



PROMOTING THE QUALITY OF MEDICINES

Promoting the Quality of Medicines (PQM)

**Quarterly Report on Activities
October 1, 2014 – December 31, 2014**

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ACRONYMS

AMRH	African Medicines Regulatory Harmonization
ANEQAM	Asian Network of Excellence in Quality Assurance of Medicines
API	Active Pharmaceutical Ingredient
ATB	Anti-tuberculosis
BA	Bioavailability
BE	Bioequivalence
BINFAR	Pharmaceutical and Medical Production and Distribution Services
BREMERE	Building Regional Expertise in Medicines Regulation, Information-sharing, Joint Investigation, and Enforcement
CAPA	Corrective and Preventive Action
CAP-Malaria	Control and Prevention of Malaria
CDC	U.S. Centers for Disease Control and Prevention
CHD	Center for Health Development
CHX	Chlorhexidine
CRO	Contract Research Organization
DAV	Drug Administration of Vietnam
DDF	Department of Drugs and Food
DF	Pharmaceutical Department
DOH	Department of Health
DOMC	Division of Malaria Control
DPM	Direction de la Pharmacie et des Medicaments
DPML	National Medicines Regulatory Authority of Burundi
FDA	Food and Drug Administration
FDC	Fixed Dose Combination
FMHACA	Food, Medicine and Health Care Administration and Control Authority
FPP	Finished Pharmaceutical Product
GCP	Good Clinical Practices
GMP	Good Manufacturing Practices
GMS	Greater Mekong Sub-region
HCMC	Ho Chi Minh City, Vietnam
IMC	Inter-Ministerial Committee
INSP	National Institute of Public Health
IPT	Inter-laboratory Proficiency Testing
LAC	Latin America and the Caribbean
LGU	Local Government Unit
LMHRA	Liberian Medicines and Health Products Regulatory Authority
LNCM	National Laboratory for Medicine Quality Control
MCH	Maternal and Child Health
MDR-TB	Multi-Drug Resistant Tuberculosis
MF	Master File
MOC	Memorandum of Collaboration
MOH	Ministry of Health
MQCL	Medicines Quality Control Laboratory

MQDB	Medicines Quality Database
MQM	Medicine Quality Monitoring
MRA	Medicines Regulatory Authority
MSH/SIAPS	Management Sciences for Health/Systems for Improved Access to Pharmaceuticals & Services
NA-FDC	National Agency of Food and Drug Control
NEPAD	New Partnership for Africa's Development
NHQC	National Health Products Quality Control Center
NIDQC	National Institute for Drug Quality Control
NIMPE	National Institute for Malariology, Parasitology and Entomology
NOMCOL	Network of Medicines Control Laboratories
NQCL	National Quality Control Laboratory
NTP	National Tuberculosis Program
OI	Opportunistic Infection
OMCL	Official Medicines Control Laboratory
ORS	Oral Rehydration Salts
PAC	Provincial AIDS Committee
PAHO	Pan American Health Organization
PEPFAR	President's Emergency Plan for AIDS Relief
PMI	President's Malaria Initiative
PNILP	Programme National Intégré de Lutte contre le Paludisme
PPB	Pharmacy and Poison Board
PQ	Prequalification
PQAD	Product Quality and Assessment Directorate
PQM	Promoting the Quality of Medicines Program
QA	Quality Assurance
QC	Quality Control
QMS	Quality Management System
RDMA	Regional Development Mission for Asia
SL-ATB	Second-Line Anti-Tuberculosis
SOP	Standard Operating Procedure
SSFFC	Substandard/spurious/false-labeled/falsified/ counterfeit
TA	Technical Assistance
TAP	Technical Assistance Program
TB	Tuberculosis
TWG	Technical Working Group
UCAD	University of Cheikh Anta Diop
UN	United Nations
USAID	United States Agency for International Development
USP	United States Pharmacopeia
WB	World Bank
WHO	World Health Organization

Project Update for Q1: October 1 – December 31, 2014

Since 2009 the Promoting the Quality of Medicines (PQM), implemented by the United States Pharmacopeia (USP), has worked cooperatively with the United States Agency for International Development (USAID) to help developing countries effectively address critical issues related to poor quality medicines. PQM provides the needed technical leadership to build local capacity in medicines quality assurance systems, increase the supply of quality-assured medicines, combat the availability of counterfeit medicines, and advocate for medicines quality worldwide. Through these initiatives, PQM serves as a primary mechanism to help assure the quality, safety, and efficacy of medicines essential to USAID priority health issues, particularly malaria, HIV/AIDS, tuberculosis (TB), and neglected tropical diseases (NTD)

Core Funding

CROSS BUREAU

Key Activities

Increase awareness about the importance of medicines quality

No conferences or workshops were attended this quarter.

Produce up-to-date information about current issues in medicines quality

On PQM's website, 7 articles, 7 photos, and 6 resources were added; in addition, 4 webpages were updated. 33 new reports were included with the *Media Reports on Medicine Quality*, and the updated version was added to the website.

Support regional approaches and networks to improve QA/QC of medicines

The next meeting of the New Partnership for Africa's Development (NEPAD) is scheduled for February.

Explore improved tools to ensure quality control or increase the knowledge base about QA

PQM worked with Boston University on budgeting and project description details for the new contract to refine the functionality of Pharmachk and develop, validate, and test new probes. Existing probes that were not validated will be validated as well. This technology has the potential to enhance medicines quality monitoring.

MALARIA

Key Activities

In accordance with the FY 14 Core Malaria workplan, availability/diversion studies were conducted in Malawi and Tanzania and the subsequent reports were sent to the USAID PMI team.

MATERNAL AND CHILD HEALTH

Key Activities

All of the MCH FY15 key activities help achieve one of the following two objectives 1) Provide technical leadership and advocacy on maternal, newborn, and child health medicine quality or 2) Increase the supply of quality maternal, newborn, and child health medicines.

Under the FY14 workplan, PQM provided support to UNICEF in the form of testing services. PQM was requested to test one lot of zinc sulfate tablets; the samples met the USP monograph requirements.

Also under the FY 14 workplan, LaGray Pharmaceuticals' (Ghana) purified water system and packaging line/process completed the validation process.

NEGLECTED TROPICAL DISEASES

Key Activities

A biowaiver action plan proposal for praziquantel was developed as an alternative to bioequivalence, and the RFA for the study of praziquantel solubility and polymorph characterizations was developed and posted. The deadline for applications is January 20, 2015. Discussions with WHO and USAID regarding sample acquisition and conducting the biowaiver study are ongoing.

TUBERCULOSIS (TB)

Key Activities

Increase the supply of quality-assured second-line TB medicines

The following companies received WHO Prequalification approval in Quarter 1:

NCPC Huasheng for Capreomycin API

Hisun Pharma for Capreomycin FPP

HEC Pharma for Azithromycin FPP

During the first quarter, technical assistance was provided to the following companies:

China/Hong Kong:

Fuzhou: working on implementing the CAPA plan from the WHO inspection; also submitted second API MF for non-sterile kanamycin API

Jinxin Pharma: WHO inspection was conducted for Levofloxacin API

Silver Eagle Pharma: Process validation was completed for PAS Sodium API

Hebei Xingang Pharma: Process validation was completed for Rifampicin API

Excel Pharma: Process validation is in progress for Cycloserine API

Reyong Pharma: Early stage product development for Cycloserine, Clofazimine, and PAS Sodium FPPs

Pen Tsao Pharma: Terizidone API development in progress

NCPC Pharma: WHO inspection was conducted for Streptomycin FPP

Georgia:

GM Pharma: An introductory visit to GM Pharma occurred in October 2014; reviewed WHO inspection observations and CAPAs implemented. API source is to be changed.

India:

Shalina: Reviewing dossier using Langhua API; the dossier was completed with Langhua API and is scheduled for WHO submission in March 2015. PQM is tentatively planning to visit again in April, and the facility upgrade is anticipated to be complete by mid-2015.

Indonesia:

Zenith: visited to follow up on CAPA implementation

Sanbe: visited to follow up on CAPA implementation

Kalbe: A GMP assessment was conducted for Levofloxacin FPP

Korea:

Dong-A: A terizidone BE study was initiated

Enzychem: A query was received from WHO PQ regarding starting material

KUP: Provided comments on site MF

Ildong: Provided comments on process validation protocol

Hanmi Fine Chemicals: Received CAPA for review from assessment in August 2014

JW Pharma: A new manufacturer with potential interest in Linezolid API

Philippines:

Hizon: Conducted a facility assessment. The CAPA plan was received and reviewed, with 90% implemented. The dossier was sent to PQM for review, and comments were sent back to Hizon, who will update the dossier by the end of January 2015

Unilab: Conducted a site assessment

Taiwan:

Peili: The dossier was received for review. The general layout and format will be corrected.

Vietnam:

Imexpharm: The CAPA plan was received for review

STADA: A new manufacturer interested in TB medicines; they are already prequalified for ARVs

Zimbabwe:

Varichem: Safety and Efficacy part of the dossier has been approved by WHO PQ; the company is working on responses to WHO queries for the Quality part of the dossier, which will be submitted by the end of January. PQM tentatively plans to visit at the end of March.

Develop OEM for at least two critical second-line and/or third-line anti-TB medicines

Interpharma and Baush Pharma have both submitted their product dossiers to PQM for review; the products are both second-line medicines—capreomycin and kanamycin.

Support research to improve quality and yield of kanamycin through genetic engineering

Sub-award was awarded

Provide support through capital investment to promising companies to obtain WHO Prequalification

PQM provided reference standards and comparator products to:

Reyoung: Cycloserine and PAS

Hizon: Levofloxacin

Shalinas: Levofloxacin

Varichem: Levofloxacin

Kalbe: Levofloxacin

Pharmis: Moxifloxacin RS

A contract was approved and signed to provide financial assistance for Dong-A to conduct a BE study. The BE study completion date has been delayed from the end of December to the end of February.

An RFA has been drafted to identify potential companies currently manufacturing clofazimine API and manufacturers with good regulatory standing to receive technology transfer.

Africa

BENIN

Key Activities

Assess the medicines quality assurance/quality control system

PQM conducted a consultation visit to meet with local stakeholders to update information on medicines quality assurance/quality control systems in Benin. Local partners included the National Malaria Control Program, Directorate of Pharmacy and Medicine (DPMED), National Quality Control Laboratory (NQCL), the Central Medical Store, the World Health Organization (WHO)-Benin, and the Accelerating the Reduction of Malaria Morbidity and Mortality program. Following the visit, PQM developed and submitted a work plan to the mission for review.

BURUNDI

Key Activities

With FY14 funding, two Benin lab staff completed a two-week training at CePAT in Ghana. The training covered Good Lab Practices, Good Weighing Practices, lab safety, pH measurement, Karl Fischer titration, disintegration, dissolution, and High Performance Liquid Chromatography Assay.

ETHIOPIA

Key activities

Management and program effectiveness of FMHACA improved and the new government changes on FMHACA institutionalized

- Participated in and presented at the First Conference of African Medicine Regulators of Sudan and Neighboring Countries; the presentation covered USP's Global Health Impact Programs and their impact in Sub-Saharan Africa
- Participated in the review of the draft FMHACA Proclamation and supported the translation of the draft copy to the national language.
- Participated in the first meeting of a Task Team to facilitate establishing the African Medicine Agency
- An MOU was signed between FMHACA and USP/PQM Ethiopia
- Participated in discussions regarding the development of service charges for FMHACA services

FMHACA product registration and licensing system made effective, efficient, and transparent

- The Guideline for Registration of Medicines was printed and distributed; the Guideline for Registration of Medical Devices is in printing stages
- Participated in a technical working group meeting on FMHACA data and information software development
- The development of a Guideline for Variation Medicine Application and the Strategy for Enhanced Market Authorization is in progress
- A four-day training on medicine dossier assessment was given to 35 FMHACA staff

Inspection and market control system of FMHACA strengthened

- On-the-job training was provided to 7 new medicine inspection directorate staff covering inspection and coaching of inspectors on performing onsite GMP inspections
- The Good Storage Practice Guideline and Good Distribution Guideline were drafted
- The Inspection Manual is in progress

Product quality testing system of FMHACA (the national medicine quality control laboratory and branch laboratories) strengthened

- The Product Quality and Assessment Directorate (PQAD) condom lab is now ISO accredited
- Procured lab instruments (dimension testing and water purifier system)
- Prepared a CAPA for ACLASS findings
- The PQAD quality manual was revised as part of the action plan for WHO PQ
- SOPs for proficiency testing and data integrity were drafted as part of the WHO PQ action plan

Sustainable post-marketing quality surveillance system for medicines developed

- The first draft of a report on the FY14 post-marketing surveillance (PMS) for antiretrovirals (ARVs), medicines for opportunistic infections (OIs), and antimalarials was prepared
- The draft protocol for PMS of MCH medicines was prepared

Medicine regulatory capacity of regional/city administration authorities strengthened

No activities to report

Local medicine manufacturers made GMP compliant and their products WHO Prequalified

- A mock inspection was carried out at Adigrat Pharmaceuticals Factory and Cadila Pharmaceuticals
- Met with Julphar Pharmaceuticals-Ethiopia on PQ for NTD medicines
- Participated in a Capacity Building Workshop on Policy Coherence for Local Pharmaceutical Production and Access to Medicine in Ethiopia, organized by the United Nations Conference on Trade and Development

PFSA QC lab able to conduct basic tests

No activities to report

Training programs in regulatory sciences introduced/initiated based on MOU between FMHACA and schools of pharmacy

- Participated in a regulatory affairs gap assessment workshop organized by FMHACA and Addis Ababa University School of Pharmacy

The laboratory of Addis Ababa University School of Pharmacy made functional

No activities to report

GHANA

Key Activities

Support round 7 of post-marketing surveillance of antimalarial medicines at the 7 sentinel sites

PQM provided necessary reference standards and materials for the lab to initiate the MQM program. The lab completed testing for antimalarials and sent the results to PQM for review. PQM reviewed the results and provided them in the annual report that was sent to USAID/Ghana.

Conduct Round 3 of quality monitoring of uterotonic medicines (oxytocin and ergometrine)

Sampling and testing at FDA Ghana took place, and the results were sent to PQM for review. Upon completion of that review, the technical report will be disseminated to USAID/Ghana.

Strengthen the capacity of the national Food and Drugs Authority laboratory and assist toward maintaining and expanding their scope of ISO 17025 accreditation

PQM continues to prepare and maintain FDA Ghana for ISO 17025 accreditation status. PQM provided key items for the tests that are in the scope of accreditation. Discussions with the head of the lab took place on which additional tests will be added to the scope of accreditation during the surveillance audit that is to take place in Q3-Q4. Follow-up trainings are being scheduled for Q2.

Support GMP Improvement

Funds were transferred to FDA Ghana for training that was in the approved work plan for the GMP roadmap. Additional follow-up on this activity will take place in Q2.

GUINEA CONAKRY

Key Activities

Continue building the technical capacity of the national quality control laboratory (LNQCM)

PQM is donating equipment to the lab (one UV and one GC). Equipment will be shipped in Q2.

Strengthen the DNPL functions by improving the existing registration and inspection processes

The PQM consultant's contract was renewed; the consultant will start reviewing legislative documents.

KENYA

Key Activities

Strengthening the post-marketing surveillance of Medicines in Kenya by improving the monitoring the quality of medicines at the five sentinel sites, four counties, and 2 ports of entry

PQM completed the sub-award for MQM activities, which was signed by the PPB registrar. Samples were collected from eleven sites and tested using Minilabs. The QC testing is pending the approval of the fixed obligation grant extension (these activities were funded through last year's approved funds).

Strengthening the quality control of medicines in Kenya by assisting PPB in establishing its QC laboratory and advancing NQCL to reach ISO 17025 accreditation

PQM reviewed all documents pertaining to ISO 17025 accreditation. PQM procured the proficiency testing reference standards and provided guidance to complete the testing before the SANAS accreditation visit planned for Jan 2015. PQM plans to visit in Q2 to assist with the accreditation visit and to review the design for the PPB lab.

Strengthening quality assurance capacities by improving PPB registration and inspection systems and processes

PQM will discuss the implementation plans to achieve this objective with PPB during the January visit.

LIBERIA

Key Activities

Continue building quality control for the existing lab and improving the design of the new LMHRA laboratory

Due to the Ebola outbreak in Liberia, PQM provided remote technical assistance to the lab, including reviewing existing SOPs and lab documents and providing ISO 17025 guidelines. PQM also provided new SOP templates and assisted the lab in developing three new SOPs.

The lab completed the testing of samples collected from round four (this activity was carried out using last year's approved funding). The concept documents for the new lab have been submitted to the PQM consultant for his review.

Continue strengthening MQM activities for antimalarial medicines and promote the LMHRA taking appropriate regulatory actions

Confirmed and suspected Ebola patients at various Ebola Treatment Units set up by the national government and international partners have access to quality antimalarials; however, patients in slum communities, where banned and poor quality antimalarials freely circulate, may not. PQM supported LMHRA to control the use of the illegal supply of Amodiaquine monotherapy and other recently identified substandard antimalarials circulating in shantytown communities that were badly hit by Ebola. LMHRA confiscated the falsified antimalarials and fined the sellers (private sector). The confiscated antimalarials include artemether injection, DHAP suspension, and Amodiaquine Hydrochloride.

Support coordination of PQM activities by hiring a locally-based consultant

A local consultant has been hired and started assisting PQM in implementing activities on the ground.

MALI

FY15 activities will focus on completing one round of sampling and testing antimalarial medicines using carryover funding.

Key Activities

Support Medicine Quality Monitoring (MQM) program

PQM conducted supervisory visits to the sentinel sites of Gao, Kayes, Mopti, and Ségou and provided refresher training to sentinel site teams (including sampling of antimalarials and screening the samples using Minilabs). PQM assisted the sentinel sites in collecting 143 samples. Initial screening revealed one counterfeit Coartem and one fake quinine sulfate tablet product. LNS instructed sentinel site teams to look for the presence of similar products at health facilities and outlets. Another sample of counterfeit Coartem was detected in Bamako; both samples bear the same batch number. LNS communicated the

results to DPM and the Ministry of Health and informed PNLP about the findings. The lab is working with DPM on the details needed for issuing an alert about these products. PQM is coordinating with LNS to issue a press release about the two counterfeit products.

MOZAMBIQUE

Key Activities

Strengthen the technical capacity of the National Laboratory for Medicines Quality Control (LNCQM)

PQM compiled a list of reagents, equipment, and reference standards needed by the lab and also provided the lab a list of qualified vendors to procure such materials. Additionally, various reagents, USP reference standards, and other supplies for the lab (like filters for the water purification system) were procured and shipped to LNCQM.

To allow LNCQM time to prepare for the ISO 17025 evaluation, the accreditation visit is planned for Q4.

Strengthen the capacity of the Pharmaceutical Department (DF)

Discussions on the lack of regulatory action and updating pharmaceutical laws are planned for Q2-Q3.

Support MQM activities at all sites

The lab has started sample collection for the first MQM round.

Encourage collaboration between DF/LNCQM with local universities for training

This activity is planned for Q2-Q3 after final arrangements have been made by the lab on which universities will participate.

NIGERIA-Malaria

Key Activities

Strengthen NAFDAC regulatory functions

In November 2014, PQM trained about 30 NAFDAC staff in preparation for the ISO 17025 audit that took place in December 2014. Additionally, in November PQM procured a multitude of consumables, reagents, and key items pertinent for the scope of tests for the accreditation. Part of the major requirement for ISO accreditation is proficiency testing which PQM sponsored for NAFDAC to participate with 2 internationally-recognized, accredited proficiency testing providers. PQM sponsored 5 NAFDAC technical staff to attend maintenance training at CePAT.

In December, PQM sponsored a training on measurement uncertainty for 10 technical NAFDAC staff by ACLASS, an internationally recognized accreditation body. PQM also facilitated the official accreditation audit for seven tests for the NAFDAC CDCL lab in Yaba. Additionally, in preparation for that audit, PQM conducted key training of NAFDAC staff on how to answer audit questions and prepare for the demonstration of technical competence.

NIGERIA-Maternal and Child Health

Key Activities

PQM proposes to implement the following key activities in FY 15 to strengthen NAFDAC regulatory functions and build the capacity of local manufacturers of MNCH medicines.

- 1. Finalize quality assurance policy document for medicines**
- 2. Improve drug registration processes**
- 3. Improve capacity of inspectors**
- 4. Build capacity in GMP of identified manufacturers**

In support of USAID/Nigeria's procurement of oral rehydration salts from Nigerian manufacturers, samples from CHI Pharmaceuticals were received by PQM and will be analyzed by Q2.

SENEGAL

Key Activities

Continue strengthening the capacity of LNCM to reach ISO 17025 accreditation

PQM provided HPLC quotes and specifications to LNCM. The procurement of the new HPLC will be handled directly by PMI and shipped to LNCM.

PQM reviewed all QMS and technical documents and provided guidance to make certain CAPAs are being undertaken appropriately.

Asia

REGIONAL DEVELOPMENT MISSION FOR ASIA (RDMA), MEKONG MALARIA

Key Regional Activities covering Cambodia, Laos, Thailand, and Vietnam

Strengthen the post-marketing surveillance capacity in key areas and optimization of data utilization

In Q1, completing the work from the past fiscal year was the focus in Cambodia, Laos, Thailand and Vietnam: continued efforts to complete the country technical and financial reports from the comparative study on quality of antimalarials in the Greater Mekong Sub-region (GMS) and extension of requisite contracts.

The work load burdens on the local partners and limited institutional capacity have prevented Laos and Thailand from effectively utilizing funding obligated for FY14 activities. These funds were either de-obligated, the project closed out (Laos), or a no-cost extension was issued (Thailand). Project close outs were completed for Cambodia and Vietnam last year.

Strengthening capacity of official QC Labs in the GMS

The Laos FDQCC continues to implement the CAPA plan and make slow advances in its preparation for an expanded scope of ISO/IEC 17025 accreditation. Completing the SOP documents and quality manual in English and reporting on progress will remain a continued challenge.

Reliable lab equipment is critical for the performance of testing in Laos. USP was able to donate a gas chromatograph in good working order to FDQCC, who covered the shipping costs. The shipment of the GC is in progress. Training on this equipment may be required later this year.

PQM conducted an assessment of the quality control laboratory of the Pharmaceutical Technology Service Center at Chulalongkorn University in Thailand in preparation for WHO PQ. Certification of this testing laboratory will increase the regional capacity for drug quality assessment dramatically and reduce backlogs that result in sample expiration prior to confirmatory assessments. *[This was an activity planned for FY14 but due to the political situation in Thailand, it could not be completed]*

Revitalizing in-country and regional collaboration, coordination - BREMERE

One poor quality medicines alert was circulated through the BREMERE network in Q1. This report related to the identification of substandard artemether injectable products produced by Shangdong Yikang Pharmaceutical Co., Ltd., China, which had been identified in Liberia. Other non-antimalarial cases shared through BREMERE are summarized below.

An illegally imported, but not substandard, injectable artesunate was identified in Laos. Follow up in Q1 failed to identify additional products available. Efforts to improve the high rate of illegal importation in Laos were the subject of discussions with BFDI and FDD in Q1.

Communication of the results of global MQM continued to be a priority in Q1 with the completion of a global analysis of poor quality medicines reported to the Medicines Quality Database and preparation of a journal article which received its first review and revision during Q1. Final submission will occur during Q2, with publication expected by the American Journal of Tropical Medicine and Hygiene in 2015.

Name	Alert date	Manufacturers based label claim	Failure type	Action taken	Detected in country
Artemether injection	11 Dec 2014	Shangdong Yikang Pharmaceutical Co., Ltd., China	Failed Assay of API	Product quarantined awaiting incineration	Liberia
Gentamycin injection	24 Oct 2014	Shanxi Federal Pharmaceutical Co.,Ltd, P.R.C China	Sterility test	Recall	Cambodia
Gilcon (Glibenclamide 5mg)	24 Oct 2014	Efroze Chemical Industries (Pvt) Ltd, Pakistan	Dissolution test	Recall	Cambodia
Emformin(Metformin HCl 500mg)	24 Oct 2014	Medopharm, India	Dissolution test	Recall	Cambodia
Daonil (Glibenclamide 5mg)	24 Oct 2014	Sanofi Aventis, France	No registration or importer license	Ban and recall	Cambodia
Flamox B.F. (Amoxicillin 500mg)	13 Oct 2014	Bright Future Pharmaceuticals Laboratories, Cambodia	Dissolution and disintegration test	Registration cancelled and recalled	Cambodia

Quality inspection of distribution chains and pharmacy education

While discussions were held with partners in Laos, Cambodia, and Vietnam regarding the pharmacy education curriculum, no changes to the curriculum have been made thus far. A plan to re-print *Ensuring the Quality of Medicines in Resource- Limited Countries: An Operational Guide* in local languages for SOP development support and to serve as a reference for pharmacy education was launched at the end of FY14 and continues to evolve. This useful document, if translated into Lao, Vietnamese, and Khmer would prove very helpful to training in the region.

Discussions on holding a regional inspection workshop with Cambodia, Burma, Vietnam, and Laos were initiated, with a tentative timeline of Q3.

BURMA

Key activities

Continue to strengthen the regulatory capacity with an emphasis on post-marketing surveillance for antimalarial and other essential medicines of Burma Department of Food and Drug (DFDA), and their provincial/state/division levels

PQM began discussions with CAP-Malaria for a Memorandum of Understanding to support collection of samples for the dynamic sampling strategy section of PMS activities.

A series of face-to-face meetings were conducted between DFDA lab management and the PQM Country Consultant to initiate planning for FY15 work plan implementation and prioritize the activities, including a PMS training activity in March in partnership with WHO and the DFDA.

The Country Consultant participated in one PMI partners meeting as well as the US Embassy/USAID Policy Update on working in Burma.

Country Consultants (Dr. Lu Lu Kyaw Tin Oo and Dr. Soe Myat Tun) met with Dr. Harry Rothenfluh of Therapeutic Goods Administration (TGA) of Australia and team who have been conducting an assessment on the medicines quality situation in the GMS, including Burma, for establishing a new

initiative funded by the Australian Department of Foreign Affairs and Trade (DFAD). They discussed and identified possible areas for cooperation and solutions to strengthen the existing efforts in improving the quality of medicines in the Burma.

Increase awareness raising activities on poor quality medicines at various levels of the healthcare system; with a special focus on vulnerable communities in the village and remote areas that are affected and at high risk

PQM began internal planning and stakeholder engagement.

Continue to strengthen the capacity of national quality control laboratory in Nay Pyi Taw to become a proper functional lab and pave the way towards WHO Prequalification

New DFDA Lab facility renovation and relocation of equipment/instruments were completed in accordance with PQM technical guidance provided to DFDA lab management and the construction engineer; the lab resumed normal operations. [*Funding source: Adjusted activity under capacity building of DFDA Lab using FY13 funding*]

PQM conducted calibration activities at the DFDA laboratories in Burma in December 2014. This training brought one laboratory expert from USP headquarters and a consultant from Senegal with expertise in lab equipment calibration and training. In this training, conducted mainly via WHO-leveraged funds with contractual agreement between WHO and USP, three HPLC machines and one Dissolution Tester were calibrated in the DFDA Nay Pyi Taw laboratory. In addition, one HPLC machine was calibrated in the DFDA Mandalay laboratory. A total of 24 participants from DFDA and two from the Institute of Pharmacy attended the training on calibration of essential laboratory equipment.

One calibration tool kit for the Dissolution Tester was donated to DFDA which will be instrumental in future calibration activities. Prednisone and associated supplies for the training were also provided.

Provide technical assistance to increase compliance with Good Manufacturing Practices (GMP) to manufacturing facilities producing antimalarials in Burma toward ensuring their quality.

PQM began internal planning and stakeholder engagement.

Create a forum on Quality of Medicines to help support the DFDA, sharing of information and update each other on products with the quality issue (product, location, quality testing results) and suggest collective intervention (If the quality issue arises with product from outside of Burma, address the issue to BREMERE)

PQM began internal planning and stakeholder engagement.

Support in-country, inter-country and regional coordination, cooperation and enforcement through BREMERE

The BREMERE communication network supported detection and dissemination of information across Southeast Asia regarding a substandard artemether injectable product produced by Shandong Yikang Pharmaceutical Co., Ltd., China which was identified in Liberia.

CAMBODIA

Key Activities

Continue to strengthen the Department of Drug and Food (DDF) post-marketing surveillance activities at national and local levels by implementing the enhanced medicines quality monitoring (MQM) program in the country to support enforcement action against the poor-quality essential medicines, with emphasis on antimalarials

The Cambodia MOH/DDF, in collaboration with CNM and provincial health authorities, completed the comparative study survey on antimalarial (AMLs) quality at selected medicines quality monitoring (MQM) and non-MQM sites. Based on the results, the MoH issued official declarations to remove

registration numbers and recall “Flamox B.F 500mg (Amoxicillin 500mg)” which was manufactured by Bright Future Pharma Ltd., Cambodia. [FY13 funding from RDMA]

In December, the Secretariat of the Inter-Ministerial Committee to combat counterfeit and substandard medicines (IMC) organized its annual meeting, with participants from all concerned ministries and Provincial Intersectoral committees to combat counterfeit and substandard medicines in 25 provinces.

In November 2014, the PQM Regional Manager facilitated a WHO regional meeting in Cambodia. The meeting aimed to enhance efforts in regional capacity building to help address artemisinin resistance. He also met with Ms. Noura Maalaoui (WHO Technical Officer in charge of Emergency Response to Artemisinin Resistance) and Dr. Harry Rothenfluh of TGA Australia to discuss and identify any possible areas for cooperation and solutions to strengthen the existing efforts in improving the quality of medicines in the GMS, including Cambodia DDF-MoH's medicines quality surveillance.

MoH/DDF is a member of the new Governmental committee against counterfeit products with high risk for health and public safety in Cambodia. This committee was launched in November, and late that same month, around 6 tons of counterfeits and illegally imported medicines were incinerated.

Continue to strengthen the capacity of National Health Product Quality Control (NHQC) toward compliance with ISO 17025 international standards of performance and practices for reliable test results

PQM QMS expert, Ms. Angela Oliver, conducted an assessment of the laboratory's QMS and current practices for ISO/IEC 17025 readiness. This was done in preparation of relocating to a new building in mid-2015. The Quality Manual and some document management SOPs were reviewed; the laboratory team will regularly send 8 SOPs per month for PQM review.

Support in-country, inter-country, and regional coordination, cooperation and enforcement through BREMERE (Building Regional Expertise in Medicines Regulation, Information-sharing, Joint Investigation and Enforcement) to enhance collective action at national and regional levels

Six poor quality medicines were investigated and results shared with BREMERE country members for more surveillance as described above.

Increase the availability of quality-assured antimalarials through intensified inspections in the distribution chains and enhanced pharmacy practices. Engage the pharmacy school students and faculty members in the reduction of counterfeit and substandard medicines in Cambodia.

In December 2014, Good Pharmacy Practices training was conducted by the MOH/DDF in Kampot province with 22 participants including pharmacists and drug sellers. Between July and December 2014, there were 717 pharmacists and drug sellers from 11 provinces trained.

To engage pharmacy school students and faculty members, PQM and Faculty of Pharmacy-International University initiated discussions and agreed to conduct training for International University lecturers. The budget plan and agenda were submitted to PQM for review and approval.

Participate in and present at meetings and conferences to share the findings and achievements of PQM program activities in Cambodia, as well as challenges encountered, in national, regional, and international arenas as necessary.

PQM presented the FY15 workplan at the PMI Partners' Meeting held in October and met with US partners to further discuss areas for potential cooperation.

In November, PQM attended the Stakeholder Meeting on Pharmaceutical System Strengthening in the Context of Emergency Response to Artemisinin Resistance for countries of the Greater Mekong Sub-region which was organized by WHO. A separate meeting with Population Services International (PSI)

identified potential collaboration to train PSI field staff on QA of AMLs and collect suspect AMLs in the PSI coverage area.

The local consultant (Ms. Lang Siv) attended a consultative orientation seminar on continuing education for pharmacists in December at the Faculty of Pharmacy, University of Health Sciences (UHS).

INDONESIA

Key Activities

Building capacity of the PPOMN National QC Laboratories by establishing a WHO PQ project

PQM trained 28 staff on advanced instrumentation for compendial testing of TB and HIV medicines, representing roughly 90% of the total PTBB laboratory staff. [*Funding source: FY13 Funding for TB and HIV from USAID/Indonesia*]

PQM Indonesia conducted a week-long advanced training on method validation for National and Provincial staff at the PPOMN in Jakarta during December. This workshop will be followed up during Q2 with national meetings on developing SOPs for method validation throughout the BPOM system.

PQM Indonesia supported the completion and release of 28 SOPs within the PTBB Laboratory, towards a final goal of 55 total SOPs. PQM Indonesia provided significant guidance and input into the SOPs to meet WHO criteria. The SOPs will be officially implemented and socialized in Q2. [*Funding source: FY13 Funding for TB and HIV from USAID/Indonesia*]

Therapeutic Products and Hazardous Substances Laboratory of Indonesia (PTBB) appointed dedicated staff for Quality Assurance to link all of the QA staff from all PPOMN laboratories for more effective communication and collaboration. [*Funding source: FY13 Funding for TB and HIV from USAID/Indonesia*]

By the end of 2014, PTBB had drafted clear Vision and Mission statements for the institution, which previously did not exist. [*Funding source: FY13 Funding for TB and HIV from USAID/Indonesia*]

PTBB is currently making progress on finalizing the lab's Quality Manual. [*Funding source: FY13 Funding for TB and HIV from USAID/Indonesia*]

Support Coordination and Collaboration Efforts between MOH and BPOM on Post Market Surveillance

PQM Indonesia supported collaboration efforts through meetings and data sharing between MOH and BPOM, and a database for the national PMS program of BPOM is planned. [*Funding source: FY13 Funding for TB and HIV from USAID/Indonesia*]

PQM Indonesia gained the interest of and engaged in early discussions with the Ministry of Health (Anti-Retroviral Care, Support, and Treatment [SUBDIT AIDS], TB and Malaria) to implement QA policies after the Guidelines for Sampling have been finalized. [*Funding source: FY13 Funding for TB and HIV from USAID/Indonesia*]

By the close of 2014, PQM Indonesia received consent from the MOH (SUBDIT AIDS) to conduct regular coordination meetings to discuss various issues related to QA policy and guidelines for sampling and testing ATM medicines, including establishment of a National Medicines QA Policy team.

WHO PQ program for Indonesian Manufacturers of TB and HIV Medicines

An initial assessment was conducted of Kalbe Farma; a CAPA plan was drafted and is currently being implemented for Kalbe's levofloxacin production facility. [*Funding source: FY13 Funding for TB and HIV from USAID/Indonesia*]

Product dossier compilations, according to WHO requirements, were conducted at Zenith Pharmaceutical Laboratories, PT Phapros, and Sanbe/Caprifarmindo and included training for R&D, QA, and regulatory staff within each company. [*Funding source: FY13 Funding for TB and HIV from USAID/Indonesia*]

PQM Indonesia met with the Production and Distribution Division within MOH's BINFAR to discuss areas of collaboration for supporting WHO PQ programs in Indonesia. BINFAR plans to seek technical assistance from PQM Indonesia for its annual workshop with the Indonesian Pharmaceutical Manufacturers Association.

Raise Awareness about Medicine Quality among Health Care Professionals

PQM Indonesia's visual inspection component for quality control of medicines was integrated into the SUBDIT AIDS curriculum training provided by the Ministry of Health for physicians, pharmacists, nurses and support staff. PQM trained the first batch of pharmacists for the ART Care Support and Treatment National Training of Trainers on QA medicines and Counterfeit medicines in November 2014.

Country Office registration, support and expansion

The PQM country office has been progressing toward its official registration. [*Funding source: FY13 Funding for TB and HIV from USAID/Indonesia*]

PQM Indonesia continued to expand its offices during Q1, including hiring six full time staff to support country activities. By the end of Q1, PQM had successfully recruited four technical staff, including two project coordinators, a technical advisor for Quality Assurance/Quality Control activities, and a technical advisor for Good Manufacturing Practices activities, as well as two administrative/management staff, including one operations manager and a finance/admin assistant. All staff members are based in the PQM Indonesia office in Jakarta and are managed by the resident Chief of Party for the PQM program. [*Funding source: FY13 Funding for TB and HIV from USAID/Indonesia*]

PQM Indonesia staff participated in regional training programs, including a week-long training on Quality Assurance of Pharmaceuticals in India (together with BPOM and MOH officials), and a number of trainings on USAID Rules and Regulations provided by InsideNGO to better manage USAID awards.

PAKISTAN

Key Activities

The Pakistan work plan has not yet been fully developed; PQM is awaiting directions from USAID/Pakistan and USAID HQ for a security clearance to conduct a gap analysis to determine QA/QC systems needs for capacity building, with a main focus on MCH products.

Progress to date includes drafting a concept note defining the scope of work and proposed agenda of the visit, which was shared with the USAID team and discussed within USP. The PQM visit is tentatively planned for March 2015.

PHILIPPINES

Strengthen and sustain the MQM program through a focused and expanded scope to monitor where the quality of ATB medicines and selected antibiotics need to be quality assured in the Philippines

The in-country consultant communicated with the sentinel sites to sustain MQM. To ensure continued MQM of ATBs, PQM replenished Minilabs and inventoried supplies/reagents. Expired sample medicines at the site were forwarded to the FDA laboratory for proper disposal. The PQM consultant and FDA staff visited sentinel sites in Davao, Zamboanga, Cebu, Iloilo and Bicol. A questionnaire was given to each site to determine the progress of the project. [*Funding source: FY13 Funding for TB*]

PQM conducted an inspection of the TB DOTS facilities within IMPACT project sites for quality monitoring of anti-TB drugs using Minilabs. ATBs were collected and then tested at the FDA laboratories. However, the test results were not conclusive. Another test analysis will be conducted in January 2015. [*Funding source: FY13 Funding for TB*]

Continue to provide technical assistance to the Philippines FDA, especially the satellite offices/QC laboratories in Davao and Cebu, in order to build and enhance their organizational and regulatory capacity

Through USP's TAP (Technical Assistant Program), Philippines FDA has received the following items free of charge: [*Funding source: FY13 Funding for TB*]

- USP37-NF32 2014 USB flash drive single user – Qty. 3
- 2014 USP/NF 2nd supplement flash drive – Qty. 3
- USP37-NF32 2014 Supplement USB flash drive – Qty. 3
- 2014 USP/NF 2nd supplement book – Qty. 2
- 2014 USP 37/NF 32 sets – Qty. 2
- USP Food Chemical Codex 8th edition Book – Qty. 1
- USP37/NF30 2014 1st supplement book – Qty. 2

The in-country consultant participated in FDA's National Consciousness Week against Counterfeit Medicines. At the end of the celebration, all partners and stakeholders including USP-PQM took a pledge of commitment in the fight against counterfeit medicines. All pledges were enclosed in a time capsule which will be opened in 2019. [*Funding source: FY13 Funding for TB*]

The in-country consultant attended several meetings for project updates and activity collaborations with TB partners. [*Funding source: FY13 Funding for TB*]

Provide technical assistance and resources to local, second-line TB manufacturers to achieve internationally accepted standards and requirements for producing quality assured medicines for PIC/S and ICH (ASEAN harmonization) or for the World Health Organization Pre-Qualification Program

PQM GMP experts traveled to Manila in November and reviewed and provided input to strengthen the quality of the levofloxacin dossier (for Hizon) and amikacin dossier (for Unilab) and provided comments before submission to WHO. PQM also provided support to implement the manufacturers' CAPA plans (from the April 2014 visit) [*Funding source: FY13 Core TB Funding and TB Mission funds*]

VIETNAM

Key Activities

As per the approved workplan and planned implementation timeline for Vietnam, we have completed all activities that were designated for the first quarter. Overall, we also made progress on planning and setting up collaborations for activities in the upcoming months. All activities in Q1 were completed with reprogrammed funds from FY14.

Deliver technical assistance and capacity strengthening support for expanding operations and impact of National Quality Control Laboratories

In December 2014, a PQM QMS expert and the in-country program coordinator conducted an initial assessment of IDQC laboratories in HCMC for WHO PQ. Currently, there are 25 SOPs undergoing revision with the HQ QMS staff. PQM will continue to collaborate with HCMC IDQC to have these revised and launched in the lab in the third quarter. Currently, the lab has tentatively planned to submit documents for WHO PQ by September 2015. [*Funding source: FY13 Methadone*]

Provide technical assistance and engagement on local methadone production and procurement to support the government to reach their national treatment targets

PQM held preliminary discussions with the Drug Administration Department of Vietnam (DAV) and Vietnam Administration for HIV/AIDS Control (VAAC) on delivering the national GMP workshop targeting local manufacturers of methadone in 2015. The workshop is tentatively scheduled for April 2015. [*Funding source: FY13 Methadone*]

Providing technical assistance for integrated delivery of a quality monitoring reporting system in recording and responding to adverse events (in collaboration with WHO)

The PQM in-country coordinator attended the year-end pharmacovigilance (PV) workshop held by the National Malaria Control Program funded by GFATM. PQM focused on the quality of medicines in adverse event investigations. While it was a malaria meeting, the conference's results are applicable to other infectious disease products that may be of poor quality, including ARVs and methadone products. PQM had a meeting with the HSS project's Component 2.1 Coordinator and technical staff of the national PV center to discuss integrating medicine quality issues into the current ADR reporting system.

Europe and Eurasia

KAZAKHSTAN

Key Activities

Increase access to good quality anti-TB medicines and promote demand for participation in the WHO Prequalification Programme

In partnership with the Regional Economic Cooperation/Chemicals, PQM sponsored a pharmaceutical plenary session of the Fourth Central Asia Trade Forum held in Almaty. This year was the first time that a pharmaceutical session was added to the Forum. The invited speakers included high officials of the Republic of Kazakhstan and other countries of the region. The WHO PQ Team Inspector and a PQM GMP consultant spoke about the WHO PQ program and global GMP standards.

At the Forum, PQM staff arranged a meeting of Kazakhstani manufacturers of second-line anti-TB medicines (Romat Pharmaceutical Company and Nobel Almaty Pharmaceutical Factory) with representatives of Hanmi Fine Chemicals Korea, the manufacturer of Moxifloxacin API, which will soon be submitting an application to WHO PQ of this product. Both Romat and Nobel manufacture FPPs of Moxifloxacin and have plans to submit Moxifloxacin FPP for WHO PQ. Hanmi Fine Chemicals may become a reliable source of the API for these Kazakhstani manufacturers.

Increase access to good quality anti-TB medicines produced by the manufacturer

PQM concluded contracts with Quality and Validation consultants for the Kazakhstani manufacturers, started visa preparation procedures, and agreed on dates when the Consultants can start their work in Pavlodar. In addition, PQM identified and signed a contract with a consultant who will translate WHO PQ documents for manufacturers of anti-TB medicines into Russian.

The PQM team conducted a GMP assessment of Nobel Almaty Pharmaceutical Factory. The assessment revealed some observations and areas of improvement regarding Nobel's compliance with GMP for FPP. A confidential audit report was developed and sent to the company.

PQM discussed potential collaboration with the Ministry of Health of Kazakhstan and agreed upon two activities – assistance to the country in becoming a member of the Pharmaceutical Inspection Convention and Pharmaceutical Inspection Co-operation Scheme and conducting courses for GMP inspectors.

UZBEKISTAN

Key activities

After the PQM trip to Tashkent in August 2014, PQM has been waiting for a formal request from the Uzbekistan Ministry of Health for technical support from PQM, but no formal request has been received.

PQM met with a representative of USAID/Uzbekistan and discussed the current status.

PQM staff also met with a representative of Public Joint Stock Concern “Uzpharmsanoat” under the Cabinet of Ministers of the Republic of Uzbekistan and informed him of the PQM program and potential technical assistance which could be provided to Uzbekistan manufacturers of anti-TB medicines.

Latin America and the Caribbean

AMAZON MALARIA INITIATIVE (AMI)

Key Activities

From FY14

Conduct proficiency testing on Coartem® to evaluate regional OMCL capabilities

Brazil, Colombia, Ecuador, Guyana, Peru, and Suriname attended a Coartem analysis training delivered in FY13. However, during FY14, only Colombia, Ecuador, Peru, and Suriname participated in a proficiency testing of this product. Results from Ecuador and Peru were received during FY14/Q4 and from Colombia and Suriname in FY15/Q1. Results were reviewed by PQM lab staff and the report is expected to be delivered by mid-January 2015.

Conduct a regional workshop to discuss sustainable mechanism to foster/support south-south collaborations

The workshop was delivered in November in Lima, Peru. Although originally envisioned for MRAs and OMCLs of the seven AMI countries supported by PQM, a total of 18 countries were invited to the meeting, comprising almost all Latin American countries. Participants agreed on a timeline for development and delivery of relevant documents that will be presented to country Ministries of Health during FY15 (see below for FY15 related activity)

Develop virtual library of images of antimalarials in use in AMI countries

While refining the scope of this library, it became evident that an internet-based searchable database containing not only images but also additional registration information would better serve this purpose. Additional desirable features for such a tool include accessibility through mobile devices and the capability to store the retrieved data in the device, for usage when there is no internet access in the field. The enhanced scope required additional funds and a related activity was also included in the FY15 work plan.

From FY15

Deliver regional workshop for sustainable mechanism to support south-south collaborations and follow-up activities

Due to the expanded scope, costs of the workshop were covered with funds allocated for this purpose, in FY14 and FY15 work plans.

The main products to be developed as a follow-up to the meeting were forms to collect information on capabilities and needs for quality assurance of medicines from MRAs and OMCLs and a Concept Note. The latter, which will summarize conclusions and recommendations from the workshop and will include information on the capabilities and needs provided by MRAs and OMCLs, will be delivered to country Ministries of Health. The development of these documents was tasked to PQM and two independent committees established during the workshop.

Form for Collecting Information: During Q1, the OMCL form was developed by one of the committees and submitted to PQM for review; the MRA form was developed by PQM and submitted for review to the same Committee. Both forms will be sent to all countries by mid-January; replies to PQM are requested by mid-February.

Concept Note: During Q1, PQM prepared and submitted for review to the other committee an outline for the Concept Note. The final draft of the Concept Note will be reviewed by country agencies and subsequently presented to the Ministries of Health by early May.

Develop tool to support Visual and Physical Inspection of medicines in the field

Final agreement was reached with the developer on the scope of work and the budget for development and implementation of the tools in up to 5 different countries. The contract is currently under review in the legal department at USP, and is expected to be signed in Q2. Consultations with two LAC countries were initiated for the pilot implementation of the tool.

Supporting sustainable implementation of the 3LA in decentralized areas

Guatemala

During the last three years, PQM provided assistance for strengthening QA/QC systems in Guatemala through financial support provided by the country mission. Due to budgetary reductions and redirection of focus within the mission, there will be no additional support for PQM's line of work in this country. As part of the mission-funded activities, PQM supported the MRA and the OMCL in performing a pilot decentralized MQM activity in Huehuetenango, utilizing the Three Level Approach (3LA). Subsequently, the use of the 3LA was added to the Technical Regulation for post-market surveillance, and the modified version was submitted for approval to the MoH. Support for MQM in Guatemala was included in AMI's FY15 work plan.

During Q1, PQM discussed with the MRA (DRCPFA) the expansion of MQM to other areas. This will be implemented after MoH approval of the modified Technical Regulation, which is expected by the end of February 2015.

GUATEMALA

Due to reduced funding for health elements and a re-direction of efforts by the mission in Guatemala, funding for PQM's line of work has been discontinued in FY15. Based on that, PQM and the USAID mission agreed to use the remaining funds to continue work on activities that ensure sustainability.

Key Activities

Ensuring Operations in Compliance with Internationally Recognized Standards

PQM purchased a Vacuum Drying Oven to be donated to the Guatemala lab. This oven supports performing the type of tests that will be included in the method-based accreditation application.

Building Regulatory Capacity - Upgrade registration software (SIAMED) at the MRA (DRCPFA)

During Q1, WEBSiamed use was expanded to all types of registration renovations. Previously, only renovations without changes could be done through the internet. Full expansion for registration of new products is expected to be implemented during Q2.