



## Healthy dividends

How German investments are helping to stop TB and HIV in the Caucasus and central Asia



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## Abbreviations

CCM	Country Coordinating Mechanism (GFATM)
DOTS	Directly Observed Treatment, Short course
DST	drug-sensitivity testing
GDC	German Development Cooperation
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
HIV	human immunodeficiency virus
ICRC	International Committee of the Red Cross
KfW	KfW Entwicklungsbank (German Development Bank)
MDG	Millennium Development Goal
MDR-TB, XDR-TB	multidrug-resistant TB, extensively drug-resistant TB
MoH	Ministry of Health
NTP	national tuberculosis programme
RDC	Republican DOTS Center
TB	tuberculosis

# German HIV Practice Collection

Peer-reviewed

## Objective

In 2004, HIV experts working for German development agencies and their partner institutions worldwide launched the German HIV Practice Collection. From the start, the objective has been to share good practices and lessons learnt from HIV programmes supported by German Development Cooperation. The actual process of jointly defining good practice, documenting it and learning from its peer review is considered as important as the resulting publications.

## Process

Managers of German-backed programmes propose successful programmes to the Secretariat of the German HIV Practice Collection at [ghpc@gtz.de](mailto:ghpc@gtz.de). An advisory board of HIV experts representing German development organizations and the Ministry of Economic Cooperation and Development (BMZ) select the most promising proposals for documentation and peer review. Professional writers then visit selected programme sites and work closely with relevant agencies in the partner countries and German experts to document the promising practice that they have jointly developed.

Independent, international peer-reviewers with expertise in the particular field then assess whether the documented approach represents “good or promising practice”, based on eight criteria (see text box). Only reports about practices that meet this standard are approved for publication.

To download the short version of this report and other publications in this collection, go to [www.german-practice-collection.org](http://www.german-practice-collection.org).

## Publications

All reports in the Collection describe approaches in sufficient detail to allow for their replication and adaptation in different contexts. They have a standard structure and are presented in plain, compelling language that aims to appeal to a wide range of readers, as well as specialists in the field. Publications also direct readers to useful tools and appear in full-length and in short versions that can be read online, downloaded or ordered as printed copies.

## Get involved

Do you know of a promising practice? If so, we are keen to hear from colleagues working with similar programmes or from practitioners who have found different responses to similar challenges in the fields of health and social protection. Please also check out our website to comment on, discuss and rate all of our reports. Here you can also learn about proposals and approaches currently under peer review.

For more information, please contact the Managing Editor at [ghpc@giz.de](mailto:ghpc@giz.de) or [www.german-practice-collection.org](http://www.german-practice-collection.org).

## Selection Criteria

- Effectiveness
- Transferability
- Participatory and empowering approach
- Gender awareness
- Quality of monitoring and evaluation
- Innovation
- Comparative cost-effectiveness
- Sustainability

# Executive Summary

In 2008, it was estimated that more than 9 million people worldwide became sick with tuberculosis and 1.8 million died, the highest death toll of any curable infectious disease. Another half a million deaths involved individuals co-infected with TB and HIV. Multidrug-resistant TB (MDR-TB) and extensively drug-resistant TB (XDR-TB) were also on the rise in many parts of the world, though less than 5% of multidrug-resistant cases are detected and less than 3% receive treatment in accordance with international standards.

Few regions of the world are as threatened by TB and HIV, diseases that thrive in the presence of the other, as eastern Europe (including the Caucasus) and central Asia. Here TB prevalence is up to 50 times higher than in western Europe, and multidrug-resistant TB prevalence rates are among the highest in the world. Add to this widespread injecting drug use (a major mode of HIV transmission), high rates of incarceration, poor prison conditions and severe poverty and it is clear why many countries in these regions fear that they may be on the cusp of explosive dual epidemics of TB/HIV.

This report summarizes the promising approach used by German Development Cooperation (GDC), regional ministries of health and other partners in seven countries in the southern Caucasus and central Asia to address this public health threat. For simplicity, the report focuses on GDC's programme in two of these countries: Georgia and Uzbekistan. German efforts to address TB here go back more than one decade and have helped both countries become leaders in this critical area of endeavour, with strengthened national TB control programmes (NTPs).

German government support for the prevention of dual epidemics in these regions is mainly financial – strategic investments to catalyze health-system strengthening – and is done through KfW Entwicklungsbank (German Development Bank). As one of the main instruments of German Development

Cooperation, KfW finances, advises and guides development programmes worldwide, focusing on the needs and development strategies of partner countries. GDC and KfW also strive to develop long-term relationships with partners. Over the last ten years, therefore, GDC has provided about 65 million euros for TB programmes in the southern Caucasus and central Asia.

The goal of GDC programmes is to support partner countries in applying the global Stop TB Strategy, with the aim of achieving Millennium Development Goal 6: "... to have halted by 2015 and begun to reverse the incidence" of both TB and HIV. To do this, the programmes focus on five areas: building national TB programmes; forging regional networks; protecting prisoners; strengthening health systems; and working in dynamic partnerships.

With direct GDC involvement in providing steady supplies of quality assured drugs and other essential medical commodities, Georgia's National TB programme (NTP) and its counterpart in Uzbekistan (the Republican DOTS Center) have ensured appropriate treatment of TB patients across their countries. This support has been conditional, however, tied to governments demonstrating a growing commitment to the Stop TB Strategy and DOTS. GDC payments have, therefore, triggered increases in national commitment and allowed the NTPs to become effective agents of change, able to absorb funds from other development partners, including the Global Fund to fight AIDS, Tuberculosis and Malaria. This has given them the authority to coordinate the work of many partners in building systems that save lives.

In just a few years, therefore, Georgia and Uzbekistan have built national reference laboratories, twinned with supranational reference laboratories in Germany and tied these into extensive national networks of laboratories that ensure accurate diagnosis of TB and quality-assured culture and drug sensitivity testing.

GDC and other partners have also worked with the NTPs and prison health authorities to extend the Stop TB Strategy to prisons, so that vulnerable individuals in these closed settings receive state-of-art services for prevention, treatment and care for TB, multidrug-resistant TB and TB/HIV coinfection. With WHO Regional Office for Europe, GDC has also organized regular regional conferences and training to strengthen the capacity of and boost regional cooperation and information sharing among practitioners dealing with TB/HIV.

The German approach has also allowed NTPs to orchestrate dynamic partnerships of national and international partners: the Global Fund to Fight AIDS, TB and Malaria, KNCV Tuberculosis Foundation, Médecins sans Frontières, the Red Cross, United Nations Food and Development Programme and USAID.

Among the lessons learnt by GDC and its partners is that regional networks of health professionals such as those supported by GDC and WHO boost cooperation and capacity whilst also contributing to peace-building among countries with histories of conflict. Experience shows, as well, that partnerships require national coordination (ideally by national tuberculosis programmes and national AIDS authorities), and care in choosing the right partners for specific tasks. Another lesson is that political commitment can be increased by tying financial support to concrete actions by governments – for example, restricting free availability of anti-TB drugs through private pharmacies and inappropriate channels, so that patients get the right medicine and necessary medical support. Finally, the German approach, and others, have highlighted the need to integrate and consolidate TB and HIV services in general health systems.

According to the expert reviewers of this report, the GDC approach is a “promising practice” in that it is transferable, innovative, participatory and empowering, cost-effective (though formal studies of this have not yet been done) and sustainable. As for its effectiveness, they noted that GDC has contributed to TB and HIV control across the southern Caucasus and central Asia with quality-assured microscopy and culture/drug-sensitivity testing (DST) laboratories, improved TB-case detection, effective monitoring and evaluation and information exchanges among countries.

# Introduction

This report describes Germany's support of national efforts to reduce TB and TB-HIV in Georgia and Uzbekistan, participants in German Development Cooperation (GDC) programmes covering seven countries in the southern Caucasus (Armenia, Azerbaijan and Georgia) and central Asia (Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan).

Aimed at a general readership (journalists and legislators, as well as specialists in the field), it provides a summary of an important aspect of the scaling up of critically needed health services, with links to further reading. It does not aim to offer a comprehensive assessment, covering the contributions of all local, national, and international agencies addressing aspects of TB and HIV in the region.

Furthermore, owing to the involvement of many partners, each with its own programmes, and the complex factors that shape the epidemiology of these diseases in the southern Caucasus and central Asia, it is difficult to attribute changes in epidemiological data with specific interventions. Many observers believe, however, that GDC's sustained support for the national TB programmes in Georgia, Uzbekistan and other countries in this region deserves part of the credit for measures that are likely helping to control, and reduce the impact of, these potentially devastating diseases.



# Context

## Dual threat of TB and HIV

Each year, an estimated 9 million people worldwide become sick with tuberculosis (TB), an infectious disease that can be prevented and cured. TB is spread through the air, when infectious individuals cough, sneeze or spit. More than 2 billion people are estimated to be infected with mycobacterium tuberculosis, the bacterium that causes the majority of pulmonary tuberculosis. In an estimated 90% of infected individuals, infection remains latent and these individuals never develop the disease. About one-in-ten infected individuals develop active TB during their lifetime, which triggers symptoms such as chronic cough with blood-tinged sputum, fever and weight loss. Without proper treatment these individuals are also liable to suffer prolonged illness, infect 10 to 15 other people per year, and have less than a 50% chance of survival. In 2009, about 1.8 million people died from TB (more than from any other curable infectious disease). This death toll *includes* about 500 000 individuals co-infected with TB/HIV who died (though not necessarily as a result of TB) (WHO, 2009b).

Tuberculosis is found worldwide, but most often it is a disease of poverty, becoming active among people with poor living conditions and malnutrition. Young male adults are most affected and the majority of TB deaths occur in low- and middle-income countries, with more than half in Asian countries.

Owing to population growth, the total number of TB cases and deaths continues to rise, though the number of cases per capita is falling by about 1% per year. If treated correctly, the standard six-month cure (with first-line treatment) costs just US\$16, making it affordable for most health systems. Diagnosis and treatment are too often inadequate, however, as it is estimated that for every ten TB cases, four are either not properly diagnosed or not properly treated. Patients not attending health clinics, doctors and nurses failing to recognize symptoms of TB, and health facilities failing to refer or report

new cases are among the factors underlying this troubling statistic.

The intersection of HIV and TB epidemics poses a major threat. Of the 9.4 million new TB cases registered in 2008 (139 cases per 100 000 population) about 1.4 million were people living with HIV (14.7%). This is particularly troubling as people infected by TB as well as by HIV are 20 – 40 times more likely to develop active TB than those with TB who are HIV-negative (WHO, 2009a). TB and HIV thrive off each other. The immune deficiency caused by HIV infection can activate latent tuberculosis or trigger new infection, and TB accelerates the progress of HIV disease. As well, TB remains the most frequent cause for mortality among people with HIV.

» *People infected by TB as well as by HIV are 20 to 40 times more likely to develop active TB than those with TB who are HIV-negative.*

About 8% of TB cases worldwide are attributable to HIV. This proportion is increasing as the HIV pandemic spreads. The impact of HIV has been greatest in countries of southern and east Africa, where up to 40% of adults may be infected with HIV and the incidence of TB has increased four- to five-fold in just 10 years. Other significant risk factors, including smoking, diabetes, malnutrition, and overcrowding, may have an equally important impact at a population level depending on exposure (Nunn et al, 2005; Lin et al, 2007; Coker et al, 2006; Stevenson et al, 2007; Cegielski and McMurray, 2004).

While Africa accounted for 79% of all TB/HIV co-infections in 2007, eastern Europe and central Asia, among other regions, are considered at high risk of TB/HIV (dual) epidemics. Why? Because this is the only region where HIV prevalence rates are clearly on the rise. An estimated 110 000 people were newly infected with HIV in 2008, bringing the number of people living with HIV in eastern



Europe and central Asia to 1.5 million. This compares with 900 000 in 2001, a 66% increase (UNAIDS/WHO, 2009). Taking into account the existing TB epidemic in the region, only vigorous control measures will prevent a significant overlapping of these potentially lethal epidemics.



Patients at Directly Observed Treatment (DOT) Spots throughout Georgia, such as this one in Tbilisi, take their TB medications daily under the direct supervision of health workers.

Multidrug-resistant tuberculosis (MDR-TB), which accounts for about 5% of all TB cases, is further complicating the picture (WHO, 2009a). This does not respond to treatment with first-line anti-TB drugs and thrives among patients who are given the wrong drugs or who fail to adhere to treatment for the required period. This form of TB also becomes a problem when health systems mismanage drug supplies or do not invest adequately in TB control (Schwalbe, 2008). Like drug-sensitive TB, MDR-TB can be spread from person to person, but it is more difficult and more expensive to treat.

No fewer than 70 000 cases of multidrug-resistant TB are reported each year in eastern Europe and central Asia, the regions with the highest prevalence of this form of tuberculosis. Worldwide, it is estimated that more than 130 000 die from it annually (Zaleskis, 2008), but less than 5% of cases are detected because most laboratories are poorly equipped and do not meet global standards.

A form of MDR-TB known as extensively drug-resistant TB (XDR-TB) has been diagnosed in about

40 000 people worldwide. Like other forms of TB, it can be transmitted from one person to the next; unlike others, there is no known treatment for it. In eastern Europe roughly one in ten cases of multidrug-resistant TB is extensively drug resistant.

Little is known about the possible impact of extensively drug-resistant TB on people with HIV (Smart, 2009). The authors of a recent study warn, however, that “People living with HIV are particularly vulnerable to the impact of drug-resistant TB due to the difficulties and delays in the diagnosis, complications of concomitant treatment with TB and antiretroviral therapy (ART) and poor TB infection control measures in many HIV-care settings” (Getahun, 2009). Furthermore, HIV accelerates the spread of multidrug-resistant forms of TB and it is estimated that people coinfecting with MDR-TB or XDR-TB and HIV are 30 times more likely to die than patients with normal TB/HIV co-infection.

### » Eastern Europe and central Asia are considered at high risk of TB/HIV dual epidemics.

Injecting drug use is another worrying factor in relation to TB/HIV. In eastern Europe and central Asia, where there are an estimated 3.2 million injecting drug users, the rate of new HIV infection is about 20 times that of western Europe. In central Asia, the overlap of injecting drug use and HIV is becoming a major problem, as countries such as Kyrgyzstan and Uzbekistan are on the main opioid-trafficking routes linking Afghanistan and Pakistan to Europe. It is estimated that 30% to 90% of HIV infections in central Asia are the result of injecting drug use. German Development Cooperation (GDC) supports programmes to reduce the harms of injecting drug use by boosting access to accurate information about safer sex and drug use and providing users with clean needles and syringes.

Prisons in the region have also been “breeding grounds” for TB and HIV. The risk of TB infection in such closed settings is 50 times higher and mortality rates are about 28 times higher than those

in other settings, as prisoners live close together in unhygienic and stressful conditions. Furthermore, prisoners are often at high risk of infection by multi-resistant strains of TB. This is particularly true in prisons in central Asian countries such as Kyrgyzstan and Uzbekistan, and in the Caucasus, in Georgia, Azerbaijan and Armenia. Prisoners are also at high risk of HIV from unsafe injection of drugs and unsafe sexual practices, and are also highly vulnerable to co-infection. Though the number of co-infected prisoners in the southern Caucasus and central Asia is not known, it is widely known that without prompt diagnosis and proper treatment, many are at risk of death. TB in prisons affects the general population through transmission that occurs when prisoners are moved (upon being released or transferred to another facility) and via prison staff and visitors (USAID/TBCTA/ICRC, 2009).

### Georgian and Uzbek context

Bordered by the Black Sea, Turkey, Armenia, Azerbaijan and the Russian Federation, Georgia gained its independence from the Soviet Union in 1991 and much of the next ten years were characterized by economic decline and civil unrest. In 1994, the gross domestic product had shrunk to a quarter of that of 1989 (European Bank for Reconstruction and Development, 2009). Agriculture and tourism are the traditional engines of the Georgian economy, and since 2000, the economy has recovered, helped in part by a growing services sector. The country fought a war with Russia in 2008, however, over disputed Southern Ossetia, and unemployment remains at 12.6%. In 2009, it had a population of about 4.4 million and a Human Poverty Index (HPI)-value of 4.7%, a measure of the percentage of people who do not live a long and healthy life, with access to education, and a decent standard of living. This put Georgia 18th out of 135 countries for which the value has been calculated (UNDP, 2009).

Uzbekistan also became independent in 1991. Bordered by four other former Soviet states (Kazakhstan, Kyrgyzstan, Tajikistan and Turkmenistan), it has a population of about 26.6 million citizens and an economy that relies heavily on exports of agricultural products and minerals. In 1995, after several years of economic weakness, the government announced a policy of more gradual transition to free market structures, keeping strict control over markets and investment. While economic growth has picked up in last ten years, in 2007 the country had an HPI-value of 8.5%, 42<sup>nd</sup> out of the 135 countries in the poverty index (UNDP, 2009).

Independence not only brought a new set of economic challenges for Georgians and Uzbeks, initially it also led to a decline in health services in both countries. In the 1990s, inadequate funding of immunisation, for example, coupled with growing poverty contributed to the spread of various diseases, with TB, malaria and sexually transmitted infections, including HIV, among the most serious health threats. Since the mid 1990s, however, Georgia and Uzbekistan have begun to rebuild and to reinvest in their health sectors.



Nurabad, one hour south-west from Tashkent, Uzbekistan: After gaining independence in 1991, Uzbekistan entered a period of economic decline, and poverty, conditions that contributed to an increase in TB.

In both countries, however, the decade following independence witnessed a sudden increase in the burden of tuberculosis and HIV. In Georgia the number of TB patients notified increased from 32 per 100 000 inhabitants in 1995 to 97 per

100 000 in 2002. In Uzbekistan, over the same period, notifications increased from 43 to 81 per 100 000. Notification rates in both countries continued to increase, though at a slower pace, until 2006, before beginning to drop for the first time. In Georgia, the number of TB cases notified went from 103 in 2006 to 98 in 2007; in Uzbekistan, in the same two years, notifications fell from 89 to 72. Preliminary figures for 2008 – 2009 for the two countries seem to confirm this downward trend (WHO, 2009b).

By contrast, TB-drug resistance continues its worrying rise in Georgia and Uzbekistan – so much so that the two countries are considered among the 27 nations worldwide most heavily burdened by multidrug-resistant TB (WHO, 2009c).<sup>1</sup> In Georgia about 6.8% of all newly diagnosed TB cases and 27.4% of previously treated TB cases were multidrug resistant, according to figures released in 2010. In Uzbekistan the comparable figures are 14.2% and 49.8% respectively (WHO, 2010).

The number of people living with HIV is growing in both countries, with injecting drug use a major mode of transmission. Surveys suggest that levels of HIV in prisons in eastern Europe and central Asia are significantly higher than in the general population. In Georgia, an estimated 2700 adults and children were living with HIV in 2007; in 2001, it is estimated that fewer than 500 Georgian adults were living with HIV (no estimate of adults and children with HIV is given for this year). In 2007, HIV prevalence among adults (15 – 49) in Georgia was estimated to be 0.1%. In Uzbekistan, an estimated 16 000 adults and children were living with HIV in 2007, compared to 1400 in 2001. Prevalence among adults (15 – 49) in 2007 stood at 0.1% (UNAIDS/WHO, 2009; UNAIDS 2008)

The extent of TB/HIV coinfection in the Caucasus and central Asia is not known. Available statistics, patchy at best, indicate that the total number of cases remains fairly low. In the Caucasus and central Asia, only Uzbekistan has relevant data and these indicate

that, in 2007, 371 out of 25 310 TB patients tested HIV-seropositive, or 1.5%. This compares with 0.9% in 2006 (European Centre for Disease Prevention and Control/WHO, 2010). More accurate data from more countries are needed to assess the extent of coinfection in the region and any trends. The need for this data is urgent, as anecdotal evidence and history suggest that this region could be on the cusp of serious dual epidemics.

### Global and regional commitments

Over the last two decades, countries worldwide have increasingly expressed political commitment and support for a coordinated response to halt the spread of TB and, more recently, the threat posed by dual epidemics of TB/HIV. In 1999, Member States at the 44th World Health Assembly recognized the menace posed by tuberculosis and established global targets to be met by 2005. These included the detection of 70% of all TB cases with the then newly introduced DOTS Strategy (Directly Observed Therapy Short Course) recommended by WHO; and successful treatment for at least 85% of people diagnosed in this manner. Despite some progress, countries fell short of these targets; so, efforts were redoubled with the launch of the first Global Plan to Stop TB in 2001 – 2005. This was then renewed for 2006 – 2015.

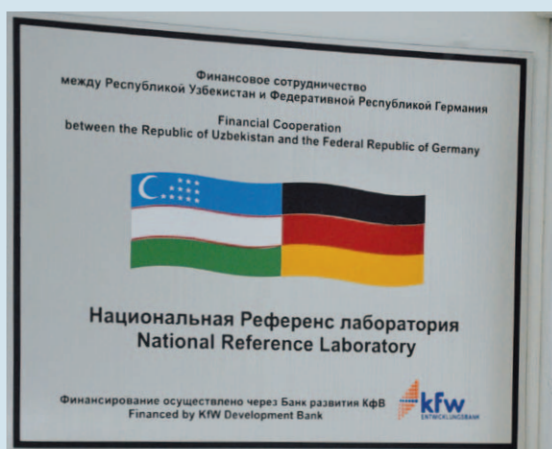
If fulfilled, the Global Plan will allow countries to reach, among other goals, the targets established by the World Health Assembly, and target 8 of Millennium Development Goal (MDG) 6: “to have halted by 2015, and begun to reverse, the incidence of all forms of TB”. The Stop TB Partnership is responsible for implementing this ambitious plan. A public-private initiative, the Partnership has a secretariat based at WHO Headquarters in Geneva and aims to harness the energy and expertise of private corporations, faith-based and nongovernmental organizations, academics, governments and global agencies.

<sup>1</sup> In all, 15 of the 27 countries worldwide with the heaviest burden of MDR-TB are in eastern Europe and central Asia: Armenia, Azerbaijan, Belarus, Bulgaria, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Republic of Moldova, Russian Federation, Tajikistan, Ukraine and Uzbekistan. The other most-burdened countries are Bangladesh, China, Democratic Republic of Congo, Ethiopia, India, Indonesia, Myanmar, Nigeria, Philippines, Pakistan, South Africa and Viet Nam.

In turn, WHO/Stop TB established a Global Drug Facility, an innovative mechanism for procuring good-quality, inexpensive anti-TB drugs, laboratory equipment and medical commodities. By doing this, it was able to expand access to, and availability of, effective anti-TB drugs and diagnostics to facilitate the expansion of DOTS globally. Stop TB has also established a Green Light Committee to help countries to plan and to establish effective programmes for the management of patients with multidrug-resistant TB. A special TB/HIV working group is also coordinating the global response to infection control measures, and providing guidance to countries, especially those with high levels of HIV.



Decision-makers at central Asian TB Conference on MDR-TB, Tashkent, 2008: (from left) A. Alisherov, Director, NTP Kyrgyzstan; H. Ismailov, Director, NTP Kazakhstan; M. Khodjibekov, Deputy Minister of Health, Uzbekistan; A. Ubaydullayev, Director, NTP Uzbekistan; Olga Hefe, KfW; and G. Tsogt, WHO, Uzbekistan.



Sign at entrance to Uzbekistan's NRL celebrating cooperation between Germany (KfW) and Uzbekistan.

Growing global commitments, such as the Stop TB Partnership, have been accompanied by, and fostered, other regional and global commitments to address TB. In 2005, for example, WHO declared TB a public health emergency in eastern Europe and central Asia. A Ministerial Forum on Tuberculosis in Berlin in October 2007, organized by the Ministry of Health of Germany and WHO Regional Office for Europe, led to the so-called Berlin Declaration by signatory countries in WHO's European Region (which includes all countries of the former Soviet Union, as well as Turkey and others). This formally adopted the Stop TB Strategy and called for sustained investment in TB control and further international cooperation in research and practical measures (WHO Regional Office for Europe, 2007). At very least, such declarations indicate a growing recognition that only concerted, multilateral action will stop the damage wrought by TB and TB/HIV.

» *In 2005, WHO declared TB a public health emergency in eastern Europe and central Asia.*

The German Ministry for Economic Cooperation and Development, via GDC, has in turn boosted its commitment in this critical area of public health. Most of the German support for addressing dual epidemics in the southern Caucasus and central Asia is provided through German Financial Cooperation programmes, administered by Germany's *KfW Entwicklungsbank* (Development Bank). As one of the main instruments of German Development Cooperation, KfW finances, advises and guides development programmes throughout the world, focussing on the needs and development strategies of partner countries. Through KfW, the German Government has provided about 65 million Euros for TB-control programmes in the southern Caucasus and central Asia over the last 10 years.



# Helping Georgia and Uzbekistan stop TB/HIV

In recent years, efforts to address TB/HIV in Georgia, Uzbekistan (and many other countries) have been guided by the global Stop TB Strategy. A basic premise of the strategy is that no single country or global agency can alone reduce the burden arising from the dual epidemic (WHO/Stop TB Partnership, 2006) and it promotes action in six critical areas towards a “world free of TB”:

## 1. Pursue high-quality DOTS expansion and enhancement

- a. Secure political commitment, with adequate and sustained financing.
- b. Ensure early case detection/diagnosis through quality-assured bacteriology.
- c. Provide standardized treatment with supervision and patient support.
- d. Ensure effective drug supply and management.
- e. Monitor and evaluate performance and impact.

## 2. Address TB-HIV, MDR-TB and other challenges

- a. Scale-up collaborative TB/HIV activities.
- b. Scale-up prevention and control of MDR-TB.
- c. Address the needs of TB contacts, and of poor and vulnerable populations (prisoners, refugees and others).

## 3. Contribute to health system strengthening

- a. Help improve health policies, human resource development, financing, supplies, service delivery and information.
- b. Strengthen infection control in health services, other congregate settings and households.
- c. Upgrade laboratory networks, and implement Practical Approach to Lung Health (PAL).
- d. Adapt successful approaches from other fields and sectors, and foster action on the social determinants of health.

## 4. Engage all care providers

- a. Involve all public, voluntary, corporate and private providers through public-private-mix approaches.

- b. Promote use of the International Standards for Tuberculosis Care (ISTC).

## 5. Empower people with TB and communities

- a. Pursue advocacy, communication and social mobilization.
- b. Foster community participation in TB care.
- c. Promote use of Patients' Charter for Tuberculosis Care.

## 6. Enable and promote research

- a. Conduct programme-based operational research and introduce new tools into practice.
- b. Advocate for and participate in research to develop new diagnostics, drugs and vaccines.

### Long-term cooperation has fostered leadership in TB

German efforts to address TB in this region extend back to the mid 1990s. This long-term support has helped Georgia and Uzbekistan to become leaders in this critical area of public health, with strengthened national treatment programmes and improved diagnosis and treatment services. Early success has further fortified national commitments and helped the countries work with other partners. In May 2007, for example, Georgia adopted a five-year National TB-HIV Strategic Plan (ending in 2011), with the support of USAID and KNCV Tuberculosis Foundation. This strategy, approved by MoH and national TB and HIV programmes, is one of the first of its kind in eastern Europe (Ministry of Health, Georgia, 2007). The country has also introduced a national system for screening for TB and HIV co-infection, an important element in controlling dual epidemics.

The goal of the German-supported programme has been to apply the Stop TB Strategy to reduce the morbidity, mortality and transmission of TB and HIV, towards achieving MDG 6. Nearly all support is, therefore, channelled through established national tuberculosis programmes (NTPs). Specifically, German efforts support better coordination and an improved division of labour among Stop TB partners on points 1, 2 and 3 of the Stop TB Strategy. These efforts also contribute to other points of the strategy. The remainder of this section describes five distinguishing elements of the support provided by GDC: building national TB programmes; twinning and technical assistance for laboratories; protecting prisoners; forging regional networks of health professionals; and working in dynamic partnerships.

### Strengthening national tuberculosis programmes

Arguably the greatest contribution made by GDC in TB/HIV in the Caucasus and central Asia has been its assistance in helping countries develop effective and authoritative structures to coordinate and implement the roll-out of the DOTS Strategy (see point 1 of Stop TB Strategy, above). In Georgia, the National Tuberculosis Programme (NTP), launched in 1995 and based in Tbilisi, is in charge; in Uzbekistan, it is the Republican DOTS Centre (RDC), established in 2001, based at the National Tuberculosis and Lung Diseases Institute in Tashkent. The Republican DOTS Centre coordinates Uzbekistan's National TB Control Programme (NTP, for the purposes of this document), reporting to the Ministry of Health (MoH).

As noted in the text box, above, a distinguishing feature of GDC's support has been its longevity. The German agency helped establish the NTPs in this region and, together with the backing of WHO and, recently, the Global Fund to Fight AIDS, TB and Malaria (GFATM), its steady support explains in part the considerable authority and

organizational power of the NTPs within government and nationally.

» *A distinguishing feature of GDC's support has been its longevity.*

The support has also been highly strategic. Use of high-quality DOTS, as articulated in the Stop TB Strategy, is considered the most cost-effective way to reduce the burden of TB and TB/HIV. With generic procedures and standard equipment, it is applicable to a wide variety of contexts, though countries often need to build capacity or adjust their systemic structures to make best use of the Stop TB Strategy.

GDC's support for national tuberculosis programmes has, therefore, focused on helping them implement and expand DOTS in two specific ways. First, it has funded the supply of essential anti-TB medicines to ensure that all patients have uninterrupted *free* access to the best treatment. Second, it has supported the development of infrastructure for national networks of laboratories: bricks and mortar, computers, microscopes and other equipment for everything from basic sputum-microscopy in peripheral facilities right up to culture and drug-sensitivity testing (DST) in national reference laboratories in capital cities.

Ensuring country-wide access to first-line drugs for TB treatment was critical to the success and credibility of newly founded NTPs whose task it was to ensure patients are provided the right medicines at the right time and strictly adhere to their regimens until cured. Anything less leads to further transmission of infection in the community, development of drug resistance, morbidity and death. By strengthening the hand of NTPs with uninterrupted supplies of first-line drugs, physicians, health-care managers and politicians alike gained new respect for the programmes.



Supplies of first-line TB medicines, such as these at a Tbilisi DOT Spot, have been funded by GDC, helping to build Georgia and Uzbekistan's national TB programmes.

The expansion of DOTS, however, depends not only on drugs; swift, reliable case-detection and bacteriological analysis are equally important. GDC, therefore, gave equal emphasis to helping the NTPs of Georgia, Uzbekistan and other countries in the region build their TB laboratory infrastructure and networks. As a result, Georgia now has a well-developed network of laboratories, with a National Reference Laboratory in Tbilisi, a regional laboratory at the West Georgia Center for Tuberculosis and Lung Diseases, 30 first-level microscopy laboratories and 37 sputum collection points. It also has state-of-the-art equipment and a reliable system for transporting sputum samples from collection points to first-level facilities for smear microscopy, to regional laboratories for culture, and to national reference laboratories for drug-sensitivity testing. With German support, Georgia is now building and equipping a new national reference laboratory to allow for rapid diagnosis of multi-, and extensively, drug-resistant TB, among other tasks.

Another distinguishing feature of GDC support for TB drug procurement and laboratory infrastructure is that it is tied to national governments demonstrating a growing commitment to DOTS. GDC payments have, therefore, triggered increases

in government commitment to institutionalize NTPs and to hire and allow the NTPs to become effective agents of change, able to absorb funds of other development partners, including the GFATM. In Georgia, the NTP is now the main coordinating and implementing agency and has significant influence in shaping government decisions about investment in TB and HIV services. The same is true for Uzbekistan's Republican DOTS Centre.



Georgian patient with multidrug-resistant TB taking his medicine at Tbilisi DOT Spot.

### Twinning of reference laboratories

As well as building laboratory infrastructure, a salient feature of GDC support for TB-HIV services in the Caucasus and central Asia has been concerted efforts to build the capacity, offer operational support and assure the quality of work of national reference laboratories (NRLs). Since 2006, therefore, these NRLs have been twinned with two WHO-certified, supranational reference laboratories: the National Reference Center (NRC) for Mycobacteria in Borstel, in northern Germany, which is linked to the Federal Ministry of Health and Robert Koch Institute; and the Supranational Reference Laboratory at the Institute of Microbiology and Laboratory Medicine (IML) at the Asklepios Fachkliniken Teaching Hospital, University of Munich, in Gauting, southern Germany.





Technician at new National Reference Laboratory, Tashkent.

The twinning of staff at Uzbekistan's National Reference Laboratory with experts at the Gauting laboratory has provided technical support in planning and building the Tashkent laboratory in accordance with international (S 3) biosafety standards. It has also allowed for the training of NRL staff in culture and drug-resistance testing, as well as new diagnostic procedures, and introduced and developed standard operating procedures for quality management systems. Furthermore, twinning has helped the Uzbek NRL develop a quality assurance system, including regular panel testing (cross-check tests) and provided the means for an expert from Gauting to visit the Tashkent laboratory for two weeks, three times a year, from 2007 – 2010.



Quality assurance certificate issued to NRL in Tashkent by Institute of Microbiology and Laboratory Medicine at Gauting, Germany.

With GDC funds, laboratory technicians from Tashkent visited Gauting to acquire knowledge and skills. These and other twinning opportunities have helped Uzbekistan to build a strong national reference laboratory that is able to sustain itself, and disseminate its expertise regionally. Staff at Tashkent's NRL are now training technicians at laboratories throughout Uzbekistan and have helped the country open five new regional TB laboratories for culture: in Termez, Nurabad, Fergana, Buchara and Samarkand. Experts from Tashkent are also training counterparts in neighbouring countries, such as Tajikistan.

### Protecting prisoners with the Stop TB Strategy

Point 2 of the Stop TB Strategy calls for measures to “address the needs of TB contacts, and of poor and vulnerable populations.” These include, perhaps most notably, prisoners. Beginning in 1999, therefore, GDC used its influence in southern Caucasus and central Asia to work with governments to extend the coverage of TB diagnosis and treatment and other health services to the prison system. At first this was a difficult undertaking, as services for the general population were often scarce or non-existent, and it was unpopular for governments to be seen to be catering to prisoners. As well, effective coverage in prisons required the cooperation of different government ministries. GDC got around this with advocacy that highlighted the high levels of TB in closed settings and made the case that controlling TB and HIV would be difficult if prison populations were not given free access to critical services. It also supported the building and equipping of clinics in prisons, mainly in partnership with the International Committee of the Red Cross (ICRC), which trained prison staff and health-workers to provide the new services and extend the Stop TB Strategy to the penitentiary system.

In Uzbekistan, this GDC initiative encouraged new cooperation between the Ministries of the Interior and Health. As a result Uzbek prisoners now have the

same access to TB and HIV diagnostic procedures and treatment regimens as members of the wider population. They also benefit from the new TB laboratory networks, which do diagnostic work and drug-sensitivity testing for prisoners as well as the general public. Furthermore, systems are now in place to ensure that when prisoners leave confinement, they have ready access to continued treatment and support – an essential measure for limiting drug resistance. After release from prison, this means that patients with multidrug-resistant TB who are not yet cured go directly to a specific ward of the Republican TB hospital in Tashkent, until cured. The ward opened in April 2009 with support from the NTP, Ministry of the Interior, GDC and the GFATM.

#### Former student contracted TB in prison

Georgi, 37, had been in Abastumani TB Hospital, in Georgia, for six months when this photo was taken. Single, with no children, he is a former medical student who had to interrupt his studies to serve in the Georgian army in Abkhazia in 1993 and, later, spent two years in prison. "When I was released in April, I fell ill and I went to a doctor," he says. "He told me that I had TB and I first got the treatment in the TB centre in Tbilisi. So I got infected in prison. After some time, multidrug-resistant TB was diagnosed and they transferred me here to Abastumani. I guess that I will have to stay here for a longer time, but it is a nice place, with beautiful nature and calm."



In Georgia, GDC and ICRC have also supported the extension of coverage of TB and HIV services to include prisons. ICRC cooperates extensively with prison authorities in providing prison health services and, most important, ensuring that prisoners continue to receive the health services they need when they return to the wider community. The agency also ensures that TB/HIV co-infected prisoners receive accurate diagnoses and appropriate treatment.



Prisoners on treatment for MDR-TB who have completed their sentences go directly to a special ward in this Tashkent hospital, until cured.

#### Forging regional networks of health professionals

TB, like other infectious diseases, knows no borders. This is particularly true for the Caucasus and central Asia where migration is common, borders porous and the countries share similar health systems and recent histories (as former Soviet republics). As a minimum, this demands that countries in the region support each other in developing TB and HIV prevention and treatment services of good quality. Ideally, countries would also be able to ensure that migrants with TB and/or HIV continue to receive good treatment after changing countries. While this level of cooperation is some way off, German support for national tuberculosis programmes has contributed greatly to the development of regional networks of TB professionals and decision-makers for the sharing of information about best practices and mutual technical support.

Every year since 1998, GDC and the WHO Regional Office for Europe have supported annual conferences for TB specialists from Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, Uzbekistan and other countries to discuss approaches to prevent TB/HIV. Similar conferences have been held annually since 2007 in the southern Caucasus, for TB and HIV specialists from Armenia, Azerbaijan and Georgia. Participants include service providers, as well as health officials and politicians from different countries. Over the years, these conferences have helped to strengthen regional technical networks, boost knowledge transfer, transparency, information sharing, even peace building amongst health professionals and politicians of countries that were, or still are, in conflict. A decade ago, it was common for national agencies to guard their data closely. Today, government officials and programme staff share even the most sensitive data – for example, on TB infection rates in prisons.

In central Asia, WHO is also using German financial support to hire qualified nongovernmental organizations, to provide joint-training sessions for health workers. Anecdotal evidence suggests that these regional sessions (for all four of GDC's partner countries) are efficient vehicles for building human resources for national laboratory networks and the expansion of high-quality DOTS, as service providers in most of the countries have similar needs, or relevant experience to share.



Georgia's Minister of Labour, Health and Social Affairs, A. Kvitashvili, second from right, welcomes participants to the southern Caucasus regional conference on tuberculosis control in Tbilisi, November 2009, as representatives from Armenia and Azerbaijan's ministries of health, and from KfW, look on.

### Networks encourage cooperation amid conflict

Peace may be one of the unexpected dividends of German investments in TB technical networks in the Caucasus and central Asia. Since the dissolution of the Soviet Union, boundaries here have often been disputed, heightening tensions between countries and triggering arm conflict. The networks and friendships fostered by regional TB conferences and training sessions going back over a decade have cut across enemy lines, bringing together politicians and health officials from nations in conflict in common humanitarian pursuits. They have encouraged cooperation among teams of doctors, nurses and laboratory technicians from different countries, and highlighted what they have in common. For example, TB and HIV service providers from Armenia and Azerbaijan have forged new links, through exchanges, joint training sessions and sharing of information. This is helping their countries move beyond a history of conflict, which flared up most recently during the 1991–1994 war over the disputed region of Nagorno-Karabakh.

### Working in dynamic partnerships

The financial and technical challenges of scaling up services for TB and HIV prevention, care and treatment are significant, and experience shows that partnerships are needed to meet these challenges effectively. The “Three Ones” principles, outlined in the Paris Declaration (2005) by UNAIDS and major governments, address this reality, by promoting harmonization of activities for HIV and other health services, with one agreed action framework for HIV, one national HIV coordinating authority and one monitoring and evaluation system.

In the Caucasus and central Asia, therefore, GDC has been careful to tailor its contributions to

advance the goals of each country's national TB programme, in accordance with WHO guidelines and policies. In recent years, it has also been working increasingly with other bilateral and global agencies: the GFATM, USAID, the ICRC and others. Such partnerships have been flexible enough to respond to changing needs and are well coordinated by each country's NTP.

For example, the Director of Georgia's NTP, a former deputy minister of health, holds a monthly technical meeting to coordinate activities and discuss new directions and initiatives. The NTP also organizes stakeholder meetings on a regular basis. Here representatives of ICRC, WHO, Medical Service Cooperation International (MSCI) and GDC meet with staff from the NTP and MoH to discuss NTP activities and the contributions of various development partners. At these meetings, the partners also discuss monitoring and evaluation, and results of different initiatives.

In 2005, Georgia also established a Country Coordinating Mechanism (CCM) to seek the support of the GFATM. The CCM gives strong support to the NTP and its Chair, Georgia's First Lady (wife of the current President Saakashvili), has participated in regional TB conferences and meetings. This is one indication of the government's commitment to improving the response to TB and HIV, a prerequisite for successful TB control programmes.

In Uzbekistan, the Republican DOTS Centre was created in 2001 to coordinate the National TB Control Programme (NTP) on behalf of the Ministry of Health. The RDC is located within the National TB Institute in Tashkent, where the National TB Reference Laboratory is also located, and it now has its own operational budget and serves as Principal Recipient of the GFATM grants.

As in Georgia, Uzbekistan's CCM was established in 2005, and brings together heads of various ministries, departments, local NGOs and international organizations active in TB and TB/HIV services.

The government has also demonstrated a high-level of commitment to address TB: for example, the Ministry of Internal Affairs and MoH are collaborating to ensure that prisoners with TB receive appropriate treatment.

TB/HIV coinfection has not yet become a major public health problem in Georgia and Uzbekistan, but authorities have begun to take steps to respond should the dual epidemic intensify.



Fridon, this 34-year-old, Georgian old minibus driver, discovered that he was HIV-positive after a test done at a TB drug dispensary. He then went for treatment at the National Infectious Disease Institute in Tbilisi, pictured in this photo, November 2009.



### Partnerships rebuilt TB hospital for toughest cases

The venerable and, until recently, crumbling TB hospital in Abastumani, Georgia, dates from 1898. Situated in the Caucasus mountains near the Turkish border, it was known as the best TB hospital in the Soviet Union, but after the break-up of that political empire in 1991 patients stopped coming to Abastumani and its famous sanatoria closed.

Its renaissance began in 2004 when grant money from the GFATM allowed the hospital to reopen, this time for Georgia's rising number of patients needing treatment for multidrug-resistant TB.

As of November 2009, the hospital had 80 beds, 50 of which were occupied – mostly by men. In keeping with international best practice, most of the patients have their own rooms, or share with just one other person. As good nutrition is an

important part of treatment, patients are also served five healthy meals a day. The building is also being renovated to further improve patient's living conditions – an important measure, as MDR-TB treatment can take many months.



Hospital care is also integrated with health services beyond its walls. For example, in late 2009 an AIDS centre in Tbilisi took over the supervision of two newly released Abastumani patients with HIV co-infection, ensuring that they continued to receive required second-line TB treatment and HIV antiretroviral therapy.

The revival of Abastumani reflects Georgia's highly collaborative approach to addressing TB and HIV. The national government pays for the doctors, nurses and other health and social workers, as well as the food and building maintenance. Medical Service Corporation International (MSCI) is covering the cost of the renovations, along with other NGOs. GFATM is paying for the pricey second-line drugs needed by patients; and German support has helped to equip the hospital and build a laboratory network capable of giving patients the prompt, accurate diagnoses and treatment they need. Georgia's NTP, meanwhile, is coordinating and monitoring the work of different agencies to ensure the desired results.

Furthermore, the emergence of XDR-TB raises fears of possible TB epidemics for which there could be few treatment options. Little is known about the possible impact of XDR-TB on people with HIV. Outside the Baltic States, Georgia is the first former Soviet country to offer universal access to treatment for multidrug-resistant TB, and this would not have been feasible without a coordinated commitment and investments by national and international agencies. Georgia has developed a joint strategic plan on TB/HIV coinfection with the technical support of KNCV Tuberculosis Foundation and USAID. Georgia's NTP and Uzbekistan's RDC are now fully in charge and coordinate the work of the Stop TB partners with good results. They also collaborate closely with GFATM, to provide second-line drugs for patients with multidrug-resistant TB and/or TB/HIV coinfections. Through the Global Drug Facility, Georgia and Uzbekistan have also procured good quality, inexpensive TB drugs for the first-line treatment. As well, Stop TB's Green Light Committee has helped bring about a 95% reduction in the price of second-line drugs.



Food and compensation for travel costs are sometimes used as incentives to encourage patients to come for treatment at DOT Spots such as this one in Tbilisi.

Many technical partners have contributed to the success of the Stop TB strategy in both countries, however, each according to its capacity and specific advantages. WHO/Stop TB's special working groups for TB/HIV coinfection and other areas have provided guidance through WHO country offices in Tbilisi and Tashkent and the Regional Office for Europe at Copenhagen. In Uzbekistan, NGOs such as the KNCV Tuberculosis Foundation (KNCV), Médecins sans Frontières (MSF-France)

and Medical Service Corporation International (MSCI), as well as bilateral agencies such as the United States Centers for Disease Control and Prevention (CDC) have provided training and technical assistance for the introduction of DOTS. In Georgia, MSF-France and CDC have offered similar assistance and GDC gives support via KfW for some of Georgia's DOTS training sessions. ICRC and recently MSF-France, meanwhile, is supporting TB control in Georgian prisons and the United Nations World Food Programme (WFP) distributes food to TB patients in this country – the aim being to motivate patients to come to DOTS-Spots, where they receive food and compensation for the cost of transport, as well as life-saving treatment. In Uzbekistan, the National Red Crescent Society carries out a similar programme.

Guided by the strengthened NTPs, these partnerships reflect the letter and spirit of the 2007 Berlin Declaration on Tuberculosis and its support for the Stop TB Strategy and international cooperation in research and practical measures.



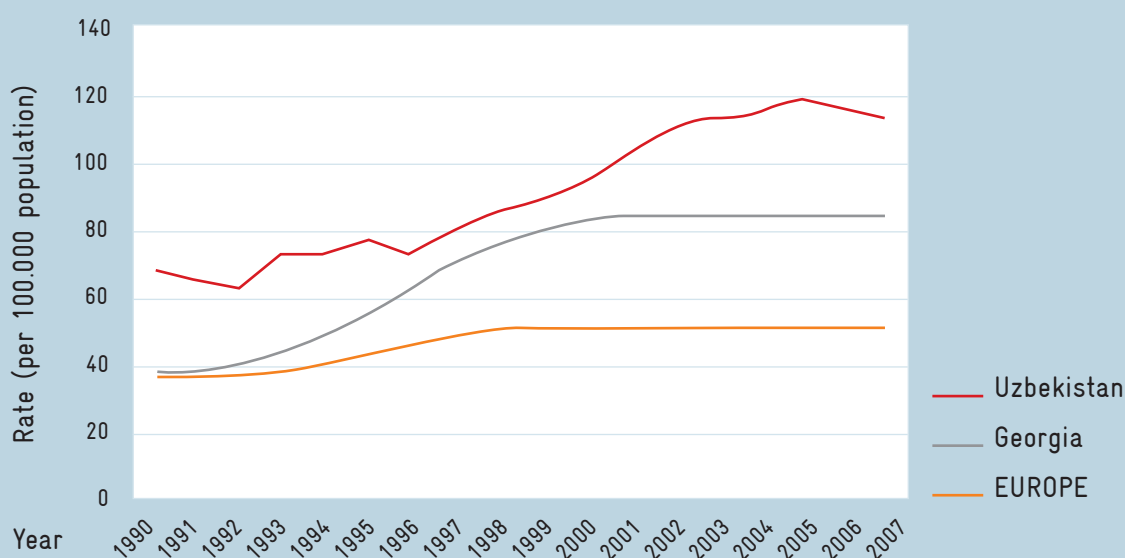
Lela, pictured here, is being treated for multidrug-resistant TB at the newly renovated Abastumani hospital, Georgia.

## Results

Epidemiological data for TB and HIV for a set of internationally recognized indicators of the Stop-TB strategy suggest that GDC's support of national tuberculosis programmes, and the work of other partners, are helping to reduce the impacts of TB and HIV in Georgia and Uzbekistan.

Incidence rates (estimated number of people newly infected each year) provide some indication of

programme impacts, and these are generally positive. While notification of all forms of TB rose markedly in Georgia and Uzbekistan between 1990 and 2000, and to a lesser extent in Europe, they levelled off in the first decade of the new millennium (Figure 1). While incidence appears to be declining, the decline is gradual; so it is too early to suspend the concerted measures that have likely contributed to this public-health achievement.



(Source: WHO, 2009b)

**Figure 1: Estimated incidence of all forms of TB in Georgia, Uzbekistan and WHO European Region, 1990 – 2007.**

Declining estimated incidence rates, however, are mirrored by declining TB case notifications, as recorded by the national TB programmes of Georgia and Uzbekistan, so there is some evidence that strategies and programmes in place are beginning to reverse the catastrophic increase of TB that began in this region two decades ago. As noted in the Introduction, it is difficult to associate epidemiological data with specific interventions, but observers believe that GDC's sustained support for the NTPs in these two countries deserves part of the credit for controlling the TB epidemic and scaling up efforts to address drug-resistant TB and potential dual epidemics of TB/HIV.

The quality and coverage of these national programmes will need to be sustained, and the expansion of quality DOTS will need to continue. This is particularly important to limit the growth of multidrug-resistant TB, owing to the heavy burden of MDR-TB in eastern Europe and central Asia. Expanded quality DOTS, and the cooperation of multiple partners, are also the best defence against outbreaks and epidemics of TB/HIV coinfection, which like multidrug-resistant TB are highly complex and demand sophisticated, comprehensive counter-measures.



National authorities, meanwhile, seem to corroborate the positive epidemiological data. According to Uzbekistan's Ministry of Health and comments by the Director of Georgia's NTP, Igor Kalandadze (in conversation with writer Katarina Greifeld, November 2009), Germany's long-term support for the introduction of first-line TB drugs and other contributions have helped to halt the spread of TB. Marat Khudaykulovich Khodjibekov, Deputy Minister of Health in Uzbekistan, has also said that GDC contributed greatly to the strengthening of the Republican DOTS Centre with its sustained and thorough planning procedures and long-term commitment to the cause.

» *Germany's long-term support for the introduction of first-line TB drugs and other contributions have helped to halt the spread of TB.*

There is also widespread agreement that Germany's regional approach to addressing TB and HIV, by forging international networks of dedicated health professionals, has been a cost-effective form of capacity development (building networks and strengthening organizations, as well as training personnel) and, equally significant, has helped to foster cooperation and defuse tensions between countries in the region.

As recently as 2005, Georgia and Uzbekistan were without TB laboratory networks. Now the Tashkent National Reference Laboratory, twinned with the supranational reference laboratory in Gauting, Germany, is the best in central Asia, according to WHO's TB advisor for central Asian republics, Gombogaram Tsogt, (who spoke with one of this report's writers in January 2010). Building the capacity of TB laboratories, he said, is one of the most important measures in scaling up and strengthening MDR-TB and TB/HIV programmes.



Entrance to TB Hospital No.1, Tashkent.

Germany's support for TB services in prisons has also been viewed as successful. In particular, observers note that GDC's advocacy and investments have catalyzed collaboration between the Ministry of Health and Ministry of the Internal Affairs in Uzbekistan, leading to the extension of TB and HIV services to prisoners and systems to ensure that prisoners continue to receive these services after they are released. This in turn has helped reduce the threat of these diseases among prisoners as well as other vulnerable populations and the general public. In Georgia, too, collaboration between MoH and the Ministry of Justice has had similar positive outcomes.



Patients at the Abastumani TB hospital, Georgia.

# Lessons learnt

## Regional networks boost cooperation and capacity

» *Regional meetings and networks encourage transparency, sharing of data and more productive exchanges between national tuberculosis programmes.*

Tuberculosis and HIV know no borders. In regions where countries have much in common, such as the southern Caucasus and central Asia, therefore, regional conferences and training can be highly effective in building political commitment for public health initiatives, boosting capacity for new services in a harmonized manner, and fostering networks of TB and HIV professionals that support further scaling up of services. As well as building human capacity for a heightened response, regional meetings and networks encourage transparency, sharing of data and more productive exchanges between national tuberculosis programmes. Finally, this approach is cost-effective and can encourage fresh cooperation between countries in conflict.

## Partnerships are critical but require national coordination

No single agency or programme is able to address TB and HIV on its own, as the diseases demand complex, integrated responses from multiple service providers, and few countries with a heavy burden of disease can afford to shoulder all the costs. Well coordinated multiple partnerships are, therefore, required and, ideally, national tuberculosis programmes and national AIDS commissions or authorities should coordinate these. An essential part of this coordination is choosing the right partners for different tasks, so that each is able to make use of its comparative advantage. The CCM can help in this work – and tap into rich sources of funding. WHO has also demonstrated its value as a convener of meetings and source of country guidance.



Technicians at new Tashkent NRL: Good hygiene in the workplace, decent salaries and opportunities for advancement help retain qualified personnel and sustain health systems.

## Tie support to increased political commitment

External agencies have a major role to play in helping countries respond to TB and HIV, but their support should not be unconditional. Rather, it should be contingent on national governments demonstrating a commitment to addressing these major diseases. GDC encouraged both Georgia and Uzbekistan to invest more heavily in their responses to these diseases, and to innovate (extending health services to prisoners, for example) by offering in exchange funding for free access to first-line TB drugs and for infrastructure and technical assistance for laboratories and prison clinics. Other GDC investments have been successfully tied to governments taking concrete action in other key areas: for example, restricting availability of anti-TB-drugs (so that patients get the right medicine and necessary professional support) and enforcing relevant regulations. Health and development agencies can also encourage countries to improve working conditions for health professionals. Good hygiene and infection control in the workplace, decent salaries and opportunities for advancement within a career structure all help in retaining qualified personnel and sustaining health systems.

## Integrate and consolidate services in general health systems

TB and HIV services will be unsustainable if they are not fully integrated and part of general health system reforms that consolidate services and reduce inefficiencies. Many health systems in the southern Caucasus, the rest of eastern Europe and central Asia are badly fragmented, with services spread across too many facilities and hospitals. This causes unnecessary duplication and wastes valuable resources. While closing health clinics and hospitals is unpopular, services for TB, HIV and other conditions suffer when governments squander money on high utility and building maintenance costs. New investments must, therefore, be carefully planned, to optimize the use of resources and allow for integrated services.

## Peer review

The German HIV Practice Collection has established criteria that initiatives supported by GTZ must meet to qualify for documentation. According to the two expert reviewers of this report, the approach to supporting TB and HIV programmes in the southern Caucasus and central Asia described here is a “promising practice” – reflecting the “state of the art” in the field. Both agreed that this approach deserves to be widely publicized and that the knowledge generated would be of use to programme developers and practitioners TB, multidrug-resistant TB and TB/HIV coinfection. One reviewer added that GDC’s inputs had allowed “partners to catalyze [the] adaptation of modern management and good governance” and that GDC should “be commended for facilitating [the] introduction of a modern approach to TB control while emphasizing capacity building and national ownership of programmes.” He wondered, however, whether the approach had had “any side-effects” and asked what needs to be done in the future to “maintain the momentum” of the programmes. The peer reviewers had this to say about the specific criteria used by GPHC to identify a “promising practice”:

**Effectiveness:** GDC has contributed to the improvement of TB control across the southern Caucasus and central Asia – and eastern Europe, in general – with the establishment of quality-assured microscopy and culture/DST laboratories, improved TB-case detection, effective monitoring and evaluation and the encouragement of information exchanges among countries of the region.

**Transferability:** The interventions and technologies, supported by GDC and described above, were chosen in part because they are transferable – and the success of different governments in making use of them demonstrates this. This is critical to the success of control measures as TB and HIV do not respect borders.

**Participatory and empowering approach:** After careful needs assessments, GDC partners designed interventions with direct involvement of their national counterparts. Approaches and decision-making have, therefore, been participatory. Furthermore, as reflected

in this document, KfW provides not only financial support but also participates as a technical partner with WHO and other international agencies.

**Gender awareness:** While one reviewer said that the GDC programmes reflect a gender-sensitive approach, the other was not certain. He noted that the report mentions that more men suffer from TB than women, but wondered what the sex ratio was among people with active TB in the different countries, and whether the programmes included specific activities “to address gender issues in TB and TB/HIV control”.

**Quality of monitoring and evaluation:** Monitoring and evaluation (M&E) are a cornerstone of GDC’s work and the agency emphasizes developing the capacity of national programmes to conduct good M&E. KfW conducts regular monitoring missions, together with WHO on occasion. As well, the annual conferences organized for all five central Asian republics, and those in the southern Caucasus, “contribute substantially to the monitoring and evaluation of TB control in the countries”.

**Innovation:** Adapting the WHO/Stop TB strategy to specific country contexts in these sub-regions would not have not been possible without innovation. For example, using supportive supervision here to boost the capacity of human resources and “nurture” modern management is highly innovative. Furthermore, measures to address TB/HIV coinfection are also novel.

**Comparative cost-effectiveness:** This report does not mention studies of the cost-effectiveness of the GDC approach, however, the World Bank has identified DOTS and the WHO/Stop TB Strategy – key elements of the approach – as cost-effective.

**Sustainability:** Most interventions backed by GDC have been adopted by national governments and/or financed by GFATM and, therefore, are likely to be sustained over time. As well, the partnerships supported by KfW, technical as well as financial, enhance the sustainability of TB and HIV programmes described here.

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