



Report of a Mid-Term Evaluation

Project HOPE Consortium's Central Asia Tuberculosis Program

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Abbreviations

AIDS	Acquired Immunodeficiency Syndrome
AFEW	AIDS Foundation East-West
ARV	Anti-retroviral drugs
BCC	Behavioral Change Communication
CAR	Central Asian Republics
CDC	U.S. Centers for Disease Control
CCM	Country Coordinating Mechanism
DOT	Directly Observed Treatment
DOTS	The WHO-recommended strategy for effective TB control
DRS	Drug Resistance Survey
DST	Drug Susceptibility Testing
ESCM	Electronic Surveillance Case Management system
EQA	External quality assurance (laboratory)
FDC	Fixed dose combinations of anti-TB drugs
GDF	Global Drug Facility
GFATM	Global Fund to fight AIDS, Tuberculosis and Malaria
GLC	Green Light Committee
HIV	Human immunodeficiency virus
HLWG	High level working group
HRD	Human resource development
IEC	Information, Education, Communication
ICRC	International Council of the Red Cross/Red Crescent
IFRC	International Federation of the Red Cross/Red Crescent
JHU/CCP	Johns Hopkins University/Center for Communication Programs
JSI	John Snow, Inc.
KfW	German Development Bank
M&E	Monitoring and evaluation
MDR TB	Multi-drug resistant TB, resistance to isoniazid and rifampicin
MoH	Ministry of Health
MOHMIT	Ministry of Health and Medical Industry (Turkmenistan)
MSF	Medecins Sans Frontiers
NCS	National Communication Strategy
NJMS-GTBI	New Jersey Medical School – Global Tuberculosis Institute
NTBC	National Tuberculosis Center
NTP	National Tuberculosis Program
OR	Operational Research
PHC	Primary Health Care
PIU	Programme Implementation Unit
PLWHA	People living with HIV/AIDS
QA	Quality assurance
SLD	Second line TB drugs
SNRL	Supranational reference laboratory
TB	Tuberculosis
TB/HIV	Tuberculosis plus HIV infection
ToT	Training of trainers
TWG	Thematic working group, or Technical working group
USAID	United States Agency for International Development
WFP	World Food Program
WHO	World Health Organization

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SUMMARY CONCLUSIONS AND RECOMMENDATIONS

Project HOPE supported implementation of the DOTS strategy for TB control in the Central Asian Republics from 1997-2001 and from April 2001 to March 2004, with funding from USAID grants. An evaluation of the second project was carried out in March 2004¹. Implementation of the current project² started in April 2004. The present mid term evaluation of strategies and achievements, and of the status and progress of the national programs, aims to establish Project HOPE Consortium priorities for the next two years and guide future support. The Project HOPE Consortium has included Project HOPE and five agencies supporting various aspects of project implementation (See Annex V). The project reports for years 1 and 2 (April 2004-March 2006), plus activity reports for the first three quarters of 2006 and multiple reference documents were available at the regional and country level for this evaluation.

The mid-term evaluation took place from 18 January to 3 February 2007. The team members included Nikita Afanasiev, Kayt Erdahl, Fabio Luelmo (team leader), Carolyn Mohan, Stefan Talevski and Gulnoz Uzakova. A briefing took place in the Project HOPE regional office in Almaty on 18-20 January and three teams of two persons each visited respectively Kazakhstan, Kyrgystan plus Tajikistan, and Uzbekistan plus Turkmenistan. In each country the teams interviewed national authorities and staff of partner organizations, and visited specialized and general health facilities. A list of these persons and institutions is attached as Annex III. Discussion of the findings and recommendations and debriefing to Project HOPE and USAID took place in Almaty from 31 January to 3 February.

WHO estimates of TB incidence vary from 65 per 100 000 in Turkmenistan to 177 in Tajikistan³. In 2004, the new smear positive TB case detection rates varied from 12% in Tajikistan to 79% in Kazakhstan. Reported treatment outcome was good in most countries already in 2003, from 75% success in Kazakhstan to 86% in Tajikistan. The TB control strategy is in different stages of change; from the vertical specialized system of the old Soviet Union to the DOTS strategy with services integrated in general health delivery. TB diagnosis and indication of treatment is still performed by specialized professionals, with hospitalization of the large majority of TB patients at least during the intensive phase of treatment. The first two Project HOPE-USAID supported projects in the region found major resistance to implementation of the DOTS strategy in practice, even after formal adoption by the governments. This resistance has diminished rapidly in Kyrgyzstan (helped by Health Sector Reform), Tajikistan and Uzbekistan. Old practices such as mass screening have been abandoned in those countries in favor of more effective interventions. In Kazakhstan and Turkmenistan old practices are still maintained, but there is now a firm government commitment in Turkmenistan to expand the DOTS strategy rapidly in the whole country.

Project HOPE support to TB control was considered, in all countries and at all levels, valuable and of high quality. Project HOPE is the main source of technical support and USAID funding is an indispensable resource in three countries and a key element for change in the other two. In most countries the main elements of the DOTS strategy have been achieved (Government formal commitment, coordinating bodies, national decrees and manuals, training materials and training including TB in formal education, information systems) or substantial progress was observed (laboratory network, IEC). Coordination with other partners that support specific aspects of TB

¹ Final Assessment and Evaluation Report, Project HOPE Tuberculosis Program. Implementation in the Central Asian Republics. Grant #115-1-00-01-001-00, USAID.

² Cooperative agreement 176-A-00-04-00006-00

³ Global Tuberculosis Control. WHO Report 2006.

control (laboratory, IEC, drug management, prisons, MDR) is generally good at country level. Project HOPE plays a major role in the national coordination groups and in the formulation of national policy in most countries. Areas that require additional support are managerial capacity of the NTP, ownership by the Ministries of Justice or Interior of the TB program in prisons; increased coordination with the Regional CAPACITY project in HIV and TB/HIV activities to ensure that training materials of TB and HIV programs are compatible and to adopt common indicators (prevalence of HIV in TB patients); and translation of the training and IEC materials now available in Russian to local languages.

A common problem of most country programs is the managerial weakness of the central TB unit, which is a key element of the DOTS strategy⁴. In general the national coordinators for the program components are based in the National TB Centers but, except in Uzbekistan, do not function as a team with well-defined responsibilities or respond functionally to the head of the TB control in the Ministry of Health. Their capacity for planning, supervision and monitoring needs strengthening and in some countries many of these functions are in practice carried out by the country Project HOPE teams. These teams are well organized and trained and have access to more resources than national staff; as a result Project HOPE carries out a substantial workload of administrative activities that should be a responsibility of the national programs.

Two countries have particular issues in drug management that should be addressed. Kazakhstan has national resources for tuberculosis allowing purchase of TB drugs, in separate formulations. Currently the government plans to decentralize funding for health to the regions and to transfer the responsibility for procurement, including for TB drugs. This can result in higher costs and inability to ensure drug quality, standard presentations and regular supplies. In Kazakhstan second line drugs are used widely, without adequate basic conditions (training and monitoring, good organization of DOT accessible to the patients) to ensure that patients take regularly the correct combined regimens. In Turkmenistan there are plans to procure second line drugs and make them available in oblast TB dispensaries. The same conditions listed above would be required to avoid development of resistance to second line drugs.

Key recommendations

1. Strengthen national TB control program management in all countries by
 - Strongly advocating the consolidation of national TB management teams, with staff based in the TB Center but responding functionally to the TB authority in the Ministry of Health, to increase responsibility for managing the TB program.
 - Advising on terms of reference for the NTP central unit staff to ensure clear lines of authority, responsibility and supervision. Additional training and mentoring in their managerial functions is urgently needed.
2. Give priority to strategic planning aimed to increase the national capacity to manage TB control, by
 - Gradually transferring routine managerial activities now carried out by Project HOPE staff to trained, mentored and qualified national staff, particularly in areas of training, supervision and quality assurance of microscopy. Project HOPE staff could complement the national unit in the planning, implementation and monitoring of managerial activities to provide on-the job training in appropriate methodologies.

⁴ WHO, 2002. An expanded DOTS framework for effective TB control. WHO/CDS/TB/2002.297

- In collaboration with other partners (WHO, Gorgas, Caritas, Capacity, etc.), concentrate on partner agreement on and promotion of appropriate national policies, joint planning of support, compatible training and information materials and monitoring indicators.
3. Advocate for a TB budget line in national health budgets, with a least minimum funding for the managerial activities of the NTP (supervision, training, monitoring, drug distribution), to be complemented by external support.
 4. In Kazakhstan, promote a sustainable, good quality TB drug supply by advocating that the national authorities maintain national funding and centralized procurement of TB drugs as for other essential supplies for priority health programs, such as vaccines.
 5. In Turkmenistan, use the opportunity of the current government commitment to expand DOTS rapidly to guide and support a rational plan of expansion, in close collaboration with WHO.
 6. Develop a Project HOPE strategy and medium term plan to gradually prepare countries for full NTP implementation and management of TB control; update Project HOPE staff on the final structure desired (including health sector reforms such as changes in the funding and use of TB hospitals and specialists) and strengthen their capacity to monitor progress.

Introduction, objectives and methods

Project HOPE, in coordination with USAID, decided to carry out a mid-term evaluation of the current TB control project in the Central Asian Republics to review the strategies used to support national TB control programs and the progress achieved. The recommendations will guide the next two annual plans of activities in 2007-2009.

The mid-term evaluation took place from 18 January to 3 February, 2007. The team members included Nikita Afanasiev, Kayt Erdahl, Fabio Luelmo (team leader), Carolyn Mohan, Stefan Talevski and Gulnoz Uzakova (Annex I). The initial briefing took place in Almaty on 18-20 January and three teams of two persons visited respectively Kazakhstan, Kyrgyzstan plus Tajikistan, and Uzbekistan plus Turkmenistan. In each country the teams, accompanied by Project HOPE staff, interviewed national authorities and staff of partner organizations and visited specialized and general health facilities. A list of these persons and institutions is attached as Annex III. Discussion of the findings and recommendations, and debriefing to Project HOPE and USAID took place in Almaty from 31 January to 3 February.

Epidemiological situation

The WHO-estimated incidence of tuberculosis in the region in 2004 was 74 000 new and relapse cases (129 per 100 000). In that year 61 000 TB cases were reported by the five countries⁵. However, only 17 000 new smear positive cases were reported of the estimated 33 250, a rate of 30 per 100 000 and a smear positive case detection rate of 51%. The reasons for this low case detection of sources of infection included limited integration of the TB program in the general health care facilities, uncertain quality of microscopy and generalized use of radiology for diagnosis of pulmonary disease. The total TB cases reported included a high proportion of extra-pulmonary forms (22-32 %), except in Kazakhstan, and of pulmonary cases with unknown smear results. The proportion of smear positive among all diagnosed cases was under 30%.

Reported TB incidence has increased in all countries since the mid-90's and stabilized at high levels in Kazakhstan (180 per 100 000 in 2004) and Kyrgyzstan (117 per 100 000) and lower in Uzbekistan (77) and Turkmenistan (71) after 2002. In Tajikistan the reported rates have increased until 2004 (77 per 100 000), probably due to gradual expansion of the TB program.

The last information available to Project HOPE shows improved quality of TB diagnosis: over 35% of reported cases are sputum smear positive. Sputum conversion at the end of the intensive phase of treatment is consistently good (near 90%) and treatment success is good (72-86%). However most of this information corresponds only to areas covered directly by Project hope AND project SINO support activities (Table 1). Therefore it is not all the data that NTPs should analyze and that countries must report annually to WHO. By the time of the evaluation, national data for 2005 should have been sent to WHO for the 2007 Report, but it was not yet readily available and used by Project staff.

Data from pilots and areas covered with direct support is useful to monitor Project impact, and analysis can serve as model for the NTPs. However, support to NTP staff by Project HOPE and CDC (electronic surveillance system) to collect and analyse national and regional data would be useful to increase the capacity of the national staff and to ensure that all institutions have the same information.

⁵ Global Tuberculosis Control. WHO Report 2006.

Table 1
Tuberculosis case detection and treatment results, Central Asian Republics

Country	Population (millions) ^a	Estimated new S+ incidence p.100000 ^a	Reported incidence Q4, 2005 – Q3, 2006 ^b	Reported incidence S+, Q4, 2005 – Q3, 2006 ^b	Treatment success, new S+ cases Q4 2004 – Q3 2005 ^b
Kazakhstan	14.8	68	1742 ^c	582 ^c	82.8% ^c
Kyrgyzstan	5.2	80	5769	1881	86.3%
Tajikistan	6.4	55	3822 ^d	1547 ^d	84.4% ^d
Turkmenistan	4.8	29	653 ^d	313 ^d	75.9% ^d
Uzbekistan	26.2	53	1832 ^d	658 ^d	86.1% ^d
TOTAL	57.4	51			

^a WHO Global Report, 2006

^b Project HOPE reports

^c Almaty Oblast only

^d DOTS oblasts (including Project SINO)

Recommendation:

- Besides data from covered areas, Project HOPE should monitor national data and trends of key indicators (integration in health facilities, microscopy network, case detection, quality of diagnosis, smear examination of suspects and outcomes) for the whole country and by region, together with the national team.

Project HOPE activities

The Project HOPE five-year plan 2004-2009 for tuberculosis control for the Central Asia Region built on two previous five-year projects in CAR. The plan has three main objectives to support national commitment and strengthen implementation of the DOTS strategy. These are:

1. Building political support (including legal basis and bodies, coordinating mechanisms, NTP program structure and financing);
2. Building human and systems capacity (including integration of TB control, strengthening of the laboratory network, strengthening human resource capacity, creating rational drug management systems and improving program management, supervision and surveillance);
3. Community advocacy and mobilization; including developing of national BCC strategies, communication to the general population and risk groups, advocacy for policy makers and “small grants” and food support programs.

MDR and HIV are included in each of the objectives. Interventions in the prison sector and building national expertise and ownership of TB control by the countries are areas of special interest. The following chapters and Annexes summarize the findings, conclusions and recommendations of the evaluation.

Because of limited national funding for TB control activities (except for TB hospitals) in most countries and limited managerial capacity of the NTPs, Project HOPE is carrying out many NTP functions, with external USAID funding. This is acceptable as an initial strategy to develop and expand DOTS rapidly, but Project HOPE should now concentrate on developing national

capacity to take over these functions. This cannot be fully achieved in the next two years, but a medium term strategy and plan should be developed, and Project HOPE staff should be fully trained on the optimal TB control structure and the gradual changes to reach it. National counterparts should be involved in the discussion of strategy, as it will vary according to the country situation in TB control.

1. Building political support

In all countries visited, the governments recognize the importance of TB control and are trying to establish an effective system to fight TB in accordance with the country-specific political and economic environment and available structures and resources. The findings in each country regarding coordination mechanisms at national and intermediate level, DOTS policy and basic documents, government TB budget and inter-agency coordination are included in Annex IV.

Project HOPE has promoted political commitment and the creation of coordination mechanisms (Annex IV). A High Level Working Group on TB (HLWG) at the national level is one indicator of government commitment to TB control and its readiness to cooperate with the international TB community. The HLWG provides a forum for donors and technical agencies to harmonize their activities with the national government priorities and programs, to discuss and approve basic technical documents, and to develop recommendations for the government, including inter- and multi-sector interaction. Under the HLWG, Thematic Working Groups (TWGs) may be established to discuss and reach consensus on TB-related issues and develop guidelines and other documents. In all countries visited, except Turkmenistan, the HLWG or similar mechanisms were established and are functioning, with strong support and participation of Project HOPE staff.

The mechanisms to coordinate TB activities at the intermediate and local levels vary in different countries. Commissions on general health issues and infectious diseases at the oblast governments existed in all territories of the country since the Soviet time. Those commissions have been re-organized and boards on TB issues or oblast round tables on TB were established to enhance the visibility of TB control and involve sectors other than health. Project HOPE has advocated for the coordination mechanisms and plays a major role in the activities of the boards and committees. TWGs in key areas (from 2- 9 per country) are functioning and Project HOPE staff plays an active or even leading role in these groups.

In all countries the basic TB-control documents such as TB or DOTS national strategies, guidelines and manuals either were developed and adopted by the governments or are currently being developed. Project HOPE played an important role in the development and dissemination of these documents.

Project HOPE organized multiple regional and national TB workshops and conferences for the entire region as part of training, advocacy and IEC, contributing to adoption of new policies. It also collaborated directly with oblast authorities in project sites to expand DOTS.

The national budget for TB control activities varies from country to country. In general funding is limited to general and specialized staff salaries, maintenance and functioning of TB hospitals and, in some countries, for special interventions such as mass screening. With the exception of Uzbekistan, there is no line in the budget for the NTP to carry out the routine managerial activities of TB control.

In all countries, except Uzbekistan, the TB control program activities are under the umbrella of the National TB Center or National TB Institute. Except in Uzbekistan, focal points for the key components of the NTP work in different areas of the NTBC, usually do not function as a team and have neither financial resources nor direct access to the officer responsible for TB control in the MoH. In contrast, Project HOPE staff in each country constitutes a well-defined team, and they collaborate with each of the focal points with variable degrees of ownership of activities by the national counterparts.

Establishment of the NTP unit (i.e., a managerial team) responding directly to the head of TB control in the Ministry of Health is the first basic operation for DOTS implementation in a country⁶. The absence of this unit weakens national ownership of TB control and the capacity to plan, implement, monitor and supervise the program. As a result, Project HOPE continues implementing many activities that should by now have been transferred and absorbed by the NTP. In addition -except in Uzbekistan- NTP staff is part of the TB Center/Institute and not functionally under the NTP. The TB Center/Institute is the highest specialized institution in TB, but the NTP as a public health program should have independence to promote integration of TB activities in the general health system and rationalization of the use of resources. In Uzbekistan the unit (DOTS Center) is based in the National TB Institute but functionally responds directly to the responsible officer in the MoH: this seems an appropriate model for the region. As in other countries of the ex-Soviet Union, the TB Centers/Institutes are reluctant to depart from ineffective practices such as mass fluorography, individualized treatment and long hospitalisation, and NTP staff needs independence from the formal structure and lines of authority of the Centers to promote change.

In all countries Project HOPE plays a leading role in strengthening political commitment and establishing the proper coordination between national health authorities and international partners in TB control. National coordinating bodies have been established as planned in most countries, and need strengthening in Kazakhstan and Turkmenistan and rationalization in Kyrgyzstan. Manuals and guidelines are mostly available or in preparation always with close cooperation or with a leading role from Project HOPE staff.

Major obstacles to change are the financing of TB hospitals based on the number of beds (and not of activities) and the lack of a budget line for TB control activities, including funds for the functions of the NTP unit.

Recommendations:

- Promote the consolidation of national TB management teams, responding functionally to the TB authority in the Ministry of Health.
- Advise on terms of reference for the NTP central unit staff, to ensure clear lines of authority, responsibility and supervision.
- Strengthen the managerial capacity of the NTP teams, particularly to plan, monitor and interpret data for action, and use Project HOPE staff as mentors for on-the-job training.
- In Uzbekistan, Tajikistan and Kyrgyzstan, transfer gradually routine managerial activities now carried out by Project HOPE staff to trained, mentored and qualified national staff, for example in training, supervision and quality assurance of microscopy. Project staff should complement the national unit to provide on-the job training.

⁶ An expanded DOTS framework for effective tuberculosis control. WHO/CDS/TB/2002.297, page 9.

Country-specific recommendations:

Kazakhstan

- Provide evidence-based sources for changes in policy and practices and consider visits by selected authorities to well functioning DOTS programs (Latvia).

Kyrgyzstan

- Advocate a separate line TB item in the national budget, with initially small amounts for specific program activities.
- Discuss with all interested parties a decrease in the number of coordination boards (which seem excessive), under the umbrella of the Coordinating Council on TB (CCTB).

Tajikistan

- Continue advocacy on a budget line item for TB control and increasing allocations for TB.

Turkmenistan

- Find an appropriate mechanism of coordination of government, TB control donors and technical agencies acceptable to all partners.
- Provide technical assistance to the government to ensure that the proposed countrywide expansion takes place with appropriate training and organization.

Uzbekistan

- Together with local partners, consider focusing TWGs activities on key issues to be solved, or merging groups to focus on 2-3 key issues at the same time.
- Increase the cooperation with the National TB Institute (NTBI) in areas of common interest (e.g. operational research).

2. Building human and systems capacity for TB control

a. Integration and service delivery

The countries in CAR have decentralized health services planning, provision and management to local levels. There is a move toward providing integrated services, through primary health care units instead of vertical programs, to increase patient access. However there is no specific funding for TB control at the PHC level. PHC staff often conducts unnecessary active case finding outreach that does not garner sufficient additional infectious cases to merit the additional workload, and persons with inactive TB are classified as “chronic patients” and occupy large number of TB beds. The situation is better in pilot areas, but elsewhere many old practices are still common in some countries, backed by obsolete regulations (Annex IV). In Turkmenistan 40% of the TB patients are hospitalized in the pilot areas, versus 100% in the areas still uncovered.

Project HOPE has created a team of trainers in pilot oblasts that provides basic training for TB doctors, as well as training for PHC staff, at oblast and rayon levels. Each year it holds training seminars for PHC and TB physicians in pilot oblasts. Training, supervision and monitoring have been useful to develop pilot sites that are used as models. Detection and examination of suspects with sputum smears have been incorporated in normal practice in the general health facilities countrywide or in pilot areas that are gradually being replicated, with adequate sputum collection practices and microscopy. However, even in pulmonary cases with smear positive laboratory results, confirmation of diagnosis is still reserved for the TB specialists in the hospital.

Monitoring and interpretation of data for action at the national level and by Project HOPE staff needs further strengthening. For instance, reported detection of suspects in Kyrgyzstan PHC facilities diminished since 1999 instead of increasing (from nearly 7000 persons examined to less than 1400 in 2005); and in Tajikistan (Dushambe and Rudaki) the number of suspects examined and smear positive cases found diminished from 2003 to 2004. This should have been identified through monitoring and corrected.

Treatment guidelines are consistent with WHO recommendations, but often give multiple alternative regimens to the treating physician (Kyrgyzstan, Tajikistan). Sputum conversion is very high, around 90%, and treatment success is high given the coverage of the programs and geographical characteristics: the quality of this information should be verified through operational research. Gradual DOTS expansion of the pilot areas creates difficulties for continuation of treatment after hospitalization for patients living in areas not yet covered by DOTS, and for transportation of continuation phase drugs to facilities accessible to the patient.

In conclusion, there was important progress in integration of TB program activities and in changes of inefficient practices in the first half of the project, particularly in Uzbekistan, Kyrgyzstan and Tajikistan. An important factor has been the Project HOPE training program for specialized and for general staff. Kazakhstan and Turkmenistan still maintain old practices, including hospitalization of patients during the intensive phase of treatment. The MOHMIT in Turkmenistan is strongly in support of completing DOTS expansion this year, but the capacity to train staff and organize activities countrywide is unclear. The TB programs are still mainly vertical and specialized, guided in most countries by the national TB Centers/Institutes with a clinical perspective and not with a public health approach. The financing mechanisms for hospitals and the lack of autonomy of the NTP staff in the specialized centers are obstacles to change.

Project HOPE and WHO should review policy aspects and technical issues regularly with the national authorities, with policy being more important. To be convincing and to develop a strategy to gradually guide each national TB program, Project HOPE staff must have a clear understanding of the priority of interventions to reduce TB, and the NTP structure and functions desirable on the long term. They should be aware of which international recommendations are basic for effective TB control (such as regular good quality drug supply, the recording and reporting system and monitoring of key indicators); which recommendations are optional according to national factors (such as choice of the national standard treatment regimens) and which ones are not pertinent and can be ignored for the moment.

Recommendations:

- Give priority to advocacy in Kazakhstan and Turkmenistan to adopt appropriate control practices and eliminate obsolete prikazes. Provision of reference materials in Russian, comparison with the other CAR country results (for instance in regional workshops), and visits to the pilot areas and to other countries can be useful. Training should be expanded to more PHC units, with the recognition that case detection and DOT are primarily responsibilities of PHC.
- Advocate, in coordination with other partners, different financing mechanisms and the gradual change of the specialized TB facilities into tertiary specialized institutions for pulmonary diseases in addition to TB, and separate the NTP unit public health functions from the TB Center/Institute structure.

- Support the expansion of DOTS countrywide, with appropriate training and monitoring of results, and with full participation of the national NTP staff. Where national staff has been trained at the oblast and rayon level, discontinue direct support. The use of community DOT providers, selected with the patient, should be piloted and expanded.
- Strengthen the capacity of Project HOPE staff in TB epidemiology and control and knowledge of the NTP structure and functions. A useful method can be short internal workshops to discuss international recommendations (for instance, the new WHO training materials for facilities and districts; or the issues in the stop-tb@eforums.healthdev.org site) with an international facilitator, if possible Russian-speaking (for instance from WHO). Mentoring can be through electronic mail.

b. Strengthening the TB laboratory network

Project HOPE conducted baseline laboratory assessments, trained lab technicians, conducted routine monitoring visits, created checklists and is introducing an external quality assurance system for smear microscopy in the pilot sites. These activities were conducted jointly with the NTPs and CDC. The quality of smear preparation has improved substantially (previous and current slides were seen during the mission), although there remains room for improvement in smear quality.

As result of an NTP initiative on “Centralization of laboratory services” and a laboratory assessment in Kyrgyzstan that showed poor results and low workloads, the number of TB laboratories was reduced and smear positivity increased; a good example of rational planning.. One parallel occurrence was a reduction in the number of suspects examined for diagnosis. This trend persisted from 1999 to 2005, and either was not detected or action was not taken, showing weaknesses in programme monitoring. Note that although the laboratory carries out microscopy and provides the information on suspects examined, the actions to increase early detection of suspects are a programme and not a laboratory responsibility; for that to work, close coordination or teamwork is required in the NTP unit.

The rayon laboratories visited in pilot sites had a trained technician, all necessary equipment and reagents were in place, all patients were properly registered, there was internal QC, and external checking of slides during supervision had been done. A double-blinded re-checking method for smear investigations, based on an annual sample with statistical analysis, is expanding slowly in pilot sites and seems to be working well. To improve the quality of their work, feedback should be provided to lab workers at rayon level who do not receive the results of EQA. Laboratory staff are underpaid and overworked so turnover is high.

In Turkmenistan there is no coordinated laboratory network yet; it is under development with the expansion of DOTS but development may not be in accordance with WHO standards: Turkmenistan may be trying to create too many labs, some of which will be unnecessary. In Kyrgyzstan observation of laboratory books showed unexpected patterns of smear results (such as lower positivity of the second smear, frequent negative and (+++) in the same patient). This type of monitoring of quality through analysis of the results in the laboratory register⁷ can be carried out by general program supervisors and should be included in the training.

⁷ Management of Tuberculosis. Training for District Health Coordinators. F: Ensure Laboratory support for TB control, page 14. WHO/HTM/TB/2005.347f.

The national capacity for culture and DST is under development, with variable use according to the status of the national TB laboratory and network.

Recommendations:

- Expand training in smear examination beyond the pilot sites; accelerate the expansion of external QA of smears; and register the results of re-reading during supervision and actions taken.
- Include the analysis of patterns of smear results in the training of laboratory and program supervisors.
- Advocate and support rational planning of the TB laboratory network in Turkmenistan.

c. Strengthening Human Resource capacity

Project HOPE has taken the lead in drafting national policy for TB control. There is a very active role of the Project in the preparation of training materials, training of trainers, direct training activities, as well as monitoring and evaluation. Basic training was provided for TB specialists, PHC staff, nurses, laboratory specialists, and training was also done on BCC and drug management. Training in cohort analysis was provided to oblast managers and on DOTS for epidemiologists of SES. Ad-hoc materials were developed for special program challenges. The training materials are modified from old WHO and Russian modules. Further revisions should include the new WHO modules for health facilities and for district level. There is an urgent need to strengthen national managerial capacity for TB control to facilitate national ownership, implementation and sustainability of the TB control program.

As in other ex-Soviet Union countries, there is a systematic complaint that the number of TB specialists is insufficient and, because of their advanced average age, the problem will worsen. This is true in some cases, but in general the specialists carry out many functions that could be carried out by general physicians and activities of low or no impact, such as post-treatment controls and hospitalization of inactive TB cases. For instance, there is no reason to require a specialist to diagnose or to initiate treatment with the national standard regimens for untreated, uncomplicated pulmonary TB cases that were confirmed by the laboratory (two positive smears, or positive culture). International recommendations and global general practice outside the ex-Soviet Union reserve the specialists (as for any disease) for difficult diagnosis (smear negative and extra-pulmonary TB), and follow up of patients with complications and associated diseases. Transformation of the TB specialists' role will take time, but it should be an area for advocacy and training activities of the Project.

In general, although physicians in training receive teaching on TB, it is unclear if curricula are in accordance with international standards or have a public health approach. Outdated training materials (guidelines elaborated and published in 1960s) are still in use. Modern materials are planned to be included in the curricula of advanced training institute. A separate discipline of Phthysiology deals with TB. The NTBC in Kazakhstan is not involved in development of curricula, but rather provides training in practical skills. Its perspective is that education is the responsibility of the Ministry of Education. Every five years, physicians must receive continuing education certification. The Kyrgyz State Medical Institute for Continuing Education has incorporated basic issues in the DOTS strategy in the training curricula approved by the Ministry of Health. Project HOPE helped the Institute to revise the curricula and adapt educational content to the needs of particular groups of trainees (TB specialists, PHC physicians and nurses).

Recommendations:

- Increase national managerial capacity through on-the-job training (mentoring), especially at national level. Project HOPE should promote teamwork at the national and intermediate (oblast) levels to plan, implement and monitor program activities.
- Delegate selected activities to national management staff and supervise and jointly monitor the results (for instance organization and running of HLWG and TWG meetings, QA of microscopy, training activities).
- Provide (in Russian and English) and discuss evidence-based sources to advocate for changes in policy and practices.
- Translate training and IEC materials into the national languages and support dissemination.
- Provide forums for peer evaluation at the national level (for instance, for country staff to present and discuss their activities and results) and for oblast level within countries.
- Project HOPE should continue support to medical and nursing teaching institutions to revise curricula and to implement DOTS as part of the educational program, following the example of Kyrgyzstan.

d. Creating rational drug management systems

Essential drug lists include first and second line anti-TB medications. However the 4FDC used in GDF grants, and now to be purchased with GFATM funds, are not always registered in each country. Project HOPE has assisted GDF with drug registration in each country. In Kyrgyzstan only rifampicin and isoniazid are fixed dose combinations and the other drugs are in loose formulations. All medications are stored in original containers rather than separated for individual patients, except when GDF kits are used. Some formulations are low dosage, so patients might have to take up to four pills at one time for just one drug. Although purchase of medication through the GDF in Kazakhstan would likely reduce the costs of this item, direct procurement cannot be done without a tender process and registration by the drug manufacturer.

In 2007, decentralization of funding for health to the regions will begin in Kazakhstan. Contrary to WHO recommendations, this will include procurement of the TB drugs. The government will transfer funds to the oblast, which will be responsible for the tendering process, developing drug specifications, purchase and logistics. A ceiling price has been set for TB medications. The new system will allow each oblast to define its medication needs. This may result in higher costs, irregular supplies, non-standard presentations that will confuse patients and health providers, and lack of quality assurance. Drug resistance could develop thus further aggravating the problem in the country. Previous economies of scale experienced by Kazakhstan with centralized drug procurement will be lost. The government is excluding vaccines, which will be procured by the national level with special resources. As a disease of public health priority, tuberculosis drugs should have the same degree of protection.

Recommendations:

- In coordination with all international partners, advocate centralized drug procurement in Kazakhstan, as it is planned for vaccines. If the decision to decentralize funding is taken anyway, promote development of standard specifications, quality assurance and bidding for prices at national level so oblasts can procure the same standard products at bulk costs on the basis of a “white list” of suppliers.

- Advocate implementation of appropriate drug management procedures for second line drugs in Turkmenistan.

e. Improving program management, supervision and evaluation

Project HOPE is working to strengthen country management of TB control. This includes work in the recording and reporting systems, training, monitoring the TB program at multiple levels and provision of feedback to improve program performance, and use of data to identify problems or make adjustments in the program. Project HOPE is recognized in all five countries as a leading agency in providing technical assistance for TB Control, and is closely aligned with each of the national TB control programs and partners.

In each of the countries, Project HOPE has specialists that work as a team. However, as indicated above in the Building Political Support section, only in Uzbekistan does an NTP unit respond directly to the Head of TB control in the MoH. In most countries the national staff, based in the TB Center, does not work as a team or formal NTP unit. Besides weakening the capacity of the NTP to take action independent from clinical or organizational pressures, this dispersion of staff focal points results in poor use of the information for monitoring, and lack of mutual exchange of information to build capacity. Formal constitution of these teams/NTP units and Project HOPE collaboration to build their managerial capacity seem the current main priority to support national programs.

In Uzbekistan, Project HOPE developed a curriculum for monitoring by rayon-level staff that has been successfully piloted and was well received by the NTP as filling a gap in the program. This strategy is being closely examined and may be expanded to other areas. The Project provides training in supervision for NTP managers in Uzbekistan, and NTP staff indicated that this is very useful.

In Kazakhstan, the NTBC has an annual monitoring and evaluation plan, as well as an action plan. Project HOPE developed a curriculum for monitoring by oblast level staff that has been successfully used in Almaty and Karaganda pilot, and the NTBC plans to use it countrywide. Reportedly NTBC monitors TB at all levels of healthcare. Monitored sites receive feedback from M&E visits. The MoH, MoJ, Ministry of Interior and international agencies participate in M&E, and conduct multiple visits per year throughout Kazakhstan. Feedback is provided to the oblast governor, coordination committee and the President and his cabinet. It is unclear how well this structure works in reality. Currently, Project HOPE staff conducts monitoring of sites where its project is located, in conjunction with NTP staff. Training in monitoring and evaluation is needed so that national staff are equipped to conduct monitoring and evaluation of their own programs, with periodic oversight and supervision by Project HOPE.

In Tajikistan, a system of TB monitoring and evaluation is functioning. In Kyrgyzstan, the established system of monitoring and evaluation permits fixing up potential inconsistencies in TB control at the regional and facility levels. Annual screenings for TB are provided to high-risk population groups instead of mass screening, thus making this diagnostic tool more effective.

An Electronic Surveillance Case Management system (ESCM), based on EpiInfo and developed by the CDC, is being used in Uzbekistan at the national and oblast levels to collect surveillance information and to provide reports for program monitoring and evaluation of progress. The

ESCM does not have a section for gathering data on MDR-TB or HIV. At the rayon level the recording and reporting system is paper-based, as preferred by WHO. In Turkmenistan the CDC prepared the ESCM system and training for the NTP but was unable to implement the system, so the recording and reporting system is still paper-based. The CDC also elaborated the ESCM system for Kazakhstan, but the NTP switched to use a national recording and reporting system that does not follow international standards, is not transparent, and does not provide the standard graphs and tables needed for program reporting. Kazakhstan will change systems again back to the ESCM system in the near future. Currently, at the rayon level TB data is entered on computer and saved on disk and the disk is sent to the oblast level, which then sends a quarterly report to the national level.

Quarterly reports on the TB control program indicators are submitted to the MoH by the NTP in all countries, and in Uzbekistan two reports are being submitted, by the National TB Institute and by the DOTS Center. NTP staff wants the ability to conduct additional analysis on data collected so training on use of EpiInfo has been developed by Project HOPE and will be conducted for NTP staff.

Uzbekistan carried out operational research studies on the effectiveness of mass screening and on the reasons for a high defaulter rate. These were done at the request of and in collaboration with the PIU and DOTS Center, in order to improve program performance. Training on operational research has been prepared and will be provided to staff of the NTP, so that national staff will be able to conduct additional studies as needed, and the Project will continue to provide support in this area. The Project HOPE Program Manager for Uzbekistan conducted a short 2-day training on operational research in Kazakhstan. Additional training will need to be done to complete the transfer of new concepts and ideas, and it was determined that the training should be longer.

In pilot areas in Uzbekistan and Turkmenistan, the TB control staff was well informed about the use of smear conversion at two months to determine if the patient should be transferred to the continuation phase of treatment. Patients observed in Uzbekistan were also aware of the need for this examination, and that if they were smear negative they could go home and continue their treatment on an out-patient basis. In Project HOPE pilot areas in Uzbekistan and Turkmenistan, treatment results have improved and are close to the international targets.

In general, Project HOPE collects and monitors data from DOTS areas with external support (Projects HOPE and SINO). Although this measures more directly the support activities and outcomes, it does not represent the impact of Project cooperation in the total TB problem or TB control in the country, and has the additional inconvenience of using different base populations and reported cases than the national data that the NTP should analyze and also report to WHO.

Recommendations:

- Assess the model of rayon-level monitoring and consider expansion in Uzbekistan and possible introduction in other countries.
- Share relevant information from monitoring reports with trainers, so future training may be adjusted to address persistent problems.
- Develop graphic formats for presentation of results, to be displayed in the monitoring units (NTP, oblast TB unit, TB Centers and large general facilities) and used in training. These graphs should also be used in Project HOPE country and regional offices for coverage, detection and outcome indicators.

- Strengthen monitoring and supervision skills of Project HOPE and NTP staff by joint analysis of trends and outcomes, and by presentation and discussion with peers from other countries or oblasts. Use national or regional data with the respective populations
- Work with the CDC to get MDR-TB included in ESCM system.
- In Uzbekistan, shorten the reporting format to reduce time spent on developing the report and accelerate feedback.

f. MDR-TB

The magnitude of multi-drug resistant TB (MDR-TB) in CAR is not known. Available data on failure outcome in treatment of new cases would suggest that the problem is more severe in Kazakhstan and Turkmenistan (failure rates of 14 and 9%) and less in the other three countries (failure 5-6%). The surveys to obtain reliable data require good quality central laboratories for drug sensitivity testing (DST), plus sufficient organization of the programs to ensure a representative sample. Information is available from surveys⁸ in Kazakhstan (whole country) with 14.2% primary MDR, Turkmenistan (4 districts) with 3.8% MDR and Uzbekistan (4 districts) with 13.2% MDR. Management of cases of MDR-TB (DOTS-Plus) has started in several countries. In general the treatment protocols are appropriate – standard multi-drug regimens of 24 months duration.

The New Jersey Medical School – Global Tuberculosis Institute (part of the HOPE Consortium) conducted assessments in 3 countries (Kazakhstan, Kyrgyzstan and Uzbekistan) on MDR-TB and TB/HIV issues, and helped to elaborate strategic documents for MDR-TB management for each country. There is no funding for this program activity in the other 2 countries. Project HOPE supports the strengthening of the laboratory network and participates in the TWG on management of MDR. The current findings are summarized in Annex IV.

Recommendations:

- Continue to advocate a rational strategy for MDR-TB management, according to NTP development and resources, ensuring good DOT and quality of sputum microscopy with national coverage; certified national laboratory and DST survey; and resources for uninterrupted reagents and drug supply.
- Promote use of infection appropriate control measures in laboratories providing culture and DST and in MDR TB treatment facilities.

g. TB/HIV management

HIV is increasing in the region but is mainly restricted to special risk groups (drug users and commercial sex workers). At this time, HIV co-infection is not frequent among TB patients (under 1% of the TB patients), but TB it is a common problem in HIV infected persons. The TB and HIV systems are mostly vertical and independent, and they are at different stages in country program implementation. The HIV program is much newer but at this time there is more donor funding available from GFATM, World Bank and others for HIV prevention and treatment. According to information from Kyrgyzstan, a World Bank regional project will fund joint

⁸ Anti-tuberculosis drug resistance in the world: third global report. WHO/IUATLD Global Project on Anti-Tuberculosis Drug Resistance Surveillance, 1999-2002.

TB/HIV program development. The CAPACITY project is working throughout the region on HIV programs, and one of their objectives is to build capacity for the linkage between HIV/AIDS and TB services.

These programs are linked by interactions between TB and HIV, but so far there is little real collaboration. There is a lack of clarity in the roles of each system in communication and collaboration at country and regional levels, and also between international partners working in both areas.

The highest rate of HIV prevalence is in Kazakhstan, and the lowest is Turkmenistan. In Kyrgyzstan, the prevalence of HIV is probably low. Testing for HIV is available everywhere, and is reportedly being done systematically to TB patients in Uzbekistan, Kazakhstan, Kyrgyzstan and Turkmenistan. However, this testing is often done without patient information or consent -except in Uzbekistan-, and the results obtained are not shared with the patient and not always with the TB services, or with the NTP or HIV programs for monitoring. TB specialists (and medical staff) are not sufficiently prepared to deal with or to counsel co-infected patients. It is unclear what treatment is available for HIV-positive TB patients in most countries

In Kazakhstan there is a joint prikaz on management of TB/HIV patients. These patients are not isolated but are treated with other patients. Surveillance of co-infection is under the authority of the appropriate expert. At the rayon level, TB/HIV co-infection is not considered a public health problem. PLWHA do not receive INH prophylaxis and co-trimoxazol prophylaxis is not provided for TB/HIV patients. There is no unified system for data collection and no coordinating body for TB and AIDS centers. Patients with HIV who have active TB must present themselves to the TB facility to receive treatment. In Uzbekistan, ARV treatment is available for HIV-positive patients through the Republican AIDS Center in Tashkent. It is not clear if ARVs are available for treatment of TB patients, although INH and co-trimoxazol prophylaxis are reportedly provided to patients. In 2006 15% of hospitalised patients were HIV positive and 9 patients started ARV treatment.

From the perspective of TB services, there are insufficient IEC and BCC materials for TB/HIV co-infected patients, a job that could be done by CAPACITY. Training materials for TB medical staff at different levels –usually produced with Project HOPE support- do not provide enough information about HIV. Cross-training for TB and HIV medical staff, such as has been developed for other Project HOPE programs, could be reviewed for adaptation and use.

In conclusion, TB/HIV is not a major concern for TB control at the moment, and should be a low priority for Project HOPE. However, guidelines for management of co-infected patients, as well as the information system and monitoring indicators that HIV programs are developing with the regional support of CAPACITY, will influence TB case management and the TB programs in the future.

Recommendation:

- Project HOPE should coordinate with CAPACITY to ensure that their guidelines and training materials on TB/HIV are consistent; and to ensure that information from HIV testing is used to monitor the trends of prevalence of HIV in TB patients.

h. TB in prisons

TB control in prisons is the responsibility of the Ministry of Justice and/or the Ministry of Internal Affairs. Prisoners are a high-risk group for TB, although it is difficult to obtain concrete data about TB in prisoners except Kazakhstan and Kyrgyzstan. DOTS implementation has started in prisons in all countries. Project HOPE started work in prisons first in Kazakhstan and then in Kyrgyzstan. Project HOPE was prepared to work in Uzbekistan, but the political situation changed last year and activities were postponed for an indefinite period. Work may start next in prisons in Tajikistan, but for now the prison systems in Uzbekistan and Turkmenistan are closed to direct intervention. Cooperation between MoHs and the Ministries in charge of prisons is not clear. The loss of TB patients on release from prisons is a major problem that needs improved collaboration between the prisons and the health facilities of the Ministry of Health.

In Kazakhstan, the prisons and pre-trial holding cells are under the jurisdiction of the Ministry of Justice but the 72-hour holding cells are the responsibility of the Ministry of the Interior. There are 77 prisons and 24 pre-trial detention facilities. The prisons have 8 TB hospitals. The NTBC works closely with KNCV in 4 pilot projects. The MoH does not have a good understanding of TB control in prisons or how TB services should be organized at the national level. Project HOPE, in collaboration with the Kazakhstan NTP and with full commitment of the Ministry of Justice, opened a training center in the prison in Karaganda in June 2003. Due to Project efforts, job performance and administration and logistics have improved. This center has served not only to train prison medical staff in Kazakhstan but also as a model program for TB control staff in Kyrgyzstan and Uzbekistan.

The Kazakhstan, the GFATM grant has \$720 000 for the prison component. Improved collaboration with civil society and prisons is needed for successful continued TB treatment. There is interruption of treatment when prisoners are taken out of pre-trial to reconstruct the crime, usually for one week. Forty percent of prisoners with TB cannot be found after their release from prison. A law under discussion would require prisoners with TB to be remanded to civil hospitals upon release. Special IEC materials have been developed for prisoners in Kazakhstan and are ready for printing. Movies have been made regarding TB in prisons targeted at prisoners (created by KNCV, and used by Project HOPE as an IEC activity). Where possible, cooperation should be strengthened between civilian and prison health sectors to share experience and improve follow-up for prisoners in TB treatment when they leave prisons.

In Tajikistan, the major partner working in prisons is Caritas, with additional technical advice provided by KNCV. Activities in Tajik prisons are mostly externally driven, and the Ministry of Justice only provides approval for interventions. In Uzbekistan, prisoners with TB are included in national TB statistics, but there is no official document related to health care for prisoners in the prisons, including for TB services. It is expected that the new TB prikaz will also serve as the guideline for TB control in prisons. In Kyrgyzstan, Project HOPE actively participated in developing guidelines for work with inmates with TB prior to their release, that were approved by the Kyrgyz government. In Turkmenistan, the Project does not have a prisons component. There is a separate TB control system for prisoners, and a prison for TB patients in Mary city. The GDF grant in Turkmenistan did not include drug needs for the TB control system because prisons do not provide the number of inmates with TB. After release from prisons in Turkmenistan, prisoners are required to go to civilian hospitals for screening for TB.

A number of other technical agencies such as ICRC and AFEW are working in prisons.. The level of coordination between Project HOPE and other organizations that cover the prison sector

seems adequate for ensuring treatment continuation and patients' compliance. In conclusion, there is a large number of organizations, including Project HOPE, that support prison TB control projects and prisoners with TB. However most of the activities seem externally driven, and there is no evidence that the respective Ministries of Justice or Interior have assumed ownership of TB control in prisons.

Recommendation

- Advocate to the Ministries of Justice or Interior to actively participate in the internal organization of TB control in prisons with Ministry of Health support. The successful civilian/prison integrated program in Russia could be a good example of Ministry of Justice ownership of TB control.

3. Communication, Advocacy and Mobilization

Communication and advocacy activities are vital to develop political support, to change the behavior of medical staff and TB patients and to inform the general population about TB. Some health policy makers do not have a good understanding of the need for this program component. Project HOPE activities, in collaboration with local partners, focused initially on development of national communication strategies, review of existing IEC materials and development of new ones, conducting focus groups and pre-testing of materials, and training in IEC/BCC.

In Kazakhstan, the NTBC and the National Center for Healthy Lifestyles are responsible for the national IEC/BCC component. Their IEC activities are targeted at different groups: students, adults (factory employees), TB contacts and prisoners. Starting in February 2007, school children will also receive information on TB and visits from TB experts. The NTBC would like to produce a video on TB in collaboration with the Ministry of Culture. In Turkmenistan, the Press Center of the MOHMIT is responsible for all health-related IEC/BCC materials and all materials must get its approval. This Center is an enthusiastic partner of Project HOPE in development of new IEC/BCC materials and is an active member of the TWG on Social Mobilization, which has regular meetings, reviews all IEC/BCC materials and has been involved in the development of the National Communication Strategy. In Tajikistan, the IEC/BCC TWG meets quarterly. A KAP survey to determine knowledge, attitudes and behaviours regarding tuberculosis among health providers, TB patients and general population was carried out, using pooled financing. A major problem is the lack of communication skills among health providers and a priority for year 4 in IEC/BCC is training in for nurses and other health workers at the community level. The IEC/BCC TWG is active in Uzbekistan and Project HOPE was asked to provide input and comments on the IEC/BCC section of the new prikaz being drafted. ZdravPlus is also an active member of the TWG and collaborates with the Project to develop IEC materials.

The IEC TWG, with technical assistance of with John Hopkins University/ Center for Communication Programs (JHU/CCP) and Project HOPE country staff and the Regional IEC/BCC specialist, developed National Communication Strategies (NCS) for each country except in Turkmenistan (where this activity was not approved). The NCS, based on results of KAP studies in all countries, have been completed and approved in Tajikistan and Kyrgyzstan. Draft NCS have been developed and reviewed by TWGs in the other two countries and will be submitted for final approval to the NTP and MoH.

Project HOPE worked with the NTP and local partners in each country on development, printing and distribution of IEC materials. JHU/CCP and the Project HOPE Regional Specialist for

IEC/BCC conducted a workshop in Kyrgyzstan to review existing IEC materials and determine if they were appropriate, develop and pre-test new materials and study the effectiveness of different communication strategies. Participants from all countries were invited and local TB control partners in Turkmenistan said that this training was extremely useful in development of additional IEC materials. In Kyrgyzstan, IEC/BCC materials (posters) have already been developed and distributed in all regions, some of them in the Kyrgyz language. Public awareness on TB issues has increased.

Initial efforts by Project HOPE in focused on behavior change for health care providers working in TB control. Project HOPE, JHU/CCP and ZdravPlus organized ToT on Interpersonal Communication Skills (IPCS) to provide health care workers with improved communication skills to counsel patients. In Turkmenistan ToT on IPC/C was done but permission to conduct IPC training for nurses was not granted; the Head of the TB Faculty was very interested to incorporate IEC/BCC in the TB training materials used by the TB Faculty to train nurses and PHC doctors. Training was also conducted for journalists, to increase their awareness of the problem of TB and provide suggestions on how to present information to the general population through mass media.

World TB Day (WTBD) on March 24 is a major focus in each country for activities to increase knowledge and awareness of the general population about TB. Project HOPE assists national governments with the development of pamphlets, brochures and posters, as well as competitions, seminars and student programs. TB newspaper stories, radio and TV spots and TV programs are also broadcast on this day. Planning for WTBD begins far in advance. However, focusing efforts just on one day a year is not sufficient to maintain awareness of TB in the general population. Follow-up activities throughout the year are also required.

a. Incentives and enablers

A “Small grants” component of the Project HOPE program supports community initiatives for communication and community involvement in Kazakhstan, Kyrgyzstan and Tajikistan. A good, successful example was observed during the visit to Tajikistan and the program is in development and will be selecting grantees in Kazakhstan.

A project in Tajikistan in collaboration with the World Food Programme provides nutrition to inpatients and food packages for outpatients. The objective was increasing patient compliance with TB treatment. However the structure of the project seems primarily oriented to nutrition (no “incentive” should be necessary for inpatients), the food supplement for outpatients is proportional to the family size and packages are provided to outpatients every two months. The project requires a substantial workload to check the number of family members and it may have little impact on reduction of TB in the community. A comparison between patients with and without food support in 2005 showed substantial differences in treatment outcomes (improved success and reduced failure, default and death). The Food project will expand during 2007 but continuation of WFP support is uncertain and the project does not seem sustainable in the present form without those resources. Experiences in countries of other regions are simpler, with smaller packages given to patients more frequently, irrespective of family size and depending only on regularity of attendance to treatment and smear control.

In conclusion, the Project HOPE IEC/BCC component seems well developed in most countries. The small grants project appears useful to promote TB and help develop community activities. A key condition for success seems the appropriate selection of proposals and the support mainly of existing community initiatives that can continue after the life of the grant. The WFP-supported interventions seem overly complex for sustainability by NTPs, with or without external support; added nutrition is of probably minor impact and simpler methods would be more appropriate to use food as incentive for regular ambulatory DOT.

Recommendations:

- Involve other stakeholders in development of IEC materials and BCC strategies (Mahalla, youth education, schools, national program partners, other international organization, volunteers, etc.) In Uzbekistan, use Mahalla organizations to spread information to general population, as done by Project HOPE MCH programs
- Strengthen ties with the Press Center of MOHMIT in Turkmenistan. They need assistance and can help achieve Project HOPE objectives in this component and increase visibility of the TB problem and NTP.

4. Operational Research

Project HOPE has so far had limited activity in operational research (OR), or in promotion of OR to the NTPs and national institutions, since it was not listed as a specific activity within the plan for the project. For the NTP, OR is essential to ensure that the procedures are appropriate to national conditions, clarify unexplained findings and define the most effective strategies and interventions. OR also can be a useful method to involve specialized and academic institutions in the Program. The financial resources and the human resource capacity for research in countries where TB is a major public health program are usually limited. Most OR therefore must be

simple and inexpensive; and produce rapid results that can be applied to improve the program. OR should always address issues important to improve the NTP and involve the national staff. This requires increasing the capacity of both Project HOPE and national staff to select, plan, implement and analyze OR studies.

Some operational research can replace analysis of routine data, reducing the load of reporting, or confirm that the quality of reporting is adequate. For instance, the result of cultures should be recorded but analysis of the proportion of smear negative pulmonary cases diagnosed that was culture positive, and the proportion of cases in which the physician used culture for the diagnostic decision, are better analyzed by special studies.

Some examples of operational research (defined loosely as research of direct importance to improve program delivery) in CAR and possible studies are:

Effectiveness of mass screening	Number of smear positive, undiagnosed pulmonary cases detected per 1000 persons examined with X-ray or microscopy, compared with adults with respiratory symptoms attending health facilities
Prevalence of suspects among adults attending general facilities	Number of adults with cough of 3 or 4 weeks duration among adults attending OPD in general facilities for any reason, and proportion of them with positive smear microscopy
Proportion of patients on DOT in the continuation phase	Retrospective study on a sample of patients that have completed treatment
Reasons for default	Study on patients that have interrupted treatment
Acceptability of drug kits by patients and by staff (nurses)	Patient and DOT providers interview
Provision of DOT by community volunteers	Pilot study with selection of DOT providers by the patient, to facilitate access to treatment
“Early default” – loss of patients before starting treatment	In a cohort of patients found smear positive by the laboratory, study the proportion that was registered and started treatment.
Incentives and treatment outcomes	Retrospective study
Patients and doctors delay in diagnosis of TB	Prospective study to get information about the reasons of delay in correct diagnosis
Quality assurance of program data and procedures	Analysis of extra-pulmonary cases by localization and comparison with data from other countries

Recommendations:

- Project HOPE should initiate, guide and support OR in all Central Asian countries.
- The results from already performed studies in Uzbekistan should be shared with NTPs regionally and internationally.

5. Other external support to TB programs (GFATM, GDF)

In addition to USAID through Project HOPE, other donors contribute external support. Key partners are the GFATM with grants to four of the five countries (Table 2) and GDF, either through grants in kind (TB drugs) or through direct procurement with other resources.

The GFATM funds constitute very large amounts in a short period of time, and their use depends mainly on the contents of the proposal prepared by the national authorities. Project HOPE has collaborated in the preparation of the proposals in all countries. Addition of large funding can accelerate program implementation, but may divert efforts of the NTP to areas of limited impact of the TB problem. The example of Tajikistan where Project HOPE is the principal recipient for round 3 is very positive. The new grant will probably be implemented through UNDP, and hopefully Project HOPE will be a secondary recipient and be included in planning and monitoring.

The presentation of drugs from GDF in fixed dose combination can compensate for a large part of the problems of self-administration; the patient either takes all or none of the drugs and the risk of developing resistance is lower. In addition, presentation in kits facilitates drug calculation and avoids interruption of supplies to a patient. However, they require use of standard treatment in most of the cases and a good system of transfer of the drugs together with the patient.

Recommendation:

- Project HOPE should continue coordination with GFATM and recipients of grants that include TB activities to ensure best use of the resources, particularly as leverage to influence change of obsolete or inadequate policy and practices.

GFATM Approved Country Proposals

Country	Round	Amount (USD)	Main support	Principal recipient
Kazakhstan	2 – HIV/AIDS	22 085 999	Prevent HIV transmission and treat HIV/AIDS; improve TB treatment and early case detection; address TB and HIV in the prison system	The Republican AIDS Center
	6 – TB	9 842 621	Strengthen PHC and TB service integration, including the penitentiary system; strengthen human resources; develop guidelines for TB and MDR TB case management; monitoring and evaluation system; improve TB laboratory services; increase the effectiveness of TB diagnosis and treatment in the penitentiary system; social assistance; IEC; strengthen the system of second line and other drugs supply; develop collaboration on TB/HIV; system of monitoring TB and HIV; ensure timely HIV case finding in TB patients and TB case finding in HIV patients; develop staff capacity in grant management, monitoring and evaluation	Not signed yet (The National TB Center in the proposal)
Kyrgyzstan	2 – TB	2 771 070	Improve detection and diagnosis of smear positive TB patients; uninterrupted supply of TB drugs; effectiveness of DOTS treatment	National Center of Phtisiology
	6 – TB	9 995 446	Strategic planning and management of the NTP under the Manas Taalimi National Health Care Reform Program; further integration of TB control into primary health care; strengthening and expanding the DOTS-Plus strategy; and strengthening implementation of DOTS and DOTS-Plus in the penitentiary system .	Not signed yet (Nat. Center of Phthisiology in the proposal)
Tajikistan	3 – TB	2 269 178	Implement DOTS strategy	Project HOPE
	6 – TB	15 826 135	Update national TB control policy, establish regional NTP units; strengthen TB laboratory network, upgrade equipment in TB institutions, procure first line anti-TB drugs, strengthen drug management; advocacy; DOTS in the penitentiary system; management of drug-resistant TB cases; Drug Resistance Survey. develop national guidelines for TB/HIV co-infection; diagnostic counselling and testing for TB patients.	Not signed yet
Uzbekistan	4 – TB	13 267 033	Improve case detection, treatment, monitoring and surveillance; target prisoners; identify TB in PLWHA; expand DOTS Plus to a second pilot area	The Republican DOTS Center

6. Main recommendations

1. Strengthen national TB control program management in all countries by:
 - Strongly advocating the consolidation of national TB management teams, with staff based in the TB Center but responding functionally to the TB authority in the Ministry of Health, to increase responsibility for managing the TB program.
 - Advising on terms of reference for the NTP central unit staff to ensure clear lines of authority, responsibility and supervision. Additional training and mentoring in their managerial functions is urgently needed.
3. Give priority to strategic planning aimed to increase the national capacity to manage TB control, by:
 - Gradually transferring routine managerial activities now carried out by Project HOPE staff to trained, mentored and qualified national staff, particularly in areas of training, supervision and quality assurance of microscopy. Project HOPE staff could complement the national unit in the planning, implementation and monitoring of managerial activities to provide on-the job training in appropriate methodologies.
 - In collaboration with other partners (WHO, Gorgas, Caritas, Capacity, etc.), concentrate on partner agreement on and promotion of appropriate national policies, joint planning of support, compatible training and information materials and monitoring indicators.
4. Advocate for a TB budget line in national health budgets, with a least minimum funding for the managerial activities of the NTP (supervision, training, monitoring, drug distribution), to be complemented by external support.
5. In Kazakhstan promote sustainable, good quality TB drug supply by advocating that the national authorities maintain national funding and centralized procurement of TB drugs as for other essential supplies for priority health programs, such as vaccines.
6. In Turkmenistan use the opportunity of current government commitment to expand DOTS rapidly to guide and support a rational plan of expansion, in close collaboration with WHO.
7. Develop a Project HOPE strategy and medium term plan to gradually prepare countries for full NTP implementation and management of TB control; update Project HOPE staff on the final structure desired (including health sector reforms such as changes in the funding and use of TB hospitals and specialists) and strengthen their capacity to monitor progress.

Report of a mid-term evaluation. Project HOPE's Central Asia TB program.

Annex I

Evaluation team members

Nikita Afanasiev, Senior Adviser, Infectious Diseases, USAID Russia

Kayt Erdahl, Program Specialist, Infectious Diseases, Project Hope

Fabio Luelmo, Consultant, TB Control Programs (team leader)

Carolyn Mohan, TB Advisor, USAID Washington DC, USA

Stefan Talevski, National TB Program Manager, Macedonia

Gulnoz Uzakova, Manager, GFATM Programme Implementation Unit, Uzbekistan

Annex II

Map of Central Asian Republics



Source: World Bank, 2004

Persons interviewed and institutions visited**CAR Regional level**

Project Hope CAR	Tom Mohr, Chief of Party Jaap Veen, TB Medical Director Arman Toktabayanov Regional specialist for MDR-TB, TB/HIV Marija Joncevska, Regional Laboratory specialist Zhanna Zhandaletova, Regional specialist for TB in prisons Maria Idrisova, Regional HRD specialist Alisher Ibragimov, Regional Policy specialist Mavlyuda Mahmudova, Regional Drug specialist Jamila Ismoilova, Social Mobilization/Small grants specialist
JSI CAPACITY Project	Jim Bates, Drug Management Advisor, Anna Deryabina, Deputy Director, Programme management, monitoring and evaluation David Hausner, Deputy Regional Director Yelena Kusussova, Kazaksthan Country Director
CDC/CAR	Michel Favorov, Program Director Marina Pack, TB laboratory Specialist
GFATM USAID/CAR	Valery Chernyavskiy, Portfolio Manager E. Europe & Central Asia Thomas Delaney, Deputy Mission Director Kerry Pelzman, Director, Office of Health and Education (OHE) Laurel Fain, Deputy Director, OHE Indira Aitmagambetova, CTO for TB control program, OHE Khorlan Izmailova, Project Management Specialist, OHE

Kazakhstan

P. Hope Kazakhstan	Movsar Mahmatov, Program Manager Zoya Ni, TB specialist
National TB Center	Panagul Djasibekova, Monitoring and Supervision Coordinator Galimjan Rakishev, Director NTBC Elena Belova, Deputy director. National IEC/BCC coordinator Shahimurat Ismailov , National MDR TB coordinator Klara Baymuhanova , National M&E, TB in prisons coordinator Venera Bismilda, National Lab coordinator
Ministry of Health	Meruert Istelyuyeva, National drug management coordinator Kadir Omarov , Vice-Minister of Health Nurkhan Nazirova, TB specialist, PHC
Ministry of Justice	Kairbolat Eskaliev Galina Cumanec, Head of medical facilities Ashat Tuleuov, Head's assistant Aliya Kurbanova, TB specialist
KNCV Gorgas Initiative/UA ZdravPlus/ Kazakhstan	Svetlana Pak, Director of office in Kazakhstan Roza Adilbekova, Project coordinator Lisa Myglina, Program manager
Taldykurgan oblast	Askar Yedilbayev, Regional TB coordinator Salavat Sarsenbaev, Chief doctor of oblast TB dispensary Kenje Bektursynova, Deputy chief doctor, oblast TB dispensary Manat Suleymanova, oblast drug management coordinator Aliya Turgenova, oblast information coordinator Maya Kusemisova, oblast lab coordinator
Sarkand rayon TB dispensary	Bolat Sadykov, Head of oblast health care system Ayjan Janabaeva, Chief doctor

Roza Raykenova , TB doctor
Roza Alieva, children TB doctor

Kyrgyzstan

P. Hope Kyrgyzstan
Timur Aptekar, TB Project manager
Jyldyz Ysykeeva, Drug management
Kubanych Mamatov, TB specialist
Anvar Beisembaev, IEC/small grants
Tatiana Bobkova, TB Laboratory
Totugul Murzabekova, Monitoring
Janibeck Kalmanov, Training
Algul Mamatkulova, Finance
National TB Center
Avtandil Sh. Alisherov. Director General
Ainura Esenalieva, Head, National TB Reference Laboratory
Bakyt Myrzaliev, Head Information and Epid. Div./Dep. Director
Atirkul Toctogonova, Chief Doctor, MDR TB Department
Ministry of Health
Madamin M. Karataev, Dep. Minister of Health
Republican Center of
Elmiea Abdrahmanova, Coordinator of case refistration
Infections and Epidemiology
Merkinay Sulaimanova, Drug use
Nurgul Asankadyrova, Coordinator drug supply
State Medical Institute for
Tulegen Chubakov, Rector
Continuing Education
ICRC
Maxim Berdnikov, Medical delegate
Bishkek City TB Center
Marapat Moidunova, Chief Doctor, Bishkek City TB Coord.
Elena Kochenkova, Laboratory Coordinator
Irina Gubankova, Head, Monitoring division
Bishkek City FMC #2
Rosa Aitimbetova, Chief Physician
Tamara Elemanova, Deputy Chief Physician
Aleksandra Baklanova, Deputy Chief Physician for nursing
Anara Nurdinova, Head, FGP
Elena Melnikova, Senior nurse, FGP
Tatiana Slepokurova, laboratory specialist
USAID/Kyrgyzstan
Damira Bibosunova, Project Management Specialist Health
WHO/Kyrgyzstan
Oskon Moldokolov, Liaison Officer
GFATM
Alexander Kahn, Project Manager, Kyrgyzstan

Tajikistan

P. Hope Tajikistan
Tatyana Vinichenko, TB Program manager
Dato Chorgoliani, TB specialist
Jemma Yusupjanova, Educator
Malika Olmonova, Chief laboratory specialist
Zumrad Maksumova and Obidjon Norov, Monitoring
Saodat Kasimova, Social Mobilization/Small grants
Fozil Mamajanov, Training coordinator
Zamira Baudulloeva, Laboratory
Otabek Rajamov, Food Programme
National TB Center
Sadulo Saidaliev, Director
Ministry of Health
Umrinisso Sirojiddinova, Chief TB specialist,
Dushambe Health Department
Abdumuslim Temurov, Director
State Center for Sanitary
Samardin Aliev, Chief Doctor
Epidemiological Surveillance
Saidahtam Rustamov, Director
Republican Clinical TB
Hospital Shifo
Rudaki rayon
Begidjon Saidrakhmonov, Director, TB control center #3
Zebo Burieva, TB physician, Coordinator of DOTS center #3

WHO/Tajikistan Muzaffar Akhmedov, Chief, Rural H.Center “Arbob Hatun”
 USAID/Tajikistan Nazira Artykova, Liaison Officer
 Aziza Khamidova, Health Project Management Specialist

Turkmenistan

P. Hope Turkmenistan Batyr Kochumov, TB Program manager
 Maral Shamuradova, Drug management coordinator
 Maya Nedirova, Social Mobilization coordinator
 Batyr Chapau, Monitoring specialist

Ministry of Health and Medical Industry Beggylych Ovezklychev, Head, Department of Disease Treatment and Prevention
 Babakuli Jumaev, the Director of the Center for TB Prevention
 Mehry Durdyeva, Chair, TB Faculty of State Medical Institute
 Gulbahar Uraeva, Director, Center for Registration & Quality control
 Gulnar Saparmamedova, Director, Press Center

Center for TB Prevention Babakuli Jumaev, Director
 State Medical Institute Mehry Durdyeva, Chair, TB faculty
 Center for Registration & Quality Control Gulbahar Uraeva, Director
 Press Center of MOHMIT
 USAID/Turkmenistan Gulnar Saparmamedova, Director
 Ashley Moretz, Country Director
 Elena Samarkina, Health programs manager

WHO/Turkmenistan Bahtygul Karyieva, Liaison officer
 Turkmenbashi city Takhir Anntaganov, Director of the Multifunctional Hospital
 Amangeldy Rejepov, Head, TB Department, General Hospital

MSF Christine Ter Brak, Country Representative in Turkmenistan
 Ellen Enderle, Medical coordinator for Turkmenistan

National Red Crescent Zukhra Ellieva, Chair
 Society of Turkmenistan Ata Boppyeva, Deputy Chair
 ZdravPlus/Turkmenistan Nataliya Basova, Manager

Uzbejistan

P. Hope Uzbekistan Epcu Hasker, TB Program Manager
 Maksad Khodjikhonov Technical Team Supervisor
 Shakhnoza Usarova, Drug Management Specialist
 Umid Asamidinov, Monitoring Specialist
 Umida Yuldasheva, Medical Specialist
 Gulnora Rasulova, Social Mobilization / Small Grants Coordinator
 Gulandom Elmuradova, Laboratory Specialist

National TB Research Institute Abdula Ubaidullaev, Director
 Republican DOTS Centre and Dilrabo Ulmasova, Director
 GFATM Primary N Abdieva Monitoring Coordinator
 Implementation Unit A. Pulatov, Finance Manager
 USAID/Uzbekistan Shukhrat Aripov, Health Project Management Specialist
 WHO/Uzbekistan G. Tsogt, Medical Officer, TB Control Program in CAR
 Bajhtiyar Babamuradov, TB Control program officer

Ministry of Health Marat Khodjibekov, Deputy Minister
 Syrdarya rayon TB dispensary Saidaily Abdurazzakov, Head
 Oman Karshibaev, Deputy Head

ZdravPlus/Uzbekistan Dana Koneeva, Country Manager
 CAPACITY Project Rahima Nazareva, Director
 City TB dispensary, Tashkent Khursand Ismatullaeva, Head
 Nat. Inst. Lung Disease & TB Gulnora Murmusaeva, Head, National Reference Laboratory
 MSF Stobdan Kalon, Medical Coordinator for Uzbekistan

Country findings

a. Coordination mechanisms

National level

In Kyrgyzstan, the Ministry of Health (civilian sector) and the Ministry of Justice (penitentiary sector) established a Coordinating Council on TB (CCTB) in 2004. The CCTB includes representatives of the national authorities, international donors and technical agencies involved in TB control in the country. Seven TWGs were established under the CCTB. Project HOPE is a member of the CCTB and participates in activities of all 7 TWGs. In Tajikistan two high level boards deal with TB-related issues: the Country Coordinating Mechanism to fight AIDS, tuberculosis and malaria (CCM), chaired by the Deputy Prime Minister, and the National Coordination Council (NCC) on TB at the MoH. The NCC is chaired by the First Deputy Minister of Health. Under this mechanism, two TWGs were established and approved by the Government and one is in process of approval. Project HOPE participates in NCC activities and is a key member of all TWGs.

In Kazakhstan, the HLWG was established in 2004 and 9 TWGs are currently operational. Project HOPE played a leading role in establishing the HLWG and TWGs, and currently is one of the main participants and either chair or co-chair of the TWGs.

In Turkmenistan the HLWG is not active. The Ministry of Health and Medical Industry (MOHMIT) created the CCM only to submit the GFATM application. Reportedly the MOHMIT may feel threatened by this level of intervention in policy activities. The NTP and MOHMIT also do not have a strategic vision of the usefulness of this mechanism for TB control. There are two active TWGs: Drug Management and Social Mobilization. The DOTS TWG has not been created and the MOH does not believe it is necessary. Evidence of the impact of the Project HOPE program is seen in the good implantation of DOTS in pilot areas, and also in acceptance of the DOTS strategy by the MOH and NTP.

In Uzbekistan the high level mechanism for TB control management is the CCM, which is operational. There are 9 TWGs, with national and international members. Some of the groups are very active and working well while others are more recently established, meet rarely and only discuss one item per meeting. TWGs recommendations are presented to the CCM.

Intermediate level.

In Kyrgyzstan the boards are chaired by the regional deputy governors, and Project HOPE participates in board activities in the project sites.

In Tajikistan, commissions/boards on TB control and other infectious diseases issues are established at the oblast and even at the rayon level. Only representatives of health authorities and facilities are members of these commissions, at least in rayons.

In Turkmenistan, these oblast-level boards have not been conducted and it is unlikely that they will be allowed by the MOHMIT.

In Uzbekistan, oblast round tables are established and operational.

In Kazakhstan the oblast round tables are established and working well. Project HOPE initiated the establishment of these local working groups and actively participates in their activities, including planning of work and elaboration of recommendations and decisions.

b. DOTS strategy and basic documents

In Kazakhstan, DOTS was officially adopted as the national TB control strategy in 1998 by a decree of the President. Although since that time a number of prikazes regarding DOTS and TB control were issued in the country, there is yet no NTP manual in Kazakhstan. Project HOPE has supported the programme for a decade and, together with WHO, has been a key partner in DOTS implementation. IEC materials were created jointly by NTP and Project HOPE. Currently the program manual is being developed with Project HOPE technical assistance and will be adopted by prikaz of the MoH. Pamphlets, brochures and articles on TB have been developed and distributed.

In Kyrgyzstan the DOTS strategy was adopted by presidential decree in 1994, under the Health Care Reform program. Since then a number of documents were issued by the Government and other state authorities. The most important are “MANAS Health Care Reform Program” (1996-2000, extended to 2005) and “MANAS Taalami” (2006-2010). They include TB control as one of the national health priorities and an integral part of national health care reform. DOTS implementation started in 1996 with the approval of the “MANAS” document. A national law “On protection of the population of the Kyrgyz republic from TB” is in force in the country. Several decrees of the government and prikazes of the MoH and MoJ established a system of DOTS implementation countrywide. These documents introduce TB control in the PHC system (integration), and smear microscopy is routinely performed at the centers of family medicine and other PHC facilities as observed at Project HOPE pilot sites. In cooperation with Project HOPE and under supervision of the National TB Center, the national guidelines on TB control were developed and printed in 2006. The document includes recommendations for health managers and practitioners, and TB-related legal and other official documents as attachments. The Deputy Minister of Health, Director of NTBC, and WHO representative emphasized the leading role of Project HOPE in strengthening and improving the national TB control policies and approaches.

In Tajikistan the MoH issued a prikaz on DOTS implementation in July 2002. In December 2002, the Government issued a decree on the National Program to Fight Tuberculosis for 2003-2010 that adopted the DOTS strategy as a basis for TB control. The program was developed with the assistance of Project HOPE. National guidelines for DOTS implementation were developed with Project HOPE technical assistance in 2003 and approved by the MoH. In 2006, the Project contributed to the development of a new version of the national guidelines, currently under review by the MoH. Project HOPE participated in the development of other officially approved national TB documents, such as the national strategy for TB communication, guidelines for TB drug procurement and a new TB law. The former First Deputy Minister of Health, now director of the Dushanbe city Health Department, the Chief Physician of the State Sanitary Epidemiological Surveillance Center and the Director of NTBC emphasized the leading role of Project HOPE in developing and improving the national TB control policies and approaches.

In Turkmenistan policy change is taking place, but very slowly. Initial DOTS implementation was restricted to pilot sites in cities and according to WHO, it has slowly expanded since 1998. In the pilot areas 40% of the TB patients are hospitalized, versus 100% in the areas still uncovered. Recently the MOHMIT accepted the need for DOTS expansion to all areas to avoid inequality in diagnosis and treatment, and moved up the target for full country coverage from 2009 to the end of 2007 creating an opportunity for change. The TB control program is currently functioning under a MOHMIT’s prikaz that provides guidelines for the old non-DOTS system. The TB Faculty of the State Medical Institute, with assistance of Project HOPE, developed guidelines on TB diagnosis and treatment in 2005. A new prikaz must be approved to revise the TB control strategy according to international standards and to support DOTS implementation countrywide. At this time, DOTS coverage is 72%. The

International Standards for TB Control, issued a few months ago by the Stop TB Partnership, have been translated into both Russian and Turkmen languages and are at the final state of review at the MOHMIT.

In Uzbekistan a national TB Manual is under development with Project HOPE involvement. A new prikaz for TB Control is also under development and may be approved during the first half of 2007. This prikaz should follow the international standards for TB Control and supersede the previous three prikazes related to TB Control. The draft has been shared with international partner organizations and they have been asked to provide recommendations and feedback. Project HOPE was specifically asked to review the Community Advocacy and Program Management sections. From the beginning, the project has played an important role in convincing local partners of the need for implementation of the DOTS strategy and revision of the existing program. The Minister of Health, National TB Institute, DOTS Center and PIU believe that Project HOPE has the capacity to assist them in strengthening the TB program and consider it a key partner in TB control.

c. TB budget

In Kazakhstan external funding is less than 1% of the national budget allocations, 99% is provided by the government. In general the rest of the countries depend heavily on external support: In Kyrgyzstan and Tajikistan there are no specific budget allocations for the NTP and the program is solely financed through international assistance programs, with the exception of the salaries and maintenance of TB facilities and general health institutions.

In Turkmenistan the information is not available, as it is considered confidential. However the government funds the bulk of TB activities, including procurement of drugs and equipment. Priorities for equipment purchases are not based on the DOTS strategy, since there are plans for purchase of expensive mobile x-ray units, and NTP staff is requesting assistance with the purchase of less expensive microscopes for labs.

In Uzbekistan local authorities stated that there is a line for TB control in the health budget and there are sufficient funds for the program.

d. Inter-agency coordination

Mechanisms of coordination between various international donors and technical agencies and domestic authorities and facilities differ from one republic to another.

In Kazakhstan, the main international partners in TB control efforts include the CDC, WHO, Project HOPE, Gorgas Initiative, CAPACITY Project - John Snow, Inc (JSI), National Red Crescent Society, ZdravPlus Project (Abt Associates), and others. The basic coordinating mechanism is the HLWG. An insufficient level of bilateral coordination between partners working on TB in prisons issues and development of MDR TB treatment protocols was observed.

In Kyrgyzstan, the partners supporting TB control are GFATM, GDF, ICRC, National Red Crescent Society, MSF, JSI, KfW, Asian Development Bank (ADB) and WHO. There is a large number of coordinating mechanisms, with not well-defined functions and relations. In addition to the Coordinating Council mentioned in a), a Directors' Council was formed at the NTBC for management and coordination of TB activities implemented with international support. The council includes the NTBC, chairs of TB of the medical educational facilities, Project HOPE, GFATM PIU top managers, and TB coordinators from pilot regions. Meetings of the Directors Council occur when necessary and more frequently than meetings of the CC. Another mechanism is the CCM for GFATM grants program implementation. Project HOPE is a member of the CCM and provided assistance in writing proposals for GFATM Rounds

IV and VI and currently coordinates activities with the GFATM PIU to ensure that the two programs complement each other. For instance, training provided by Project HOPE complements procurement of equipment through the GFATM grant. WHO and other international and bilateral donors established a Donors' Council in Health, comprised of representatives of UN organizations (UNDP, WHO), WB, KfW and a number of bilateral donors.

In Tajikistan, Project HOPE key TB control partners include GFATM, WHO, UNICEF, JSI, Project CARITAS, Project SINO, Agha Khan Foundation, IFRC, WFP, PSF, ZdravPlus, MERLIN and others. In addition to the CCM and NCC, discussed above, the Interagency Coordination Committee (ICC) was established to provide a forum for discussions, exchange of information and developing a concerted approach to TB control issues. Project HOPE was among those that established the ICC and plays a leading role in this board. The fact that Project HOPE is the principal recipient of GFATM allows good coordination and, when necessary, pooling of resources for activities.

In Turkmenistan international TB partners besides Project HOPE-USAID include WHO, GDF, MSF, the British Embassy, ZdravPlus, National Red Crescent Society, and a Japanese donor organization. These partners are not well coordinated, although there is some communication. Information and communication on activities is not being routinely shared. The WHO local office is currently looking for additional donors, since its budget was fully spent on DOTS activities and procurement of microscopes.

In Uzbekistan, TB control partners of Project HOPE include WHO, GFATM, MSF, CDC (laboratory EQA in Samarkand), KfW, National Red Crescent Society, CAPACITY Project, ZdravPlus and others. Coordination exists under the CCM. WHO is coordinating monthly partner meetings and Project HOPE is an active participant. The first two meetings have taken place, and the third was planned but postponed.

e. TB service delivery

PHC services have still a limited role in TB control in CAR: identification of TB suspects, collecting sputum samples and providing DOT during the continuation phase. Diagnosis, indication of treatment and patient follow up are still generally reserved for TB specialists, in spite of their gradual reduction in numbers due to aging and decreased interest in the speciality. The main issues in TB control at the oblast level are late detection and incomplete treatment, both influenced by access of the population to health care and to TB diagnosis and treatment. After the intensive phase, usually done as in-patient treatment in hospitals, many patients interrupt treatment.

While smear negative patients may be treated at home or as inpatients, smear positive patients are sent to the TB dispensary for in-patient treatment. At the TB hospital patients are classified and the intensive phase may last 4-5 months (instead of the WHO-recommended 2-3 months), depending on the results of monitoring x-rays, evolution of lesions and smear positivity. Treatment may be modified according to clinical criteria. Criteria for beginning the continuation phase include smear negativity, and progress of lung cavitation. The continuation phase includes DOT three times weekly for four to seven months (instead of the WHO-recommended 4 months in new cases). Patients are followed up to three to five years after treatment completion to ensure that no relapse occurred (different from international recommendations and not cost-effective). Also after finishing of treatment patients may receive chemo-prophylaxis for a few months, twice per year. Some local governments may provide social support for TB patients, such as food packages, usually as part of GFATM activities or external support projects.

Hospitals are financed on the basis of the number of beds for different services. The number of inpatient beds for TB is excessive in most countries, and many are vacant or poorly utilized. Financing method changes are currently being piloted in 30 rayons in Uzbekistan by Zdrav Plus and if successful may be scaled up. TB hospitals have unnecessary workload (prolonged intensive phase in Kazakhstan; individual treatment of previously treated patients in Uzbekistan; periodical re-treatment of chronic cases with first line drugs). Active case detection is still used in addition to passive case detection in Kazakhstan, Uzbekistan and Turkmenistan. Disability status has a very important financial incentive for TB patients in Uzbekistan, with classification confirmed through their hospitalization. Those patients do not have active tuberculosis but they occupy about 30-50% of TB beds.

Detection of suspects is integrated in PHC facilities at countrywide or in pilot areas that are gradually being replicated. In Kyrgyzstan detection of suspects in PHC facilities diminished since 1999, from nearly 7000 persons examined to less than 1400 in 2005. The reduction of microscopy laboratories to increase efficiency and quality should not have led to a reduction of suspects examined and delays in case detection, and the problem should have been identified through monitoring and corrected. Many patients receive drugs (sometimes in PHC, mostly in TB facilities) for 1 month and more to take home. There is no system involving staff and the patient to select alternative DOT providers and expand DOT to the community to expand access, as recommended internationally.

Diagnosis of extra-pulmonary TB is very high (22-32%) in all countries except Kazakhstan. Bacteriological confirmation of pulmonary cases is quite low, although gradually increasing. Several old practices persist and should be reconsidered, for example, screening of populations with low risk and systematic screening of patients that have finished treatment of failed first or second line treatment (chronics). This situation is better in the countries with less financial resources requiring international support (Kyrgyzstan, Tajikistan, Uzbekistan), and where the health Sector Reform was implemented (Kyrgyzstan)

Treatment guidelines are consistent with WHO recommendations but often offer multiple alternative regimens to the treating physician (Kyrgyzstan, Tajikistan) so the GDF kits need adjustments to accommodate the different regimens. Drugs were provided by GDF as grants and now are purchased through GDF with GFATM funds, except in Turkmenistan. Sputum conversion is very high, around 90%, and treatment success is high given the coverage of the programs and geographical characteristics. Gradual DOTS expansion in Tajikistan creates difficulties to continue treatment after hospitalization in areas not covered yet by DOTS, and to transport drugs for the continuation phase to facilities accessible to the patient.

6. Program management, supervision and evaluation

Although Kazakhstan has numerous prikazes regarding DOTS and TB control in the country, there is no NTP manual or a national tuberculosis program team. The National TB Center (NTBC) has coordinators for some specific TB issues, such as MDR-TB, TB in prison, and laboratory. The interaction between these coordinators and staff in the field, as well as the lines of authority, monitoring and supervision are unclear.

In Kyrgyzstan, significant changes in TB service delivery to patients have occurred since the beginning of the Project support to the TB program. The DOTS strategy is currently recognized and supported by all TB and PHC officials and specialists in the country. Project HOPE developed checklists for program monitoring by the national and Project staff.

Uzbekistan is the only country in the region with a strong and well-defined national team functioning as the NTP central unit. The DOTS Center has a core staff that works closely with the PIU for GFATM, and although they are located and technically under the supervision of the TB Institute, they report directly to the MOH. The role and responsibilities of the DOTS centre as NTP unit could be more explicit for more effective management of the programme.

The NTP indicated that the supervision checklist is too extensive and could be shortened, including only key areas and removing the points system. Monitoring visits in Project HOPE pilot areas are conducted jointly with local DOTS centre staff and the director of the Institute for Lung and TB suggested one member of the NTP should be part of the M&E team in the future. NTP staff and immediate feedback is provided to the local TB control managers. The DOTS Center requested that Project HOPE reports of these visits be submitted faster to accelerate the feedback to the areas monitored. (Note that this indicates that the reports are prepared by Project HOPE, and not jointly with the NTP/DOTS centre staff).

7. Management of MDR-TB

Kazakhstan introduced the DOTS plus program in 2003, without the technical or financial support of international organizations. Kazakhstan uses microscopy, culture and DST for 1st line TB drugs. All relapses, all chronics and all failures receive DST. It takes approximately 3-4 months to receive DST results. If the patient is seriously ill, or a child or contact of an MDR-TB patient, treatment with SLD is begun immediately. All oblast level laboratories provide culture and DST investigations. Kazakhstan has a strong team for MDR-TB management at the national level, under the coordination of Professor Sh. Ismailov, head of the reference laboratory certified by the supranational laboratory. The Gorgas initiative provides technical assistance in Almaty city and started a pilot MDR-TB project there using the GLC mechanism. Most doctors at the national level and some from the oblast level were trained in the WHO Center of Excellence in Riga. The NTBC has short guidelines for diagnosis and treatment of MDR-TB patients. Every oblast TB dispensary has 30-50 MDR-TB beds, but the quality of DOT for new patients and DOTS-plus is very poor. The treatment success rate for new smear positive patients is low, 73% for the 2003 cohort. The government buys second line TB drugs directly, not through the Green Light Committee (GLC) mechanism. Kazakhstan conducted a Drug Resistance Survey (DRS) with WHO support in 2001. MDR treatment is not available in prisons and there are no plans for this in the near future within the GFATM grant.

Kyrgyzstan and Uzbekistan have pilot MDR-TB projects within the GFATM grants, in the national TB Centers. Uzbekistan has also an MDR-TB project in Karakalpakstan with MSF technical and financial support. Both countries used the GLC procurement mechanism, have manuals for MDR-TB management, renovated MDR-TB treatment departments using infection control measures (ventilation, negative pressure), and have renovated and equipped the national reference laboratory. Uzbekistan conducted DRS in 2006, and plans to start MDR-TB treatment in prisons within the GFATM grant. Tajikistan and Turkmenistan do not have MDR-TB projects at the moment, but this is included in the 6th round GFATM proposal recently approved for Tajikistan. Turkmenistan has not covered the whole country with the basic DOTS but the government is very interested in procuring and distributing second line TB drugs: this will create a dangerous situation with uncontrolled treatment of MDR-TB cases.

All laboratories reportedly have enough equipment, reagents and supplies, except in Turkmenistan. The Uzbek laboratory was renovated and uses a modern approach for infection control measures, and renovations are planned for the Kyrgyz and Kazak laboratories using the KfW and GFATM grants. The Kazak laboratory has Bactec but it is not working due to a lack of reagents.

Central laboratories in Kazakhstan and Kyrgyzstan coordinate with the supranational laboratory in Borstel (Dr S.Rush-Gerdes), Uzbekistan with Gauting (Dr K.Feldmann). In Turkmenistan, the main laboratory at the TB Institute is waiting for official approval as the National Reference laboratory by the MOHMIT, so it is not yet coordinating with a supranational laboratory. In Tajikistan the laboratory is not yet connected to a supranational laboratory. Most clinicians and lab workers were trained in Riga.

Kazakhstan, Kyrgyzstan and Uzbekistan use a standard MDR-TB treatment regimen. The length of treatment is 1 year for the intensive phase and 1 year for the continuation phase in Uzbekistan; MDR TB patients in Kazakhstan receive 3-6 month treatment in the intensive phase and 18 months treatment in the continuation phase. In Kazakhstan, 1553 patients were enrolled in MDR TB treatment in 2004, 1684 in 2005, and 1880 in 2006. However, the DOTS Plus program has spread countrywide in Kazakhstan without a solid DOT network and that may cause resistance to second line drugs.

Consortium Partnership:

While Project HOPE is the primary implementing mechanism for the project, the primary partner in each country is the Ministry of Health and its respective TB Control Center. Project implementation has been supported by five additional partners whose roles and responsibilities are described below:

CAMRIS International conducts assessments in the areas of financing policy environment, country economic conditions and current status of health systems reforms and issues. They also are responsible for development and maintenance of the CAR TB website and Internet Library (Active in all countries). **Note: No longer Active in partnership**

Chemonics works with Project HOPE staff, local counterparts and local NGOs to support TB advocacy, social mobilization and communication among high risk groups (prisoners or released prisoners). They will support communications strategy, materials development, implementation and evaluation through training and technical assistance (Active only in Kazakhstan and Kyrgyzstan). **Note: No longer Active in partnership**

Johns Hopkins University/Center for Communication Programs (JHU/CCP) conducts assessments on behavior change and operations research, and provides technical assistance, materials and arranges trainings for TWGs covering BCC/IEC activities. JHU/CCP will assist the Project HOPE Social Mobilization/Small Grants staff in working with TWGs, and provide guidance and assistance to regional and country teams in developing operational research and evaluating its impact (Active in all countries).

John Snow Inc. (JSI) ensures that the drug management systems and procedures are improved in each Central Asian country. They will assess current TB drug systems, procedures and practices within logistics (forecasting, financing, selection and procurement, and distribution) to formulate a system design for the flow of products and information to ensure product availability. They also assist with capacity-building through training of key personnel and support implementation of standardized treatment guidelines. Finally, JSI strengthens commodity security for each of the National TB Programs (Active in all countries).

New Jersey Medical School Global Tuberculosis Institute (New Jersey Medical School – National Tuberculosis Center-NJMS-NTBC) conducts assessments and formulates the strategic approach to drug resistant strains of TB and to TB/HIV co-infection, and oversees its implementation. They will also undertake NTBC activities to develop a knowledge base for reform, monitoring and effective surveillance of drug resistance and TB/HIV, with consequent identification of recommended practices and next steps, including development of training materials and conducting training to accomplish the goals of Objective 2 (Active in Kazakhstan, Kyrgyzstan and Uzbekistan).

Project HOPE Project Management

The regional office is very well organized, all positions are filled, and planning is good. Relations between Project HOPE offices and the local counterparts in each country are developing at different speeds, and there is always room for improvement. In Uzbekistan there used to be some competition between Project HOPE and the DOTS Center. Relations have improved over the last year, and the Project office works in close collaboration with all programs involved in the National TB Control Program. The Project office in Turkmenistan

is just now finding ways to improve relations with the local partners and the MOH and is moving toward closer partnership and collaboration. Regional coordination could be improved, with more concrete definition of targets and exchange of information for joint planning (e. g. CDC, CAPACITY).

Coordination of Project HOPE country and regional offices during meetings is very useful and should continue as it is now. Meetings of Project staff in different countries can be used as opportunity to develop national and Project HOPE capacity, by having NTP staff presenting and discussing the TB program indicators and possible areas for further study.

Key activities of the Regional Office should include planning, monitoring of results, exchange of information and experiences with and between the country offices and coordination with other agencies that provide support to TB in several countries of the region. The focus of monitoring seems to be the progress and results in pilot sites, and achievement of the specific Project HOPE plans in the respective components. This is appropriate for an initial phase, but the intermediate objective is to develop national capacity to implement DOTS at national level.

To provide good training in monitoring to the NTPs it is useful to use the same procedures in the Project. A good example is analysis of trends for key indicators, such as proportion of oblasts and of general health facilities with integrated TB case detection and treatment; number of microscopy laboratories and of suspects examined; cases detected, conversion and outcomes. This information should be readily available, in graphic form, easily visible at each level of the Project and of the NTP (national, oblast). As the NTP must analyze data for the whole country and for each region, Project staff should collaborate in their training using national data (separated DOTS and non-DOTS, as reported to WHO).

Good models of NTP monitoring of TB are India (in the web at www.tbcindia.org) and Peru.

Recommendations

- Increase staff development in monitoring of trends and evaluation, preferably as teamwork using national and Project data from the CAR countries.
- Carry out workshops of the staff to discuss specific issues, if necessary with collaboration from an international mentor, through e-mail.
- Share lessons learned between different countries and give the opportunity to national NTP to present and discuss their results (self-monitoring).
- Project HOPE's managerial experience gained from the project implementation should be presented during international meetings (IUATLD, ERS, etc)
- Consider observation of other country programmes by selected staff from Project HOPE and NTP staff (Kazakhstan, Turkmenistan) e.g. in Peru, Estonia, Latvia.
- Improve coordination with CDC and CAPACITY for specific issues.

Annex VII

Recommendations for future reviews

- The visa arrangements and air reservations for external participants should be made well in advance, as visa availability may change the plans.
- Background materials (if available in electronic format, send to the team in advance):
 - Terms of reference for the evaluation

- Summary epidemiological and program TB data for CAR countries (last full year plus additional quarter data). Table with population, reported cases/rate (total and new smear positive, EP, last available year). Conversion and outcomes (%), for the last reported quarter, per country. Use national data reported to WHO, and Project HOPE data including the population covered to calculate rates. .
- Graph with TB reporting trends of last 6 years (baseline plus project), national data.
- Table with Project HOPE summary plan of action and achievements (columns with planned activities, done or not, brief comments, empty column for comments).
- Original agreement, 5 year plan, and last annual report
- Financial data (funds received and utilized, by country and regional level), if it is the final project evaluation
- List of partner cooperating agencies/programs with area and country of activity
- List of GFATM and GDF grants (country, year, amount, recipient) for TB and HIV
- Country visits: one team of two members per country, one of them international, at least one of them bilingual (English/Russian).
- Review team: for international participants, consider inclusion of staff from partner organizations (WHO, Gorgas, CDC, ICRC) not directly involved in CAR. These may have partial financing, so it would reduce costs. For CAR participants, English-speaking nationals can be included as long as they do not evaluate activities in their own countries.
- Proposed schedule:
 - Saturday/Sunday arrival (with a day rest for those with long travel time)
 - Monday regional briefing on Project HOPE, plan of activities and instructions for country visits, assignment of chapters/issues
 - Tuesday departure to field visits (one country per team). One of the team should speak Russian. At least one bilingual Project staff should accompany teams.
 - Wednesday-Saturday field interviews, observation, discussion, writing report
 - Sunday return to Almaty
 - Monday-Tuesday team discussion of major findings, exchange of reports, reading
 - Wednesday briefing by Project HOPE regional coordinators, discussion, request of additional information from Project staff
 - Thursday-Friday individual writing and team discussions, writing of draft summary, conclusions and recommendations
 - Friday afternoon debriefings
 - Saturday writing chapters, collecting written materials
 - Sunday departure
- Follow up (3 weeks)
 - Team leader (or rapporteur, does not need to be the same person) consolidates the first draft report and circulates to team by email (one week).
 - Inclusion of comments of members and circulation of second draft to members and Project HOPE focal point to revise errors and add data if necessary (one week)
 - Submission of final report to Project HOPE (one week)