

# CONSULTANCY REPORT:

# KYRGYZSTAN AND UZBEKISTAN

## FEBRUARY 17- MARCH 4, 2013

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This trip report was produced for review by the United States Agency for International Development. It was prepared by Fabio Luelmo for the Quality Health Care Project in the Central Asian Republics.

The USAID Quality Health Care Project is a five-year program designed to improve the health of Central Asians by strengthening health care systems and services, particularly in the areas of HIV/AIDS and TB care and prevention. The project assists governments and communities to more effectively meet the needs of vulnerable populations, with the aim of increasing utilization of health services and improving health outcomes. The Quality Health Care Project is part of USAID's third objective of investing in people as part of the US Strategic Framework for Foreign Assistance.

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USAID Central Asia Regional Mission

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### Kyrgyzstan

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## List of abbreviations

|        |                                                                     |
|--------|---------------------------------------------------------------------|
| ACSM   | Advocacy, communication and social mobilization                     |
| AFB    | Acid-fast bacilli                                                   |
| AIDS   | Acquired immunodeficiency syndrome                                  |
| BCG    | Vaccine Calmette Guerin                                             |
| CAR    | Central Asian Republics                                             |
| DOT    | Directly observed treatment intake                                  |
| DOTS   | WHO-recommended TB control strategy                                 |
| DR     | Drug resistance                                                     |
| DST    | Drug susceptibility test                                            |
| EQA    | External quality assurance                                          |
| FLD    | First line drugs                                                    |
| GDF    | Global Drug Facility                                                |
| GFATM  | Global Fund to Fight AIDS, Tuberculosis and Malaria                 |
| GLC    | Green Light Committee                                               |
| HIV    | Human Immunodeficiency Virus                                        |
| IC     | Infection control                                                   |
| KNCV   | Royal Netherlands TB Association                                    |
| MDR-TB | Multi-Drug Resistant Tuberculosis                                   |
| M&E    | Monitoring and Evaluation                                           |
| MMR    | Mass miniature radiography, photo-fluoroscopy in general population |
| MoH    | Ministry of Health                                                  |
| MoU    | Memorandum of understanding                                         |
| MSF    | Médecins Sans Frontières                                            |
| NGOs   | Non-government Organizations                                        |
| NRL    | National TB Reference Laboratory                                    |
| NTP    | National Tuberculosis Program                                       |
| NTBC   | National TB Center                                                  |
| PHC    | Primary Health Care                                                 |
| PIU    | Project Implementation Unit, GFATM                                  |
| PMDT   | Programmatic management of drug resistant TB                        |
| PPD    | Purified Protein Derivative, tuberculin test                        |
| QHCP   | USAID/Quality Health Care Project                                   |
| SLD    | Second line drugs                                                   |
| SES    | State Sanitary Epidemiological Department                           |
| TA     | Technical assistance                                                |
| TB     | Tuberculosis                                                        |
| UNDP   | United Nations Development Program                                  |
| USAID  | United States Agency for International Development                  |
| WHO    | World Health Organization                                           |

## Executive Summary and Recommendations

The republics of Central Asia have high incidence of tuberculosis and are among those with the highest burden of multi-drug resistant strains. USAID has launched a new project to support these countries to improve the quality of health care delivery, with special attention to TB: the Quality Health Care Project (QHCP). The Project is implemented by Abt Associates, Project HOPE and a consortium of other agencies. In Uzbekistan QHCP is implemented by Project HOPE. In August 2011 the consultant reviewed the situation of MDR-TB in the CARs and the diagnostic and clinical capacity in three countries (Kyrgyzstan, Tajikistan and Uzbekistan) and made recommendations to the USAID/QHCP on scaling-up MDR-TB treatment and the role of outpatient PHC. The present consultancy report includes observations, conclusions and recommendations regarding priorities for QHCP support in two countries (Uzbekistan and Kyrgyzstan). Both countries are starting to implement a new molecular diagnostic method (GeneXpert) and considering increased role of PHC in TB care; these were priorities for observation. In both countries the consultant made presentations in workshops on TB risk factors, international experience in the impact of TB control and on interpretation of data.

**In Uzbekistan** the estimated incidence, prevalence and mortality are diminishing since 2000 and the case detection rate is 52%. MDR-TB prevalence is currently estimated at 23% of new cases and 62% of previously treated cases, based on a 2010-2011 DR survey. The reported TB incidence diminished from 74 per 100 000 in 2007 to 52 in 2011 (14 500 cases).

The program is still vertical, specialized and the NTP management is based in the TB Institute. Old inappropriate practices are still common: diagnosis only by TB specialists, systematic hospitalization, excessive number of TB beds. However, TB beds in smaller facilities are being cancelled, facilities are rehabilitated and there is a notable change in attitude at all levels to accept modern strategies of integration of TB in PHC. Pilot areas are testing GeneXpert and starting ambulatory treatment; and the NTP is considering ambulatory care and shorter treatment of MDR-TB. The main problem is old regulations (prikazes) mandating obsolete procedures. The GFATM is the main source of funding.

The government MDR-TB plan includes important decisions: state funding for SLD, compliance with international recommendations, banning of private sale of TB drugs. The government is considering expanding the pilot experiences and adopting the short-course treatment of MDR-TB following the Bangladesh model; this would reduce the high default rate observed.

The number of suspects examined by microscopy has not changed substantially in recent years, but the positivity of microscopy is diminishing suggesting that there is a reduction in disease prevalence. The program is not using its capacity to increase the number of suspects examined and detect more sources of infection. The capacity to analyse data for action is weak, and the quality of statistical data is doubtful. Data on outcomes and results of GeneXpert are not consistent with the reported treatment outcomes and the estimated MDR prevalence based on surveys. Several pilot projects supported by TB partners (such as Samarkand, USAID QHCP) can provide useful information if analysed appropriately.

QHCP has successfully supported laboratory (mainly microscopy EQA implementation), drug management and ACSM, as well as more comprehensive activities in the pilot areas, but its TOR lacks the essential components of support to increase detection of the most infectious cases in general outpatients and contacts and to increase ambulatory treatment from the start by the PHC; and does not give sufficient priority to change the NTP policies, including elimination of obsolete regulations, in close collaboration with other partners. In general the quality of operational data is weak and the NTP capacity for analysis of indicators for action is poor at all levels. This is an area not well covered in the support from USAID or any of the other partners, or included in the responsibility of the QHCP.

### **Recommendations to QHCP and USAID**

- Increase support to government adoption and implementation of updated program guidelines and elimination of obsolete regulations (advocacy in coordination with other partners, particularly WHO through the WHO-USAID partnership project);
- Interpretation of data from the pilot areas and from national level and training of NTP and laboratory staff in the use of the recommended indicators and analysis of inconsistencies for corrective action;
- Incorporation in the QHCP plans and reports of indicators of progress in impact (such as changes in quality of care), in addition to the current implementation of planned activities.
- Improved coordination with partners and NTP to share, analyse and disseminate the experiences from the pilot areas, with regularly programmed meetings;
- USAID should ensure coordinated TA to the NTP by the partners that receive its financial support (WHO, TB CARE I, QHCP), in particular to help the government implement the commitments stated in the MDR Plan; and to monitor the changes in NTP policies;
- USAID should ensure that QHCP includes TA for detection of suspects and that all financially supported projects include support to the monitoring and evaluation capacity of the NTP.

**In Kyrgyzstan** WHO estimated for 2011, 670 TB deaths excluding HIV and an incidence of 6 900 cases (128 per 100 000) including 2% TB/HIV. The estimated incidence, prevalence and mortality are diminishing since 2000. A major problem is MDR-TB, currently estimated at 26% of new cases and 52% of previously treated cases (higher estimates than in 2009).

The reported incidence of new and relapses diminished from 126 per 100 000 in 2005 to 103 per 100 000 in 2011 (5 529 cases). TB/HIV is a relatively minor problem in the country, with about 2% of the TB cases infected with HIV among 15 000 with known HIV status in 2011<sup>1</sup>, but the HIV prevalence rates are growing rapidly as in other countries in the CAR region.

TB control is still specialized, headed by the National Tuberculosis Institute, at the moment under an Acting Director. There is a Deputy Minister responsible for TB control in the Ministry of Health.

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<sup>1</sup> WHO data 2012: [www.who.int/tb/data](http://www.who.int/tb/data)

The authorities are much more flexible than in previous visits to implementation of activities integrated in PHC. There are pilot projects with ambulatory treatment from the start, both for new and for drug resistant cases. However there are still 3300 TB beds, collaboration of TB specialists and PHC professional is weak, diagnosis must be confirmed by a specialist even for smear positive pulmonary cases and there is contradictory information regarding the validity of old prikazes mandating hospitalization.

The main weaknesses of the program are the low capacity to manage and interpret data for action, the central laboratory still in old inadequate facilities), insufficient supplies of SLD and weak capacity to coordinate the activities of the partner organizations. These organizations include the USAID QHCP, Project HOPE, TB CARE I, TB REACH (which will end in 2013), ICRC, MSF, and WHO. The need for monitoring and evaluation capacity in the NTP was not identified at the time of project preparation for the GFATM project, which could have supported that function. Since October 31, 2013 SES has recently received a mandate to collaborate in TB monitoring and evaluation.

Funding is primarily from the GFATM, now entering Phase II of Round 9 grant. The Principal recipients are UNDP for treatment of MDR-TB and SLD and Project HOPE for improvement of basic DOTS. Phase II of Round 9 includes US\$9 million for SLD, reagents and other laboratory techniques, but excludes MGIT and GeneXpert. The number of MDR treatments covered is about 500 per year, plus 300 with funds for 2013.

There is a Deputy Minister for TB control in the MoH. The authorities are much more flexible to implementation of activities by PHC and ambulatory treatment, already implemented by pilot areas. A WHO consultant is currently in the country to advice on NTP governance. There are still 3300 TB beds for a need of less than 1000, collaboration of TB specialists with PHC professional is weak, diagnosis must be confirmed by a specialist even for smear positive pulmonary cases and there is contradictory information with old prikazes mandating hospitalization.

Drug planning and management have improved and there is a recently approved document on Standard Operation Procedures for TB Drug Management. GDF/GLC monitors drug management with periodic visits, the next one planned for March 2013. The country is gradually introducing GeneXpert to identify DR. There are seven machines in pilot areas (4 TB REACH, 2 MSF, 1 USAID QHCP), with various algorithms. One of them has been developed and is pending approval by the MoH. However, the document text includes hospitalization for smear positive and for smear negative patients, which is against current national decisions and international standards. While this is expected to be changed in accordance with international standards, at the time of the consultancy the text on hospitalization had not been changed.

NTP guidelines for MDR-TB have been approved. All first and second line drugs have been registered. An electronic drug management system has been discussed but not yet implemented. The ICRC is responsible for TB care in Penitentiary TB Colony N 27 and Medecins sans Frontieres-Switzerland (MSF-S) for TB care in Penitentiary TB Colony N 31 and one oblast.

There is still inadequate coordination among the partners, mainly to promote expansion of TB care by the general health facilities and support the NTP in data interpretation; and partner activity is not reflected in NTP plans or reports.

### **Recommendations to QHCP and USAID**

- Given the current policy changes and organizational structure, it seems the opportune moment for coordinated partner advocacy for a NTP unit in the MoH, independent from the specialized Institute.
- Although M&E is already in the TOR of the USAID and GFATM plans, the NTP weakness has not been improved. QHCP should develop this area and participate in training of NTP staff interpretation of data for action at all levels, in collaboration with SES.
- QHCP should be involved in training and monitoring to increase the number of suspects examined by microscopy in outpatients coming to facilities for any reason if cough is present, and contacts. This area is not included in the TOR of any of the USAID-supported projects.
- QHCP should give priority to the approval and implementation and monitoring of the new government strategies (ambulatory treatment from the start, diagnosis and immediate ambulatory treatment by PHC, eliminating mass X-ray screening).
- USAID should ensure that all its supported projects share information and give priority to the key intervention to reduce transmission of TB; the detection and appropriate treatment of the main sources of infection (smear positive PTB).

## Introduction

The Republics of Central Asia have high incidence of tuberculosis and are among those with the highest burden of multi-drug resistant strains (MDR-TB). USAID supports a project to improve the quality of health care delivery, with special attention to TB and HIV: the Quality Health Care Project (QHCP). The Project is implemented by Abt Associates, Project HOPE and a consortium of other agencies. In TB, the project aims to help integrate delivery of care into the general health system, including PHC facilities and the vertical, specialized TB system. All countries are implementing treatment of MDR-TB cases using second line drugs, supported by funding from the GFATM and with technical guidance from WHO, GDF and the GLC. A new diagnostic technology, the automated molecular test GeneXpert, is being adopted by the countries, mainly to accelerate the detection of resistance to the most effective drug, rifampicin. The introduction of this technology will increase the number of MDR-TB cases detected but also will present challenges to the capacity of the national programs to treat them. Once the technology increases coverage and decreases cost, it will improve the quality of diagnosis of smear negative pulmonary TB, reducing clinical and radiological over-diagnosis and unnecessary treatment and hospitalization.

In August 2011 the consultant reviewed the situation of MDR-TB in CAR and the diagnostic and clinical capacity to implement PMDT in three countries (Kyrgyzstan, Tajikistan and Uzbekistan) and made recommendations to the USAID/QHCP on scaling-up MDR-TB treatment and the role of outpatient care in general facilities. Since then, several consultants have provided input to the QHCP. The present consultant report includes TB program observations in two countries (Uzbekistan and Kyrgyzstan) and conclusions and recommendations regarding priorities for QHCP for country support. The terms of reference are included as Annex I, the travel schedule in Annex II and the institutions visited and main persons interviewed in Annex III.

In Tashkent, Uzbekistan, the consultant made presentations and participated in discussions in three occasions: a workshop on TB epidemiology, external risk factors TB interventions, interpretation of data and discussion with 44 participants; a meeting in the National TB Institute with 62 participants from the staff, and in a WHO (TB CARE I) meeting of a working group on implementation of outpatient treatment, with 25 participants. The agenda of the workshop is included as Annex IV; selected items were presented in the other two meetings. In Bishkek, Kyrgyzstan, the full program was presented to 25 national participants and QHCP staff in the TB Institute, followed by discussion. The power point presentations and a selection of useful reference materials in English and Russian were distributed in electronic format (CD) to the participants in the workshops in both countries.

For each country visited this report includes TB epidemiology, program organization, case detection and diagnosis, treatment and prevention and treatment of MDR-TB, field observations and interview findings, QHCP activities and status of recommendations from the 2011 visit, conclusions and recommendations.

## Uzbekistan

### TB epidemiology

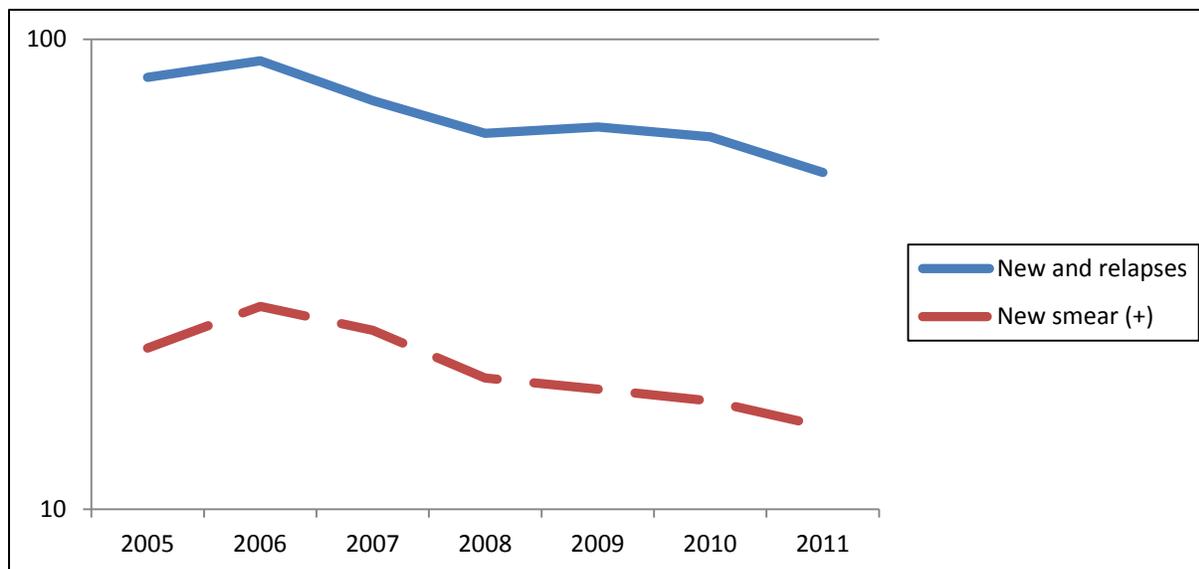
Uzbekistan has a population of 28 million. WHO estimated for 2011 1700 TB deaths excluding HIV (6.1 per 100 000); an incidence of 28 000 cases (101 per 100 000) including 3% TB/HIV and a case detection rate of 52% for all forms. The estimated incidence, prevalence and mortality are diminishing since 2000: the WHO estimates were 35000 cases (128 per 100 000) in 2009. A major problem is MDR-TB, currently estimated at 23% of new cases and 62% of previously treated cases based on a 2010-2011 DR survey.

The reported incidence rate (new and relapses) diminished from 83 per 100 000 in 2005 to 52 per 100 000 in 2011 (Figure 1). TB/HIV is a relatively minor problem in the country, with about 3% of the TB cases infected with HIV among 15000 with known HIV status in 2011<sup>2</sup>, but the HIV prevalence rates are growing rapidly, as in other countries in the CAR region.

The number of suspects examined by microscopy has not changed substantially in recent years, suggesting that there is a reduction in disease prevalence, but also that the program is not using its capacity to detect sources of infection among adult outpatients and contacts.

Figure 1

Reported incidence of new and relapse and of new pulmonary smear positive cases. Rates per 100 000. Uzbekistan, 2005-2011



<sup>2</sup> WHO data 2012: [www.who.int/tb/data](http://www.who.int/tb/data)

## TB control

### Organization and finance

The TB program is vertical, specialized, and based on hospitalization and clinical/radiology diagnosis; practices surviving from the ex-Soviet Union. There is little technical information in local language or even in Russian about modern knowledge of TB epidemiology and control, and how a well-integrated program should function. Mass screening is now limited to risk groups, but these groups are insufficiently specific and cover a large part of the population. Diagnosis on the basis of x-rays without waiting for laboratory results, hospitalization and over-diagnosis in children and EP are common. “Seasonal” treatment – treatment including hospitalization of cured, inactive cases of old TB is still common, and facilities maintain registers of ex-TB patients for periodical controls. The number of TB beds (used or empty) is excessive, partly because hospital funding depends on the number of beds. The NTP is closing the TB beds in many small specialized facilities, but the number of beds in central TB facilities is increasing when the facilities are rehabilitated, so the end result will still be an unnecessary number.

There is an evident change in the attitude of the health authorities, the head of the program and other specialized staff compared with the situation seen in 2011 during the previous visit of this consultant. The country is planning to expand the ambulatory treatment experience of pilot areas and test short-term treatment of MDR-TB (modelled after Bangladesh). The main obstacle, in addition to the adherence to obsolete practices, is the existence of regulations (prikazes) that still mandate those procedures; an example is that to certify approval for work or social support the TB patients should have been in hospital for at least two months.

The recently approved Plan for M/XDR-TB 2012-15 includes major government statements: recognition that the 10 000 TB beds in hospitals and 4 000 in sanatoria must be rationalized; commitment to state funding of FLD, revision of the regulatory framework; consolidation of data including prisons, and commitment to treat TB irrespective of residence (place of registration). Most of the TA to these policy changes correspond to the WHO-USAID partnership project, to be implemented by WHO, that includes technical assistance for policy, adoption of international recommendations, monitoring and evaluation, standard operational procedures, training and rationalization in the use of TB beds. A complementary project is TB CARE I, also implemented by WHO, that includes prisons, outpatient care and implementation of GeneXpert diagnostic technology. External technical assistance is provided by several organizations. Project HOPE implements the TB component of the QHCP. In the previous visit it was recommended to increase the documentation of successful pilot experiences, that activity has been initiated<sup>3</sup> but needs wider dissemination and publication, for instance in the Journal of the IUATLD.

According to WHO data, the NTP has an available budget of US\$22 million, 76% of that from external sources (mainly the Global Fund). This is equivalent to US\$0.78 per capita or US\$1500 per patient notified (new and relapses). This amount is more than enough for an integrated TB control program but can be insufficient for a specialized program that maintains vertical staff for

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<sup>3</sup> MSF and MoH. Comprehensive TB care for all: the Karakalpakstan experience. MSF, undated.

patient care and beds in TB hospitals and sanatoria. Integration and ambulatory treatment would liberate financial resources for diagnosis and for drug costs (mainly SLD).

### Case detection and diagnosis

Detection of suspects is mainly done by PHC facilities, although about one third of the suspects attend directly TB dispensaries. PHC refers smear positive cases and smear negative cases with symptoms or signs suggesting TB to the specialized system, which often repeats the diagnostic procedures. Only the specialized facility can diagnose TB and indicate treatment, often after consultation by a reference panel of experts, even in new smear positive patients confirmed by the laboratory. This results in excess cost for the patient; inappropriate use of the specialists; delay in initiation of treatment and unnecessary hospitalization. The number of suspects examined by microscopy has not changed much since 2005 and it is low, equivalent to under 0.4% of the total population (Table 1). This proportion is less than India (0.65%) and very far from Peru (>4 %), so the impact of screening for sources of infection is low. The positivity of microscopy has diminished slowly, from 10.6% in 2005 to 6.8% in 2012, suggesting a reduction in the prevalence of sources of infection in the community.

Table 1  
Smear microscopy for TB diagnosis in suspects, Uzbekistan 2005-2012

| Year | N° of suspects examined | N° of smear positive | % positive |
|------|-------------------------|----------------------|------------|
| 2005 | 129 107                 | 13 655               | 10.6       |
| 2006 | 147 692                 | 13 257               | 9.0        |
| 2007 | 138 978                 | 12 338               | 9.1        |
| 2008 | 152 648                 | 12 910               | 8.5        |
| 2009 | 144 616                 | 11 133               | 7.7        |
| 2010 | 145 637                 | 11 787               | 8.1        |
| 2011 | 128 204                 | 10 018               | 7.8        |
| 2012 | 131 538                 | 8 952                | 6.8        |

Source: Laboratory network, data provided by GF PIU and NRL

The number of smear positive suspects may have substantial duplication, as nearly 9 000 smear (+) cases were detected in 2012 (Table 1) but less than 5 000 were registered for treatment as sputum smear positive (4 198 new smear positive and 506 relapse cases, plus 36 treatment after default and 357 “other” which may have been positive to microscopy or not). The discordance can have two main causes: unnecessary duplication of microscopy and diagnostic procedures, with referral of the patient to a specialized facility and repeating of smears for diagnostic confirmation; or lack of

follow-up of smear positive persons by the PHC. Both are causes of patient loss (“early default”) of infectious sources, but the second is more dangerous for the community.

***A recommended exercise is to take a sample (e.g. 10-20) of smear positive cases for diagnosis from the laboratory register and check if they have been notified (as new or relapses) and have started treatment (as new or re-treatment). This can be repeated periodically in different districts of the country. Smear positive cases that did not start treatment should be found and the reasons for loss studied and corrected.***

The detection of suspects and positivity for each oblast is included as Annex VI. This information can be used to assign priorities among oblasts: oblasts with higher positivity would have higher prevalence of sources of infection in the community, and case detection and treatment interventions will be more effective. The trend in number of examined and the proportion in comparison with the population can be an indicator of program effectiveness.

The case notification reported to WHO from 2007 to 2011 can be seen in Table 2. The proportion of new pulmonary cases confirmed by smear has diminished from 47% to 41% (30% of all new pulmonary and extra-pulmonary patients) and the proportion of extra-pulmonary among new cases has been maintained around 27%. The low proportion of pulmonary cases confirmed by smear, compared to 56% global average, suggests over-diagnosis of TB, and a worsening of the clinical criteria since 2007.

***It will be useful to monitor the changes in proportion of pulmonary cases without microscopy confirmation once GeneXpert is introduced. Experience suggests that the clinical criteria will improve due to the availability of a rapid result and there will be less over-diagnosis.***

Table 2  
Reported TB incidence in Uzbekistan, 2007-2011

|      | Total<br>New/relapses | New pulmonary |          |              | New EP | Relapses |
|------|-----------------------|---------------|----------|--------------|--------|----------|
|      |                       | New S+        | % of new | Smear -/unk. |        |          |
| 2007 | 19 979                | 6 362         | 47%      | 7 167        | 5 280  | 1 006    |
| 2008 | 17 040                | 5 117         | 44%      | 6 640        | 4 214  | 1 069    |
| 2009 | 17 540                | 4 959         | 42%      | 6 943        | 4 667  | 971      |
| 2010 | 16 883                | 4 711         | 41%      | 6 735        | 4 288  | 1 149    |
| 2011 | 14 501                | 4 198         | 41%      | 5 958        | 3 839  | 506      |

Source: Global TB Report, WHO 2010 and 2012

There are large variations in the total number of TB cases reported, with a large number of cases without known history of previous treatment (2433 in 2009, none in 2010 and 844 in 2011); it is probable that most of those are retreatment cases without bacteriological confirmation. Much of the inconsistency is the repeated diagnosis as active TB in patients followed up after cure and treated in

hospital for limited time (“seasonal treatment”). In Samarkand it was reported that seasonal treatment was no longer used but mass photo-fluoroscopy (MMR) was still carried out; during the workshop it was evident that MMR is still common practice and provides a fair number of patients that start treatment without bacteriological confirmation.

## Treatment

TB cases are systematically hospitalized, particularly smear positive cases. One of the barriers to ambulatory treatment is obsolete regulations (prikaz) that forbid provision of a certificate to work unless the patient has had at least two month hospitalization (irrespective of clinical conditions). MSF is piloting fully ambulatory TB treatment in Karakalpakstan, both for new and MDR-TB treatment <sup>4</sup>.

***The main priority for the country is to eliminate obsolete prikazes, and for QHCP and other partners to advocate the change and the preparation of new technical and operational guidelines to facilitate ambulatory care and integration of diagnosis and treatment in general care. The availability of GeneXpert will facilitate selection of non-resistant new smear positive patients in the general facility that could initiate treatment by the MD, using standard nationally approved regimens. Only if the patient has associated diseases, complications or does not respond to treatment (smear positive at two or three months) the patient could be referred to specialized care.***

In 2010-2011 there were interruptions in supply of FLD up to the patient level, mainly due to the lack of a reserve drug stock for emergencies Procurement was done through GDF without a reserve stock; this situation has been solved in 2012. First and second line TB drugs are accessible over the counter in pharmacies and can be purchased without a medical prescription. When there are field shortages, health facilities purchase TB drugs in the local market with state funds. The system is decentralized and only relies on price suggestions; quality of drugs in private pharmacies is not regularly checked and the patient may take irregular or inappropriate treatment according to availability.

Table 3  
Treatment outcomes in new smear (+) cases.

|      | Number evaluated | % cure | % complete | % death | % failure | % default | % not evaluated |
|------|------------------|--------|------------|---------|-----------|-----------|-----------------|
| 2008 | 5117             | 75     | 6          | 6       | 6         | 4         | 3               |
| 2009 | 4959             | 77     | 5          | 6       | 5         | 5         | 3               |
| 2010 | 4711             | 76     | 5          | 6       | 6         | 5         | 3               |

<sup>4</sup> Comprehensive TB care for all. The Karakalpastan experience. Medecins sans Frontieres, Amsterdam.

There is a major discordance of the outcome in new smear positive patients (6% failure) with the estimated 23% prevalence of MDR-TB in the same group (Table 3). The analysis of the reasons for the discrepancy and getting valid results are essential to monitor the program and to plan drug requirements; cohort analysis is a tool for the NTP and the results and methods should not be tailored to reach established targets. The discordance is even larger in retreatment cases, although part of the deaths may be due to MDR-TB (Table 4). The most probable reason is selection of cases for the cohorts, excluding prisoners, alcoholics and other cases with risk factors for default or failure. Another possible reason is exclusion of the new cases presumably or proven MDR-TB and treated with SLD. These cases should be registered in a separate but also added to the failures so cohort analysis of outcomes can be compared with other countries.

The cohorts of retreatment cases (Table 4) have large variations in the number evaluated per year; the discordance with the default and failures reported for the same years (Table 1), and low proportion of failures with retreatment regimens compared with the expected prevalence of MDR-TB in this group (about 60%). A possible interpretation is that the group includes patients without bacteriological confirmation, most of them already cured cases or persons without active TB, and that the analysis does not follow WHO guidelines.

Table 4  
Treatment outcomes in retreatment cases

|      | Number | % cure | % complete | % death | % failure | % default | % not eval. |
|------|--------|--------|------------|---------|-----------|-----------|-------------|
| 2008 | 5 087  | 24     | 55         | 10      | 7         | 9         | 3           |
| 2009 | 2451   | 30     | 48         | 11      | 7         | 9         | 5           |
| 2010 | 4596   | 25     | 39         | 10      | 5         | 9         | 4           |

### **Prevention and treatment of MDR-TB**

An NTP plan for expansion of management of MDR-TB in 2012-15 was approved in August 2012. The representative study of prevalence of drug-resistant TB forms in Uzbekistan conducted in 2010-2011 showed significant increase in the proportion of patients with MDR-TB, with 23% in new smear positive cases (14% in the previous survey) and 62% among previously treated patients (49% in the previous survey). XDR-TB accounted for 5% of all MDR-TB cases.

Taking into account the absolute number of detected new, retreatment and chronic cases of TB, the NTP estimated an annual incidence of 7400 MDR-TB cases, twice as much as previously calculated. In 2011, 1385 new MDR-TB cases were detected and 858 of them were enrolled in treatment; in 2012 the NTP identified 1979 MDR-TB cases and put 1491 on treatment (Table 5).

In addition to guidelines consistent with international recommendations and implementation of PMDT, the plan includes among the goals for 2015 state budget financing of quality FLD for the TB patients in the civil and penitentiary systems, banning sales of FLD and requiring medical prescriptions for SLD in pharmacies, DST for all previously treated TB patients and a new Drug Resistance Survey in 2014.

Table 5  
Number of MDR-TB cases and enrolled on treatment, 2003-2012. MDR Plan 2012-2015

|          | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012* |
|----------|------|------|------|------|------|------|------|------|------|-------|
| Detected | 23   | 64   | 94   | 236  | 701  | 550  | 946  | 1023 | 1385 | 1979  |
| Enrolled | 23   | 64   | 94   | 159  | 347  | 324  | 446  | 628  | 858  | 1491  |

\* For 2012 data from the GFATM PIU

MSF supported PMDT in Karakalpakstan (starting in 2003 in Nukus City and Chimbay Rayon), with 1495 patients treated since 2003 to the end of 2010. In 1017 outcomes the success rate was about 60%. Failures decreased from 19% in 2005 to 5% in 2008 and death rates were stable at 8%. Defaulter rates of 12% in 2005 and 16% in 2006 increased to 25% in 2007 and in 2008, a relatively high proportion. These results suggest that shortening the treatment following the Bangladesh model, as planned by the NTP, would be a rational and cost-effective measure.

In 2011 the MoH took over patient management from MSF. In 2010 MSF started a new project of comprehensive TB care in Karakalpakstan, including PMDT and ambulatory treatment. MGIT and recently GenoType molecular assay from Hain have been introduced in the project area.

Samarkand (QHCP pilot region) provided information on 2500 tests with GeneXpert in “risk” groups (failed, relapses, migrants, HIV+) and found 157 (6%) resistant to R (presumably MDR-TB), with 5% resistant in new cases and 18% in previously treated cases. As these were groups with higher risk of MDR, the data is consistent with the low failure rates in new cases and failure plus death rates in retreatment cases, but inconsistent with the data from the DR survey. ***Further monitoring and analysis of the case selection is recommended.***

## Field observations and interview findings

**Samarkand** is supported by the QHC Project, including EQA for microscopy. During PHC and Dispensary field visits in the **Samarkand District** it was observed that the positivity of smear microscopy was very low (1.4% in 714 suspects in 2010, 0.9% in 305 suspects in 2011 and 0.4% in 710 suspects in 2012). The age of the suspects was quite advanced (over half over 50 years old), suggesting that most long-duration cough detected was due to chronic bronchitis. Only 16 smear positive cases were detected in 3 years by the microscopy unit covering several PHC facilities and

one general polyclinic. This could result in poor quality of microscopy due to low frequency of positive results, and at that low level of infectious TB prevalence a few false results (even with very good quality of microscopy) will reduce the predictive value of smear microscopy. The PHCs serve mainly women in reproductive age for contraception or pregnancy, children and few males.

*The age and sex distribution of PHC and polyclinic attendance and microscopy should be compared and the reasons for too few young adult males investigated. One possibility is temporary migration of males for work, or that males attend other facilities. There was no opportunity to check the OPD of the polyclinic to see age and sex distribution of attendance. The same analysis should be done in other areas, as the positivity in the district is quite different than the observed in the Oblast (7.8 and 6.8% at national level; 6.8% and 5.6% in Samarkand Oblast for 2011 and 2012).*

**In the Samarkand PHC “Khishrou”** there were 24 “TB patients” in the register (one of them a child), regularly controlled, but none of them with active TB. No new TB cases had been found in the last year. The facility had a trained MD and auxiliary staff for TB case management. This is good in that the facility is prepared for TB cases, but the inclusion of cured patients as still part of the workload is a waste of resources. The same is probably happening in the rest of the country and leads to unnecessary re-diagnosis, treatment and hospitalization of inactive or cured patients.

**The facilities of the National TB Institute** (Republican Specialized Scientific and Practical Medical Center of Phthiology and Pulmonology) have been fully renovated; the upgrading is in the final stages of completion. The facility has 550 beds, 500 of them for tuberculosis, and a reference laboratory with EQA by a supranational laboratory. There is diagnosis and treatment of pulmonary and extra-pulmonary TB and surgery for TB and other diseases. TB surgery is used not only as a corrective method for sequelae but also during active treatment – the service performs about 20 surgery interventions per week for various pathologies, five of them for pulmonary TB.

*The capacity and quality of the Institute as a reference facility will be useful, but risks unnecessary interventions in patients that could be cured just with chemotherapy. The planned gradual integration of diagnosis and ambulatory care in PHC facilities can protect patients from unnecessary interventions, and in the future only the complicated or difficult cases should be referred to the Institute. The advantage is that the Institute and staff can easily transform for treatment of other pulmonary and extra-pulmonary diseases when the TB burden diminishes, as has happened in other areas of the world.*

## **Comments to the QHCP monitoring spread sheets**

The spread sheet used by QHCP was analysed using the 2012 quarter 4 of Uzbekistan as model, and the comments (included as Annex IV) were discussed with QHCP project staff both at regional level in Almaty and at country level in Tashkent. Some minor additions were suggested, but mainly the available data in the spread sheet can be used to follow systematically a few indicators of program quality. The key indicators to monitor, using the current data in the spread sheet, relate to quality of the TB control program, which is the name of the project (“Quality Project”) and

presumably its main objective. USAID should promote regular monitoring of these indicators by the NTP and request reporting of them by the project:

- ✓ Quality of detection of sources: Trend in number of suspects examined, % of population examined, positivity of microscopy for diagnosis (data available)
- ✓ Quality of control of contacts: number and proportion examined, number of smear positive diagnosed (data available)
- ✓ Quality of clinical diagnosis: % of pulmonary cases with microscopic confirmation, trend
- ✓ Quality of microscopy: EQA (already done)
- ✓ Quality of treatment: outcomes in new smear positive (trend and consistency of data)
- ✓ Quality of data: consistency

### **QHCP activities and status of the recommendations from the 2011 visit**

The current QHCP plan of work for Uzbekistan includes providing technical assistance (TA) in ACSM (strategy development, monitoring, IEC materials, rapid assessment, training of community volunteers and health workers, organization of treatment support groups); development of laboratory capacity (EQA for smear microscopy, training on culture/DST and monitoring) and ad-hoc technical assistance on request from the country counterparts after agreement by USAID. QHCP has supported drug management and its plan for 2013 includes regular meetings with the NTP and the other partners in TB control.

| <b>Status of 2011 recommendations</b>                                                                                                                              |                                                                                                                                                            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| – ACSM should promote a policy decision establishing a managerial unit and structure in the MoH; and adopting international guidelines.                            | – Some progress. The NTP is under the National Institute but there is major change of attitude towards a better TB control strategy, included in NTP plans |
| – Expand the PHC pilot projects and document the ACSM experiences                                                                                                  | – Good progress, requires further dissemination and publication                                                                                            |
| – Implement regular meetings of the technical partners, with agendas including decisions for action and follow-up of commitments                                   | – Not evaluated                                                                                                                                            |
| – Support systematic detection of suspects (OR to measure real prevalence of cough >2 weeks in PHC, pilot non-medical screening for cough); expand microscopy EQA. | – Good progress: EQA expanded, pilots started, but no progress in measuring the real prevalence of cough in OPD in different types of facilities           |
| – Support implementation of GeneXpert, defining priority groups and revising clinical algorithms                                                                   | – In progress: Donor disagreements on the main use and objectives of GeneXpert and misunderstandings on the impact achievable interfered with NTP planning |
| – Support PHC DOT for FLD and MDR-TB (analyse and document pilots of MSF, QI)                                                                                      | – In progress: Implementation of short-course for MDR is in the NTP plans, ambulatory treatment under consideration                                        |
| – Use and teach practical indicators and promote OR to improve data quality and interpretation                                                                     | – In progress, mainly in the pilots; but limited national capacity                                                                                         |

***Complementary support to key NTP activities for effective TB control that relate directly to Quality of Health Care in tuberculosis and are being implemented only in pilot areas are:***

- ***Training, monitoring and evaluation to detect sources of infection (mainly in adult outpatients consulting for any reason and in household contacts), complementary to microscopy EQA. This is not a laboratory activity but a responsibility of the NTP and PHC staff, mainly to detect adults with persistent cough that attend for other reasons than respiratory symptoms. An important consideration is that the limit of two weeks or more duration of cough should be only for screening of suspects, while physicians should request sputum smear microscopy when necessary, independent of the duration of cough.***
- ***Monitoring and training on the quality of diagnosis in smear-negative patients, that has deteriorated in recent years (47% of pulmonary cases smear positive in 2007, 41% in 2011)***
- ***Advocacy and technical assistance to the MoH in the development of guidelines compatible with international standards and elimination of obsolete regulations, in close collaboration with other partners and projects (several of these also funded by USAID)***

## Conclusions

- Tuberculosis incidence is diminishing. The reported incidence is diminishing, probably too fast to represent the reality in view of the program capacity. Reporting is still well below the real incidence (CDR 52%, WHO data 2012). The positivity of microscopy diminished, suggesting reduction of transmission in the community, but detection of suspects is still very low.
- MDR-TB is a major problem according to DR surveys. The treatment outcome of cohorts of new smear positive and of retreatment cases is not compatible with the surveys, suggesting selection of the population and analysis not according to WHO recommended procedures.
- The programme continues vertical and specialized, managed under the TB Institute. There is good progress in staff attitude regarding integrated TB management, but old prikazes and inappropriate practices such as mass screening, mandatory hospitalization, diagnosis only by specialists, over-diagnosis of smear negative and control of cured patients, continue.
- Quality of diagnosis in smear negative PTB has deteriorated, this will probably revert with expansion of GeneXpert for detection of MDR-TB, as it also diagnoses TB activity. There are still too many TB beds, which waste resources and interfere with PHC ambulatory treatment.
- The government TB plans include important decisions: state funding for SLD, compliance with international recommendations, banning of private sale of TB drugs. The government is considering expanding the pilot experiences and adopting the short-course treatment of MDR-TB following the Bangladesh model; this would reduce the high default rate observed.
- Pilot areas are producing useful experience, including ambulatory treatment and use of GeneXpert. However the use of DOT is limited and uncertain outside pilot areas, as drugs are provided only through health facilities, not always easily accessible to patients.
- In general the quality of operational data is weak and the NTP capacity for analysis of indicators for action is poor at all levels. This is an area not well covered in the support from USAID or any of the other partners, or included in the responsibility of the QHCP.
- QHCP has successfully supported laboratory (mainly microscopy EQA implementation) and ACSM, as well as more comprehensive activities in the pilot areas. However, the impact on national policy changes has been limited; and some key interventions such as screening of suspects with cough in the health facilities and in contacts are not explicit in the project TOR.

**The coordination of the different partners to exchange information on their pilot experiences and to use them to promote national policy changes is still insufficient.**

### **Recommendations to QHCP and USAID**

#### **For QHCP:**

- Increase support to government adoption and implementation of updated program guidelines and elimination of obsolete regulations (advocacy in coordination with other partners, particularly WHO through the WHO-USAID partnership project);
- Interpretation of data from the pilot areas and from national level and training of NTP and laboratory staff in the use of the recommended indicators and analysis of inconsistencies for corrective action;
- Incorporation in the QHCP plans and reports of indicators of progress in impact (such as changes in quality of care), in addition to the current implementation of planned activities.
- Improved coordination with partners and NTP to share, analyse and disseminate the experiences from the pilot areas, with regularly programmed meetings.

#### **For USAID:**

- To ensure coordinated TA to the NTP by the partners that receive financial support from USAID (WHO, TB CARE I, QHCP), in particular to help the government implement the commitments stated in the MDR Plan; and to monitor the changes in NTP policies (guidelines compatible with international standards, number of hospital beds, elimination of obsolete prikazes and treatment post-cure) ;
- To ensure that QHCP includes detection of suspects and that all financially supported projects include support to the monitoring and evaluation capacity of the NTP at all levels.

## Kyrgyzstan

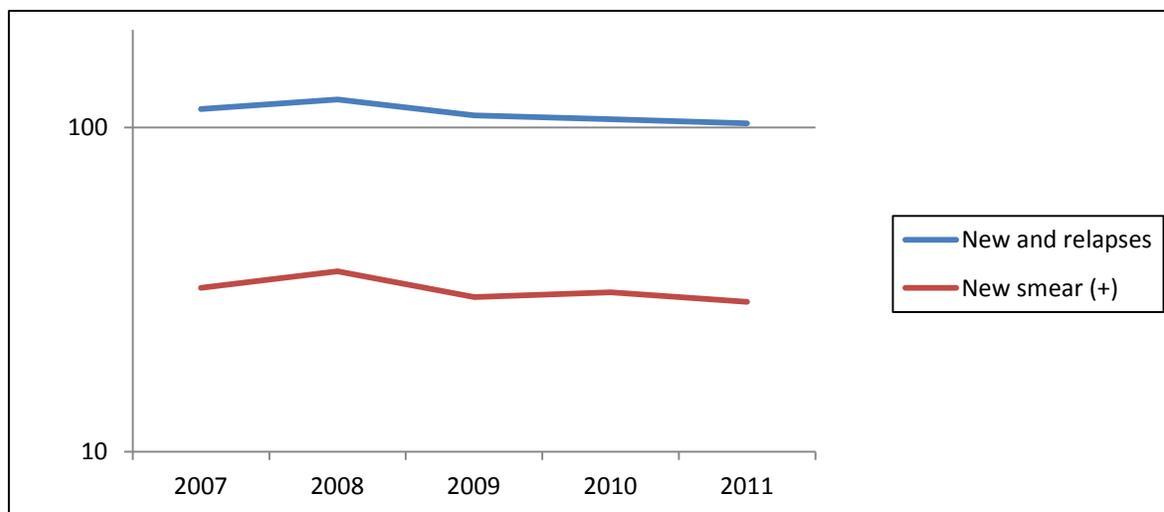
### TB epidemiology

Kyrgyzstan has a population of 6.4 million. WHO estimated for 2011, 670 TB deaths excluding HIV (12 per 100 000); an incidence of 6 900 cases (128 per 100 000) including TB/HIV, with a case detection rate of 80% for all forms. The estimated incidence, prevalence and mortality are diminishing since 2000: the WHO incidence estimate was 8 000 cases (151 per 100 000) in 2009. A major problem is MDR-TB, currently estimated at 26% of new cases and 52% of previously treated cases (higher estimates than in 2009).

The case notification reported to WHO from 2007 to 2011 can be seen in Table 7. The proportion of new pulmonary cases confirmed by smear has been stable around 44% and the proportion of extra-pulmonary among new cases has diminished from 37% to 29%. The reported incidence rate (new and relapses) diminished from 126 per 100 000 in 2007 to 103 in 2011 (Figure 2). TB/HIV is a relatively minor problem in the country, but only 2% of the TB cases had known HIV status in 2011<sup>5</sup>, and the HIV prevalence rates are growing rapidly as in other countries in the CAR region.

Figure 2

Reported incidence of new and relapse and of new pulmonary smear positive cases. Rates per 100 000. Kyrgyzstan, 2007-2011



<sup>5</sup> WHO data 2012: [www.who.int/tb/data](http://www.who.int/tb/data)

## TB control

### Organization and finance

TB control is still specialized, headed by the National Tuberculosis Institute, at the moment under an Acting Director. There is a Deputy Minister responsible for TB control in the Ministry of Health. The authorities are much more flexible than in previous visits to implementation of activities integrated in PHC. There are pilot projects with ambulatory treatment from the start, both for new and for drug resistant cases. A process of health reform facilitated the change. However there are still 3300 TB beds, collaboration of TB specialists and PHC professional is weak, diagnosis must be confirmed by a specialist even for smear positive pulmonary cases and there is contradictory information regarding the validity of old prikazes mandating hospitalization.

In general the main weaknesses of the program are in the capacity to manage and interpret data for action, the central laboratory (still in old, inadequate facilities), insufficient supplies of SLD and weak capacity to monitor and coordinate and make best use of the activities of the partner organizations. These organizations include the USAID QHCP, Project HOPE, TB CARE I, TB REACH (ending in 2013), ICRC, MSF, and WHO. The need for monitoring and evaluation capacity in the NTP was not identified at the time of project preparation for the GFATM project, which could have supported that function. Since October 31, 2012 the SES is involved in M&E, currently in the phase of diagnosis of the situation as it needs to develop expertise in TB control. *It was suggested that at the same time as the diagnosis of the situation and medium term plans, SES should get involved in analysing current data and the reasons for discordant or unexpected results, and train NTP staff in collaboration with the partners.*

Funding is primarily from the GFATM, now entering Phase II of Round 9 grant. There are two Principal recipients are UNDP for treatment of MDR-TB and SLD and Project HOPE for improvement of basic DOTS (social support, transport of samples, FLD, drug management and storing, ACSM, database and support to the penitentiary system). UNDP is a temporary recipient, it is not yet decided if its role will be passed to another organization. Phase II of Round 9 includes US\$9 million for SLDs, reagents and other laboratory techniques, but excluding MGIT and GeneXpert. The number of MDR treatments covered is about 500 per year, plus 300 with funds for 2013. The capacity for detection and criteria for estimation of needs are unclear.

### Case detection and diagnosis

The number of suspects examined for diagnosis by the microscopy network has not changed significantly from 2006 to 2010 and the positivity is still quite high (Table 6). This number of suspects examined represents 0.3% of the total population and can be compared with Uzbekistan (0.4%), India (0.65%) and Peru >40%. The proportion of suspects identified and examined by PHC facilities has diminished since 2007. These indicators all reflect insufficient detection of persons with cough by general health facilities, resulting in exposure of the community to infection, and poor use of the data for decisions. The average daily workload per microscopy unit for case

detection is very low two smears, so workload should not be a limiting factor; in fact this workload is too low in rural areas to maintain quality.

In 2010 the laboratory network reported over 2600 smear positive suspects and only 1600 new smear positive cases were registered for treatment and reported; it is doubtful that the rest were registered as re-treatments. The discordance may be due in part to repeated microscopy in the same person, unnecessary and leading to treatment delay; by default of patients before receiving the result; it is an issue for study.

Sputum smear microscopy in the network is reported to have EQA, but the methods may not be appropriate: panel testing evaluates only reading, is known as a test (and the results obtained are not very good); reading of slides during supervision is impractical due to time constraints (a good sample of at least 20 slides would require a full day) and in any case supervision is not regularly carried out. There is poor collaboration among the partners and insufficient capacity in the NRL to coordinate activities or assume the responsibility of implementing and expanding EQA. QHCP is piloting EQA in one region and will collaborate with the laboratory network to expand EQA to other oblasts, other partners work in their pilot areas but their work is not reflected in the national plan or results. There is no system of maintenance for the microscopes, something that would be very useful at little cost (training local staff).

Table 6  
Suspects examined by sputum microscopy, Kyrgyzstan 2006-2010

| Year  | N° suspects | N° smear (+) | % smear (+) | Smear workload | % smears in PHC |
|-------|-------------|--------------|-------------|----------------|-----------------|
| 2006  | 18218       | 2697         | 14.8        | 53716          | 70              |
| 2007  | 19039       | 2676         | 14.1        | 55685          | 77              |
| 2008  | 19552       | 2852         | 14.6        | 57305          | 70              |
| 2009  | 20746       | 2793         | 13.5        | 61040          | 68              |
| 2010  | 18506       | 2666         | 14.4        | 54919          | 58              |
| 2011  | 17201       | 2311         | 13.4        | 50639          | 67              |
| 2012* | 18542       | 2312         | 12.5        | 53491          | 67              |

\* Data for 2012 does not include quarter IV of Jalalabat Oblast  
Source: Central TB laboratory, Kyrgyzstan

Regarding quality of clinical diagnosis in PTB with negative sputum microscopy, the proportion of patients confirmed is only 42%, well below international standards. Another finding that corroborates the radiological over-diagnosis is that in several series of GeneXpert tests to detect MDR-TB from different sources the large majority of the tests were performed on smear negative suspects (also in retreatment suspects).

Table 7  
Reported TB incidence in Kyrgyzstan, 2005-2011

|      | Total<br>New/relapses | New pulmonary |          |              | New EP | Relapses |
|------|-----------------------|---------------|----------|--------------|--------|----------|
|      |                       | New S+        | % of new | Smear -/unk. |        |          |
| 2007 | 6098                  | 1720          | 44       | 2220         | 1727   | 431      |
| 2008 | 6628                  | 1712          | 46       | 2036         | 1585   | 398      |
| 2009 | 5765                  | 1609          | 42       | 2267         | 1558   | 331      |
| 2010 | 5652                  | 1645          | 45       | 2028         | 1635   | 344      |
| 2011 | 5529                  | 1537          | 42       | 2125         | 1518   | 349      |

Source: Global TB Report, WHO 2010 and 2012

As in other countries of CAR, the criteria for diagnosis is mainly clinical / radiological, as evidenced by the low proportion of pulmonary TB cases confirmed by smear (42%, or 30% of all new cases). Physicians do not wait for the results of culture (normal global practice), or else ignore the negative results. The large amount of laboratory work in processing cultures is thus wasted. This is even a more serious problem in re-treatments, as patients with previous PTB will present with X-ray shadows and often have symptoms (cough, fever, loss of weight) not related to TB: WHO indicates that diagnosis of previously treated patients without bacteriological confirmation should be rare exceptions.

There is no progress since the 2011 visit regarding the construction of a new National Reference Laboratory. The NRL still functions in an inadequate and risky environment. Some improvements and modern equipment have been added, but the infrastructure itself cannot be corrected. A new laboratory, donated by KfW, has been promised for a long time (years) but construction has not yet been started – now initiation is planned for June 2013. This is an issue for political decision at the highest level.

## Treatment

Treatment is started usually in hospital, daily with FDC FLD. In the continuation phase it is 5 days per week, under DOT in the PHC (rarely with home visits or volunteers). It is quite probable that much of the treatment in the continuation phase is self-administered, as access to PHC may not always be feasible for the patient. Some pilots are starting ambulatory treatment from the start, also PHC based (no family DOT, uncommon community DOT supporters). FLD are sufficient, with no interruptions. There is active staff training, one of the areas of QHCP technical assistance. Drug

planning and management are adequate; and there is a recently approved document on Standard Operation Procedures for TB Drug Management (MoH, December 2012). GDF/GLC monitors drug management with periodic visits, the last one in 2011 and the next one planned for 11 March 2013. ***GDF/GLC technical recommendations are very good, but in general the reports do not always reach the level of political decision.***

The WHO 2012 Global TB Report does not register information regarding treatment outcomes in 2010 and there is no information in the WHO TB database, but data for those years was obtained by QHCP from the NTP (Table 8). The outcomes of the last reported cohort indicate a success rate of 79%, with 3% deaths and 5% failures, which are inconsistent with the estimated MDR-TB prevalence of 26% in new untreated cases. In 2010, 6% and in 2011 5% of the new smear positive cases started treatment with individual regimens (SLDs); even adding these to the failures the proportion would be 10%.

***The inconsistent results are probably due to cohort selection, and analysis not according to international procedures. There has not been any activity to discover and explain the cause for these unexpected results. The additional column indicating transfer of patients to treatment with SLD on the basis of GeneXpert results would be useful in the reports to and from WHO.***

Table 8  
Treatment outcome in new smear (+) cases.

|      | % cure | % complete | % death | % failure | % default | % not evaluated | % moved to individual treatment |
|------|--------|------------|---------|-----------|-----------|-----------------|---------------------------------|
| 2008 | 80     | 5          | 3       | 6         | 5         | 2               | -                               |
| 2009 | 79     | 4          | 3       | 4         | 6         | 4               | -                               |
| 2010 | 74     | 4          | 4       | 6         | 5         | -               | 6                               |
| 2011 | 75     | 3          | 3       | 6         | 5         | 2               | 5                               |

**Note:** in 2010 0.4% changed diagnosis, in 2011 0.9%.  
WHO Global TB Report 2012 for 2008-2009 and NTP for 2010/2011

TB drugs are on sale in private pharmacies. There is a Ministerial order banning private sales of TB drugs but it is not enforced. NTP drugs are procured through GDF/IDA. A QHCP assessment of drug management in June 2011 showed that TB drugs of unknown quality are purchased in the private market, and there is no system to identify what drugs were used for each patient.

### Prevention and treatment of MDR-TB

The country is gradually introducing GeneXpert for the identification of resistance to R (presumably MDR-TB). There are seven machines installed in pilot areas (4 TB REACH, 2 MSF, 1 USAID QHCP), but some are not functional for lack of calibration/maintenance. There were

multiple discussions among the donors on the main purpose and the best diagnostic algorithms for the use of GeneXpert. At the moment various partners are using different algorithms and platforms (Annex VII) and one of them, pending approval by the MoH, has been sent for comments to the Supranational Laboratory in Gauting. The algorithm seem adequate, although the text of the strategy should indicate where the suspects identified by screening (radiological abnormalities or persistent cough in persons not presenting themselves for diagnosis) should enter the algorithm (it should be as suspects); and does not indicate at which time the physician can or should decide on diagnosis and treatment.

***The proposed strategy document includes indications on management of TB patients which should not be part of the diagnostic process; and the first paragraph of point 2.2.5 includes mandatory hospitalization for smear positive and for smear negative patients. Approval in the present form would lose the progress in TB care by PHC achieved in recent years; and that paragraph should be deleted.***

The country has been approved by GLC for 1880 MDR-TB treatments in total, for an expected incidence of 800 among the cases reported. In 2009, 785 cases were confirmed as MDR and 545 initiated treatment, so the main limitation to expansion is the funding for SLD. UNITAIDS provided only 600 treatments for 2007-2010. The next visit of GLC/GDF will take place in March 2013. There were interruptions in supplies of some drugs and expiration of others, in part because of changes in regimens without adequate planning, indicating that the NTP capacity for drug management should be strengthened.

NTP guidelines for MDR-TB have been approved. All first and second line drugs have been registered. An electronic drug management system has been discussed but not yet implemented; the need for a complete new system is doubtful, as the current system based on Excel seems to work well for FLD. The ICRC is responsible for TB care in Penitentiary TB Colony N 27 and Medecins sans Frontieres-Switzerland (MSF-S) for TB care in Penitentiary TB Colony N 31 and one rayon (Kara Suu), of Osh oblast.

The country has >3300 TB beds (380 for MDR-TB), for a real need of under 1000 – the quantity vary depending of the source of information. Savings in this area would be more than sufficient to fund all the country need for SLD. The SLD supply is insufficient: currently there are 500-800 patients diagnosed but not put on MDR-TB treatment.

## **Field observations and interview findings**

**Observation in the pilot QHCP oblast** showed very important impact of the implementation of GeneXpert. In addition to the identification of MDR-TB the criteria for diagnosis of PTB improved. The number of new smear positive PTB was 52, 41 and 28 in 2010-2012 (reduction of sources); and the number of new smear negative PTB 71, 68 and 71 (unchanged diagnostic criteria). In 2012 28 of 99 PTB were smear positive and 71 smear negative (72%), in 2 months of 2013 after GeneXpert was implemented 4 PTB were smear positive and 5 (56%) negative, with the same physician. 3 of the 5 negative were confirmed by GeneXpert and the other two did not have results.

Some of the reasons for discordance between treatment failures and the estimated prevalence of MDR were also noted: the cohorts of smear positive analysed excluded relapses (correct) but also alcoholics, prisoners and ex-prisoners and drug addicts.

**The Acting Director of the NTP** indicated that a problem was the NTP database and the capacity to interpret data for action. Implementation of PMDT is a priority for the country in view of the high rates of MDR-TB, but the supply of SLD is insufficient. Most SLD are procured with financial support of the GFATM grant. There are 300-800 (according to different sources) patients already with diagnosis of MDR-TB. The MoH plans a gradual reduction of TB beds, from the current ~3840, but the methodology is unclear. The Director of Epidemiology identified as problems MDR-TB patient waiting lists for SLD; the risk in migrants and prisoners; and the side effects of SLDs. ***Substantial government financial resources that are currently used for ineffective practices (hospitalization, post cure treatment, mass screening) would be more than sufficient to cover drug costs if a revised NTP strategy is implemented.***

A Deputy Minister of Health is responsible for TB control in the MoH. New guidelines for TB care have been developed, but the validity of old and new prikazes is unclear at all levels. The SES has been assigned responsibilities in support of TB control; this may improve the general weakness in data collection and interpretation. ***Currently there is a WHO consultant in the country for evaluation and advice on NTP governance. The benefits of a TB responsible officer and small supervisory team in the MoH, independent from the TB Institute, is an essential part of the political commitment component of the DOTS strategy (together with government funding and guidelines compatible with international standards) and partner advocacy to this end has been repeatedly recommended in past missions.***

**TB CARE I** activities include support to the NTP and two pilot areas in access to TB care; laboratory maintenance, transport of samples, GeneXpert, SOP and data collection; PMDT; TB in children, training and monitoring and evaluation; there is no funding for data analysis. Obstacles identified are the persistence of old prikazes mandating specialized diagnosis and hospitalization, resulting in two parallel systems with unclear definitions (the partners' pilot areas and planned PHC expansion and the traditional vertical system); and the payment to hospitals per number of beds.

**The TB REACH** project ends in April 2013, the NTP should continue activities in the pilot areas.

**The GFATM Round 9 grant** (now in Phase II, US\$ 12 million) is managed by two separate Principal Recipients, Project HOPE for support to treatment adherence, food parcels, drug stores and management, ACSM and community action, FLD and penitentiary system; and UNDP for SLD and MDR-TB. There are still some funds for 300 SLD treatments in addition to 500 per year for Phase II of the grant. The project includes EQA for microscopy and support to laboratory (including penitentiary), but not for the NRL construction which has been committed by a grant from KfW. The grant includes reagents, solid media and BACTEC, but not MGIT or GeneXpert.

**MSF** supports pilot areas in PMDT and TB/HIV, treating ~200 MDR-TB per year. Their laboratory work receives technical support from the Borstel Supranational Laboratory. MDR-TB patients without complications are treated on ambulatory basis from the start.

## QHCP activities and status of the recommendations from the 2011 visit

The USAID QHCP supports ACSM, laboratory (EQA, training, management) and has supported drug management. Currently it is also coordinating pilot activities for World TB Day, and the plan includes coordination of the partners. The observations in the pilot project were commented above.

Critical issues to be covered in the future are support to M&E and to accelerate implementation of national policy changes. The QHCP plans of action and reports should address the impact of interventions in addition to the implementation of the planned operational activities.

| Status of 2011 recommendations                                                                                                                                                          |                                                                                                                                                                                                                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| – Coordination of external assistance, mainly ACSM to obtain a political decision and support to implement building of the new central laboratory                                       | – Coordination is still poor except for WTB day, and there is no joint advocacy for high level policy changes/implementation. The laboratory is still pending construction                                       |
| – Implementation of GeneXpert; definition of the priority groups and revision of clinical algorithms                                                                                    | – There are 7 machines (4 TB Reach, 1QHCP, 2 MSF-SW) and at least 3 algorithms. A good NTP algorithm is in phase of approval                                                                                     |
| – Increased funding for SLD, from national or national or external sources                                                                                                              | – Funding and SLDs are insufficient, funded by GFATM (purchased by UNDP) and minimal from UNITAIDS. No country funding for drugs. Large number of MDR-TB cases (500-800) diagnosed but not starting on treatment |
| – Systematic screening of suspects by microscopy, ensuring registration of the smear positive cases detected; and using the number examined by PHC microscopy as indicator of detection | – No progress, number of suspects constant and microscopy positivity very high (14%). Idle laboratory capacity; microscopy only requested by MDs and for patients with respiratory complaints.                   |
| – Improve data analysis and promote operational research for action                                                                                                                     | – Poor capacity for analysis and interpretation of data for action at all levels                                                                                                                                 |

## Conclusions

- Tuberculosis incidence is decreasing in Kyrgyzstan according to WHO estimates and evidenced by the lower reporting (5 800 new and relapse cases in 2011) and reduction of the smear microscopy positivity rate in suspects. However the real incidence is probably higher because there was no increase in the screening of suspects with cough. WHO estimates a case detection rate of 80% for all forms and an incidence of 128 per 100 000 (6 900 cases).
- TB control is still specialized, headed currently by the Acting Director of the National Tuberculosis Institute. There is a Deputy Minister for TB control in the MoH. The authorities are much more flexible to implementation of activities by PHC and ambulatory treatment,

already implemented by pilot areas. A WHO consultant is currently in the country to advise on NTP governance.

- There are still 3300 TB beds for a need of less than 1000, collaboration of TB specialists with PHC professional is weak, diagnosis must be confirmed by a specialist even for smear positive pulmonary cases and there is contradictory information and there are still old prikazes mandating hospitalization.
- The main weaknesses of the program are the low capacity to manage and interpret data for action, the central laboratory still in old inadequate facilities), insufficient supplies of SLD and weak capacity to coordinate the activities of the partner organizations. Since October 2012 the SES is involved in M&E, currently diagnosing the situation.
- Funding is primarily from the GFATM (Round 9 Phase II) managed by UNDP and Project HOPE as Principal recipients. Phase II includes US\$9 million for SLD, reagents and other laboratory techniques, but excluding MGIT and GeneXpert. The number of MDR treatments covered is about 500 per year, plus 300 with funds for 2013.
- Case detection in suspects has not increased in several years in spite of the idle capacity of quality assured microscopy; and the smear positivity is still very high (>12%). Diagnosis of smear negative PTB is inadequate, with only 42% of PTB cases confirmed by microscopy, and has deteriorated (it was 46% in 2008). There is no progress since 2011 regarding the construction of a new National Reference Laboratory. An improvement of the quality of diagnosis was observed in pilot areas that implemented GeneXpert.
- Treatment is started usually in hospital. It is probable that much of the continuation phase is self-administered, as it is only provided in the PHC facilities. Some pilot areas are starting ambulatory treatment from the start, also PHC-based, including for MDR-TB. The outcomes of the last cohorts indicate 5% failure rates, which are inconsistent with the estimated MDR-TB prevalence. Drug planning and management have improved and there is a recently approved document on Standard Operation Procedures for TB Drug Management. GDF/GLC monitors drug management with periodic visits, the next one planned for March 2013.
- The country is gradually introducing GeneXpert to identify DR. There are seven machines in pilot areas (4 TB REACH, 2 MSF, 1 USAID QHCP), with various algorithms. One of them has been developed and is pending approval by the MoH. However, the document text includes hospitalization for smear positive and for smear negative patients, which is against current national decisions and international standards. It was observed in a pilot area that in addition to accelerate recognition of MDR, GeneXpert resulted in improvement of the quality of diagnosis, with less cases treated without microscopy confirmation.
- MDR is a major problem, with 26% estimated prevalence in untreated and 52% in treated cases, and the supply of SLDs is insufficient. The supply of cartridges for GeneXpert is excessive and will not be utilized before expiration unless the use is expanded outside the current pilot areas.

- NTP guidelines for MDR-TB have been approved. All first and second line drugs have been registered. An electronic drug management system has been discussed but not yet implemented. The ICRC is responsible for TB care in Penitentiary TB Colony N 27 and Medecins sans Frontieres-Switzerland (MSF-S) for TB care in Penitentiary TB Colony N 31 and one oblast.
- There is still inadequate coordination among the partners, mainly to promote expansion of TB care by the general health facilities and support the NTP in data interpretation; and partner activity is not reflected in NTP plans or reports.

### **Recommendations to QHCP and USAID**

- Given the current policy changes and organizational structure, it seems the opportune moment for coordinated promotion by the partners of a NTP unit in the MoH, independent from the specialized Institute. The unit is an essential component of the DOTS strategy political commitment, it should be under the Deputy MoH and could consist of one Head NTP, one drug management officer and one officer responsible for supervision and M&E, complemented by a member of the NRL for the laboratory aspects. External support could be mobilized for medium-term visits of a part time consultant to train the team in TB control management.
- Although M&E is already in the TOR of the USAID and GFATM plans, the NTP weakness has not been improved. QHCP should develop this area and participate in training of NTP staff interpretation of data for action at all levels, in collaboration with SES.
- QHCP should be involved in training and monitoring to increase the number of suspects examined by microscopy in outpatients (any reason) and contacts. This area is not included in the TOR of any of the USAID-supported projects.
- QHCP should give priority to the approval and implementation and monitoring of the new government strategies (ambulatory treatment from the start, diagnosis and immediate ambulatory treatment by PHC, eliminating mass X-ray screening).
- USAID should ensure that all its supported projects share information and give priority to the key intervention to reduce transmission of TB: detection and appropriate treatment of the main sources of infection (smear positive PTB).

## Annex I – Scope of work

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>1. Contract Number</b><br><b>AID-176-C-10-00001</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>2. Date of Consultant Request</b><br>December 4, 2012                                                                                                                                                                                                                                                                    |
| <b>3. Name of Participant / QHCP Staff Member</b><br>Dr. Fabio Luelmo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>4. Name/Position/Location of Quality Staff Person Requesting Consultant</b><br>Shalva Gamtsemlidze, PhD / TB Director – Uzbekistan / Regional TB Infection Control Coordinator / Uzbekistan in coordination with Almaty<br><br>Dr. Totugul Murzabekova / TB-Director-Kyrgyzstan / Kyrgyzstan in coordination with Almaty |
| <b>5. Proposed dates of travel</b><br>Feb. 16 – March 5, 2013                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                             |
| <b>6. Background/Context and Justification for Consultant (by country)</b><br><br><p>Kyrgyzstan and Uzbekistan have high burdens of tuberculosis. The situation is being aggravated by the rise of M/XDR-TB and TB/HIV. TB control practices require improvement and input from high level specialists to advise the project and partners, assess progress, and advocate for these needed improvements with partners. These occasional visits provide valuable input to the project. USAID started the Quality Project to address several areas of TB control in the country: CQI, Drug Management, Laboratory, ACSM, TB IC, TB/HIV. In Year 3, the project is shifting focus and expanding activities in the areas of ACSM and laboratory support. USAID’s new guidance to the Project defines main areas of the Project to be TB Laboratory and ACSM. The consultant will review ongoing progress of the project, progress of the National TB Program, and provide recommendations to the Quality project based on the adjusted focus of the year 3 work plan. The Consultant, Dr. Fabio Luelmo is a world-renowned expert of TB control. He has a long and successful history of working with USAID, WHO, and other organizations. He has authored numerous manuals, guidelines and articles, and has been providing consultancies to many regions and countries worldwide. The Consultant has an excellent knowledge of TB control practices in CAR countries and barriers impeding progress to improving the epidemiological situation in the region and is able to draw upon his broad global experience to discuss with and advise the team and partners on effective corrective actions. His recent consultancy visits to the Quality Project took place in years one and two of the Project.</p> <p><b>This combined country visit is planned as continued support to the project from Dr. Fabio Luelmo who is one of the Senior TB Consultants for the project.</b></p> <p>Note: This trip was previously approved but approval was delayed and received too close to the planned travel dates. For this reason, the trip was rescheduled to ensure the consultants visit could be fully realized and meetings with partners could take place (e.g. In Uzbekistan no meetings can be held with national partners without 30 days advance notice.).</p> |                                                                                                                                                                                                                                                                                                                             |
| <b>7. Purpose Statement and Detailed Objectives of Proposed Consultant (by country)</b><br>Purpose of the Consultant’s visit is to provide the Project with recommendations on implementation of Lab, ACSM and any other activities that will be funded by the donor In Y3 of the Project.<br>Objectives:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                             |

1. Meet with Project team and familiarize with Project achievements, ongoing activities and future plans;
2. Meet with Project partner organizations and assess the status and prospects of collaboration;
3. Assess the prospects of implementation of planned activities and their impact on TB control practices in Project pilot sites and beyond.
4. Develop recommendations for the Project team and partners on implementation of project activities and collaboration with development partners.
5. Review latest available reports and epidemiological data to be aware of ongoing issues and to identify positive or negative trends that require attention and can be addressed by the project or partners.

**8. Link to Activity in Workplan and Description of How Consultant will Support Achievement of Activity in Workplan (by country)**

**a. Workplan Activity Reference and Description:**

In Kyrgyzstan and Uzbekistan the visit is linked to two activity areas of the work plans: Capacity and Data.

**b. How will Consultant Support the Achievement of this Activity:**

Recommendations and work shop outputs are designed to help instruct staff on achievable actions that result in strengthening understanding and providing tools which will help achieve better results within the National TB Programs.

**9. Is Prime Partner or Subcontractor Partner Managing this Consultant Visit? Describe Responsibilities by Prime and/or Subcontractor Partners for Completion of Consultant Visit, Outputs and Deliverables**

**a. Is Prime Partner or Subcontractor Partner Managing this Consultant Visit?**

The sub-contractor is managing this visit.

**b. Describe Responsibilities by Prime and/or Subcontractor Partners for Completion of Consultant Visit:**

The sub-contractor will manage all aspects of the consultants visit and provide feedback of preliminary findings from the trip. When the draft trip report is prepared the sub-contractor will review the report in coordination with country teams to ensure there is no misunderstanding of facts and findings (e.g. Partner names, responsibilities, data verification) and the report is finalized. Key output from the report is a set of actionable recommendations to the project and for partners.

**c. Describe Responsibilities by Prime and/or Subcontractor Partners for Completion of Outputs and Deliverables**

In addition to the trip report which is a deliverable of the visit. A one day workshop will be organized for national partners (Key NTP staff) to help improve their use of data for decision making and the management of the National TB Programs. A training report will be the deliverable after the work shop is completed. **Note the focus of the consultants' presentations on use of data will provide a global perspective comparing national data with data from other countries. This approach will provide national partners an international perspective on their program in addition to providing examples of how to use data for decision making.**

**10. Detailed Description of Specific Tasks/Activities to be Undertaken – Pre-Deployment (if appropriate), In-Country, Post-Deployment (by LOE, by country)**

**a. Pre-Deployment in Country (*Detailed Description of Specific Tasks/Activities to be Undertaken*):**

1. The consultant will acquaint himself with the Project’s annual and quarterly reports, success stories and lessons learned, and ongoing changes in the project activity areas.
2. Project teams will provide the consultant relevant reports prior to the consultants arrival in-country.
3. Project teams will have up-to date mapping and short information on all TB partner activities available for the consultant to contribute to ensuring he has the latest overview of NTP and TB partner activities.

**b. In-Country (*Detailed Description of Specific Tasks/Activities to be Undertaken*):**

1. The Consultant will follow-up to his Y1 visits and develop recommendations based on USAID’s new guidance to the project.
2. The consultant will assess practices, resources and development prospects in Quality Project pilot sites for Lab and ACSM, and any other fields of Project work that could be supported and funded by USAID by the time of the Consultant’s visit.
3. The consultant will lead a workshop on modern aspects and trends in TB control for National TB partners.

**c. Post-Deployment (*Detailed Description of Specific Tasks/Activities to be Undertaken*):**

1. The Consultant will review updates from the country team on the status of implementation of the Project and of the recommendations provided by him.
2. A full trip report will be provided to the project and USAID.
3. Communicate with other Senior TB Advisors of the sub-contractor to contribute to strategic planning of capacity building efforts of the project.

**11. FOR INTERNATIONAL CONSULTANTS ONLY:**

**Based on the specific tasks/activities described above, clarify how the international consultant activities outlined in this SOW will help build local capacity to undertake activities supported through the SOW and related follow-on activities. Include the name of a local counterpart(s) that the consultant will work with.**

The international consultant’s visit is designed to build local capacity and support in two ways: 1) Through direct capacity building discussions and activities (e.g. Meetings and Round tables) with key national partners. These activities are planned to garner long term support and pass key messages from a consultant who is internationally renowned and whose recommendations thereby are more readily accepted and acted upon by national counterparts. 2) Capacity building through ongoing work with the Quality project staff members who maintain ongoing work with local partners ensuring implementation and integration of the recommendation into ongoing NTP activities.

During this visit the consultant will work with the following local counterparts to build their capacity:

**Uzbekistan:**

Meeting Deputy Minister of Health Khodjibekov: Passing key messages for the MoH person responsible for TB issues.

Building capacity for partners to better manage data for decision making will be:

Dr. Mirzagolib Tilyashaikhov, Director, Republican Specialized Scientific and Practical Medical Center of Phthysiology and Pulmonology

Dr. Nargiza Parpieva, Deputy Director, Republican Specialized Scientific and Practical Medical Center of Phthysiology and Pulmonology, Chief phthysiatrician of the republic of Uzbekistan, MOH

Dr. Dilrabo Ulmasova, Director, Republican DOTS Center

Dr. Gulnoz Uzakova, Manager, GF PIU

National counterparts to meet specifically on issues of TB treatment and care activities will be:

Dr. Shoiria Nurullaeva, Chief Doctor, Samarkand Oblast TB Dispensary

Dr. Mukadas Shikurova, Chief Doctor, Samarkand District TB Dispensary

Dr. Lola Kalandarova, Tashkent City TB Dispensary

Dr. Abdujamil Khandamboev, Chief Doctor, Parkent District TB Dispensary

And health care personnel of PHC facilities in the Quality Project pilot sites in Chilanzar, Parkent and Samarkand districts.

**Kyrgyzstan:**

Meeting Deputy Minister of Health (Marat Kaliev): Passing key messages for the MoH person responsible for TB issues.

Building capacity for partners to better manage data for decision making will be:

Abduulat Kadirov –Acting director of NTBC

Myrzakhat Imanaliev-Director of Epidemiology & Monitoring Center of NTBC

Gulmira Kalmambetova – Director of NRL

Nurbolot Uzenbaev – Head of Monitoring & Evaluation department of SES

Roza Mukeeva – Director of Issyk-Ata FMC

Gulmira Aitmurzaeva - RCHP

**12. FOR INTERNATIONAL CONSULTANTS ONLY:**

**Provide specific activities how the consultant will coordinate on proposed activities with other USG partners on the ground who are also working in the same topical areas:**

Coordination of consultant visits with other USG partners working in the same topical areas as the project are planned according to the following scheme:

1. Pre-deployment
2. In-country Coordination

### 3. Post-deployment

**Pre-deployment:** Prior to each consultant visit meetings are scheduled with USG partners to allow the consultant to have direct discussions with partners (International and National).

**In-country Meetings:** These meetings help ensure the consultants have a comprehensive overview of partner activities that contribute to the overall national TB program(s). This ensures areas of common work and gaps are identified. In both Uzbekistan and Kyrgyzstan key meetings with TB CARE and WHO will be planned to ensure synchronization and complementary support is provided for national partners. All USG partners working on TB activities will be invited to relevant activities (Round tables / Workshops).

In instances where topical areas of work are covered by several organizations or bodies, the consultant can advise the project on adjusting of activities and potential recommended adjustments to allocation of funding.

**Post-deployment:** Consultant recommendations on coordination are included into the consultant reports to the project to be followed up by the country teams.

**The prior planning of meetings with partners, including ensuring partner awareness of the purpose of the visit, the meetings and follow-up ensure a process that is designed to facilitate coordination of activities.**

#### **13. Specific Outputs to be Accomplished during Consultant Visit (by country) (e.g., number of health providers training in xxxx by country, draft protocol for xxxxx)**

1. Uzbekistan 25 health providers will be trained during the work shop.
2. Kyrgyzstan 25 health providers will be trained during the work shop.
3. Draft of recommendations developed and discussed with the Quality Project staff.
4. Recommendations will be provided to USAID and follow-up action provided by the project.
5. Relevant recommendations will be shared with national partners, after USAID approval, along with technical advice and advocacy to ensure recommendations are acted upon.

#### **14. Deliverables/Products to be Submitted to USAID, with Timeline for Submission by Country \*\*(e.g., briefing document for out-brief session during final day of Consultant visit; trip report one week)**

1. Briefing document for out-brief session during final day of Consultant visit;
2. Trip report with recommendation due within one week of the conclusion of the consultation visit.

## Annex II. Travel Agenda

- February 18** Arrival to Almaty (flight delayed one day)
- February 18** Travel to Tashkent, Uzbekistan
- February 19** Meetings with QHCP/Project HOPE staff  
Travel to Samarkand (by train)  
Visit Samarkand Oblast Dispensary
- February 20** Visit Samarkand District Health Administration  
Visit Samarkand District Dispensary and laboratory  
Visit PHC Rural Health Facility “Khishrou”  
Travel to Tashkent (by train)
- February 21** Presentations in TB workshop, discussion
- February 22** Visit TB Institute (Republican Specialized Scientific and Practical Medical Center of Phthysiology and Pulmonology )  
Presentations to Institute staff and discussion  
Meeting with the Deputy Minister of Health  
Presentations in WHO to working group on ambulatory treatment, discussion
- February 22** Travel to Bishkek, Kyrgyzstan
- February 23** Meeting with QHCP TB Manager
- February 25** Meeting with TB CARE I  
Meeting with Acting Director NTP  
Meeting with Director Republican Center of Epidemiology and Informatics  
Meeting with Project HOPE/ GFATM Principal Recipient
- February 26** Meeting with QHCP team (ACSM, laboratory, drug management)  
Meeting with Head of National TB Reference Laboratory  
Meeting with TB Reach
- February 27** Meeting with UNDP/GFATM Principal Recipient  
Meeting with Deputy Minister of Health  
Meeting with MSF  
Meeting with Republican Center for Health Prevention
- February 28** Visit to USAID QHCP pilot area Issyk-Ara region and FMS  
Meeting with Head of Monitoring & Evaluation, SES  
Debriefing with USAID and QHCP
- March 1** Presentations in TB workshop, discussion  
Debriefing with QHCP team  
Meeting with WHO consultant for NTP governance
- March 2** Meeting with WHO Programme Coordinator
- March 3** Travel to Almaty (by car)
- March 4** Debriefing with QHCP and USAID CAR
- March 5** Departure from Almaty



### Annex III. Institutions visited and persons interviewed

| Place                                                 | Institution                          | Persons interviewed                                                                                                                                                                |
|-------------------------------------------------------|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Almaty, Kazakhstan                                    | USAID/QHCP                           | Tom Mohr, Deputy Chief of Party<br>Bakhtiyar Babamuradov, Regional TB Technical Director<br>Tsogt Gombogaram, Senior TB Advisor<br>David Elkins, Chief of Party                    |
|                                                       | USAID Office of Health and Education | Leslie Perry, Head, Office of Health and Education<br>Sholpan A. Makhmudova, Regional Health Specialist<br>Arman Toktabayanov, Regional TB Advisor<br>Jesse Joseph. Health Officer |
| Uzbekistan                                            | USAID/QHCP                           | Shalva Gamtsemlidze, TB Director, Uzbekistan / Regional TB Infection Coordinator – CAR                                                                                             |
|                                                       |                                      | Shahnoz Sayfiddinova                                                                                                                                                               |
|                                                       |                                      | Marhabo Rahimova                                                                                                                                                                   |
|                                                       |                                      | Gulandom Elmurodova                                                                                                                                                                |
|                                                       | Ministry of Health                   | Marat Kh. Khodjibekov, Deputy Minister of Health                                                                                                                                   |
|                                                       |                                      | Mirzagolib Tilyashaikhov Director, Republican Medical Center of Phthisiology and Pulmonology                                                                                       |
|                                                       |                                      | Dilshod Karabaev, Head Specialist, External Economic Activities Department, MoH                                                                                                    |
|                                                       |                                      | Parpieva Nargiza, Chief Phthisiologist of Uzbekistan. Head of Faculty, Republican Center of Phthisiology and Pulmonology                                                           |
|                                                       |                                      | Dilrabo Ulmasova Director, Republican DOTS Center                                                                                                                                  |
|                                                       |                                      | Gulnoz Uzakova, Manager, GFATM PIU                                                                                                                                                 |
|                                                       | WHO                                  | Jashmid Gadoev, National Professional Officer, Uzbekistan                                                                                                                          |
|                                                       | MSF                                  | Andreas Bruender, Manager MSF                                                                                                                                                      |
|                                                       | Samarkand                            | Mamurova Zamuira Mamurovna, Deputy Head of Samarkand District Health Department                                                                                                    |
|                                                       |                                      | Shukurova Muktadas Faxriddinovna, District TB Coordinator, Samarkand District                                                                                                      |
| Shoira Nurullaeva, Chief Doctor, Oblast TB Dispensary |                                      |                                                                                                                                                                                    |
| Oblogulova Matluba Oblogunovna, Khishrov PHC Doctor   |                                      |                                                                                                                                                                                    |

| <b>Place</b> | <b>Institution</b>                                                              | <b>Persons interviewed</b>                                                                                                                                                                                                                                                |
|--------------|---------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Kyrgyzstan   | USAID QHCP                                                                      | Sara Feinstein, Country Manager<br>Totugul Murzabekova, TB Director, Kyrgyzstan<br>Svetlana Asankhodjaeva, ACSM specialist<br>Klara Takieva, laboratory specialist<br>Rakhat Cholurova, Quality improvement specialist<br>Zhyldyz Ysykeeva, TB drug management specialist |
|              | USAID                                                                           | Chynara Kamarli, Health Project Management Specialist<br>Sholpan A. Makhmudova, Regional Health Specialist                                                                                                                                                                |
|              | Ministry of Health                                                              | Marat Kaliev Deputy Minister of Health                                                                                                                                                                                                                                    |
|              |                                                                                 | Abduulat Kadirov, Acting director NTP                                                                                                                                                                                                                                     |
|              |                                                                                 | Myrzahat Imanaliev, Director of Republic Center of Epidemiology and Informatics                                                                                                                                                                                           |
|              |                                                                                 | Gulmira Kalmambetova, Head of TB NRL                                                                                                                                                                                                                                      |
|              |                                                                                 | Sabyrjan Abdikarimov, General Director, SES<br>Nurbolot Uzenbaev – Head of Monitoring & Evaluation<br>Nurmatov Zuridin, Epidemiologist                                                                                                                                    |
|              |                                                                                 | Kazantceva, Valentina Petrovna, Dep. Director Issyk-Ata FMC<br>Ibragimova, Menera Satarovna, TB Doctor Issyk-Ata FMC                                                                                                                                                      |
|              |                                                                                 | Borukeeva, Jumagul – Republican Center for Health Prevention                                                                                                                                                                                                              |
|              | TB CARE I                                                                       | Bakyt Myrzaliev, Director, KNCV Branch Office, Kyrgyzstan<br>Rais R. Mazitov, Technical Officer, KNCV Kyrgyzstan                                                                                                                                                          |
|              | Project HOPE                                                                    | Artur Nyyazov, Manager Project HOPE/GFATM PIU<br>Elena Kukhranova, Deputy Director, Project HOPE, Kyrgyzstan                                                                                                                                                              |
|              | TB REACH                                                                        | Alexander Kahn, Head of project, Kyrgyzstan                                                                                                                                                                                                                               |
|              | UNDP                                                                            | Irina Schelorova, TB grant coordinator, GFATM PIU                                                                                                                                                                                                                         |
| MSF          | Grigor Simonyan, Head of Mission<br>Nazgul Samieva, Deputy Medical Coordinator  |                                                                                                                                                                                                                                                                           |
| WHO          | Saliya Karymbaeva, Country Programme Coordinator<br>Jan Bultman, WHO consultant |                                                                                                                                                                                                                                                                           |

## Annex IV. Agenda and outline of the presentations

### USAID QHCP TB workshop (\*)

Tashkent, 21 February and Bishkek 1<sup>st</sup> March 2013

1. PRESENTATION - TB epidemiology - External factors (24 slides)
  - TB cycle (3)
  - Cough as main method of transmission (1)
  - Determinants of risk (1)
  - Development, wars, famine, socio-economic (7)
  - Migration (3)
  - Associated diseases (8)
2. PRESENTATION - Program interventions (27 slides)
  - Impact of development and treatment on TB infection and mortality (4)
  - Cough as main method of transmission (1)
  - Detection by sputum microscopy (3)
  - Impact of program in Peru, AMRO, Argentina, Cuba, Russia (10)
  - Hospitalization (7)
3. PRESENTATION - Data quality and interpretation (28 slides)
  - Microscopy in suspects (2)
  - Quality of diagnosis (9)
  - MDR-TB (4)
  - HIV (2)
  - Quality of TB program (2)
  - Cost and priorities (2)
4. DISCUSSION (14 slides)
  - DOTS and Stop TB strategies (2)
  - Impact of new technology
    - Feasibility of new vaccines (2)
    - Impact of new drugs (2)
    - Impact of diagnostics (2)
  - What is more important to reduce TB? (2)
    - In chemotherapy
    - In infection control
  - Open discussion

An electronic copy of the presentations in power point and copy of epidemiology and clinical references in English (and some in Russian) were distributed to the participants and can be provided to interested persons and used for further training.

(\*) In Tashkent additional presentations used a selection of slides appropriate to the audience.

## Annex V. Comments to the QHCP monitoring spread sheets

### Indicators (PMP)

- General note: There are many indicators on process (e.g. training, awareness) and few on impact of the activities. A few impact indicators should be selected as priority.
- Smear conversion is useful when starting implementation or in small projects. It is less important in well-established programs that can use trends of outcomes.
- Treatment outcomes should be analyzed one year after the cohort, e.g. Jan-Mar should be analyzed in January the following year
- The number of suspects tested by microscopy and the % positive should be quarterly; “cumulative” (written in comments) is unclear, delete.
- In comments, a useful note would be that the number of suspects tested can be compared with the outpatient load in each PHC facility or with the population (at district, oblast or national level. The number of persons examined should increase gradually (e.g. 0.4% in CAR, 0.65% in India, 40% in Peru) and the positivity decrease.
- The number of smear positive in the microscopy records can be compared with the number of pulmonary smear positive new plus retreatment reported. Currently there is a large difference (up to twice as many in the lab). All smear positive in the lab should receive treatment and the new and relapses reported. A sample of positive persons should be checked occasionally in each microscopy unit to see if all were reported and started treatment (an indicator on proportion of new PTB that stated treatment, or that started treatment within two weeks of the result, would be useful).
- After adult outpatients (attending the facility for any reason), the most important group to detect infectious cases is contacts. An activity on control of contacts would be useful and is absent from the data spreadsheet; the indicator is the number of contacts examined (for adults query on symptoms and microscopy in those with cough, in children medical or nursing check up) over the number of contacts identified by the patient and registered in the patient card. The indicator could be included in the section “Outreach to vulnerable groups”.

### Outcomes

- The case notification rate is not as important as the rate of smear positive PTB (new and relapses in separate) and the proportion of smear positive out of the new pulmonary cases reported (quality of diagnosis), which would be a valuable indicator of Quality of TB care (quality of clinical diagnosis). The expected result would be 50-65% of the pulmonary cases confirmed by microscopy. The global average is 56%, the CAR countries vary between 35% in KAZ to 50% in Tajikistan and in Russia the proportion is 31% (probable over-diagnosis).
- There are many boxes with 0%; if the number is 0 the box should indicate NA. There is no data for smear conversion in 2012; conversion should be reported 3 months after ending the quarter (e.g. Jan-Mar should be analyzed in July).

## Q Report

- In challenges it is noted that there were 2 false negative results in 500 slides, it is useful to note them and retrain for better reading but it also should have been noted that the 0.5% error represents very good quality of microscopy.
- Note that the laboratory may miss some cases with few bacilli (not very infectious), but it is quite probable that the program is losing or delaying treatment of a much larger number of positive cases by not registering and starting treatment in the PHC. A key priority is changing the national guidelines and criteria to avoid unnecessary referral of new smear positive cases.
- The % of smear positive for diagnosis reported by the laboratory that started treatment (e.g. within a week or two) would be a valuable indicator, as mentioned above.
- Note that the cure rates are too high for the prevalence of MDR in new cases identified in the DR surveys, and the failure rate is too low – the definitions, completeness of the sample and quality of the data analysis of the cohorts for treatment outcomes should be checked.
- #32: not all new patients can or should do DST. The group required better definition.

## Data

- See above about evaluation of the cohort for sputum conversion
- The India system of shading boxes that have abnormal or unexpected results is very useful; it could be adapted to this spread sheet. For instance the proportion of 65 S (-) to 20 S (+) in Chilanzar in 2011 is too high and requires discussion, while Samarkand (11 and 26) is acceptable.

## Charts

- The title in Chart #1 is case notification rates, while the table reflects absolute numbers. It would be better to have both tables and graphs (absolute numbers and incidence rates) and use semi-logarithmic scale for the graphs.
- Note that there is very rapid reduction in the absolute number of new S+, relapses, also of other S+ and EP reported, much faster than could be expected from the impact of interventions. The validity of the reduction should be checked with the trend in suspects examined and possible administrative changes (definitions, reporting).
- Calculate the annual rate on the basis of the estimated population

Annex VI. Summary report on sputum-smear microscopy. Uzbekistan, 2010-2011-2012

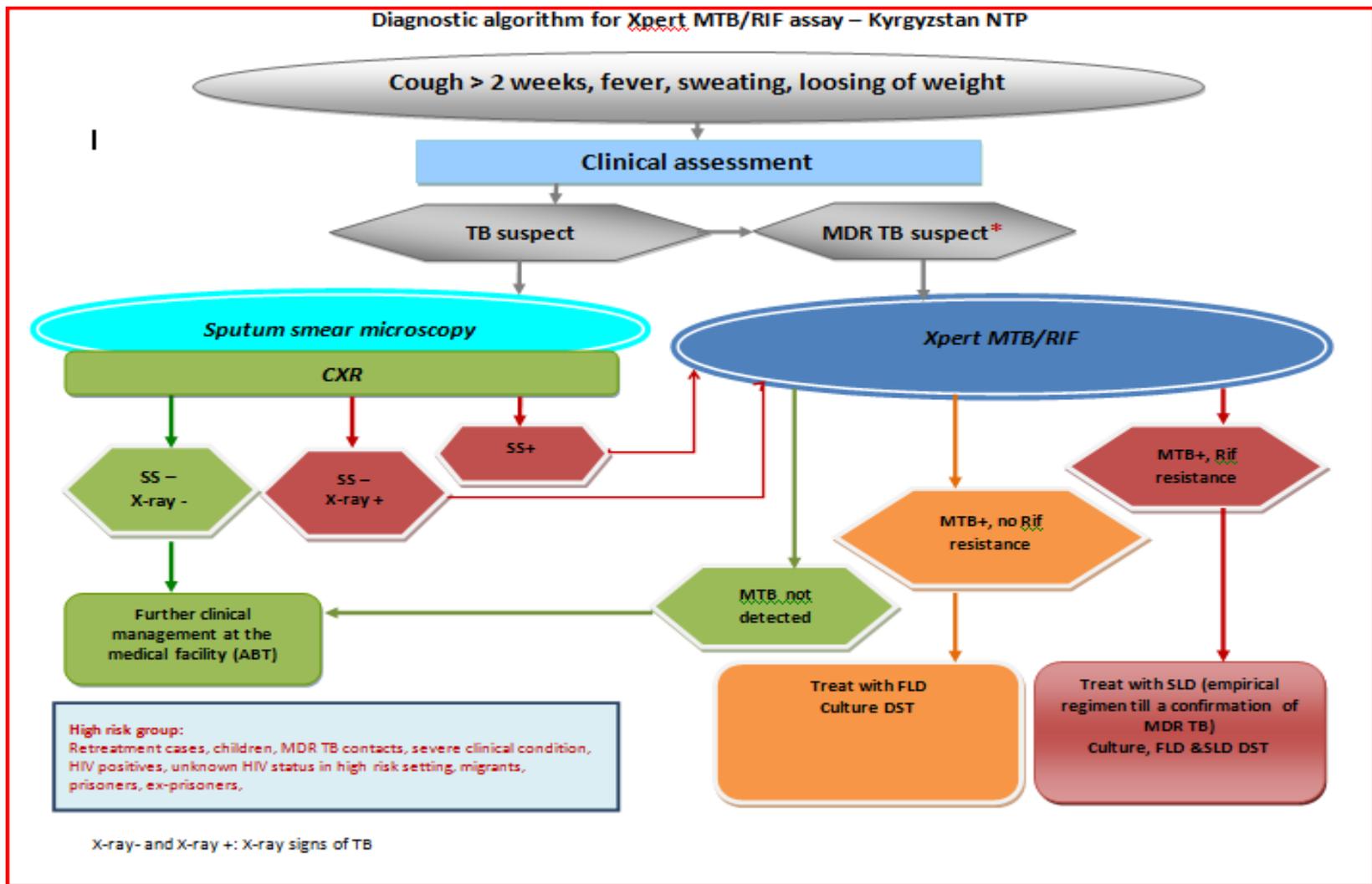
| <b>№</b>  | <b>Oblast</b>              | <b>Year</b> | <b>Total people examined</b> | <b>Number of SS+</b> | <b>%</b>    |
|-----------|----------------------------|-------------|------------------------------|----------------------|-------------|
| <b>1.</b> | <b>Karakalpak Republic</b> | <b>2010</b> | <b>22985</b>                 | <b>1517</b>          | <b>6.6</b>  |
|           |                            | <b>2011</b> | <b>21259</b>                 | <b>1516</b>          | <b>7.1</b>  |
|           |                            | <b>2012</b> | <b>19001</b>                 | <b>1274</b>          | <b>6.7</b>  |
| <b>2.</b> | <b>Tashkent city</b>       | <b>2010</b> | <b>8289</b>                  | <b>1027</b>          | <b>12.4</b> |
|           |                            | <b>2011</b> | <b>7826</b>                  | <b>812</b>           | <b>10.4</b> |
|           |                            | <b>2012</b> | <b>14415</b>                 | <b>989</b>           | <b>6.8</b>  |
| <b>3.</b> | <b>Andijan</b>             | <b>2010</b> | <b>9056</b>                  | <b>741</b>           | <b>8.2</b>  |
|           |                            | <b>2011</b> | <b>7568</b>                  | <b>817</b>           | <b>10.8</b> |
|           |                            | <b>2012</b> | <b>8031</b>                  | <b>552</b>           | <b>6.9</b>  |
| <b>4.</b> | <b>Bukhara</b>             | <b>2010</b> | <b>9356</b>                  | <b>736</b>           | <b>7.8</b>  |
|           |                            | <b>2011</b> | <b>8798</b>                  | <b>506</b>           | <b>5.7</b>  |
|           |                            | <b>2012</b> | <b>9126</b>                  | <b>522</b>           | <b>5.7</b>  |
| <b>5.</b> | <b>Jizak</b>               | <b>2010</b> | <b>5719</b>                  | <b>368</b>           | <b>6.4</b>  |
|           |                            | <b>2011</b> | <b>4969</b>                  | <b>455</b>           | <b>9.1</b>  |
|           |                            | <b>2012</b> | <b>6086</b>                  | <b>238</b>           | <b>3.9</b>  |
| <b>6.</b> | <b>Kashkadarya</b>         | <b>2010</b> | <b>7043</b>                  | <b>985</b>           | <b>14</b>   |
|           |                            | <b>2011</b> | <b>6523</b>                  | <b>644</b>           | <b>9.9</b>  |
|           |                            | <b>2012</b> | <b>6421</b>                  | <b>685</b>           | <b>10.6</b> |
| <b>7.</b> | <b>Navoi</b>               | <b>2010</b> | <b>5417</b>                  | <b>209</b>           | <b>3.8</b>  |
|           |                            | <b>2011</b> | <b>5309</b>                  | <b>255</b>           | <b>4.8</b>  |
|           |                            | <b>2012</b> | <b>4304</b>                  | <b>175</b>           | <b>4.0</b>  |
| <b>8.</b> | <b>Namangan</b>            | <b>2010</b> | <b>11423</b>                 | <b>690</b>           | <b>6</b>    |
|           |                            | <b>2011</b> | <b>9636</b>                  | <b>615</b>           | <b>6.4</b>  |
|           |                            | <b>2012</b> | <b>8880</b>                  | <b>571</b>           | <b>6.4</b>  |
| <b>9.</b> | <b>Samarkand</b>           | <b>2010</b> | <b>10871</b>                 | <b>579</b>           | <b>5.3</b>  |
|           |                            | <b>2011</b> | <b>8903</b>                  | <b>609</b>           | <b>6.8</b>  |

|            |                               |             |               |              |             |
|------------|-------------------------------|-------------|---------------|--------------|-------------|
|            |                               | <b>2012</b> | <b>9166</b>   | <b>519</b>   | <b>5.6</b>  |
| <b>10.</b> | <b>Surkhandarya</b>           | <b>2010</b> | <b>10101</b>  | <b>877</b>   | <b>8.7</b>  |
|            |                               | <b>2011</b> | <b>10182</b>  | <b>724</b>   | <b>7.1</b>  |
|            |                               | <b>2012</b> | <b>11208</b>  | <b>833</b>   | <b>7.4</b>  |
| <b>11.</b> | <b>Surdarya</b>               | <b>2010</b> | <b>3160</b>   | <b>342</b>   | <b>10.8</b> |
|            |                               | <b>2011</b> | <b>3241</b>   | <b>296</b>   | <b>9.1</b>  |
|            |                               | <b>2012</b> | <b>2686</b>   | <b>197</b>   | <b>7.3</b>  |
| <b>12.</b> | <b>Tashkent oblast</b>        | <b>2010</b> | <b>15370</b>  | <b>1150</b>  | <b>7.5</b>  |
|            |                               | <b>2011</b> | <b>14617</b>  | <b>1212</b>  | <b>8.3</b>  |
|            |                               | <b>2012</b> | <b>17743</b>  | <b>1224</b>  | <b>6.8</b>  |
| <b>13.</b> | <b>Ferghana</b>               | <b>2010</b> | <b>15699</b>  | <b>1047</b>  | <b>6.6</b>  |
|            |                               | <b>2011</b> | <b>10062</b>  | <b>760</b>   | <b>7.5</b>  |
|            |                               | <b>2012</b> | <b>10275</b>  | <b>791</b>   | <b>7.7</b>  |
| <b>14.</b> | <b>Khorezm</b>                | <b>2010</b> | <b>5865</b>   | <b>600</b>   | <b>10.2</b> |
|            |                               | <b>2011</b> | <b>4543</b>   | <b>424</b>   | <b>9</b>    |
|            |                               | <b>2012</b> | <b>4296</b>   | <b>382</b>   | <b>8.8</b>  |
|            | <b>Republic of Uzbekistan</b> | <b>2010</b> | <b>127293</b> | <b>10231</b> | <b>8</b>    |
|            |                               | <b>2011</b> | <b>128204</b> | <b>10018</b> | <b>7,8</b>  |
|            |                               | <b>2012</b> | <b>131538</b> | <b>8952</b>  | <b>6.8</b>  |

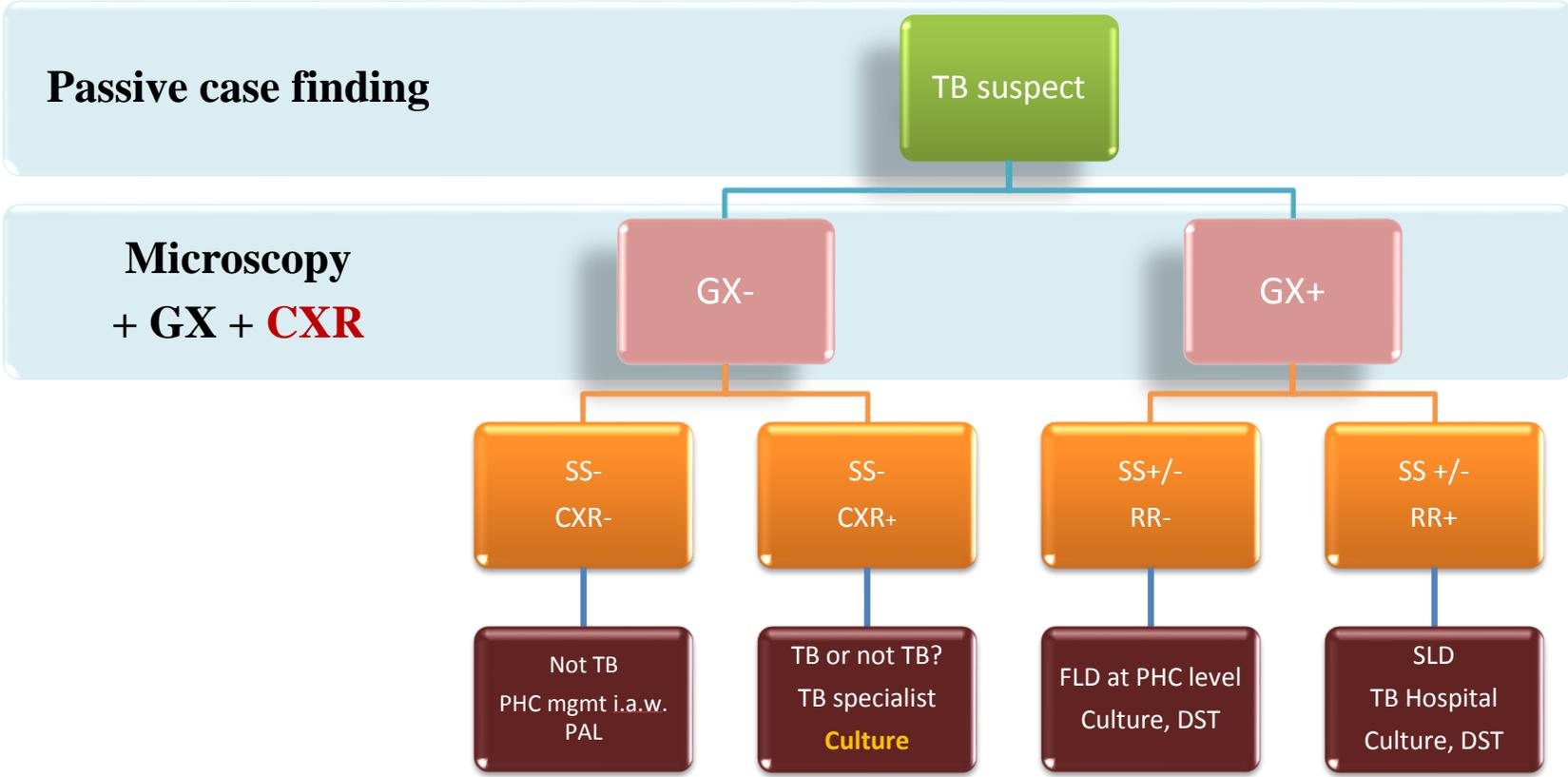
## VII. Algorithms for GeneXpert – Kyrgyzstan (drafts)

Number of GeneXpert platforms in the Kyrgyz Republic (taken from the proposed national strategy)

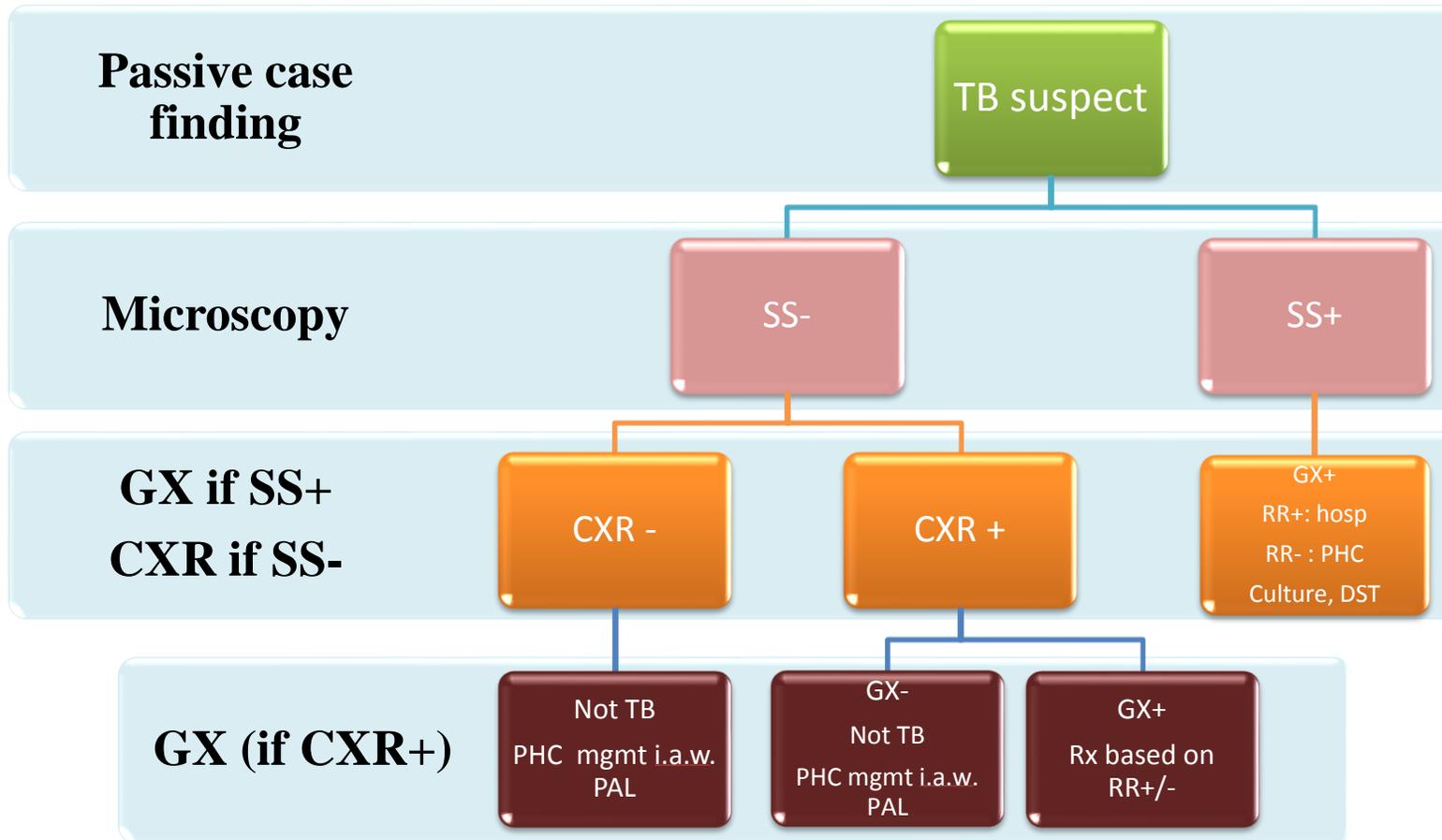
| <i>Name of the institution/project</i> | <i># GeneXpert platforms</i> | <i>Placement of GeneXpert platform</i>                                                                                                                           | <i>Start of pilot phase</i> | <i>Duration of the projects</i> | <i>Target groups</i>                                                    |
|----------------------------------------|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|---------------------------------|-------------------------------------------------------------------------|
| MSF -Switzerland                       | 2                            | SIZO №1                                                                                                                                                          | 10.2011                     | 3 years (till 2015)             | Persons under investigation, prisoners<br>TB patients of Kara-Suu rayon |
|                                        |                              | Kara-Suu TB Hospital, Osh oblast                                                                                                                                 | 05.2012                     | 3 years (till 2015)             |                                                                         |
| USAID Quality Health Care Project      | 1                            | Issyk-Ata FMC, Chui oblast                                                                                                                                       | 04.2012                     | 04.2013                         | TB patients (fully ambulatory treatment)                                |
| TB Reach Wave II project of NTP        | 4                            | Chyi Oblast TB Center, Lebedinovka village<br><br>Bishkek city TB Center, Bishkek<br><br>Osh Interoblast Children TB Hospital, Osh city<br><br>NRL, Bishkek city | 12.2011                     | end of 2012                     | Internal migrants                                                       |

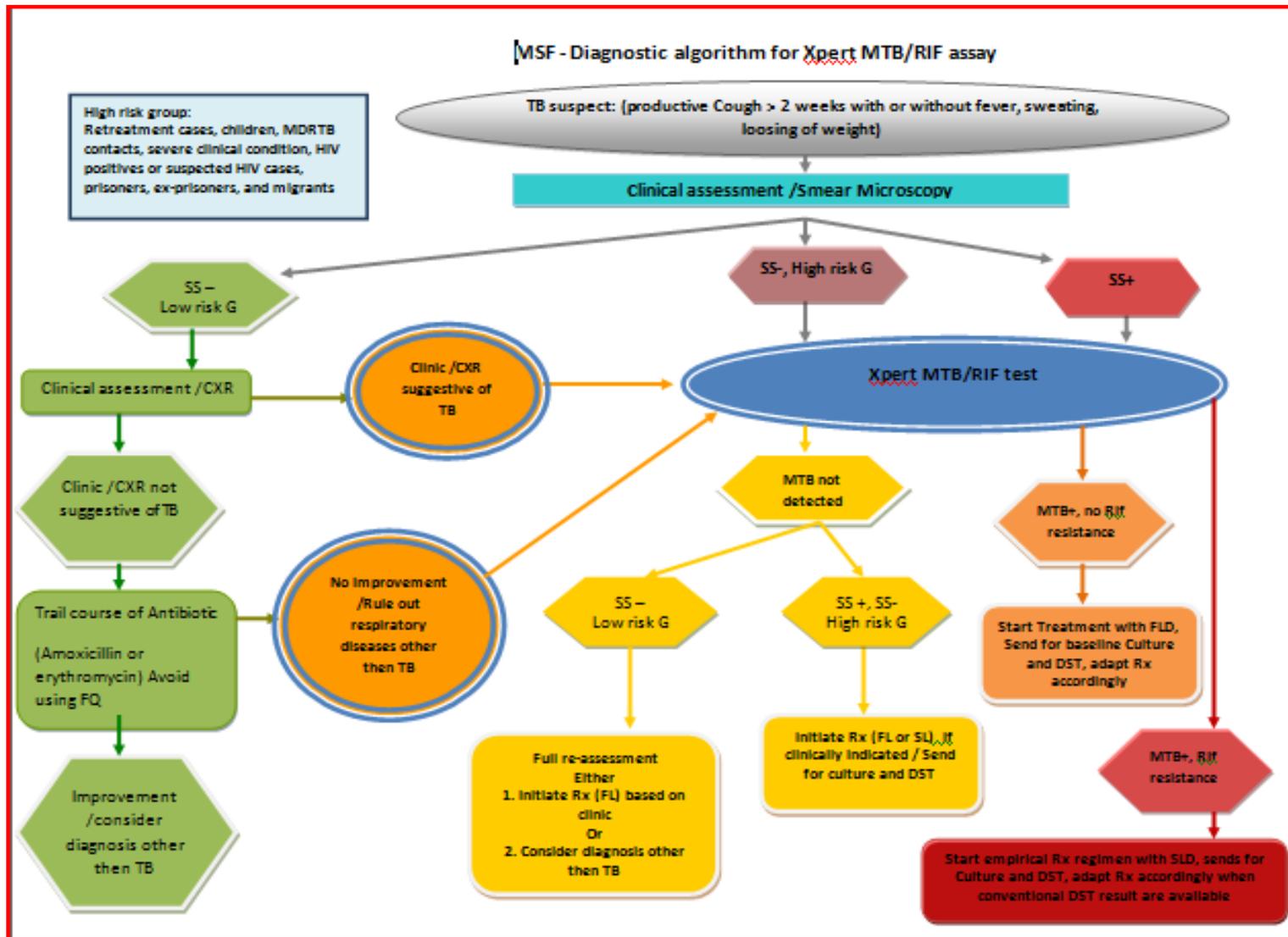


## **Diagnostic algorithm of QHCP for pilot area**



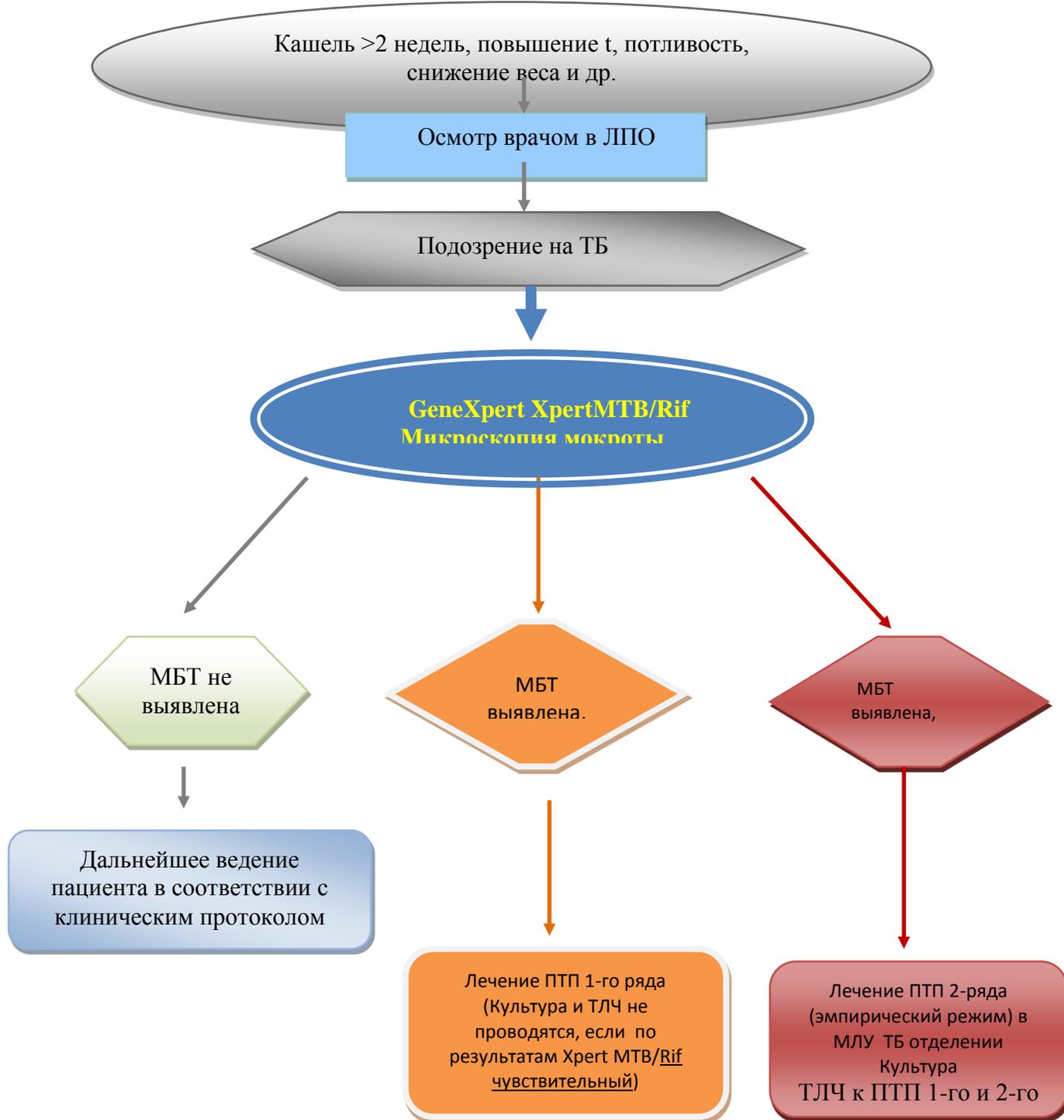
## **Proposed diagnostic algorithm of QHCP for expansion**





## Diagnostic algorithm for GeneXpert, TB REACH.

Диагностический алгоритм для платформы GeneXpert, анализа XpertMTB/Rif



## VIII. Documents consulted

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- WHO Global TB Report 2012.
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- USAID/QHCP in the Central Asian Republics, TB component. F. Luelmo, August 27-September 18, 2011
- UZ 08052 M&E QHCP PDQR Jul-Sept 2012 v4 Excel
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- National plan to prevent and combat M/XDR-TB in Uzbekistan for 2012-2015.
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- WHO Uzbekistan funding streams

### Kyrgyzstan

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- WHO: Kyrgyzstan TB profile, 2012: [www.who.int/tb/data](http://www.who.int/tb/data)
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