to develop comprehensive measures for infection prevention and control (IPC), including decontaminating and disinfecting places where positive COVID-19 cases were present.

As indicated by the CDC, the principal mode of transmission of SARS-CoV-2 virus is by respiratory droplets, but people can also get infected by touching a contaminated surface and then touching their own eyes, nose, or mouth. As a result, disinfecting places can reduce the risk of spreading infection by eliminating germs on frequently used surfaces.

To support the Ministry of Health and Social Action of Senegal, the USAID Medicines, Technologies, and Pharmaceutical Services (MTaPS) Program collaborated with partners such as UNICEF to strengthen the country's capacities for disinfection and decontamination of health care and non-health care facilities.

This work was provided by MTaPS under the larger scope of COVID-19 response support to Senegal to rapidly assess and strengthen IPC capacity at health facilities. The response leveraged the program's ongoing Global Health Security Agenda activities in the country.

About USAID MTaPS

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A comprehensive response to decontamination challenges

MTaPS started by supporting the standardization and adaptation of two monitoring tools, one for the decontamination of treatment centers and one for the decontamination of households and non-hospital facilities. During this process, MTaPS enhanced the tools to better track the decontamination steps, safety of procedures, and tracking of proper use and quantities of decontamination products.

In addition to developing and ensuring that the tools were approved, MTaPS worked with the National Hygiene Service (SNH) and the Regional Hygiene Brigades (BRH) of Dakar, Thiès, and Diourbel—three of the most affected regions—to train staff on decontamination measures so they could start working in the three regions' health facilities, communities, and households. MTaPS supported the SNH and the BRH by developing terms of reference for disinfection and decontamination operations and establishing a training strategy including a mix of face-to-face and virtual training to ensure the safety of health agents. These trainings included biowaste management, donning and doffing personal protective equipment (PPE), and hand washing. In total, 54 agents in Dakar, 12 in Diourbel, and 12 in Thiès received the training.

Following this training, the agents were then deployed in the field to perform the decontamination work.

A support that enabled strong and immediate results

Between August and September 2020, 985 decontamination and disinfection sessions were carried out, including 859 in Dakar, 99 in Thiès, and 27 in Diourbel. Intervention sites included homes with confirmed or suspected COVID-19 cases, morgues, mosques, and health care facilities with a priority focus on isolation rooms.

To minimize stigmatization of households and families visited during the sessions, MTaPS, the BRH, and SNH also carried out communications campaigns on COVID-19 and to promote recommended behaviors for individuals, families, and groups. They included local awareness campaigns, and some decontamination sessions were performed at night at the request of the families at risk of stigmatization.

The Ministry of Health and Social Action, MTaPS, and all stakeholders involved noted the importance of coupling decontamination operations with the local awareness campaigns about COVID-19 to promote recommended behaviors and correct misconceptions. Sensitivity to the risk of stigma was essential for securing families' participation.

"Thiès suffers from a lack of human resources, with one agent for 60,000 inhabitants, and huge needs in terms of hygiene. The capacity building support provided by MTaPS in infection prevention and control was very beneficial. We want to thank UNICEF, MTaPS, and our hierarchy for all their efforts. With these new skills and knowledge, we'll be more productive and can reach the objectives of the Ministry of Health and Social Action to contain the pandemic."

— Captain Idrissa Ndiaye, head of the Regional Hygiene Brigade in Thiès

Decontamination activity in Mekhe (Thiès region). Photo credit: Mame Mbaye

ANNEX 3. MTAPS INDICATOR TRACKING TABLE

Annex Table 1: MTaPS Performance Indicator Tracking Table

Code	Performance Indicator	Reporting Frequency	Baseline Value	PY2 Result	PY3 Target	PY3Q1 Result	PY3Q2 Result	PY3Q3 Result	PY3Q4 Result	FY20 Cumulative Result
Objective 1: Pharmaceutical-Sector Governance Strengthened										
Sub-Objective 1.1: Transparency and Accountability of Country Pharmaceutical Systems Improved										
MT 1.1.1	# of entities that have clarified roles and responsibilities in pharmaceutical systems and made information publicly available with MTaPS support	Annually	0	3	10	8				8
	Bangladesh		0	2	1	2				2
	Indonesia		0	N/A	1	0				0
	Jordan		0	0	2	0				0
	Nepal		0	0	1	0				0
	Rwanda		0	1	3	4				4
	IGAD		0	0	2	2				2
MT 1.1.2	# of MTaPS-supported entities that monitor key elements of the pharmaceutical management operations and make the information publicly available	Annually	0	0	17	29 (12 Government, 17 non-Government)				29
	DRC		0	0	17	29 (12 Government, 17 non-Government)				29
MT 1.1.3	% of MTaPS-supported decision-making entities that have publicly available guidelines for key elements of pharmaceutical management operations	Annually	0	N/A	100%	100% (2/2)				100% (2/2)
	IGAD		0	N/A	100%	100% (2/2)				100% (2/2)
Sub-Objective 1.2: Evidence-Based Medicines Policies, Laws, Regulations, Guidelines, Norms, and Standards Improved and Enforced										
MT 1.2.1	# of pharmaceutical sector-related policy, legislation, regulation, or operational documents developed or updated with technical assistance from MTaPS	Annually	0	30	26	34				34

Code	Performance Indicator	Reporting Frequency	Baseline Value	PY2 Result	PY3 Target	PY3Q1 Result	PY3Q2 Result	PY3Q3 Result	PY3Q4 Result	FY20 Cumulative Result
	Asia Bureau		0	0	2			1		1
	Bangladesh		0	2	3			2		2
	Burkina Faso		0	1	0			0		0
	Global MNCH		0	1	0			0		0
	Indonesia		0	N/A	1			0		0
	Jordan		0	0	2			0		0
	Mozambique		0	0	4			0		0
	Nepal		0	0	3			9		9
	Philippines		0	0	2			3		3
	Rwanda		0	26	8			17		17
	Tanzania		0	N/A	1			2		2
MT 1.2.2	# of pharmaceutical regulatory enforcement mechanisms established or strengthened with MTaPS support	Semi-annually	0	0	8	4		1		5
	Global MNCH		0	N/A	1	0		0		0
	Mozambique		0	0	2	2		0		2
	Rwanda		0	0	6	2		0		2
	Tanzania		0	N/A	1	0		1		1
MT 1.2.3	% of established pharmaceutical regulatory enforcement mechanisms that are functional	Semi-annually				85% (11/13)		88% (15/17)		88% (15/17)
	Bangladesh		50%	Data not reported	100%	100% (4/4)		100% (8/8)		100% (8/8)
	Mozambique		0%	22% (2/9)	50%	67% (2/3)		67% (2/3)		67% (2/3)
	Rwanda		0%	83%	83%	83% (5/6)		83% (5/6)		83% (5/6)
Sub-Objective 1.3: Stakeholder Engagement and Empowerment, Including Civil Society and Consumers, Increased										
MT 1.3.1	# of platforms for citizen and consumer engagement in the pharmaceutical sector established or strengthened with MTaPS support	Annually	0	0	2			1		1
	Jordan		0	0	1			0		0
	DRC		0	0	1			1		1
MT 1.3.2	# of civil society organizations (CSOs) or media groups that have disseminated information on pharmaceutical-sector monitoring activities	Annually	0	0	5			0		0

Code	Performance Indicator	Reporting Frequency	Baseline Value	PY2 Result	PY3 Target	PY3Q1 Result	PY3Q2 Result	PY3Q3 Result	PY3Q4 Result	FY20 Cumulative Result
	or conducted advocacy for equity in access to medical products with MTaPS support									
	Jordan		0	0	5			0		0
Objective 2: Institutional and Human Resource Capacity for Pharmaceutical Management and Services Increased, Including Regulation of Medical Products										
Sub-Objective 2.1: Innovative and Proven Approaches for Human Resource Capacity Building Institutionalized										
MT 2.1.2	# of MTaPS-supported health professional training curricula developed or revised to address pharmaceutical management topics	Annually	0	4	4			2		2
	Asia Bureau		0	N/A	1			1		1
	Bangladesh		0	4	1			0		0
	IGAD		0	N/A	2			1		1
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	2,225	4,849	11,782
	Asia Bureau		0	0	45	*Female* 0	*Female* 0	*Female* 0	*Female* 27	99
						Male 0	*Male* 0	*Male* 0	*Male* 22	
						Unknown 52	*Unknown* 0	*Unknown* 0	*Unknown* 0	
						Total 52	*Total* 0	*Total* 0	*Total* 47	
	Bangladesh		0	961	800	*Female* 218	*Female* 203	*Female* 167	*Female* 74	2856
						Male 645	*Male* 722	*Male* 463	*Male* 364	
						Unknown 0	*Unknown* 0	*Unknown* 0	*Unknown* 0	
						Total 863	*Total* 925	*Total* 630	*Total* 438	
	DRC		0	0	230	*Female* 0	*Female* 95	*Female* 58	*Female* 0	373
						Male 0	*Male* 162	*Male* 58	*Male* 0	
						Unknown 0	*Unknown* 0	*Unknown* 0	*Unknown* 0	
						Total 0	*Total* 257	*Total* 116	*Total* 0	
	IGAD		0	0	100	*Female* 40	*Female* 13	*Female* 11	*Female* 8	843
						Male 97	*Male* 48	*Male* 48	*Male* 7	
						Unknown 0	*Unknown* 0	*Unknown* 0	*Unknown* 571	
						Total 137	*Total* 61	*Total* 59	*Total* 586	
	Mozambique		0	40	52	*Female* 0	*Female* 2	*Female* 3	*Female* 8	21
						Male 0	*Male* 3	*Male* 2	*Male* 3	
						Unknown 0	*Unknown* 0	*Unknown* 0	*Unknown* 0	
						Total 0	*Total* 5	*Total* 5	*Total* 11	
	Nepal		0	0	10	*Female* 0	*Female* 35	*Female* 0	*Female* 8	73
						Male 0	*Male* 36	*Male* 2	*Male* 6	
						Unknown 0	*Unknown* 0	*Unknown* 0	*Unknown* 0	
						Total 0	*Total* 71	*Total* 2	*Total* 0	

Code	Performance Indicator	Reporting Frequency	Baseline Value	PY2 Result	PY3 Target	PY3Q1 Result		PY3Q2 Result		PY3Q3 Result		PY3Q4 Result		FY20 Cumulative Result
	Philippines		0	0	50	*Female*	86	*Female*	1,424	*Female*	641	*Female*	2705	6926
						Male	50	*Male*	746	*Male*	312	*Male*	876	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	76	
						Total	136	*Total*	2170	*Total*	953	*Total*	3657	
	Rwanda		0	0	1200	*Female*	8	*Female*	0	*Female*	152	*Female*	41	603
						Male	20	*Male*	0	*Male*	313	*Male*	69	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	28	*Total*	0	*Total*	465	*Total*	110	
MT 2.2.3	# of in-person or e-learning courses developed with MTaPS assistance	Annually	0	1	19	11								11
	Asia Bureau		0	N/A	1	3								3
	Bangladesh		0	0	2	0								0
	Cross Bureau		0	1	3	1								1
	IGAD		N/A	N/A	1	0								0
	Mozambique		0	0	8	1								1
	Philippines		0	0	1	4								4
	Rwanda		0	0	3	2								2
MT 2.2.4	# of people successfully completing MTaPS-developed e-learning courses	Quarterly	0	65	231	890		2,170		604		3,248		6,917
	Asia Bureau		0	0	30	*Female*	0	*Female*	0	*Female*	0	*Female*	0	52
						Male	0	*Male*	0	*Male*	0	*Male*	0	
						Unknown	52	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	52	*Total*	0	*Total*	0	*Total*	0	
	Bangladesh		0	0	30	*Female*	0	*Female*	0	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	*Male*	0	*Male*	0	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	0	*Total*	0	*Total*	0	*Total*	0	
	Cross Bureau		0	0	60	*Female*	0	*Female*	0	*Female*	0	*Female*	0	8
						Male	0	*Male*	0	*Male*	0	*Male*	0	
						Unknown	0	*Unknown*	8	*Unknown*	0	*Unknown*	0	
						Total	0	*Total*	8	*Total*	0	*Total*	0	
	Mozambique		0	65	53	*Female*	0	*Female*	0	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	*Male*	0	*Male*	0	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	0	*Total*	0	*Total*	0	*Total*	0	
	Philippines		0	0	1000	*Female*	575	*Female*	1,424	*Female*	416	*Female*	2451	6857
						Male	260	*Male*	746	*Male*	188	*Male*	797	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	835	*Total*	2170	*Total*	604	*Total*	3248	
	Rwanda		0	0	58	*Female*	0	*Female*	0	*Female*	0	*Female*	0	0

Code	Performance Indicator	Reporting Frequency	Baseline Value	PY2 Result	PY3 Target	PY3Q1 Result		PY3Q2 Result		PY3Q3 Result		PY3Q4 Result		FY20 Cumulative Result
						Male	0	*Male*	0	*Male*	0	*Male*	0	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	0	*Total*	0	*Total*	0	*Total*	0	
Sub-Objective 2.4: Medicines Regulatory Capacity Strengthened, Including Through Regional Regulatory Harmonization														
MT 2.4.3	# of regional harmonization initiatives with participation by MTaPS-supported NMRAs	Annually	0	0	5	3								3
	Asia Bureau		0	N/A	2	1								1
	IGAD		0	N/A	2	2								2
	Mozambique		0	0	1	0								0
MT 2.4.4	# of countries that have conducted an assessment at any level of the regulatory system	Annually	0	0	4	1 (Tanzania)								1
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)				100% (2016/2016)
	Bangladesh		90%	92%	90%	100% (2006/2006)				100% (2016/2016)				100% (2006/2006)
	Philippines		0%	0%	30%	0%				0%				0%
	Rwanda		0%	100%	100%	100% (10/10)				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)
	Bangladesh		61%	87%	65%	87% (5112/5913)				77% (4734/6173)				77% (4734/6173)
	Mozambique		0%	68%	90%	80% (1322/1652)				85% (1412/1652)				85% (1412/1652)
MT 3.1.3	# of countries that have a functional early warning system linking clinical and stock data	Annually	0	0	2	1 (Bangladesh)								1
Sub-Objective 3.2: Information on Pharmaceutical Systems Available and Used														
MT 3.2.1	# and % of MTaPS-supported health	Quarterly	74.3% (84/115)	92% (4293/4680)	95%	83% (4334/5213)		85% (4428/5232)		80% (4,638/5,779)		76% (4588/6003)		76% (4588/6003)

Code	Performance Indicator	Reporting Frequency	Baseline Value	PY2 Result	PY3 Target	PY3Q1 Result		PY3Q2 Result		PY3Q3 Result		PY3Q4 Result		FY20 Cumulative Result
	facilities that complete and submit an LMIS report on 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)	*DGFP (Sub-District Level)*	100% (489/489)	*DGFP (Sub-District Level)*	100% (489/489)	77% (4488/5826)
						DGFP (Central/ Regional Level)	100% (22/22)	*DGFP (Central/ Regional Level)*	100% (22/22)	*DGFP (Central/ Regional Level)*	100% (22/22)	*DGFP (Central/ Regional Level)*	100% (22/22)	
						District Hospital	82% (18/22)	*District Hospital*	91% (20/22)	*District Hospital*	71% (20/28)	*District Hospital*	66% (19/29)	
						Civil Surgeon Office	61% (14/23)	*Civil Surgeon Office*	78% (18/23)	*Civil Surgeon Office*	59% (17/29)	*Civil Surgeon Office*	60% (18/30)	
						Upazila Health Complex	75% (117/156)	*Upazila Health Complex*	75% (130/173)	*Upazila Health Complex*	69% (150/217)	*Upazila Health Complex*	67% (149/224)	
						Union Sub Center	76% (283/371)	*Union Sub Center*	78% (289/371)	*Union Sub Center*	77% (287/371)	*Union Sub Center*	75% (278/371)	
						Community Clinic	82% (3392/4131)	*Community Clinic*	86% (3387/3956)	*Community Clinic*	80% (3542/4446)	*Community Clinic*	75% (3513/4661)	
						Total	83% (4334/5213)	*Total*	86% (4354/5055)	*Total*	81% (4527/5602)	*Total*	77% (4488/5826)	
	DRC		42% (74/177)	Data not reported		*Hospitals*	Data not reported	*Hospitals*	100% (10/10)	*Hospitals*	100% (10/10)	*Hospitals*	100% (10/10)	56% (100/177)
						Health centers		*Health centers*	38% (64/167)	*Health centers*	60% (101/167)	*Health centers*	54% (90/167)	
						Total		*Total*	42% (74/177)	*Total*	95% (111/177)	*Total*	56% (100/177)	
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	26				15				41
	Cross Bureau		0	1	12	10				3				13
	CSL		0	0	3	1				0				1
	Rwanda		0	0	1	15				12				27
MT 3.3.3	# of activities to engage with stakeholders to advance the PSS global learning agenda	Quarterly	0	11	11	2		2		6		2		12
	Cross Bureau		0	11	10	2		2		6		2		12
	CSL		0	0	1	0		0		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				0
	Bangladesh		0	2	1	0				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														

Code	Performance Indicator	Reporting Frequency	Baseline Value	PY2 Result	PY3 Target	PY3Q1 Result	PY3Q2 Result	PY3Q3 Result	PY3Q4 Result	FY20 Cumulative Result
MT 5.1.1	% of service delivery points with stock out of FP, TB and HIV-AIDS tracer commodities	Quarterly								
	Philippines									
	First line TB meds (4 FDC)		40.5%	30% (472/1552)	25%	23%	22%	20%	19%	19%
	TB Pediatric Med (4FDC)		90.6%	97% (856/883)	30%	48%	46%	44%	55%	55%
	TB Preventive Treatment (for children)		63.8%	65% (645/987)	30%	81%	79%	77%	87%	87%
	TB Second Line Drug (Levofloxacin 500mg)		N/A	53% (105/199)	20%	7%	Data not reported	12%	0%	0%
	TB Second Line Drug (Moxifloxacin 400mg)		N/A	5% (9/199)	20%	4%	Data not reported	14%	0%	0%
	TB Second Line Drug (Linezolid 600mg)		N/A	12% (24/199)	20%	5%	Data not reported	6%	0%	0%
	TB Second Line Drug (Bedaquiline)		N/A	13% (25/199)	20%	5%	Data not reported	16%	0%	0%
	GeneXpert Cartridges		N/A	3% (13/395)	25%	15%	1%	15%	18%	18%
	FP Injectable		30.2%	12% (218/1775)	20%	13%	20%	28%	34%	34%
	FP Implant		52.7%	55% (717/1316)	30%	45%	43%	40%	39%	39%
	FP Oral COC		25.6%	8% (143/1798)	20%	11%	11%	11%	16%	16%
	FP Oral POP		69.3%	31% (507/1630)	30%	27%	26%	23%	20%	20%
	IUD		36.7%	29% (454/1566)	25%	41%	41%	42%	42%	42%
	Male condom		38.9%	21% (358/1743)	25%	31%	26%	24%	22%	22%
MT 5.1.2	% of tracer products stocked according to plan	Semi-annually								
	Bangladesh			Data not reported	TBD	*Stocked according to plan*	0% (0/7)	*Stocked according to plan*	0% (0/6)	0% (0/6)
						Overstocked	86% (6/7)	*Overstocked*	100% (6/6)	100% (6/6)
						Understocked	14% (1/7)	*Understocked*	0% (0/6)	0% (0/6)
						Stocked out	0% (0/7)	*Stocked out*	0% (0/6)	0% (0/6)
	DRC			Data not reported	TBD	*Stocked according to plan*	26% (5/19)	*Stocked according to plan*	47% (9/19)	47% (9/19)
						Overstocked	63% (12/19)	*Overstocked*	21% (4/19)	21% (4/19)
						Understocked	16% (3/19)	*Understocked*	21% (4/19)	21% (4/19)
						Stocked out	0% (0/19)	*Stocked out*	10% (2/19)	10% (2/19)
MT 5.1.3	% of initially MTaPS-supported supply chain functions carried out by national entities that are done without external technical assistance	Semi-annually	0%	Data not reported	TBD	100% (3/3)		100% (3/3)		100% (3/3)
	Bangladesh		0%	Data not reported	TBD	*LMIS*	100% (1/1)	*LMIS*	100% (1/1)	100% (3/3)
						Inventory management	100% (2/2)	*Inventory management*	100% (2/2)	100% (4/4)

Code	Performance Indicator	Reporting Frequency	Baseline Value	PY2 Result	PY3 Target	PY3Q1 Result		PY3Q2 Result		PY3Q3 Result		PY3Q4 Result		FY20 Cumulative Result
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)				0% (0/100)
	Rwanda		0%	0%	50%	0% (0/100)				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)		44% (46/105)				44% (46/105)
	Bangladesh		31% (31/100)	3% (3/100)	90% (90/100)	*Pharmaceuticals*	26% (13/50)	*Pharmaceuticals*	20% (10/50)	*Pharmaceuticals*	22% (11/50)	*Pharmaceuticals*	56% (28/50)	56% (28/50)
						Total	26% (13/50)	*Total*	20% (10/50)	*Total*	22% (11/50)	*Total*	56% (28/50)	
	IGAD		0%	Data not reported	70%	*Hospitals*	77% (24/31)	*Hospitals*	55% (17/31)	*Hospitals*	76% (28/37)	*Hospitals*	27% (10/37)	24% (10/41)
						Health Center	100% (2/2)	*Health Center*	100% (2/2)	*Health Center*	100% (2/2)	*Health Center*	0% (0/4)	
						Total	79% (26/33)	*Total*	58% (19/33)	*Total*	77% (30/39)	*Total*	24% (10/41)	
	Jordan		0% (0/0)	0% (0/0)	100% (6/6)	*Hospitals*	0% (0/6)	*Hospitals*	0% (0/6)	*Hospitals*	0% (0/6)	*Hospitals*	0% (0/6)	0% (0/6)
						Total	0% (0/6)	*Total*	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*	0% (0/9)	*Health Center*	45% (4/9)	*Health Center*	45% (4/9)	50% (5/10
						Hospital	100% (0/1)	*Hospital*	100% (1/1)	*Hospital*	100% (1/1)	*Hospital*	100% (1/1)	
						Total	0% (0/10)	*Total*	10% (1/10)	*Total*	50% (5/10	*Total*	50% (5/10	
MT 5.3.2	% of adverse drug events (ADEs) reported to the NMRA and reviewed by the NMRA	Semi-annually												
	IGAD		0% (0/0)	N/A	50%	100% (571/571)				100% (1104/1104)				100% (1104/1104)
	Bangladesh		68%	22%	50%	46% (151/328)				77% (449/586)				77% (449/586)
	Mozambique		60%	N/A	70%	70% (1563/2240)				56% (1237/2213)				56% (1237/2213)
	Rwanda		91%	N/A	100%	91% (172/188)				55% (102/186)				55% (102/186)
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)				100% (7/7)				100% (7/7)
	Mozambique		0%	100%	100%	43% (3/7)				100% (7/7)				100% (7/7)

Code	Performance Indicator	Reporting Frequency	Baseline Value	PY2 Result	PY3 Target	PY3Q1 Result	PY3Q2 Result	PY3Q3 Result	PY3Q4 Result	FY20 Cumulative Result
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	36	66	170
	Bangladesh		0	3	2	0	1	0	1	2
	Burkina Faso		0	2	2	2	0	1	2	5
	Cameroon		0	5	14	1	1	2	3	7
	Côte d'Ivoire		0	35	18	11	13	17	26	67
	DRC		0	6	6	4	10	2	4	20
	Jordan		0	0	4	1	1	0	0	2
	Kenya		0	38	14	14	0	2	10	26
	Mali		0	16	15	0	2	1	3	6
	Mozambique		0	0	3	0	1	5	7	13
	Nigeria		0	0	4	0	1	2	3	6
	Senegal		0	4	4	1	1	1	4	7
	Tanzania		0	4	4	1	0	1	0	2
	Uganda		0	9	4	1	1	2	3	7
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)		29% (12/41)		29% (12/41)
	Burkina Faso		18% (3/17)	22% (6/27)	50%	0% (0/0)		33% (10/10)		33% (10/10)
	Cameroon		50% (2/4)	39% (39/101)	45%	0% (0/0)		52% (32/62)		52% (32/62)
	Côte d'Ivoire		38% (21/55)	38% (21/55)	38%	43% (65/150)		43% (70/163)		43% (70/163)
	DRC		34%	36% (45/124)	40%	30% (22/73)		32% (30/93)		32% (30/93)
	Jordan		45% (5/11)	Data not reported	50%	45% (5/11)		Data not reported		45% (5/11)
	Kenya		66%	43% (496/1147)	50%	0% (0/0)		51% (105/207)		51% (105/207)
	Mali		15%	16% (20/124)	20%	17% (20/116)		20% (22/109)		20% (22/109)
	Mozambique		48% (11/23)	Data not reported	50%	48% (11/23)		40% (4/10)		40% (4/10)
	Nigeria		Data not reported	Data not reported	TBD	Data not reported		41% (17/41)		41% (17/41)
	Senegal		58% (54/93)	58% (54/93)	58%	55% (16/29)		34% (11/32)		34% (11/32)
	Tanzania		14% (3/21)	14% (3/21)	20%	19% (4/21)		0% (0/0)		0% (0/0)
	Uganda		Data not reported	Data not reported	TBD	Data not reported		61% (28/46)		61% (28/46)
MSC 3	# policies, legislation, regulation, operational documents related to national action plan on AMR implementation	Annually	0	17	25	13				13

Code	Performance Indicator	Reporting Frequency	Baseline Value	PY2 Result	PY3 Target	PY3Q1 Result	PY3Q2 Result	PY3Q3 Result	PY3Q4 Result	FY20 Cumulative Result
	developed or updated with MTaPS support									
	Bangladesh		0	0	2		2			2
	Burkina Faso		0	0	2		1			1
	Cameroon		0	1	1		1			1
	Côte d'Ivoire		0	0	1		0			0
	DRC		0	3	7		0			0
	Kenya		0	3	1		3			3
	Mali		0	8	0		0			0
	Mozambique		0	N/A	1		2			2
	Nigeria		0	N/A	5		0			0
	Senegal		0	1	2		2			2
	Tanzania		0	1	2		2			2
	Uganda		0	0	1		0			0
MSC 4	# of multisectoral bodies that have developed a national monitoring framework with MTaPS support	Annually	0	1	14		1			1
	Bangladesh		0	0	0		0			0
	Burkina Faso		0	0	1		0			0
	Cameroon		0	0	4		0			0
	Côte d'Ivoire		0	0	3		0			0
	DRC		0	0	1		0			0
	Kenya		0	1	1		1			1
	Mali		0	0	0		0			0
	Mozambique		0	0	0		0			0
	Nigeria		0	N/A	1		0			0
	Senegal		0	0	1		0			0
	Tanzania		0	0	2		0			0
	Uganda		0	0	0		0			0
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	56	94	655
	Bangladesh		0	0	0	*Female* 0	*Female* 0	*Female* 0	*Female* 0	0
						Male 0	*Male* 0	*Male* 0	*Male* 0	
						Unknown 0	*Unknown* 0	*Unknown* 0	*Unknown* 0	
						Total 0	*Total* 0	*Total* 0	*Total* 0	
	Burkina Faso		0	0	0	*Female* 0	*Female* 3	*Female* 2	*Female* 4	80
						Male 0	*Male* 18	*Male* 13	*Male* 40	
						Unknown 0	*Unknown* 0	*Unknown* 0	*Unknown* 0	
						Total 0	*Total* 21	*Total* 15	*Total* 44	

Code	Performance Indicator	Reporting Frequency	Baseline Value	PY2 Result	PY3 Target	PY3Q1 Result		PY3Q2 Result		PY3Q3 Result		PY3Q4 Result		FY20 Cumulative Result
	Cameroon		0	0	20	*Female*	0	*Female*	0	*Female*	0	*Female*	13	20
						Male	0	*Male*	0	*Male*	0	*Male*	7	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	0	*Total*	0	*Total*	0	*Total*	20	
	Côte d'Ivoire		0	134	160	*Female*	0	*Female*	0	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	*Male*	0	*Male*	0	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	0	*Total*	0	*Total*	0	*Total*	0	
	DRC		0	0	150	*Female*	98	*Female*	112	*Female*	0	*Female*	0	463
						Male	106	*Male*	147	*Male*	0	*Male*	0	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	204	*Total*	259	*Total*	0	*Total*	0	
	Kenya		0	0	0	*Female*	0	*Female*	0	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	*Male*	0	*Male*	0	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	0	*Total*	0	*Total*	0	*Total*	0	
	Mali		0	30	2	*Female*	0	*Female*	0	*Female*	0	*Female*	1	2
						Male	0	*Male*	0	*Male*	0	*Male*	1	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	0	*Total*	0	*Total*	0	*Total*	2	
	Mozambique		0	0	20	*Female*	0	*Female*	11	*Female*	5	*Female*	4	45
						Male	0	*Male*	12	*Male*	11	*Male*	4	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	0	*Total*	21	*Total*	16	*Total*	8	
	Nigeria		0	0	199	*Female*	0	*Female*	0	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	*Male*	0	*Male*	0	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	0	*Total*	0	*Total*	0	*Total*	0	
	Senegal		0	0	0	*Female*	0	*Female*	0	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	*Male*	0	*Male*	0	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	0	*Total*	0	*Total*	0	*Total*	0	
	Tanzania		0	0	200	*Female*	0	*Female*	0	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	*Male*	0	*Male*	0	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	0	*Total*	0	*Total*	0	*Total*	0	
	Uganda		0	0	0	*Female*	0	*Female*	0	*Female*	16	*Female*	12	45
						Male	0	*Male*	0	*Male*	9	*Male*	8	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	0	*Total*	0	*Total*	25	*Total*	20	
MSC 6	# of e-learning courses or m-mentoring platforms related to AMR	Annually	0	2	45	25								25

Code	Performance Indicator	Reporting Frequency	Baseline Value	PY2 Result	PY3 Target	PY3Q1 Result	PY3Q2 Result	PY3Q3 Result	PY3Q4 Result	FY20 Cumulative Result
	developed or adapted with MTaPS support									
	Bangladesh		0	0	2			0		0
	Burkina Faso		0	0	1			1		1
	Cameroon		0	0	28			20		20
	Côte d'Ivoire		0	1	2			2		2
	DRC		0	0	0			0		0
	Kenya		0	0	0			0		0
	Mali		0	1	2			2		2
	Mozambique		0	N/A	0			0		0
	Nigeria		0	N/A	8			0		0
	Senegal		0	0	1			0		0
	Tanzania		0	0	1			0		0
	Uganda		0	0	0			0		0
MSC 7	# of data collection and analysis mechanisms for tracking AMR-related indicators developed or strengthened with MTaPS support	Annually	0	0	4			2		2
	Bangladesh		0	0	0			0		0
	Burkina Faso		0	0	0			0		0
	Cameroon		0	0	1			0		0
	Côte d'Ivoire		0	0	0			0		0
	DRC		0	0	1			1		1
	Kenya		0	0	0			0		0
	Mali		0	0	0			0		0
	Mozambique		0	N/A	1			1		1
	Nigeria		0	N/A	0			0		0
	Senegal		0	0	1			0		0
	Tanzania		0	0	0			0		0
	Uganda		0	0	1			0		0
Result Area 2: Infection Prevention and Control Improved and Functional										
IP 1	# of updated policies, legislation, regulations, or operational documents for improving infection prevention and control (IPC)	Annually	0	9	7			3		3
	Bangladesh		0	0	0			0		0
	Burkina Faso		0	0	0			0		0
	Cameroon		0	0	1			1		1
	Côte d'Ivoire		0	7	2			0		0
	DRC		0	0	0			0		0
	Kenya		0	0	0			0		0

Code	Performance Indicator	Reporting Frequency	Baseline Value	PY2 Result	PY3 Target	PY3Q1 Result		PY3Q2 Result		PY3Q3 Result		PY3Q4 Result		FY20 Cumulative Result
	Mali		0	1	0					0				0
	Mozambique		0	N/A	0					1				1
	Nigeria		0	N/A	2					1				1
	Senegal		0	0	1					0				0
	Tanzania		0	1	1					0				0
	Uganda		0	0	0					0				0
IP 2	# of persons trained in IPC with MTaPS support	Quarterly	0	1,199	2,806	4,566		832		1,353		726		7,477
	Bangladesh		0	0	600	*Female*	0	*Female*	41	*Female*	14	*Female*	0	95
						Male	0	*Male*	32	*Male*	8	*Male*	0	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	0	*Total*	73	*Total*	22	*Total*	0	
	Burkina Faso		0	0	0	*Female*	0	*Female*	0	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	*Male*	0	*Male*	0	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	0	*Total*	0	*Total*	0	*Total*	0	
	Cameroon		0	86	66	*Female*	0	*Female*	32	*Female*	0	*Female*	13	88
						Male	0	*Male*	36	*Male*	0	*Male*	7	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	0	*Total*	68	*Total*	0	*Total*	20	
	Côte d'Ivoire		0	0	120	*Female*	0	*Female*	34	*Female*	28	*Female*	0	131
						Male	0	*Male*	37	*Male*	32	*Male*	0	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	0	*Total*	71	*Total*	60	*Total*	0	
	DRC		0	0	90	*Female*	50	*Female*	0	*Female*	0	*Female*	0	94
						Male	44	*Male*	0	*Male*	0	*Male*	0	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	94	*Total*	0	*Total*	0	*Total*	0	
	Kenya		0	642	1,500	*Female*	0	*Female*	53	*Female*	58	*Female*	0	5,230
						Male	0	*Male*	29	*Male*	19	*Male*	0	
						Unknown	4,455	*Unknown*	0	*Unknown*	0	*Unknown*	616	
						Total	4,455	*Total*	82	*Total*	77	*Total*	616	
	Mali		0	0	0	*Female*	0	*Female*	7	*Female*	0	*Female*	0	21
						Male	0	*Male*	14	*Male*	0	*Male*	0	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	0	*Total*	21	*Total*	0	*Total*	0	
	Mozambique		0	0	0	*Female*	0	*Female*	0	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	*Male*	0	*Male*	0	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	0	*Total*	0	*Total*	0	*Total*	0	
	Nigeria		0	0	100	*Female*	0	*Female*	0	*Female*	0	*Female*	4	15
						Male	0	*Male*	0	*Male*	0	*Male*	11	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	0	*Total*	0	*Total*	0	*Total*	15	

Code	Performance Indicator	Reporting Frequency	Baseline Value	PY2 Result	PY3 Target	PY3Q1 Result		PY3Q2 Result		PY3Q3 Result		PY3Q4 Result		FY20 Cumulative Result
	Senegal		0	0	20	*Female*	0	*Female*	0	*Female*	11	*Female*	0	22
						Male	0	*Male*	0	*Male*	11	*Male*	0	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	0	*Total*	0	*Total*	22	*Total*	0	
	Tanzania		0	471	200	*Female*	8	*Female*	0	*Female*	0	*Female*	0	17
						Male	9	*Male*	0	*Male*	0	*Male*	0	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	17	*Total*	0	*Total*	0	*Total*	0	
	Uganda		0	0	210	*Female*	0	*Female*	294	*Female*	465	*Female*	30	1,247
						Male	0	*Male*	223	*Male*	190	*Male*	45	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	0	*Total*	517	*Total*	655	*Total*	75	
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% (89/111)		95% (105/111)		94% (107/114)		94% (107/114)
	Bangladesh		0% (0/0)	0% (0/0)	100% (2/2)	*Hospitals*	0% (0/2)	*Hospitals*	100% (2/2)	*Hospitals*	100% (2/2)	*Hospitals*	100% (2/2)	100% (2/2)
						Total	0% (0/2)	*Total*	100% (2/2)	*Total*	100% (2/2)	*Total*	100% (2/2)	
	Burkina Faso		0% (0/0)	0% (0/0)	0% (0/0)	*Total*	0% (0/0)	*Total*	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)	*Hospitals*	100% (12/12)	*Hospitals*	100% (12/12)	100% (12/12)
						Total	100% (6/6)	*Total*	100% (12/12)	*Total*	100% (12/12)	*Total*	100% (12/12)	
	Côte d'Ivoire		0% (0/0)	0% (0/0)	100% (12/12)	*Hospital*	20% (2/10)	*Hospital*	20% (2/10)	*Hospital*	100% (10/10)	*Hospital*	100% (10/10)	100% (12/12)
						Animal health Centers	100% (2/2)	*Animal health Centers*	100% (2/2)	*Animal health Centers*	100% (2/2)	*Animal health Centers*	100% (2/2)	
						Total	33% (4/12)	*Total*	33% (4/12)	*Total*	100% (12/12)	*Total*	100% (12/12)	
	DRC		0% (0/0)	0% (0/0)	100% (5/5)	*Hospitals*	60% (3/5)	*Hospitals*	86% (6/7)	*Hospitals*	100% (7/7)	*Hospitals*	100% (7/7)	100% (7/7)
						Total	60% (3/5)	*Total*	86% (6/7)	*Total*	100% (7/7)	*Total*	100% (7/7)	
	Jordan		0% (0/0)	0% (0/0)	100% (6/6)	*Hospitals*	0% (0/4)	*Hospitals*	0% (0/4)	*Hospitals*	0% (0/4)	*Hospitals*	0% (0/4)	0% (0/4)
						Total	0% (0/4)	*Total*	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)	*Hospitals*	100% (19/19)	*Hospitals*	100% (19/19)	100% (20/20)
						Health Centers	100% (1/1)	*Health Centers*	100% (1/1)	*Health Centers*	100% (1/1)	*Health Centers*	100% (1/1)	
						Total	80% (16/20)	*Total*	100% (20/20)	*Total*	100% (20/20)	*Total*	100% (20/20)	
	Mali		0% (0/0)	0% (0/0)	100% (16/16)	*Hospital*	67% (6/9)	*Hospital*	100% (9/9)	*Hospital*	100% (9/9)	*Hospital*	100% (9/9)	100% (16/16)
						Health Centers	86% (6/7)	*Health Centers*	100% (7/7)	*Health Centers*	100% (7/7)	*Health Centers*	100% (7/7)	
						Total	75% (12/16)	*Total*	100% (16/16)	*Total*	100% (16/16)	*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)	*Hospitals (in-person support)*	100% (3/3)	*Hospitals (in-person support)*	100% (3/3)	100% (7/7)

Code	Performance Indicator	Reporting Frequency	Baseline Value	PY2 Result	PY3 Target	PY3Q1 Result		PY3Q2 Result		PY3Q3 Result		PY3Q4 Result		FY20 Cumulative Result
						Hospitals (remote support)	Data not reported	*Hospitals (remote support)*	0% (0/4)	*Hospitals (remote support)*	100% (4/4)	*Hospitals (remote support)*	100% (4/4)	
						Total	Data not reported	*Total*	43% (3/7)	*Total*	100% (7/7)	*Total*	100% (7/7)	
	Nigeria		0% (0/0)	Data not reported	100% (3/3)	*Hospitals*	Data not reported	*Hospitals*	0% (0/0)	*Hospitals*	0% (0/0)	*Hospitals*	0% (0/3)	0% (0/0)
						Total	Data not reported	*Total*	0% (0/0)	*Total*	0% (0/0)	*Total*	0% (0/3)	
	Senegal		100% (3/3)	100% (3/3)	100% (3/3)	*Hospitals*	100% (3/3)	*Hospitals*	38% (3/8)	*Hospitals*	75% (6/8)	*Hospitals*	100% (8/8)	100% (8/8)
						Total	100% (3/3)	*Total*	38% (3/8)	*Total*	75% (6/8)	*Total*	100% (8/8)	
	Tanzania		33% (2/6)	100% (6/6)	100% (10/10)	*Hospitals*	60% (6/10)	*Hospitals*	100% (10/10)	*Hospitals*	100% (10/10)	*Hospitals*	100% (10/10)	100% (10/10)
						Total	60% (6/10)	*Total*	100% (10/10)	*Total*	100% (10/10)	*Total*	100% (10/10)	
	Uganda		0% (0/0)	0% (0/0)	7/7 (100%)	*Hospitals*	100% (7/7)	*Hospitals*	100% (13/13)	*Hospitals*	100% (13/13)	*Hospitals*	100% (13/13)	100% (13/13)
						Total	100% (7/7)	*Total*	100% (13/13)	*Total*	100% (13/13)	*Total*	100% (13/13)	
IP 4	# of countries with improved performance in core IPC components at national level from baseline to follow up	Annually	0% (0/12)	25% (3/12)	100% (12/12)	75% (8/12) (Tanzania, Nigeria, Mali, Côte d'Ivoire, Cameroon, Senegal, Kenya, Mozambique)								75% (8/12)
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% (81/107)		94% (101/107)		99% (110/111)		99% (110/111)
	Bangladesh		0% (0/0)	0% (0/0)	100% (2/2)	*Hospitals*	0% (0/2)	*Hospitals*	100% (2/2)	*Hospitals*	100% (2/2)	*Hospitals*	100% (2/2)	100% (2/2)
						Total	0% (0/2)	*Total*	100% (2/2)	*Total*	100% (2/2)	*Total*	100% (2/2)	
	Burkina Faso		0% (0/0)	0% (0/0)	0% (0/0)	*Total*	0% (0/0)	*Total*	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)	*Hospitals*	100% (12/12)	*Hospitals*	100% (12/12)	100% (12/12)
						Total	0% (0/6)	*Total*	50% (6/12)	*Total*	100% (12/12)	*Total*	100% (12/12)	
	Côte d'Ivoire		50% (2/4)	100% (4/4)	100% (12/12)	*Hospitals*	20% (2/10)	*Hospitals*	100% (10/10)	*Hospitals*	100% (10/10)	*Hospitals*	100% (10/10)	100% (12/12)
						Animal Health Centers	100% (2/2)	*Animal Health Centers*	100% (2/2)	*Animal Health Centers*	100% (2/2)	*Animal Health Centers*	100% (2/2)	
						Total	33% (4/12)	*Total*	100% (12/12)	*Total*	100% (12/12)	*Total*	100% (12/12)	
	DRC		0% (0/0)	0% (0/0)	100% (5/5)	*Hospitals*	60% (3/5)	*Hospitals*	43% (3/7)	*Hospitals*	43% (3/7)	*Hospitals*	100% (7/7)	100% (7/7)
						Total	60% (3/5)	*Total*	43% (3/7)	*Total*	43% (3/7)	*Total*	100% (7/7)	
	Kenya		100% (16/16)	100% (16/16)	100% (20/20)	*Hospitals*	79% (15/19)	*Hospitals*	79% (15/19)	*Hospitals*	100% (19/19)	*Hospitals*	100% (19/19)	100% (20/20)
						Health Centers	100% (1/1)	*Health Centers*	100% (1/1)	*Health Centers*	100% (1/1)	*Health Centers*	100% (1/1)	

Code	Performance Indicator	Reporting Frequency	Baseline Value	PY2 Result	PY3 Target	PY3Q1 Result		PY3Q2 Result		PY3Q3 Result		PY3Q4 Result		FY20 Cumulative Result
						Total	80% (16/20)	*Total*	80% (16/20)	*Total*	100% (20/20)	*Total*	100% (20/20)	
	Mali		0% (0/5)	0% (0/5)	100% (16/16)	*Hospital*	0% (0/9)	*Hospital*	89% (8/9)	*Hospital*	89% (8/9)	*Hospital*	100% (9/9)	94% (15/16)
						Health Centers	0% (0/7)	*Health Centers*	71% (5/7)	*Health Centers*	71% (5/7)	*Health Centers*	86% (6/7)	
						Total	0% (0/16)	*Total*	81% (13/16)	*Total*	81% (13/16)	*Total*	94% (15/16)	
	Mozambique		43% (3/7)	Data not reported	100% (7/7)	*Hospitals (in-person support)*	Data not reported	*Hospitals (in-person support)*	100% (3/3)	*Hospitals (in-person support)*	100% (3/3)	*Hospitals (in-person support)*	100% (3/3)	100% (7/7
						Hospitals (remote support)	Data not reported	*Hospitals (remote support)*	0% (0/4)	*Hospitals (remote support)*	100% (4/4)	*Hospitals (remote support)*	100% (4/4)	
						Total	Data not reported	*Total*	43% (3/7)	*Total*	100% (7/7)	*Total*	100% (7/7)	
	Nigeria		0% (0/3)	Data not reported	100% (3/3)	*Hospitals*	Data not reported	*Hospitals*	0% (0/0)	*Hospitals*	0% (0/0)	*Hospitals*	0% (0/3)	0% (0/0)
						Total	Data not reported	*Total*	0% (0/0)	*Total*	0% (0/0)	*Total*	0% (0/3)	
	Senegal		0% (0/3)	0%(0/3)	100% (3/3)	*Hospitals*	100% (3/3)	*Hospitals*	38% (3/8)	*Hospitals*	75% (6/8)	*Hospitals*	100% (8/8)	100% (8/8)
						Total	100% (3/3)	*Total*	38% (3/8)	*Total*	75% (6/8)	*Total*	100% (8/8)	
	Tanzania		33% (2/6)	100% (6/6)	100% (10/10)	*Hospitals*	60% (6/10)	*Hospitals*	100% (10/10)	*Hospitals*	100% (10/10)	*Hospitals*	100% (10/10)	100% (10/10)
						Total	60% (6/10)	*Total*	100% (10/10)	*Total*	100% (10/10)	*Total*	100% (10/10)	
	Uganda		0% (0/7)	100% (7/7)	7/7 (100%)	*Hospitals*	100% (7/7)	*Hospitals*	100% (13/13)	*Hospitals*	100% (13/13)	*Hospitals*	100% (13/13)	100% (13/13
						Total	100% (7/7)	*Total*	100% (13/13)	*Total*	100% (13/13)	*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)		88% (94/107)		99% (108/110)		99% (108/110)
	Bangladesh		0% (0/0)	0% (0/0)	100% (2/2)	*Hospitals*	50% (1/2)	*Hospitals*	100% (2/2)	*Hospitals*	100% (2/2)	*Hospitals*	100% (2/2)	100% (2/2)
						Total	50% (1/2)	*Total*	100% (2/2)	*Total*	100% (2/2)	*Total*	100% (2/2)	
	Burkina Faso		0% (0/0)	0% (0/0)	0% (0/0)	*Total*	0% (0/0)	*Total*	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)	*Hospitals*	100% (12/12)	*Hospitals*	100% (12/12)	100% (12/12)
						Total	100% (6/6)	*Total*	100% (12/12)	*Total*	100% (12/12)	*Total*	100% (12/12)	
	Côte d'Ivoire		100% (4/4)	100% (4/4)	100% (12/12)	*Hospitals*	20% (2/10)	*Hospitals*	100% (10/10)	*Hospitals*	40% (4/10)	*Hospitals*	100% (10/10)	100% (12/12)
						Animal Health Centers	100% (2/2)	*Animal Health Centers*	100% (2/2)	*Animal Health Centers*	100% (2/2)	*Animal Health Centers*	100% (2/2)	
						Total	33% (4/12)	*Total*	100% (12/12)	*Total*	50% (6/12)	*Total*	100% (12/12)	
	DRC		0% (0/0)	0% (0/0)	100% (5/5)	*Hospitals*	60% (3/5)	*Hospitals*	86% (6/7)	*Hospitals*	86% (6/7)	*Hospitals*	100% (7/7)	100% (7/7)
						Total	60% (3/5)	*Total*	86% (6/7)	*Total*	86% (6/7)	*Total*	100% (7/7)	
	Kenya		0% (0/16)	100% (16/16)	100% (20/20)	*Hospitals*	79% (15/19)	*Hospitals*	79% (15/19)	*Hospitals*	89% (17/19)	*Hospitals*	89% (17/19)	92% (18/20)
						Health Centers	100% (1/1)	*Health Centers*	100% (1/1)	*Health Centers*	100% (1/1)	*Health Centers*	100% (1/1)	
						Total	80% (16/20)	*Total*	80% (16/20)	*Total*	92% (18/20)	*Total*	92% (18/20)	

Code	Performance Indicator	Reporting Frequency	Baseline Value	PY2 Result	PY3 Target	PY3Q1 Result		PY3Q2 Result		PY3Q3 Result		PY3Q4 Result		FY20 Cumulative Result
	Mali		0% (0/5)	0% (0/5)	100% (16/16)	*Hospital*	67% (6/9)	*Hospital*	100% (9/9)	*Hospital*	100% (9/9)	*Hospital*	100% (9/9)	94% (15/16)
						Health Centers	68% (6/7)	*Health Centers*	71% (5/7)	*Health Centers*	71% (5/7)	*Health Centers*	86% (6/7)	
						Total	75% (12/16)	*Total*	88% (14/16)	*Total*	88% (14/16)	*Total*	94% (15/16)	
	Mozambique		43% (3/7)	Data not reported	100% (7/7)	*Hospitals (in-person support)*	Data not reported	*Hospitals (in-person support)*	100% (3/3)	*Hospitals (in-person support)*	100% (3/3)	*Hospitals (in-person support)*	100% (3/3)	100% (7/7)
						Hospitals (remote support)	Data not reported	*Hospitals (remote support)*	0% (0/4)	*Hospitals (remote support)*	100% (4/4)	*Hospitals (remote support)*	100% (4/4)	
						Total	Data not reported	*Total*	43% (3/7)	*Total*	100% (7/7)	*Total*	100% (7/7)	
	Nigeria		0% (0/3)	Data not reported	100% (3/3)	*Hospitals*	Data not reported	*Hospitals*	0% (0/0)	*Hospitals*	0% (0/0)	*Hospitals*	0% (0/3)	0% (0/3)
						Total	Data not reported	*Total*	0% (0/0)	*Total*	0% (0/0)	*Total*	0% (0/3)	
	Senegal		100% (3/3)	100% (3/3)	100% (3/3)	*Hospitals*	100% (3/3)	*Hospitals*	38% (3/8)	*Hospitals*	75% (6/8)	*Hospitals*	100% (8/8)	100% (8/8)
						Total	100% (3/3)	*Total*	38% (3/8)	*Total*	75% (6/8)	*Total*	100% (8/8)	
	Tanzania		17% (1/6)	100% (6/6)	100% (10/10)	*Hospitals*	60% (6/10)	*Hospitals*	100% (10/10)	*Hospitals*	100% (10/10)	*Hospitals*	100% (10/10)	100% (10/10)
						Total	60% (6/10)	*Total*	100% (10/10)	*Total*	100% (10/10)	*Total*	100% (10/10)	
	Uganda		100% (7/7)	100% (7/7)	7/7 (100%)	*Hospitals*	100% (7/7)	*Hospitals*	100% (13/13)	*Hospitals*	100% (13/13)	*Hospitals*	100% (13/13)	100% (13/13)
						Total	100% (7/7)	*Total*	100% (13/13)	*Total*	100% (13/13)	*Total*	100% (13/13)	
IP 7	# and % of MTaPS-supported facilities with improved hand hygiene compliance	Annually												
	Bangladesh		0	0%	100%	*Hospitals*				100% (2/2)				100% (2/2)
						Total				100% (2/2)				
	Burkina Faso		0		100%	*Total*				0% (0/0)				0% (0/0)
	Cameroon		0	0%	100%	*Hospitals*				100% (12/12)				100% (12/12)
						Total				100% (12/12)				
	Côte d'Ivoire		0	100%	100%	*Hospitals*				90% (9/10)				90% (9/10)
						Total				90% (9/10)				
	DRC		0		100%	*Hospitals*				57% (4/7)				57% (4/7)
						Total				57% (4/7)				
	Kenya		0		100%	*Hospitals*				100% (19/19)				100% (20/20)
						Health Centers				100% (1/1)				
						Total				100% (20/20)				
	Mali		0	0%	100%	*Hospital*				100% (9/9)				94% (15/16)
						Health Centers				86% (6/7)				
						Total				94% (15/16)				
	Mozambique		0		100%	*Hospitals*				0% (0/7)				0% (0/7)
						Total				0% (0/7)				
	Nigeria		0	N/A	100%	*Hospitals*				0% 0(0/3)				0% 0(0/3)
						Total				0% 0(0/3)				

Code	Performance Indicator	Reporting Frequency	Baseline Value	PY2 Result	PY3 Target	PY3Q1 Result	PY3Q2 Result	PY3Q3 Result	PY3Q4 Result	FY20 Cumulative Result
	Senegal		0		100%	*Hospitals*		100% (8/8)		100% (8/8)
						Total		100% (8/8)		
	Tanzania		0		100%	*Hospitals*		100% (10/10)		100% (10/10)
						Total		100% (10/10)		
	Uganda		0		100%	*Hospitals*		100% (7/7)		100% (7/7)
						Total		100% (7/7)		
IP 8	# and % of MTaPS-supported facilities with improved performance in core IPC components	Annually								
	Bangladesh		0		100%	*Hospitals*		100% (2/2)		100% (2/2)
						Total		100% (2/2)		
	Burkina Faso		0		100%	*Total*		0% (0/0)		0% (0/0)
	Cameroon		0		100%	*Hospitals*		100% (12/12)		100% (12/12)
						Total		100% (12/12)		
	Côte d'Ivoire		0		100%	*Hospitals*		80% (8/10)		80% (8/10)
						Total		80% (8/10)		
	DRC		0		100%	*Hospitals*		0% (0/0)		0% (0/0)
						Total		0% (0/0)		
	Kenya		0		100%	*Hospitals*		100% (19/19)		100% (20/20)
						Health Centers		100% (1/1)		
						Total		100% (20/20)		
	Mali		0		100%	*Hospital*		100% (9/9)		94% (15/16)
						Health Centers		86% (6/7)		
						Total		94% (15/16)		
	Mozambique		0		100%	*Hospitals*		100% (7/7)		100% (7/7)
						Total		100% (7/7)		
	Nigeria		0		100%	*Hospitals*		0% 0(0/3)		0% 0(0/3)
						Total		0% 0(0/3)		
	Senegal		0		100%	*Hospitals*		100% (8/8)		100% (8/8)
						Total		100% (8/8)		
	Tanzania		0		100%	*Hospitals*		60% (6/10)		60% (6/10)
						Total		60% (6/10)		
	Uganda		0		100%	*Hospitals*		0% (0/0)		0% (0/0)
						Total		0% (0/0)		
Result Area 3: Use of anti-microbial medicines is optimized										
AS1	# of policies, legislation, regulations, or operational documents related to antimicrobial stewardship (AMS) developed or updated with MTaPS support	Annually	0	5	18	12				12
	Bangladesh		0	0	0	0				0

Code	Performance Indicator	Reporting Frequency	Baseline Value	PY2 Result	PY3 Target	PY3Q1 Result	PY3Q2 Result	PY3Q3 Result	PY3Q4 Result	FY20 Cumulative Result
	Burkina Faso		0	0	6	2				2
	Cameroon		0	0	0	0				0
	Côte d'Ivoire		0	1	2	0				0
	DRC		0	1	4	3				3
	Kenya		0	1	1	3				3
	Mali		0	1	0	0				0
	Mozambique		0	N/A	1	1				1
	Nigeria		0	N/A	2	0				0
	Senegal		0	0	1	1				1
	Tanzania		0	1	1	2				2
	Uganda		0	0	0	0				0
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)	54% (70/129)	55% (73/132)	55% (73/132)
	Bangladesh		0% (0/0)	0% (0/0)	100% (2/2)	*Hospitals* 0% (0/2) *Total* 0% (0/2)	*Hospitals* 0% (0/2) *Total* 0% (0/2)	*Hospitals* 0% (0/2) *Total* 0% (0/2)	*Hospitals* 0% (0/2) *Total* 0% (0/2)	0% (0/2)
	Burkina Faso		0% (0/0)	0% (0/0)	100% (12/12)	*Hospitals* 0% (0/8) *Health Centers* 0% (0/4) *Total* 0% (0/12)	*Hospitals* 12% (1/8) *Health Centers* 0% (0/4) *Total* 8% (1/12)	*Hospitals* 25% (2/8) *Health Centers* 0% (0/4) *Total* 17% (2/12)	*Hospitals* 25% (2/8) *Health Centers* 25% (1/4) *Total* 25% (3/12)	25% (3/12)
	Cameroon		0% (0/0)	0% (0/0)	100% (6/6)	*Hospitals* 0% (0/6) *Total* 0% (0/6)	*Hospitals* 0% (0/12) *Total* 0% (0/12)	*Hospitals* 92% (11/12) *Total* 92% (11/12)	*Hospitals* 92% (11/12) *Total* 92% (11/12)	92% (11/12)
	Côte d'Ivoire		0% (0/0)	0% (0/0)	100% (12/12)	*Hospitals* 17% (2/12) *Total* 17% (2/12)	*Hospitals* 17% (2/12) *Total* 17% (2/12)	*Hospitals* 75% (9/12) *Total* 75% (9/12)	*Hospitals* 75% (9/12) *Total* 75% (9/12)	75% (9/12)
	DRC		0% (0/0)	0% (0/0)	100% (5/5)	*Hospitals* 60% (3/5) *Total* 60% (3/5)	*Hospitals* 43% (3/7) *Total* 43% (3/7)	*Hospitals* 57% (4/7) *Total* 57% (4/7)	*Hospitals* 100% (7/7) *Total* 100% (7/7)	100% (7/7)
	Jordan		0% (0/0)	0% (0/2)	100% (6/6)	*Hospitals* 0% (0/6) *Total* 0% (0/6)	*Hospitals* 0% (0/6) *Total* 0% (0/6)	*Hospitals* 0% (0/6) *Total* 0% (0/6)	*Hospitals* 0% (0/6) *Total* 0% (0/6)	0% (0/6)
	Kenya		6% (1/16)	100% (18/18)	100% (24/24)	*Hospitals* 81% (17/21) *Health Centers* 100% (1/1) *Pharmacy* 0% (0/2) *Total* 75% (18/24)	*Hospitals* 81% (17/21) *Health Centers* 100% (1/1) *Pharmacy* 0% (0/2) *Total* 75% (18/24)	*Hospitals* 100% (21/21) *Health Centers* 100% (1/1) *Pharmacy* 0% (0/2) *Total* 83% (20/24)	*Hospitals* 100% (21/21) *Health Centers* 100% (1/1) *Pharmacy* 0% (0/2) *Total* 83% (20/24)	83% (20/24)
	Mali		0% (0/0)	0% (0/0)	100% (5/5)	*Hospital* 0% (0/4) *Health Centers* 0% (0/1) *Total* 0% (0/5)	*Hospital* 50% (2/4) *Health Centers* 0% (0/1) *Total* 40% (2/5)	*Hospital* 89% (8/9) *Health Centers* 14% (1/7) *Total* 56% (9/16)	*Hospital* 89% (8/9) *Health Centers* 14% (1/7) *Total* 56% (9/16)	56% (9/16)
	Mozambique		0% (0/7)	Data not reported	100% (7/7)	*Hospitals (in-person support)* Data not reported *Hospitals (remote support)* Data not reported	*Hospitals (in-person support)* 0% (0/3) *Hospitals (remote support)* 0% (0/4)	*Hospitals (in-person support)* 0% (0/3) *Hospitals (remote support)* 0% (0/4)	*Hospitals (in-person support)* 0% (0/3) *Hospitals (remote support)* 0% (0/4)	0% (0/7)

Code	Performance Indicator	Reporting Frequency	Baseline Value	PY2 Result	PY3 Target	PY3Q1 Result		PY3Q2 Result		PY3Q3 Result		PY3Q4 Result		FY20 Cumulative Result
						Total	Data not reported	*Total*	0% (0/7)	*Total*	0% (0/7)	*Total*	0% (0/7)	
	Nigeria		0% (0/3)	Data not reported	100% (3/3)	*Hospitals*	Data not reported	*Hospitals*	0% (0/0)	*Hospitals*	0% (0/0)	*Hospitals*	0% (0/3)	0% (0/0)
						Total	Data not reported	*Total*	0% (0/0)	*Total*	0% (0/0)	*Total*	0% (0/3)	
	Senegal		0% (0/0)	0% (0/0)	100% (3/3)	*Hospitals*	0% (0/3)	*Hospitals*	0% (0/8)	*Hospitals*	0% (0/8)	*Hospitals*	0% (0/8)	0% (0/8)
						Total	0% (0/3)	*Total*	0% (0/8)	*Total*	0% (0/8)	*Total*	0% (0/8)	
	Tanzania		0% (0/6)	0% (0/6)	100% (10/10)	*Hospitals*	0% (0/10)	*Hospitals*	20% (2/10)	*Hospitals*	20% (2/10)	*Hospitals*	20% (2/10)	20% (2/10)
						Total	0% (0/10)	*Total*	20% (2/10)	*Total*	20% (2/10)	*Total*	20% (2/10)	
	Uganda		43% (3/7)	100% (7/7)	7/7 (100%)	*Hospitals*	100% (7/7)	*Hospitals*	100% (13/13)	*Hospitals*	100% (13/13)	*Hospitals*	100% (13/13)	100% (13/13)
						Total	100% (7/7)	*Total*	100% (13/13)	*Total*	100% (13/13)	*Total*	100% (13/13)	
AS 3	# of persons trained in AMS topics with MTaPS support	Quarterly	0	436	2,304	1,302		645		2,042		772		4761
	Bangladesh		0	0	0	*Female*	0	*Female*	0	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	*Male*	0	*Male*	0	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	0	*Total*	0	*Total*	0	*Total*	0	
	Burkina Faso		0	0	100	*Female*	0	*Female*	3	*Female*	17	*Female*	4	97
						Male	0	*Male*	18	*Male*	15	*Male*	40	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	0	*Total*	21	*Total*	32	*Total*	44	
	Cameroon		0	0	144	*Female*	0	*Female*	9	*Female*	104	*Female*	13	222
						Male	0	*Male*	7	*Male*	82	*Male*	7	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	0	*Total*	16	*Total*	186	*Total*	20	
	Côte d'Ivoire		0	0	100	*Female*	0	*Female*	0	*Female*	50	*Female*	39	237
						Male	0	*Male*	0	*Male*	37	*Male*	47	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	0	*Total*	0	*Total*	87	*Total*	150	
	DRC		0	0	150	*Female*	61	*Female*	14	*Female*	0	*Female*	0	274
						Male	60	*Male*	41	*Male*	0	*Male*	0	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	98	
						Total	121	*Total*	55	*Total*	0	*Total*	0	
	Jordan		0	0	20	*Female*	0	*Female*	0	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	*Male*	0	*Male*	0	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	0	*Total*	0	*Total*	0	*Total*	0	
	Kenya		0	165	1,500	*Female*	0	*Female*	20	*Female*	13	*Female*	14	1,232
						Male	0	*Male*	16	*Male*	6	*Male*	9	
						Unknown	1,125	*Unknown*	0	*Unknown*	0	*Unknown*	30	
						Total	1,125	*Total*	36	*Total*	18	*Total*	53	
	Mali		0	0	0	*Female*	12	*Female*	0	*Female*	8	*Female*	0	136

Code	Performance Indicator	Reporting Frequency	Baseline Value	PY2 Result	PY3 Target	PY3Q1 Result		PY3Q2 Result		PY3Q3 Result		PY3Q4 Result		FY20 Cumulative Result
						Male	44	*Male*	0	*Male*	72	*Male*	0	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	56	*Total*	0	*Total*	80	*Total*	0	
	Mozambique		0	0	0	*Female*	0	*Female*	0	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	*Male*	0	*Male*	0	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	0	*Total*	0	*Total*	0	*Total*	0	
	Nigeria		0	0	40	*Female*	0	*Female*	0	*Female*	0	*Female*	10	18
						Male	0	*Male*	0	*Male*	0	*Male*	8	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	0	*Total*	0	*Total*	0	*Total*	18	
	Senegal		0	0	20	*Female*	0	*Female*	0	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	*Male*	0	*Male*	0	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	0	*Total*	0	*Total*	0	*Total*	0	
	Tanzania		0	201	200	*Female*	0	*Female*	0	*Female*	0	*Female*	0	0
						Male	0	*Male*	0	*Male*	0	*Male*	0	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	0	*Total*	0	*Total*	0	*Total*	0	
	Uganda		0	70	70	*Female*	0	*Female*	294	*Female*	790	*Female*	171	2,513
						Male	0	*Male*	223	*Male*	817	*Male*	218	
						Unknown	0	*Unknown*	0	*Unknown*	0	*Unknown*	0	
						Total	0	*Total*	517	*Total*	1,607	*Total*	389	
AS 4	# and % of MTaPS-supported facilities implementing continuous quality improvement (CQI) to improve AMS	Quarterly	62% (24/39)	75% (41/55)	100% (86/86)	35% (30/86)		37% (41/112)		50% (61/123)		59% (72/122)		59% (72/122)
	Bangladesh		0% (0/0)	0% (0/0)	100% (2/2)	*Hospitals*	0% (0/2)	*Hospitals*	0% (0/2)	*Hospitals*	0% (0/2)	*Hospitals*	0% (0/2)	0% (0/2)
						Total	0% (0/2)	*Total*	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*	12% (1/8)	*Hospitals*	25% (2/8)	*Hospitals*	25% (2/8)	25% (3/12)
						Health Centers	0% (0/4)	*Health Centers*	0% (0/4)	*Health Centers*	0% (0/4)	*Health Centers*	25% (1/4)	
						Total	0% (0/12)	*Total*	8% (1/12)	*Total*	17% (2/12)	*Total*	25% (3/12)	
	Cameroon		0% (0/0)	0% (0/6)	100% (6/6)	*Hospitals*	0% (0/6)	*Hospitals*	0% (0/12)	*Hospitals*	92% (11/12)	*Hospitals*	92% (11/12)	92% (11/12)
						Total	0% (0/6)	*Total*	0% (0/12)	*Total*	92% (11/12	*Total*	92% (11/12	
	Côte d'Ivoire		0% (0/0)	100% (2/2)	100% (12/12)	*Hospitals*	17% (2/12)	*Hospitals*	17% (2/12)	*Hospitals*	75% (9/12)	*Hospitals*	90% (9/10)	90% (9/10)
						Total	17% (2/12)	*Total*	17% (2/12)	*Total*	75% (9/12)	*Total*	90% (9/10)	
	DRC		0% (0/0)	100% (3/3)	100% (5/5)	*Hospitals*	60% (3/5)	*Hospitals*	43% (3/7)	*Hospitals*	43% (3/7)	*Hospitals*	100% (7/7)	100% (7/7)
						Total	60% (3/5)	*Total*	43% (3/7)	*Total*	43% (3/7)	*Total*	100% (7/7)	
	Kenya		100% (18/18)	100% (18/18)	100% (24/24)	*Hospitals*	81% (17/21)	*Hospitals*	81% (17/21)	*Hospitals*	90% (19/21)	*Hospitals*	100% (21/21)	92% (22/24)
						Health Centers	100% (1/1)	*Health Centers*	100% (1/1)	*Health Centers*	100% (1/1)	*Health Centers*	100% (1/1)	
						Pharmacy	0% (0/2)	*Pharmacy*	0% (0/2)	*Pharmacy*	0% (0/2)	*Pharmacy*	0% (0/2)	
						Total	75% (18/24)	*Total*	75% (18/24)	*Total*	83% (20/24)	*Total*	92% (22/24)	

Code	Performance Indicator	Reporting Frequency	Baseline Value	PY2 Result	PY3 Target	PY3Q1 Result		PY3Q2 Result		PY3Q3 Result		PY3Q4 Result		FY20 Cumulative Result
	Mali		0% (0/5)	0% (0/5)	100% (5/5)	*Hospital*	0% (0/4)	*Hospital*	50% (2/4)	*Hospital*	22% (2/9)	*Hospital*	22% (2/9)	13% (2/16)
						Health Centers	0% (0/1)	*Health Centers*	0% (0/1)	*Health Centers*	0% (0/7)	*Health Centers*	0% (0/7)	
						Total	0% (0/5)	*Total*	40% (2/5)	*Total*	13% (2/16)	*Total*	13% (2/16)	
	Mozambique		0% (0/7)	Data not reported	100% (7/7)	*Hospitals (in-person support)*	Data not reported	*Hospitals (in-person support)*	0% (0/3)	*Hospitals (in-person support)*	0% (0/3)	*Hospitals (in-person support)*	0% (0/3)	57% (4/7)
						Hospitals (remote support)	Data not reported	*Hospitals (remote support)*	0% (0/4)	*Hospitals (remote support)*	0% (0/4)	*Hospitals (remote support)*	100% (4/4)	
						Total	Data not reported	*Total*	0% (0/7)	*Total*	0% (0/7)	*Total*	57% (4/7)	
	Nigeria		0% (0/3)	Data not reported	100% (3/3)	*Hospitals*	Data not reported	*Hospitals*	0% (0/0)	*Hospitals*	0% (0/0)	*Hospitals*	0% (0/3)	0% (0/3)
						Total	Data not reported	*Total*	0% (0/0)	*Total*	0% (0/0)	*Total*	0% (0/3)	
	Senegal		0% (0/3)	0% (0/3)	100% (3/3)	*Hospitals*	0% (0/3)	*Hospitals*	0% (0/8)	*Hospitals*	0% (0/8)	*Hospitals*	0% (0/8)	0% (0/8)
						Total	0% (0/3)	*Total*	0% (0/8)	*Total*	0% (0/8)	*Total*	0% (0/8)	
	Tanzania		0% (0/6)	100% (6/6)	100% (10/10)	*Hospitals*	0% (0/10)	*Hospitals*	20% (2/10)	*Hospitals*	20% (2/10)	*Hospitals*	20% (2/10)	20% (2/10)
						Total	0% (0/10)	*Total*	20% (2/10)	*Total*	20% (2/10)	*Total*	20% (2/10)	
	Uganda		86% (6/7)	100% (7/7)	7/7 (100%)	*Hospitals*	100% (7/7)	*Hospitals*	100% (13/13)	*Hospitals*	100% (13/13)	*Hospitals*	100% (13/13)	100% (13/13)
						Total	100% (7/7)	*Total*	100% (13/13)	*Total*	100% (13/13)	*Total*	100% (13/13)	
AS 5	# / % of MTaPS-supported facilities that have documented evidence of improvement in antimicrobial medicines prescribing or use	Annually												
	Bangladesh		0%		100%	*Hospitals*				0% (0/2)				0% (0/2)
						Total				0% (0/2)				
	Burkina Faso		0%		100%	*Hospitals*				0% (0/12)				0% (0/12)
						Total				0% (0/12)				
	Cameroon		0%		100%	*Hospitals*				0% (0/11)				0% (0/11)
						Total				0% (0/11)				
	Côte d'Ivoire		0%		100%	*Hospitals*				0% (0/10)				0% (0/10)
						Total				0% (0/10)				
	DRC		0%		100%	*Hospitals*				0% (0/7)				0% (0/7)
						Total				0% (0/7)				
	Kenya		0%		100%	*Hospitals*				100% (21/21)				92% (22/24)
						Health Centers				33% (1/3)				
						Total				92% (22/24)				
	Mali		0%		100%	*Hospital*				11% (1/9)				13% (2/16)
						Health Centers				14% (1/7)				
						Total				13% (2/16)				
	Mozambique		0%		100%	*Hospitals*				57% (4/7)				57% (4/7)

Code	Performance Indicator	Reporting Frequency	Baseline Value	PY2 Result	PY3 Target	PY3Q1 Result	PY3Q2 Result	PY3Q3 Result	PY3Q4 Result	FY20 Cumulative Result
						Total		57% (4/7)		
	Nigeria		0%		100%	*Hospitals*		0% (0/3)		0% (0/3)
						Total		0% (0/3)		
	Senegal		0%		100%	*Hospitals*		0% (0/8)		0% (0/8)
						Total		0% (0/8)		
	Tanzania		0%		100%	*Hospitals*		60% (6/10)		60% (6/10)
						Total		60% (6/10)		
	Uganda		0%		100%	*Hospitals*		0% (0/7)		0% (0/7)

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)	50% (2/4)	75% (3/4)	50% (2/4)	75% (3/4)	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)	25% (1/4)	50% (2/4)	50% (2/4)	50% (2/4)	0% (0/4)	25% (1/4)	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)	20% (1/5)	40% (2/5)	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)	40% (2/5)	80% (4/5)	100% (5/5)	80% (4/5)	60% (3/5)	60% (3/5)	80% (4/5)	80% (4/5)
	Developed Capacity - 03	67% (4/6)	0% (0/6)	50% (3/6)	83% (5/6)	33% (2/6)	67% (4/6)	50% (3/6)	83% (5/6)	0% (0/6)	50% (3/6)	100% (6/6)	83% (5/6)
	Demonstrated Capacity - 04	20% (1/5)	0% (0/5)	20% (1/5)	40% (2/5)	0% (0/5)	40% (2/5)	0% (0/5)	80% (4/5)	0% (0/5)	0% (0/5)	80% (4/5)	0% (0/5)
	Sustainable Capacity - 05	0% (0/5)	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)	20% (1/5)	0% (0/5)
P.3.4 Optimize use of antimicrobial medicines in human and animal health and agriculture	Limited Capacity - 02	0% (0/4)	50% (2/4)	50% (2/4)	100% (4/4)	100% (4/4)	75% (3/4)	75% (3/4)	50% (2/4)	25% (1/4)	75% (3/4)	100% (4/4)	25% (1/4)
	Developed Capacity - 03	17% (1/6)	33% (2/6)	17% (1/6)	67% (4/6)	50% (3/6)	67% (4/6)	50% (3/6)	33% (2/6)	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)	0% (0/7)	29% (2/7)	0% (0/7)	14% (1/7)	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)	14% (1/7)	0% (0/7)	0% (0/7)	0% (0/7)	0% (0/7)	0% (0/7)	0% (0/7)

Annex Table 3: MTaPS COVID-19 Q4 Indicators

Indicator and Disaggregation		Oct. 2021	Total from onset of COVID
Number of adverse events following immunization (AEFI) reports reviewed with MTaPS support among those submitted to country monitoring systems			
# AEFI reports reviewed with MTaPS support		1420	1630
Number of people trained on COVID-19 vaccine-related topics with MTaPS support			
# people trained		822	1350
Sex	Male	380	836
	Female	442	514
	Unknown sex		
Number of tools for planning and conducting safety monitoring developed, adapted, or disseminated with MTaPS support			
# tools		1	6
Number of COVID-19 vaccine multisectoral coordination mechanisms that meet regularly (at least once a month) with MTaPS support			
# MSC mechanisms		10	21
Number of health facilities where MTaPS provided support for IPC and/or water, sanitation, and hygiene (WASH) for COVID-19)			
# Health facilities		198	4000
Number of workers who received COVID-19-related training in IPC and/or WASH with MTaPS support			
# People trained		1090	42327
Sex	Male	381	18160
	Female	592	23829
	Unknown sex	117	338
Number of policies, protocols, standards, and guidelines across any of the result areas developed or adapted with MTaPS support			
# policies, protocols, standards, and guidelines		6	12
Number of countries that developed or adapted COVID-19 vaccine microplans with MTaPS support			
# of countries		1	1
Number of countries that have improved the regulatory and/or policy environment for COVID-19 vaccines with MTaPS support			
# of countries		2	2