

# Training on Establishing Medicine Quality Monitoring for Anti-Tuberculosis Medicines

Moscow, Russia

April 2-9, 2010

## *Trip Report*

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## **Promoting the Quality of Medicines Program**

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**Cooperative Agreement #** GHS-A-00-09-00003-00

**Grantee:** Promoting the Quality of Medicines Program (PQM) Program

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**Language:** English

**Date of Publication:** May 17, 2010



This report is made possible by the generous support of the American people through the United States Agency for International Development (USAID), under Cooperative Agreement No. GHS-A-00-09-00003-00. The contents are the responsibility of the Promoting the Quality of Medicines Program, implemented by the U. S. Pharmacopeia, and do not necessarily reflect the views of USAID or the United States Government.

## **About PQM**

The Promoting the Quality of Medicines (PQM) program, funded by the U.S. Agency for International Development (USAID), is the successor to the Drug Quality and Information (DQI) program implemented by the United States Pharmacopeia (USP). PQM is USAID's response to the growing challenge posed by the proliferation of counterfeit and substandard medicines. By providing technical leadership to developing countries, PQM helps build local capacity in medicine quality assurance systems, increase the supply of quality medicines to priority USAID health programs, and ensure the quality and safety of medicines globally.

## **Abstract**

PQM – in collaboration with Global Pharma Health Fund (GPHF) and Central TB Research Institute of Russian Academy of Medical Sciences (CTRI) – offered a training workshop on “Establishing Medicines Quality Monitoring for Anti-TB Medicines” using visual and physical inspection, Thin Layer Chromatography, and simple disintegration at the CTRI in Moscow April 5-9, 2010. The training was attended by eight specialists, of whom six were from three TB clinics (Vladimir, Oryol, and CTRI) and two represented the quality control laboratory of Roszdravnadzor (Russian FDA). The training was carried out by two PQM trainers and one trainer from Global Pharma Health Fund (GPHF).

## **Key Words**

Medicines, Quality Control, Quality Assurance, Minilab<sup>®</sup>, TLC, fake, counterfeit medicines, substandard medicines, sampling

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## ACKNOWLEDGEMENTS

The PQM team would like to thank:

- All the training participants; Central TB Research Institute of Russian Academy of Medical Sciences staff (especially Prof. L.N. Chernousova, Prof. A.E. Ergeshev, and Dr. L.S. Ivanova) for hosting the workshop; Mr. R. Yusipov and Mr. S. Stepanov for their assistance in preparing the training; and everyone who contributed to this successful effort.
- The Director of Central TB Research Institute of Russian Academy of Medical Sciences, Prof. V.V. Erokhin; Chief Physician of Oryol TB clinic, Dr. B. Kazenny; and Chief Physician of Vladimir TB clinic, Dr. G. Voltchenkov for their collaboration and support.
- Mrs. Cheryl Kamin and Dr. Nikita Afanasiev of USAID/Russia and Mr. Anthony Boni and Ms. Veerle Coignez at USAID Washington for their guidance and helpful insights throughout the preparation stages of this training.
- Our PQM colleagues, especially the Director, Dr. Patrick Lukulay, for his support, and Ms. Milissa McGinnis, for editing this report.

## ACRONYMS

CTRI	Central TB Research Institute of Russian Academy of Medical Sciences
DQI	Drug Quality and Information program
GPHF	Global Pharma Health Fund
HIV/AIDS	Human Immunodeficiency Virus /Acquired Immune Deficiency Syndrome
PQM	Promoting the Quality of Medicines program
QA/QC	Quality Assurance / Quality Control
RZN	Rosdravnadzor
TLC	Thin Layer Chromatography
USAID	United States Agency for International Development
USP	United States Pharmacopeia
WHO	World Health Organization

## Background

The World Health Organization (WHO) estimates that approximately 150,000 people in the Russian Federation become infected with tuberculosis (TB) each year<sup>1</sup>. The global community is also alarmed with the growth of extensively drug resistant TB (XDR-TB), which is very difficult to cure.

In 2008, PQM and USAID/Russia began discussions with three TB clinics in Russia (Moscow, Vladimir region, and Oryol region) regarding their staffs' training needs related to quality assurance of anti-TB medicines. The clinics expressed a desire to implement medicine quality monitoring programs, and PQM created a set of appropriate training courses. In 2009, the courses were agreed upon, and Global Pharma Health Fund (GPHF) Minilabs<sup>®</sup> were delivered to Russia in February 2010.

The training modules were designed to provide laboratory staff and pharmacists in TB clinics with the basics of the good laboratory practices. The modules will also help trainees familiarize themselves with commonly used methods for testing selected anti-TB medicines in order to detect substandards and counterfeits and establish a sustainable medicine quality control system in selected TB clinics.

## Purpose of Trip

- Conduct a training workshop on “Establishing Medicine Quality Monitoring for Anti-TB Medicines” in selected TB institutes in Russia using visual and physical inspections, proper use and maintenance of Minilab<sup>®</sup> equipment, TLC, simple disintegration, sampling techniques, and data management and reporting for selected anti-tuberculosis medicines
- Meet with USAID/Russia to discuss progress to date and future activities
- Meet with Roszdravnadzor (RZN) to discuss upcoming training workshop in May

## Source of Funding

This trip was supported by USAID/Russia.

## Overview of Activities

**Venue:** Central TB Research Institute of Russian Academy of Medical Sciences (CTRI), Moscow

**Participants:** Eight specialists, of whom six were from the three TB clinics and two represented the laboratory of RZN. (see *Annex I* for complete list of participants)

**Trainers:** Dr. Souly Phanouvong and Dr. Kirill Burimski (PQM) and Dr. Richard Jahnke (GPHF)



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<sup>1</sup> Global tuberculosis control: a short update to the 2009 report. World Health Organization. 2009. Available at: [http://whqlibdoc.who.int/publications/2009/9789241598866\\_eng.pdf](http://whqlibdoc.who.int/publications/2009/9789241598866_eng.pdf)

**Medicine samples tested:** Isoniazid, Rifampicin, Pyrazinamide, Ethambutol, Ciprofloxacin, Levofloxacin, prothionamide, and fixed-dose combinations

**Training Modules:** Principles of Good Laboratory Practice, Medicines sampling, visual and physical inspection of medicine packages and dosage forms, Thin Layer Chromatography, simple disintegration, and data management and reporting. All modules were translated into Russian. (see *Annex 2* for complete agenda)

### **Training Schedule**

#### ***Sunday, April 4, 2010***

The PQM team visited CTRI and met with staff to discuss plans for the training, view the premises, and review the equipment to be used for training.

#### ***Monday, April 5, 2010***

##### **Opening Ceremony**

Prof. Erokhin, from CTRI, and Dr. Afanasiev, from USAID/Russia, welcomed the participants and trainers and gave a short address focusing on the importance of this training for the TB clinics in Russia. Dr. Burimski gave an overview of USP and PQM activities in Russia.

##### **Presentations**

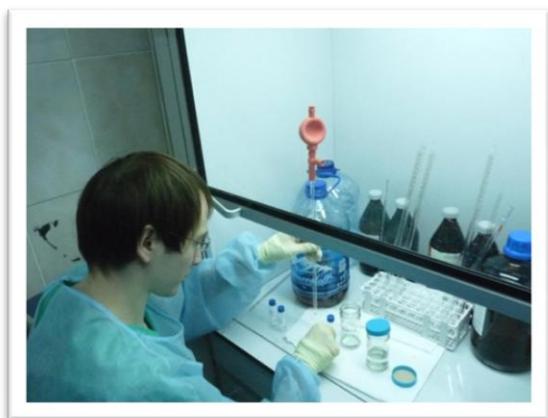
Dr. Phanouvong delivered presentations on:

- Introduction to medicines quality issues
- Principles of Good Laboratory Practice – focus on Minilab<sup>®</sup>
- Overview of Basic Tests – theory and practice
- Sampling Procedures and demonstration on sampling techniques

#### ***Tuesday, April 6, 2010***

Dr. Jahnke delivered presentations on:

- Rapid Drug Quality Verification and Counterfeit Medicines Detection
- Basic Tests: TLC theory and practice



Further activities included:

- Basic tests: Physical/Visual Inspection – theory and practice
- Basic tests: Simple Disintegration – theory and practice
- Group work: practical work – pipetting and spotting practice

### ***Wednesday, April 7, 2010***

Dr. Phanouvong and Dr. Jahnke instructed:

- TLC standard solution and sample preparation
- Run TLC: First-line anti-TB medicines

### ***Thursday, April 8, 2010***

Dr. Phanouvong and Dr. Jahnke instructed:

- TLC practice with second line anti-TB medicines

### ***Friday, April 9, 2010***

Dr. Phanouvong and Dr. Burimski facilitated discussions on:

- Planning for Next Steps
- How to organize work with the Minilab<sup>®</sup> in TB clinics

Dr. B. Kazenny, Chief Physician of Oryol TB clinic; Dr. G. Voltchenkov, Chief Physician of Vladimir TB clinic; and Dr. Afanasiev, of USAID/Russia, participated in the discussions. Participants reviewed the report forms and discussed how to forward questionable medicines to the authorized laboratory for further analysis.

### **Next steps**

- The clinics will develop plans of action and budgets for Minilab<sup>®</sup> implementation and submit them to PQM for approval/agreement
- PQM will send a letter to RZN for approval of further Minilab<sup>®</sup> activities to be implemented in the TB clinics (by April)
- PQM will consider drafting contracts with each of the clinics regarding activities to monitor the quality of anti-TB medicines and to facilitate project implementation (by May)
- PQM will visit the clinics in second month of Minilab<sup>®</sup> implementation to monitor their progress and provide technical assistance

The PQM team distributed certificates of completion to the participants and certificates of appreciation to the collaborators.



### **Conclusion**

The workshop was successful and met the intended objectives. The participants were dedicated and showed interest in learning all aspects of the training program and are now qualified to perform visual and physical inspections, TLC, and simple disintegration for anti-TB and other essential medicines. Participant evaluations can be found in *Annex 3*.

### **Other Meetings**

#### *Meeting with Roszdravnadzor*

On Friday, April 2, Dr. Burimski met with Dr. Valentina Kosenko, Chief, Division of State Control of Circulation of Medical Products and Rehabilitation Equipment; Dr. Konstantin Belanov, Director of

International Relations Department; and Dr. Anna Titova, Laboratory Specialist. Most of the meeting was devoted to discussions about upcoming training courses which PQM is planning to conduct in May.

The group agreed that the courses will be conducted May 17-28, 2010 at the Federal State Institution Center for Expertise and Quality Control of Medical Products (RZN's laboratory center). At their request, there will be eight courses, including Good Laboratory Practices, Effectively Using USP-NF, Effectively Using USP Reference Standards, Thin Layer Chromatography, High Performance Liquid Chromatography, Titration, Basic Dissolution, and Advanced Dissolution. RZN agreed to cover the expenses of the participants, a total 39 persons.

Other topics discussed included the upcoming PQM symposium at the Man and Drugs Conference on WHO prequalification for manufacturers of selected second-line anti-TB medicines. Konstantin Belanov agreed to co-chair the symposium at the Man and Drugs conference.

*Meeting with USAID/Russia Office of Health*

On Tuesday, April 6, Dr. Burimski met with Mrs. Cheryl Kamin, Director, Office of Health; Dr. Nikita Afanasiev, Senior Infectious Diseases Advisor; and Dr. Nina Khurieva, TB Project Manager Specialist. Dr. Burimski briefed them on the purpose of the current trip. The group also discussed progress to date and future activities, including assistance to selected manufacturers of second line TB medicines and internships at USP headquarters for two Russian Good Manufacturing Practices specialists on issues related to WHO prequalification.

## List of Participants

Name	Title	Tel
<i>Central TB Research Institute 2 Yauzskaya alley, Moscow Russia</i>		
1. Rushan Shamilevitch Yusipov	Scientific researcher, pharماسist	+7 499 7859091
2. Sergey Vladimirovitch Stepanov	Chief nurse	+7 499 7859019
<i>Vladimir Oblast TB Clinic 63 Sudogodskoe shosse, Vladimir Russia</i>		
3. Grigory Vasilievitch Voltchenkov	Chief physician	+7 4922 323265
4. Natalia Polikarpovna Sergeeva	Laboratory specialist (vrach-laborant)	+7 4922 323265 +7 906 5609266
5. Lyubov' Viktorovna Shuyanova	Pharmacist	+7 903 8306473
<i>Oryel Oblast TB Clinic 15 Tsvetaeva str, Orel, Russia</i>		
6. Boris Yakovlevitch Kazenny	Chief physician	+7 4862 414869
7. Antonina Nikolaevna Davydova	Chief of laboratory	+7 4862 414869 +7 953 6191564
8. Irina Vasilievna Dovgan'	Biologist	+7 4862 414869
<i>Federal state institution «Scientific Center for Expertise of Medical Products» of Federal Service on surveillance in healthcare and social development of Russian Federation (Roszdravnadzor) 6 Schukinskaya str, Moscow, Russia</i>		
9. Nina Viktorovna Trius	Chief lab. specialist	+7 495 234 6106
10. Olga Alexandrovna Vaganova	Specialist	+7 985 789 0708

## Proposed Training Program Agenda

Day 1	Topic/Activity
9:00 - 10:00	Opening Remarks
10:00 - 10:30	Tea/Coffee Break
10:30 – 12:00	Brief opening of the training workshop; Introduction of facilitators and participants; Workshop objectives and expected outcomes; Overview of Agenda; Introduction to medicines quality issues
12:00 – 13:00	Lunch break
13:00 – 15:30	Principles of Good Laboratory Practice –focus on Minilab®
15:00 – 15:15	Tea/coffee break
15:15 – 16:45	Sampling Procedures and demonstration on sampling techniques
16:45 – 17:45	Overview of Basic Tests – Theory and discussion
Day 2	
9:00 – 9:30	Housekeeping and review of previous day
9:30 – 10:45	Group work: practical work TLC– pipetting and spotting practice
10:45 – 11:15	Tea/coffee break
11:15 – 12:30	Basic tests: Physical/Visual Inspection – theory and practice
12:30 - 13:30	Lunch Break
13:30 – 15:00	Basic tests: Simple Disintegration – theory and practice
15:00–15:15	Tea/coffee beak
15:15 – 17:45	Basic tests: TLC practices – 1 <sup>st</sup> line ATBs
Day 3	
9:00 – 9:15	Housekeeping and review of previous day
9:15 – 10:30	Group work: TLC standard solution and sample preparation – and run one TLC: First-line anti-TB
10:30 – 11:00	Tea/coffee beak
11:00 – 12:30	Group work: practice - continued with First-line anti-TB antibiotics
12:30 – 13:30	Lunch break
13:30 – 15:15	Group work: practice - with First-line anti-TBs
15:15 – 15:30	Tea/coffee beak
15:30 – 17:45	Group work: practice - continued with First-line anti-TBs
Day 4	
9:00 – 9:15	Housekeeping and review of previous day
9:15 – 10:30	Group work: practice – with second-line anti-TBs
10:30 – 11:00	Tea/coffee beak
11:00 – 12:30	Group work: practice - with second line anti-TBs -continued
12:30 – 13:30	Lunch break
13:30 – 15:15	Group work: continued with second line anti-TBs - continued
15:15 – 15:30	Tea/coffee beak
15:30 – 17:45	Group work: wrap up practice work and conduct inventories
Day 5	
9:00 – 9:15	Housekeeping and review of previous day
9:15 – 10:45	Data management and reporting, Action Plan Development and next steps.
10:45– 11:15	Tea/coffee beak
11:15 – 12:30	Data management and reporting, Action Plan Development and next steps – continues. Discussion: “How to organize work with Minilabs in TB clinics”
12:30 – 13:30	Lunch break
13:30 – 15:15	Discussion: “How to organize work with Minilabs in TB clinics” - continues
15:15 – 15:30	Tea/coffee beak
15:30 – 17:00	Certificates and closing ceremony

### Evaluations by Participants

Name of course: PQM and GPHF Training *Establishing Medicine Quality Monitoring for Anti-TB Medicines in TB clinics in Russia.*

Participants are given evaluation forms at the beginning of the training course and asked to rate its educational materials and associated activities. Participants are asked to rate all categories that apply and return the completed form to the instructor.

Seven of the eight participants returned the forms:

Indicator	Strongly Agree	Agree	Disagree Somewhat
1. Course objectives were relevant to my needs	4	3	
2. I was able to understand the content of the materials presented	6	1	
3. Overall the course was useful and will help me do my job better	4	3	
4. There were enough practical exercises to facilitate understanding of the course	1	5	1
5. The pacing of sessions was appropriate for my understanding of course materials	4	3	
6. The instructors were knowledgeable on the subject	4	3	
7. The instructors allowed an appropriate level of participation in the class	4	3	

*Any other comments/suggestions:*

**1. Which topic(s) or aspects of the course should not be included in future workshops?**

Theoretical part of course should be shorter (5)

**2. What are your recommendations/suggestions for improvement of the course?**

- More time should be devoted to practice instead of theory (4)
- More days of practice would be useful (1)
- It was very interesting and useful when facilitators deliberately claimed on the label another drug or another dose of the sample, so that we can find the error (2)
- It would be better to use the same interpreter for all courses (1)
- Thank you for conducting the course (1)