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United States Agency for International Development
(USAID)
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Dear Dr Afanasiev,

Grant No. 118-G-00-99-00112

Final report to the United States Agency for International Development (USAID) from the World Health Organization (WHO) on the WHO Tuberculosis Control Project in the Russian Federation, 27 August 1999 – 30 September 2011

I have the pleasure to submit the final report in respect of the above project. Should you have any comments, please do not hesitate to contact me.

We are very grateful for USAID's invaluable support and collaboration on this important project.

Yours sincerely,

Dr Masoud Dara
Programme Manager
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Enclosures: as mentioned

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**TO THE UNITED STATES AGENCY
FOR INTERNATIONAL DEVELOPMENT**

**FROM THE STOP TUBERCULOSIS DEPARTMENT
OF THE WORLD HEALTH ORGANIZATION**

**THE PROJECT:
TUBERCULOSIS CONTROL IN THE RUSSIAN FEDERATION.
PILOT PROGRAMME**

FINAL REPORT

August 1999 – September 2011



November 2011

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ABBREVIATIONS

AIDS	acquired immunodeficiency syndrome
C+	culture-positive
CDC	United States Centers for Disease Control and Prevention
CTRI RAMS	Central Tuberculosis Research Institute of the Russian Academy of Medical Sciences
DOT	directly observed treatment
DOTS	internationally recommended strategy for tuberculosis control
DR-TB	drug-resistant tuberculosis
FQ	fluoroquinolones
FSIN	Federal Correctional Service (prison service)
Global Fund	Global Fund to Fight AIDS, Tuberculosis and Malaria
HIV	human immunodeficiency virus
MDR-TB	multidrug-resistant tuberculosis
RAMS	Russian Academy of Medical Sciences
RIPP MMA	Research Institute of Phtisiopulmonology of the First Moscow Medical University
TB	tuberculosis
TB/HIV	TB/HIV coinfection
USAID	United States Agency for International Development
WHO	World Health Organization
WHO TB Control Programme	WHO TB Control Programme in the Russian Federation at the WHO Country Office
XDR-TB	extensively drug-resistant tuberculosis

GENERAL INFORMATION

Time frame of the project

27 August 1999 – 30 September 2011

Main stages of the USAID-supported WHO Tuberculosis Control Project in the Russian Federation

- 27 August 1999 – 06 June 2004: Tuberculosis control in the Russian Federation: pilot programme.
- 07 June 2004 – 3 September 2009: Advanced development of the tuberculosis control project in the Russian Federation.
- 4 September 2009 – 30 September 2011: Strengthening implementation of the Stop TB strategy and enhancing national capacity to reach the Millennium Development Goals.

Project sites

Orel and Vladimir oblasts (regions), the Republic of Chuvashia, Central TB Research Institute of the Russian Academy of Medical Sciences (CTRIRAMS), Research Institute of Phthisiopulmonology of the First Moscow Medical University (RIPP MMA).

Project goal

The overall goal of the Project is to reduce morbidity and mortality from tuberculosis (TB), prevent disease transmission and stop the development of drug-resistant forms of TB (DR-TB) among the population.

Project objectives

The Project has the following specific objectives:

- capacity building and institutional support for a sustainable TB control model at the regional and national levels;
- assistance in the development of a sustainable regional model of TB and MDR-TB projects;
- assistance to the Russian Government in DOTS expansion through the WB loan project on TB and AIDS control;
- assistance for the Russian Health Care Foundation, the Global Fund project Principal Recipient, in strengthening of TB and MDR-TB control in the country through the project on promoting strategic response to TB treatment and care for vulnerable populations in the Russian Federation, financed by the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund);
- assistance in the revision of the national TB drug policy;
- development of a sustainable regional model of TB/HIV control;
- information, education and communication strategy to strengthen diagnosis and treatment outcome results.

EXECUTIVE SUMMARY

This report reviews the progress made in implementing the USAID-supported WHO TB Control Project in the Russian Federation (the Project) from August 1999 till 30 September 2011, as well as the Project's input into development and strengthening of TB control in the Russian Federation. The report describes the main activities, achievements and challenges of the project implementation.

During the reporting period, USAID provided financial support for the WHO TB Control Programme for the implementation of activities covered by Grant Agreement No. 118 G-00-99-00112, dated 27 August 1999, and the latest grant modifications through the WHO Country Office in the Russian Federation.

The WHO Country Office in the Russian Federation operated on the basis of biennial collaborative agreements between the Ministry of Health and Social Development of the Russian Federation and the WHO Regional Office for Europe. On 18 January 2009, WHO and the Government of the Russian Federation signed an Agreement on Cooperation, and this document became the basis for WHO activity in the country.

During the implementation of the first stage of the Project, “Tuberculosis control in the Russian Federation: pilot programme” (27 August 1999 – 06 June 2004), the WHO TB Control Programme in the Russian Federation focused on the establishment and development of the regional WHO/USAID-supported TB control pilot projects in Ivanovo, Orel and Vladimir oblasts and the Republic of Chuvashia. These projects functioned as demonstration sites, aiming at integrating the DOTS strategy (WHO-recommended strategy on TB control) into the regional TB control programme. Systematic training of regional health managers, medical workers from primary health care and TB services and social workers was conducted. WHO and USAID supported the purchase of equipment to develop laboratory TB detection and diagnosis, develop outpatient units and provide proper DOT in primary health care and TB service facilities. Anti-TB drugs were also supplied. The Project promoted the establishment of a social support programme for TB patients to increase compliance with treatment and the capacity of health-care services to prevent defaulting. Cohort analysis and a WHO-recommended recording and reporting system for TB case management were implemented. WHO staff, in cooperation with experts from CTRI RAMS and RIPP MMA, representatives of the United States Centers for Disease Control and Prevention (CDC) and international consultants provided regular supervision and monitoring of regional TB control projects. A modern TB control model, based on the WHO strategy, was developed at the regional level following this implementation stage. The adopted TB control model and the achievements of the regional pilot TB control projects were discussed by the High Level Working Group and adopted as a framework for revision of the national TB control strategy, i.e. for the creation of the new regulations on TB control in the Russian Federation (Ministry of Health and Social Development Executive Orders Nos. 109 and 50).

The second stage of the Project, “Advanced development of the tuberculosis control project in the Russian Federation” (07 June 2004 – 3 September 2009), focused on supporting implementation of the revised national TB control strategy throughout the country. Capacity building and institutional support for the development of a sustainable TB control model based on WHO principles were provided in collaboration with the Russian Government through the High Level Working Group on TB in the Russian Federation and its thematic working groups. The Project also provided technical assistance for the Russian Government, the Russian Health Care Foundation, federal TB research institutes and the Federal Correctional Service (prison service) in preparing the application to the World Bank and Global Fund and the implementation of World Bank and Global Fund TB control projects in the Russian Federation. Project activities were focused on the development of training materials and guidelines, conducting and assisting training activities in TB laboratory diagnosis, proper TB case management, and TB monitoring and supervision. Furthermore, assistance was given to the regions that applied to the Green Light Committee. Regional staff were consulted and trained in WHO-recommended programmatic management of DR/MDR-TB. The Project paid special attention to strengthening national capacity for rational drug management. The Project continued its support and assistance for the regional pilot TB control projects in Orel and Vladimir oblasts and the Republic of Chuvashia, aimed at sustainable development of the regional TB control programme at pilot sites and the creation of Centres of Excellence in best practice in TB control to facilitate expansion of the revised TB control strategy in the country. All WHO/USAID supported

regional TB control projects received Green Light Committee approval and started their control projects for drug-resistant, multidrug-resistant and extensively drug-resistant TB (DR/MDR/XDR-TB). The WHO TB Control Programme also coordinated internationally supported TB control activities, including organization of meetings of the International Interdepartmental Coordinating Committee on Tuberculosis and its Advisory Board meetings and monthly TB interagency coordination meetings.

The third stage of the Project, “Strengthening implementation of the Stop TB Strategy and enhancing national capacity to reach the Millennium Development Goals” (4 September 2009 – 30 September 2011), built on the earlier activities of the WHO TB Control Programme. This included continuation of institutional support for the development of a sustainable TB control model, based on WHO principles, through the High Level Working Group and the activities of the thematic working groups. WHO and USAID supported pilot sites in Orel and Vladimir oblasts and the Republic of Chuvashia received Green Light Committee approval and developed regional projects on MDR-TB management. Pilot sites in Orel and Vladimir oblasts became Centres of Excellence and Training affiliated with CTRIRAMS, the WHO Collaborating Centre for Tuberculosis.

The WHO TB Control Programme provided technical assistance for the Russian Health Care Foundation in the implementation of the Global Fund Round 4 TB control project. In this project, 26 Russian regions and three federal TB/phtisiopulmonology research institutes received Green Light Committee approval and implemented their projects on MDR-TB management. One of the achievements of the Global Fund Round 4 TB control project was enrolment for treatment of 6549 MDR-TB patients under these projects. The Orel Centre of Excellence conducted training for regional TB services in programmatic management of DR/MDR/XDR-TB, and the Centre of Excellence and Training in Vladimir trained Russian TB staff in TB infection control for nationwide expansion of the revised TB strategy. The above activities significantly contributed to the development of the MDR-TB control approach in the country and facilitated the expansion of MDR-TB control within the Global Fund Round 4 TB control project. The Project assisted the Russian Ministry of Health and Social Development, federal TB/phtisiopulmonology research institutes, the Federal Correctional Service and leading national TB surveillance experts in TB statistical data processing and evaluation, based on international approaches to epidemiological analysis. This activity resulted in the preparation and publishing of an annual analytical TB review, *TB in the Russian Federation*. The WHO TB Control Programme continued the coordination of internationally supported TB control activities in the Russian Federation.

The Project supported the Russian Ministry of Health and Social Development in dissemination of the revised national TB strategy throughout the country and mobilization of additional resources from the World Bank, the Global Fund and partners, and also ensured increased governmental commitment to TB control and sustainable internal funding. It involved both regional and federal activities, including revision of the national TB control strategy and technical support for the World Bank TB/HIV loan. The Project has acted as a catalyst for fundamental changes in TB control in the Russian Federation to bring it into line with international standards of TB care. The main achievements have been as follows.

- Revision of the national TB control strategy, facilitated by the High Level Working Group mechanism, and implementation of WHO pilot projects. Key elements of the Stop TB Strategy were accepted by the National Tuberculosis Programme. The implementation experience and results of WHO-supported pilot projects were incorporated into the new Ministry of Health and Social Development Executive Orders on TB control (No. 109, No. 50 and No. 690).
- The USAID pilot projects on TB and MDR-TB management in Orel and Vladimir oblasts have led to the establishment of Centres of Excellence and Training for nationwide

expansion of the revised TB strategy, contributed to the development of the MDR-TB control approach in the country and facilitated MDR-TB control expansion within the Global Fund TB control project (Round 4).

- With WHO technical assistance, the Russian Federation five-year strategic plan for TB control was developed and served as a basis for the Russian Federation's application for funding from the Global Fund (Round 4) and the World Bank TB/HIV loan to the Russian Federation.
- WHO technical assistance was provided for implementation of the World Bank TB loan to the Russian Federation, coordination with the Global Fund (Round 4) TB/HIV project and development of the World Bank TB/HIV loan project appraisal document, workplans and related documents.
- WHO technical assistance was provided for development of a successful application and further implementation of the Global Fund Round 4 TB/HIV control project.
- Countrywide dissemination of the revised national TB strategy and mobilization of additional resources from the World Bank, Global Fund and partners, as well as ensuring increased governmental commitment to TB control and sustainable internal funding. This increased the capacity of the TB laboratory network and improved case management and TB monitoring.
- The focus on control of TB in HIV-infected patients within pilot project activities provided additional experience. This contributed to the development of a federal strategy on TB/HIV control and its implementation within the framework of the Global Fund project.
- Implementation of a comprehensive advocacy, communication and social mobilization campaign on TB, MDR/XDR-TB and TB/HIV prevention and care in line with the World TB Day campaigns aimed at raising awareness and involvement of civil society and TB patients, promotion of human rights and access to the best diagnostics and care.
- Supervision and monitoring as a form of technical assistance were reintroduced in the Russian TB control system, changing from controlling and identifying deficiencies to mentoring and on-site improvements. This approach did not exist before the WHO Project started.
- The WHO Project promoted the international TB control strategy among a large number of Russian TB professionals at different levels, by facilitating delivery of accurate information in Russian, advocacy and publications.
- The capacities of the federal TB research institutes have been strengthened in a number of ways, e.g. establishment of coordinating offices, involvement in independent monitoring, training, participation in international conferences, etc.
- Effective mechanisms for coordination between national and international stakeholders have been created, allowing collaborative TB-related efforts to be conducted in the Russian Federation and enabling a fruitful dialogue to develop between Russian and international experts.
- A critical mass of TB doctors and managers has been trained, with WHO support for the curriculum development and training organization, thus enabling the effectiveness of WHO-recommended TB control principles to be demonstrated in the pilot region.
- In cooperation with other partners, the Project initiated the provision of psychosocial support for TB patients to improve compliance with treatment and contributed to the development of models of proven efficacy, which were recognized as such by the national authorities.

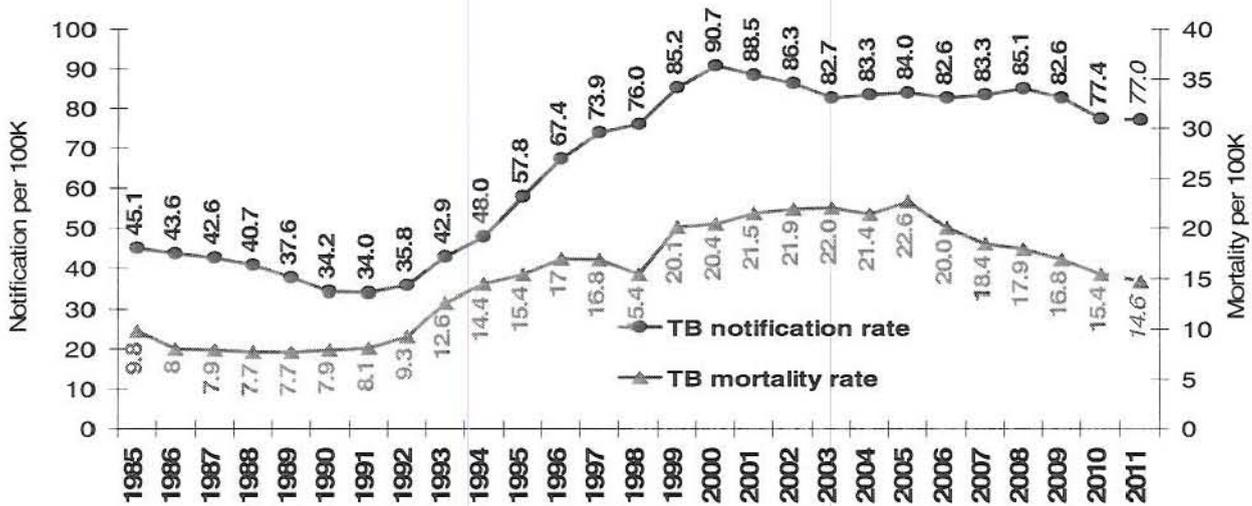
- A number of operational research projects in TB control and surveillance were initiated and implemented in cooperation with national TB research institutes.

BACKGROUND INFORMATION

Epidemiological situation

General epidemiological indices: TB notification rate in the Russian Federation increased rapidly during the 1990s after decreasing gradually throughout the 1970s and 1980s (see Fig. 1). The rate peaked in 2000 and stabilized at a very high level in the period 2001-2008. In 2009-2011, TB notification rate declined steadily. In 2010, it dropped to 77.4 per 100 000 population, compared with 90.7 per 100 000 population in 2000 (a decrease of 13.3 points). The trend in 2011 appears positive.

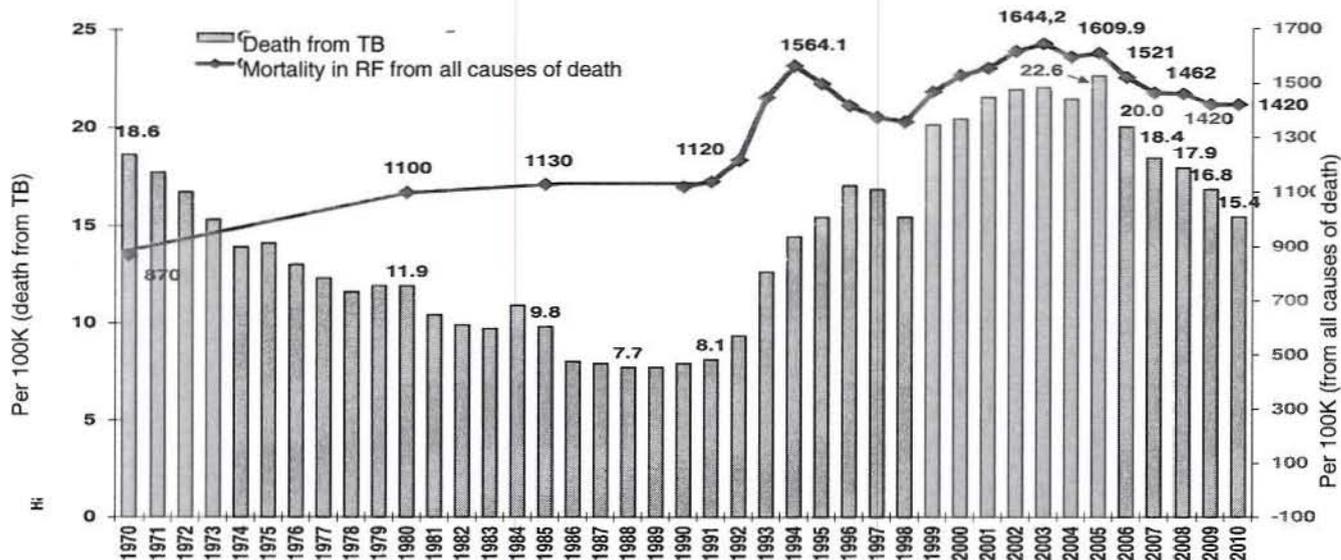
Fig. 1. TB notification and TB mortality rates in the Russian Federation, 2000-2011^a



^a Figures for TB notification and TB mortality in 2011 are preliminary data relating to the first three quarters of 2011, presented by the Central Research Institute for Organization of Health and Informatization.

The Project was launched in the context of a challenging TB situation in the Russian Federation (1999). The first and second stages of the Project focused on reviewing the national TB control strategy on the basis of WHO recommendations and on countrywide implementation of the revised strategy. They took place at the time when the main TB rates were at their maximum (2002-2008). Sustained positive trends in TB epidemiology have been in evidence since 2008, thanks to the joint efforts of the Russian Government and internationally supported projects. The third stage of the Project (2008-2011) focused on sustainable development of effective tools and mechanisms for TB control. A comparison of TB mortality with mortality from all causes shows that TB mortality decreased more rapidly in 2006-2010, thus demonstrating the effectiveness of the revised TB strategy (Fig. 2).

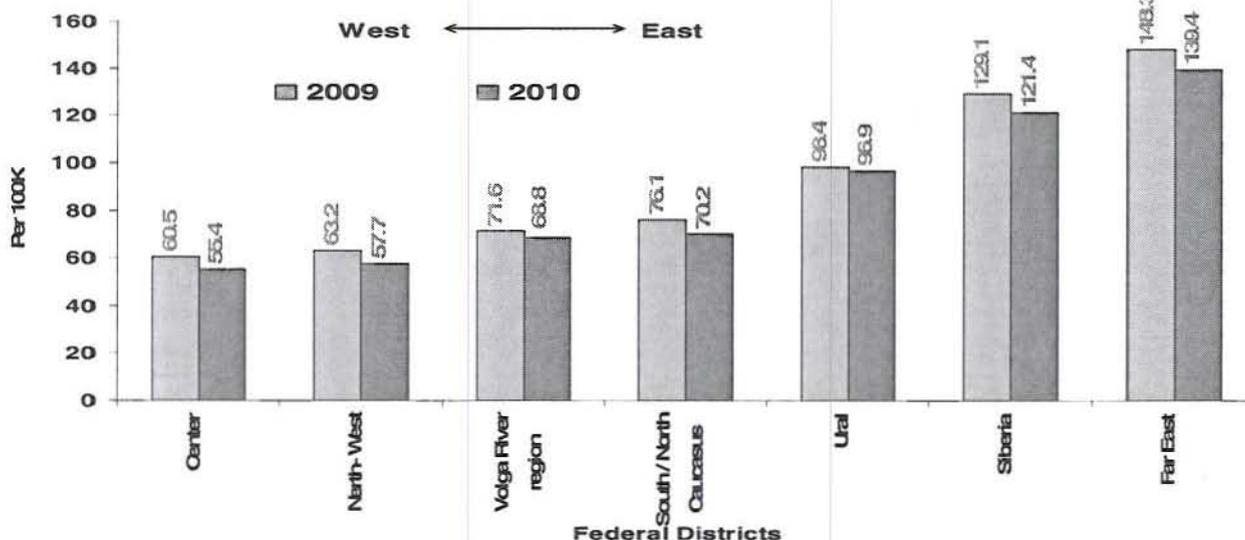
Fig. 2. TB mortality rate and mortality from all causes in the Russian Federation



Source: “Tuberculosis in the Russian Federation, 2010”, Moscow, 2011.

There is a significant difference in notified TB rates among the federal districts (okrugs). The notified rate gradually increases from west to east, from 55.2 per 100 000 in the Central Okrug to 139.4 per 100 000 in the Far East Okrug (2010 data) (Fig. 3).

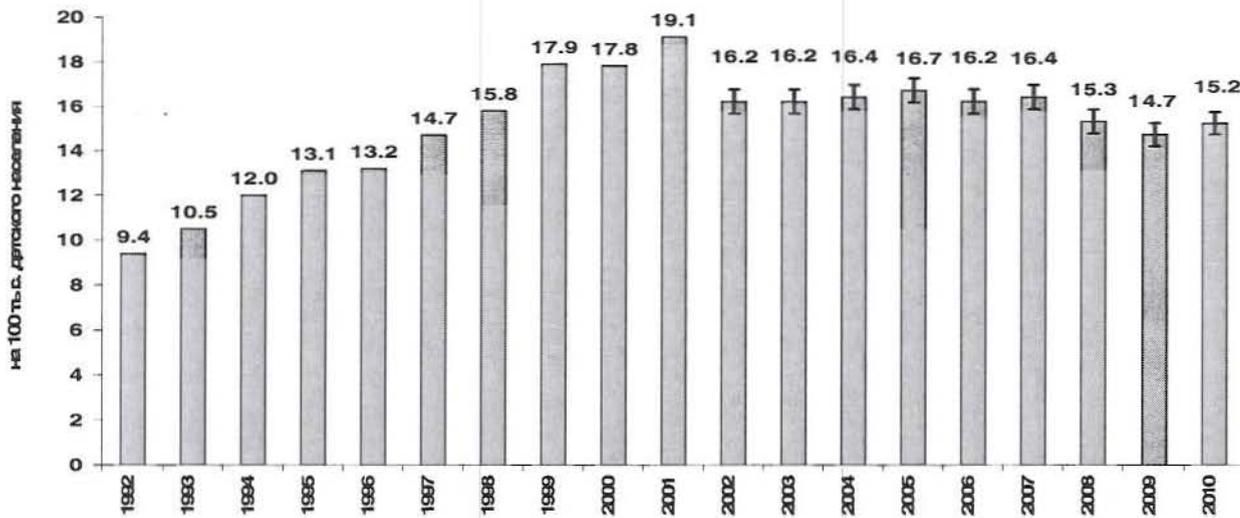
Fig. 3. TB notification and TB mortality rates in okrugs (federal districts) in 2009 and 2010



Source: “Tuberculosis in the Russian Federation, 2010”, Moscow, 2011.

The trend of TB notification among children matches the trend of TB notification in the general population. After increasing in the 1990s and reaching its maximum in 2001 (19.1 per 100 000 of the child population) TB notification among children decreased to 15.2 per 100 000 of the child population in 2010 (Fig. 4).

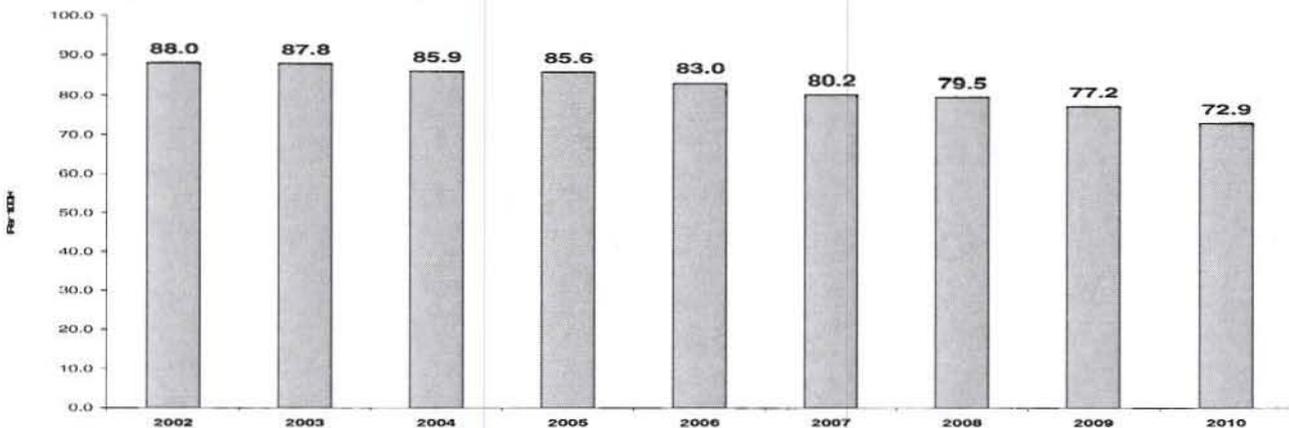
Fig. 4. Notified TB rate in children aged 0-14



Source: “Tuberculosis in the Russian Federation, 2010”, Moscow, 2011.

In recent years, the sustained decrease in the registered prevalence of bacteriologically positive TB demonstrates the effectiveness of the TB control strategy (Fig. 5).

Fig. 5. Trend of registered prevalence of bacteriologically positive respiratory TB (all methods), Russian Federation, 2007-2010



Source: “Tuberculosis in the Russian Federation, 2010”, Moscow, 2011.

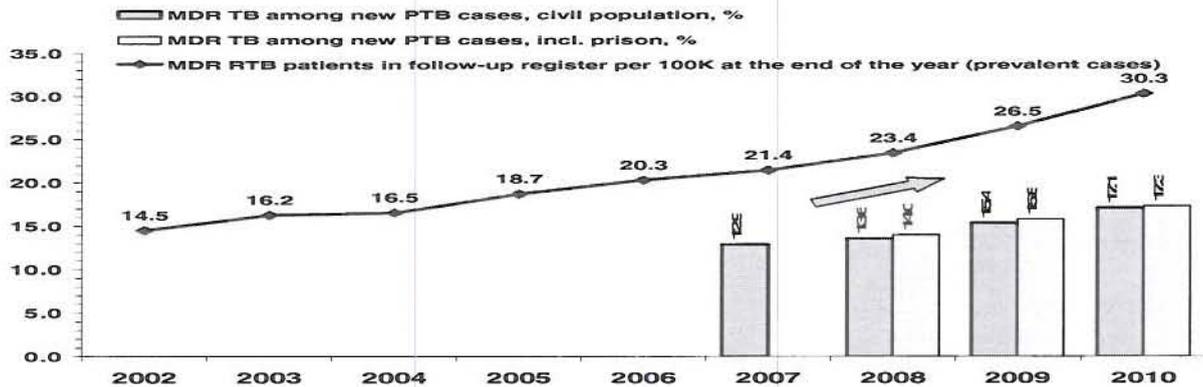
MDR-TB in the Russian Federation

The problem of MDR-TB is one of the biggest challenges facing the National TB Control Programme. In recent years, the number of MDR-TB cases in the Russian Federation has increased constantly. WHO headquarters estimates that the Russian Federation has the highest MDR-TB burden in Europe and the third highest in the world.

The Russian Federation has one of the most complicated drug resistance surveillance systems among TB high-burden countries. The country promoted the development of a national laboratory network for DR-TB detection but the quality of data is not satisfactory. Therefore, a large number of Russian regions are unable to report on the real level of DR/MDR/XDR, owing to the lack of regional surveillance and problems with laboratory diagnostics and the quality of drug susceptibility testing.

According to national statistics (national TB reporting form No. 33), the prevalence of MDR-TB in the Russian Federation increased from 14.5 per 100 000 population in 2002 to 30.3 per 100 000 population in 2010 (increase of 52.1%). Calculations of MDR-TB among new pulmonary TB cases in accordance with WHO recommendations (Ministry of Health and Social Development reporting form No. 7, implemented by Ministry of Health and Social Development Order No. 50) showed 33% growth (from 12.9% of MDR-TB cases among new pulmonary TB cases in 2007 to 17.1% in 2010) (Fig. 6).

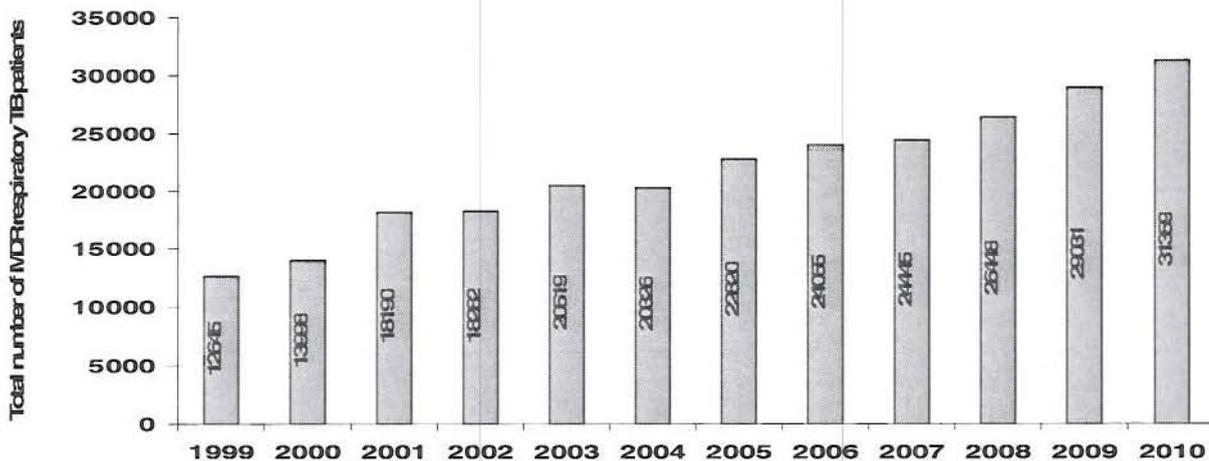
Fig. 6. Notified rates of MDR-TB in the Russian Federation 2002-2010



Source: “Tuberculosis in the Russian Federation, 2010”, Moscow, 2011.

The absolute number of registered respiratory MDR-TB patients increased by a factor of 2.5 (from 12 645 in 1999 to 31 359 in 2010) (Fig. 7).

Fig. 7. Number of registered MDR respiratory TB patients at year-end in the regions, Russian Federation national reports



Source: “Tuberculosis in the Russian Federation, 2010”, Moscow, 2011.

The main reasons for the high level of MDR-TB in the Russian territories are the following.

- Treatment management problems – in particular, absence of high-quality DOTS and follow-up, and as a consequence, a high proportion of treatment interruptions and defaults and violation of standard treatment regimens.

- Large number of patients with chronic forms of TB registered in the Russian territories as a result of ineffective treatment in the past.
- Lack of an effective anti-TB drug supply policy in the territories.
- Inadequate implementation of infection control measures in health care at the local level and absence of the full range of second-line drugs in many regions.

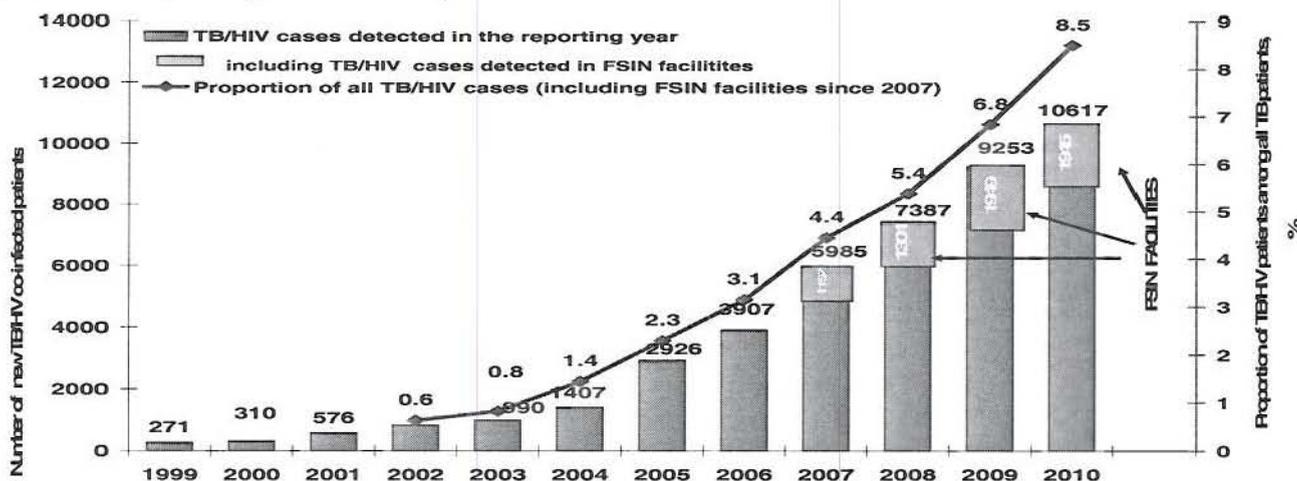
HIV and potential impact on the TB epidemic

The Russian Federation has officially registered HIV cases since 1987 and TB/HIV cases since 1999. The cumulative number of HIV-infected persons was 503 724 by the end of 2010. In total, 10 617 new TB/HIV cases were registered in 2010, including 1945 cases in the Federal Correctional Service of the Russian Federation. TB-HIV cases constituted 8.5% of all TB cases (Fig. 8).

With the overall growth of TB-HIV cases in the country, the level of TB-HIV infection in the penitentiary system stabilized: in 2010 the same absolute number of TB/HIV cases were detected as in 2009, standing at over 1900 cases. At the same time, zero growth in HIV infection was recorded in the penitentiary system.

In 2010, the areas with the most adverse TB/HIV situation (accounting for over 20% of all TB cases) were St Petersburg, Samara, Orenburg oblast and Khanty-Mansy autonomous oblast. However, the Republic of Buryatia, Kaliningrad and Ivanovo oblasts, which participated in internationally supported projects, also have a high proportion of TB/HIV cases (10% or more of all TB cases).

Fig. 8. TB and HIV infection in the Russian Federation in the civilian and prison populations (national reporting form No. 61)

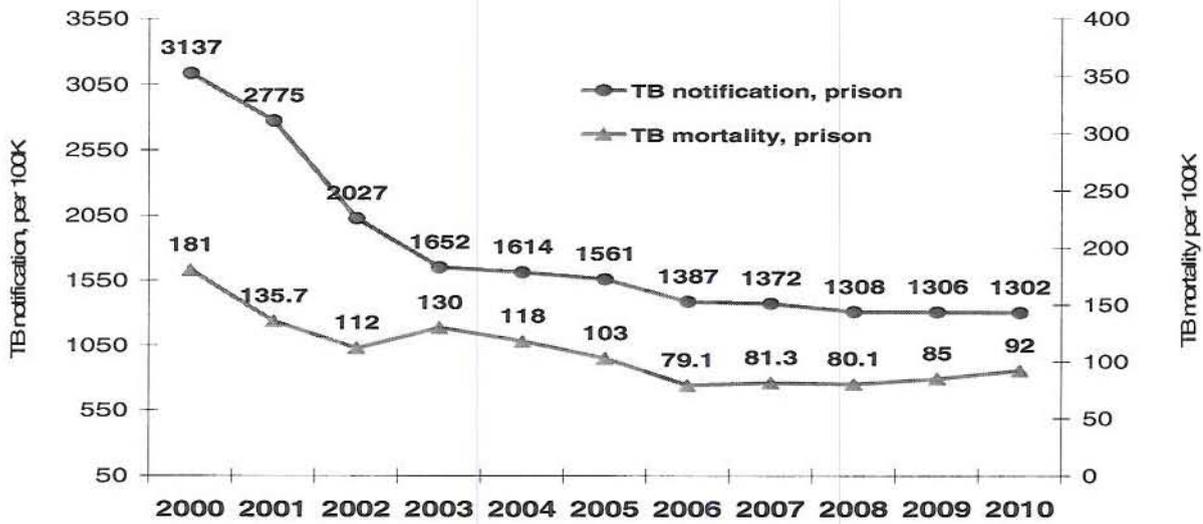


Source: “Tuberculosis in the Russian Federation, 2010”, Moscow, 2011.

TB epidemiology in the Federal Correctional Service

Validated TB data from the Russian prison sector have been available since 2000. TB notification rate in Federal Correctional Service facilities showed a steady decline between 2000 and 2006 and stabilized between 2007 and 2010 (Fig. 9). In 2010, TB notification rate in Federal Correctional Service facilities was 1302 per 100 000 inmates and the TB mortality rate was 92 per 100 000 inmates.

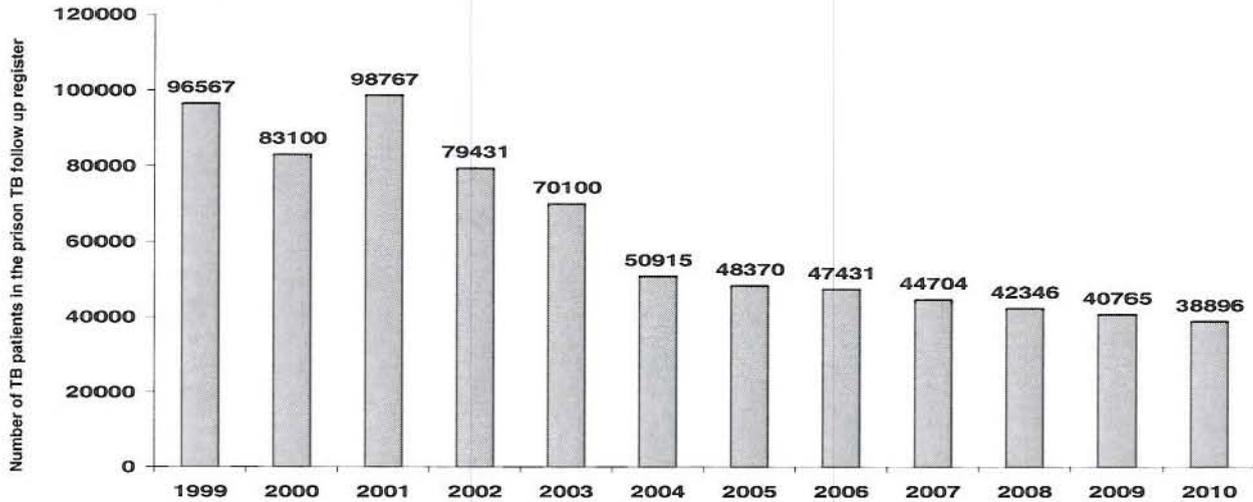
Fig. 9. TB notification and mortality rates in Federal Correctional Service facilities, Federal Correctional Service form 4-TUB



Source: “Tuberculosis in the Russian Federation, 2010”, Moscow, 2011.

The absolute number of TB patients in Federal Correctional Service settings decreased from 98 767 in 2001 to 38 896 in 2010. MDR-TB among new TB cases in the prison sector is tending to stabilize at a high level; in 2010, it was 22.0% (Federal Correctional Service data) (Fig. 10).

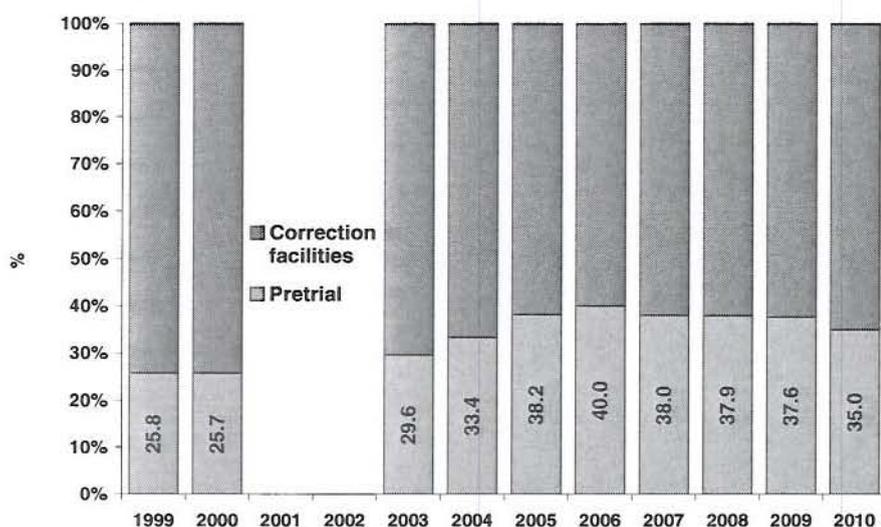
Fig. 10. Number of registered TB patients in Federal Correctional Service settings



Source: Form No. 1-MED, Federal Correctional Service.

Annual entry screening in pretrial detention centres detects about 36.0–40.0% of all new TB cases registered in Federal Correctional Service settings (Fig. 11). These persons enter the prison sector with TB, as opposed to the patients detected directly in correctional settings (correctional prisons and colonies) when their TB becomes apparent.

Fig. 11. Percentage of new TB cases detected in pretrial detention and correctional settings, 1999-2010

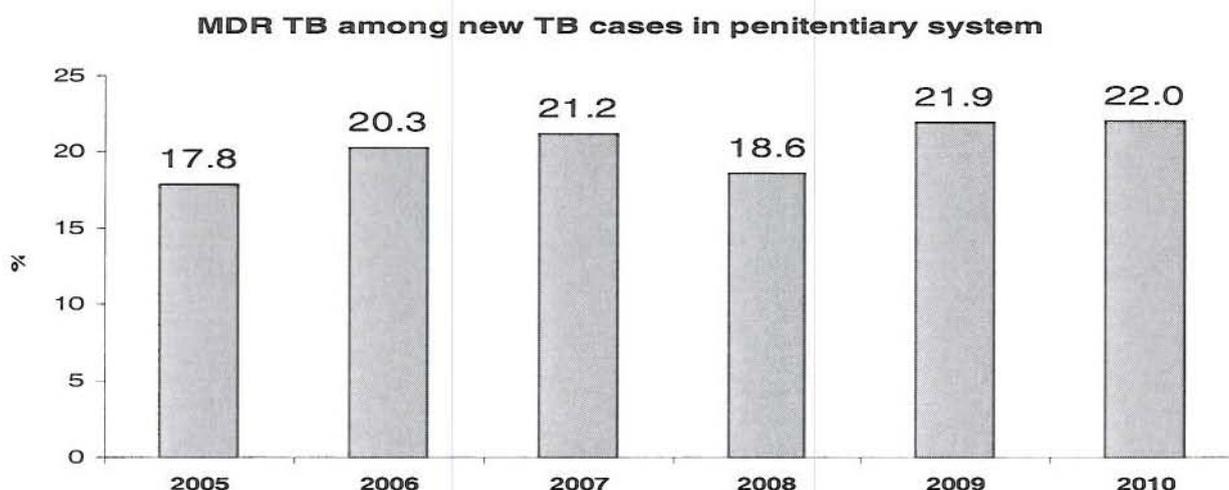


Source: “Tuberculosis in the Russian Federation, 2010”, Moscow, 2011.

MDR-TB among new TB cases in the prison sector is tending to stabilize at a high level; in 2010, it was 22.0% (Fig. 12).

In 2010, the Head Bacteriologist of the Federal Correctional Service reported about 1014 new MDR-TB cases, thus the total number of all MDR-TB cases including retreatment and chronic cases in the Federal Correctional Service settings reached 8400 in 2010.

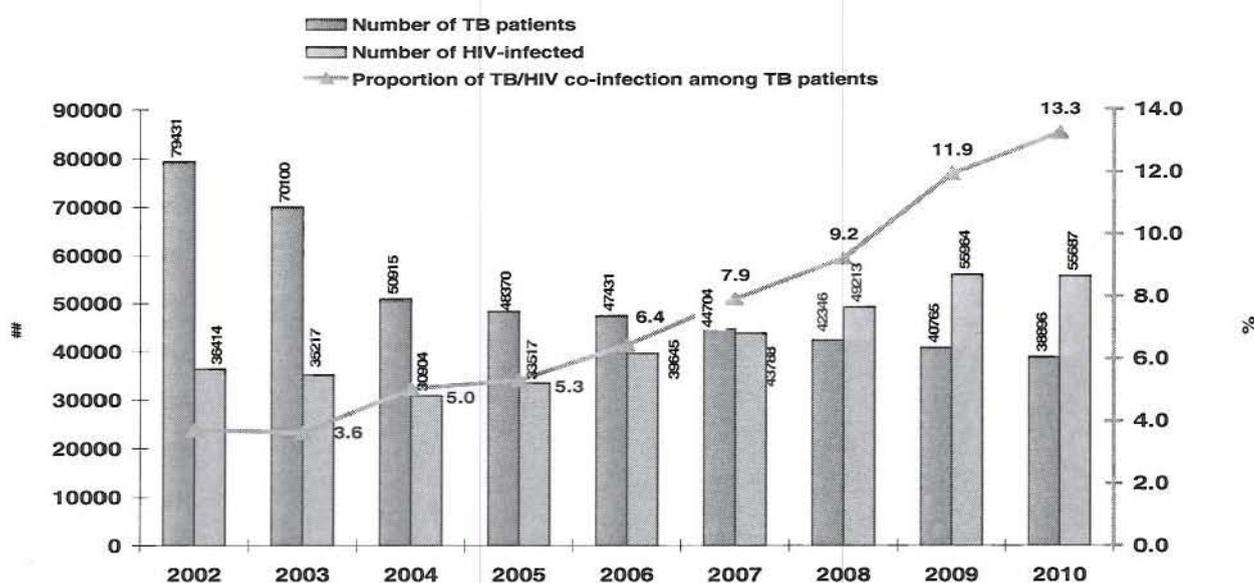
Fig. 12. MDR-TB among new TB cases in penitentiary system, 2005-2010.



Source: Forms No. 4-TUB and No. 1-MED, Federal Correctional Service.

There is a steady increase in the number of people living with HIV in the prison sector. This number increased by a factor of 1.7 between 2005 and 2010 (Fig. 13). The proportion of HIV/TB coinfection among TB patients increased accordingly and comprised 13.3% in 2010.

Fig. 13. The number of TB cases and HIV infection cases and the percentage of patients with HIV/TB coinfection in Federal Correctional Service facilities, Russian Federation, 2002-2010



Source: Forms No. 4-TUB and No. 1-MED, Federal Correctional Service.

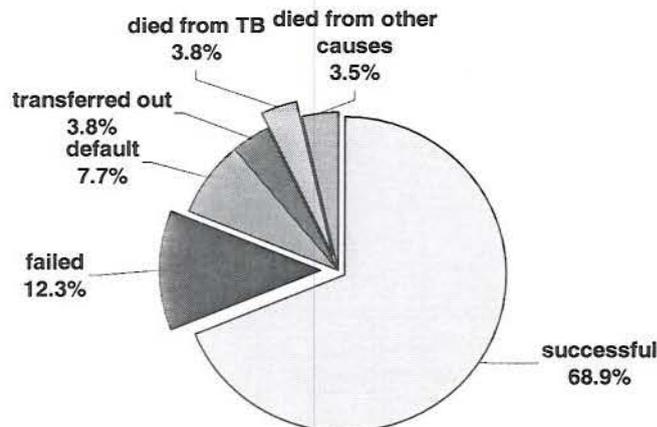
Treatment outcomes

Since 2005, when the Russian Ministry of Health and Social Development approved Executive Orders No. 109 and No. 50, based on WHO recommendations on TB control, all Russian regions have officially implemented TB control programmes based on WHO recommendations. The national TB strategy followed the basic principles of the DOTS strategy and was adapted to suit the new economic and epidemiological situation.

The quality of Stop TB strategy implementation has significantly improved since 1999, but is still inadequate and requires significant efforts in the organization of TB control interventions. The compliance of TB physicians with standardized regimens and DOT remains inadequate. According to the independent monitoring mission reports produced by the Global Fund Round 4 TB control project, direct observation of TB treatment is not conducted for all patients. A proposal to revise national instruction on TB chemotherapy, disregarding international recommendations, is still being considered by Russian TB experts.

The treatment success rate increased from 63.9% in the cohort of new TB cases (total smear-positive plus smear-negative) registered in 2004 to 68.9% in the cohort of new TB cases (total smear-positive plus smear-negative) registered in 2009 (Fig. 14).

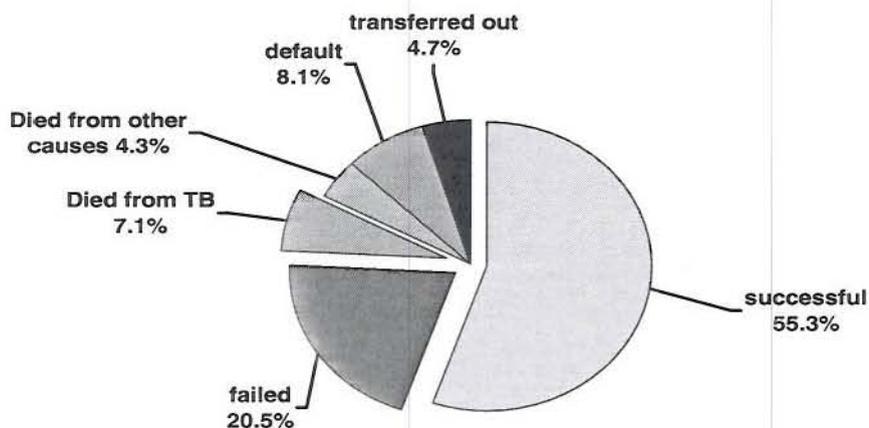
Fig. 14. Treatment outcomes for the 2009 cohort of new smear-positive and smear-negative pulmonary TB cases



Source: Form No. 8-TB, Ministry of Health and Social Development and Federal Correctional Service.

At the same time, the treatment success rate in the smear-positive cohort of new TB cases is tending to decrease as DOTS coverage in the Russian regions increases; in the 2009 cohort, it was 55.3% (Fig. 15).

Fig. 15. Treatment outcomes for the 2009 cohort of new smear-positive pulmonary TB cases



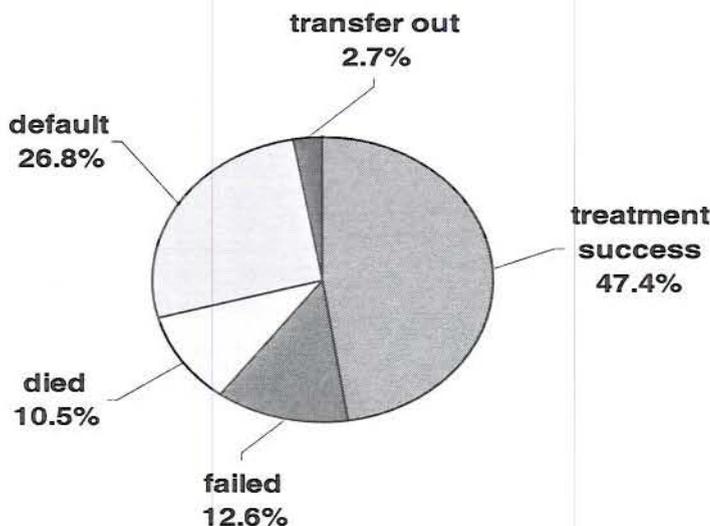
Source: Form No. 8-TB, Ministry of Health and Social Development and Federal Correctional Service.

The reasons for the low TB case treatment success rate in the new smear-positive cohort are: a) the lack of high quality implemented DOTS and the high number of treatment defaults; and b) the growing proportion of MDR-TB cases among new TB cases, owing to improved MDR-TB detection and a high level of treatment failure.

To date, at the federal level, there has been no cohort analysis or reporting on treatment outcomes for MDR-TB cases. Relevant data on treatment outcomes among MDR-TB patients has been

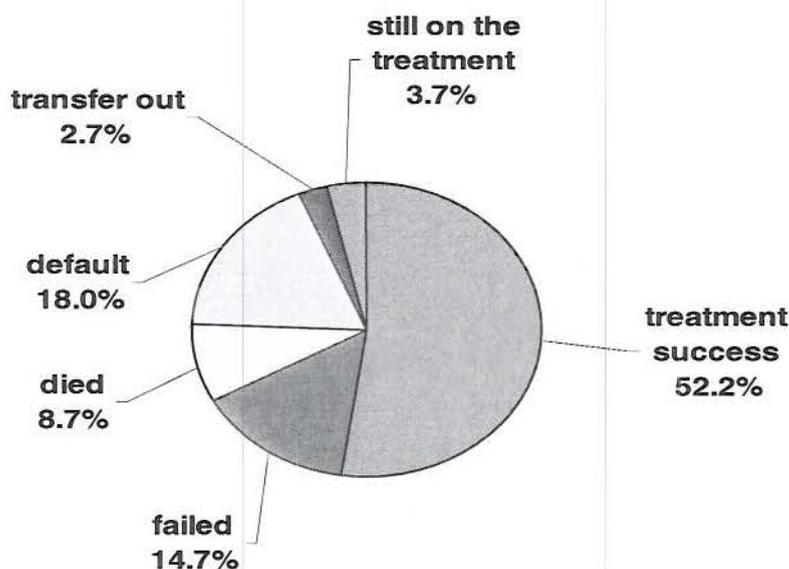
available only for cohorts of MDR-TB patients approved by the Green Light Committee and treated with WHO TB Programme support within the Global Fund Round 4 TB control project in the Russian Federation. The 2007 cohort comprised 190 MDR-TB patients enrolled in two Russian regions (Arkhangelsk and Vladimir oblasts). The treatment success rate was 47.4% with a high level of default – 26.8% (Fig. 16).

Fig. 16. Treatment outcomes of the 2007 MDR-TB patient cohort treated in the Global Fund Round 4 TB control project (GLC approved projects' 24 months reports on treatment results)



The 2008 cohort comprised 1352 MDR-TB patients, enrolled in 18 projects approved by the Russian Green Light Committee. The preliminary treatment success rate was 52.2%, with 18.8% defaulters (Fig. 17).

Fig. 17. Treatment outcomes of the 2008 MDR-TB patient cohort treated in the Global Fund Round 4 TB control project (GLC approved projects' 24 months reports on treatment results)



Although the Russian Federation has reported 100% DOTS coverage since 2005, the quality of DOTS must be improved if further progress in TB control is to be achieved. The objective is full implementation of programmatic management of drug-resistant tuberculosis countrywide, including development of a national DR/MDR/XDR surveillance system.

PROJECT ACTIVITIES

Capacity building and institutional support for a sustainable TB control model at regional and national levels

Technical support for the Russian Federation in adapting and implementing the Stop TB Strategy remained the priority of the WHO TB Control Programme during the reporting period, with a special focus on improving TB and MDR-TB surveillance and monitoring, the national response to the challenge of MDR/XDR-TB, the dual epidemic of TB and HIV and enhancing laboratory capacity for early and effective TB diagnosis.

The High Level Working Group on TB Control in the Russian Federation is an international collegial, coordinating and advisory body. It has a number of thematic working groups and provides a mechanism to ensure consensus between national and international experts on key technical and managerial issues for TB control in the Russian Federation. The High Level Working Group was established in August 1999 by the Ministry of Health and Social Development, the Ministry of Justice, the Russian Academy of Medical Sciences and WHO.

The main objectives of the High Level Working Group are as follows.

1. To establish mechanisms for effective consultation between Russian and international experts on the epidemiology of TB in the Russian Federation.
2. To develop recommendations on strategies and tactics for TB control in the Russian Federation.
3. To develop standard methods for international organizations to implement and conduct TB control activities in the Russian Federation in accordance both with the policy of the Ministry of Health and with international experience.
4. To coordinate interaction between Russian and international organizations involved in TB control in the Russian Federation.
5. To analyse the activities of thematic working groups and to approve the proposed plan of activities of the High Level Working Group and the thematic working groups.
6. To analyse and provide expert evaluations of the project documents and activities of international organizations developing or planning joint projects for TB control in the Russian Federation.

The Project has supported the High Level Working Group's activities since 2004. In the period 2004-2011, the High Level Working Group held regular plenary meetings, twice per year on average, to discuss and make decisions on the highest-priority issues of TB control in the country. The High Level Working Group was a platform for collaboration between national and international TB experts and for international expert evaluations of recommendations for the revision of the national TB control strategy. A number of thematic working groups were established within and under the aegis of the High Level Working Group for detailed discussion of technical issues related to the organization of TB control in the Russian Federation. The thematic working groups became a tool for revision of the national TB control strategy and preparation of recommendations for the Russian Ministry of Health and Social Development, including recommendations for Ministry of Health and Social Development Executive Orders No. 109 and No. 50, and the draft of national guidelines for different components of TB control.

The secretariat of the High Level Working Group enabled the Group to function effectively and coordinated its activities. The secretariat met monthly to discuss the High Level Working Group's

workplan and the current status of thematic working group activities and to select issues to be discussed at High Level Working Group meetings, draw up the agenda and make arrangements for the plenary meetings.

The main achievement of this component of the Project was the revision of the national TB control strategy, catalysed through the the High Level Working Group mechanism, and the implementation of WHO pilot projects. Key elements of the Stop TB Strategy were accepted by the National Tuberculosis Programme. The implementation experience and results of WHO-supported pilot projects were incorporated into the new Ministry of Health and Social Development Executive Orders on TB control (No. 109, No. 50 and No. 690). In the later stages, the Project's support for the High Level Working Group mechanism focused on promotion of the revised TB Control Strategy.

Implementation of the WHO TB Control Strategy at demonstration sites and development of a sustainable regional model of TB and MDR-TB control

During the implementation period of the Project, the WHO TB Control Programme, in collaboration with regional administrations, CTRI RAMS and RIPP MMA, supported regional pilot projects in Orel, Vladimir and Ivanovo oblasts and the Republic of Chuvashia. In 2006, the pilot project in Ivanovo was stopped because of a lack of political commitment at the regional level. The aim of the pilot projects was to support the efforts of the Russian health services in decreasing the burden of TB in the Russian Federation by developing a comprehensive, effective and sustainable model for a TB control programme based on the WHO TB Control Strategy (DOTS and DOTS-Plus) that could be replicated by the Russian Government. In the period 2007-2011, two thematic Centres of Excellence and Training became WHO/USAID supported pilot projects and disseminated the revised model of the TB control strategy at the regional level throughout the country.

During the implementation of the first project, Tuberculosis control in the Russian Federation: pilot programme (27 August 1999 – 06 June 2004), the WHO TB Control Programme focused on establishing and developing the regional WHO/USAID-supported TB control pilot projects at the project sites. The regional pilot projects were sites for demonstration and adaptation of the WHO-recommended DOTS strategy within the framework of the regional TB Control Programme. The regional pilot TB control projects provided training for staff involved in TB control, including regional health managers, medical workers from primary health care and TB services and social workers. WHO and USAID supported the purchase of equipment to strengthen laboratory TB detection and diagnosis, develop outpatient units and to provide proper DOT in primary health care and TB service facilities, as well as anti-TB drugs. The Project promoted the establishment of a social support programme for TB patients to increase compliance with treatment and health-care capacity to prevent defaulting by TB patients. Cohort analysis and a WHO-recommended recording and reporting system for TB case management were implemented. WHO staff, in cooperation with experts from CTRI RAMS and RIPP MMA, CDC representatives and international consultants, regularly monitored the regional TB control projects. A modern TB control model, based on WHO strategy, was developed at the regional level following this implementation stage.

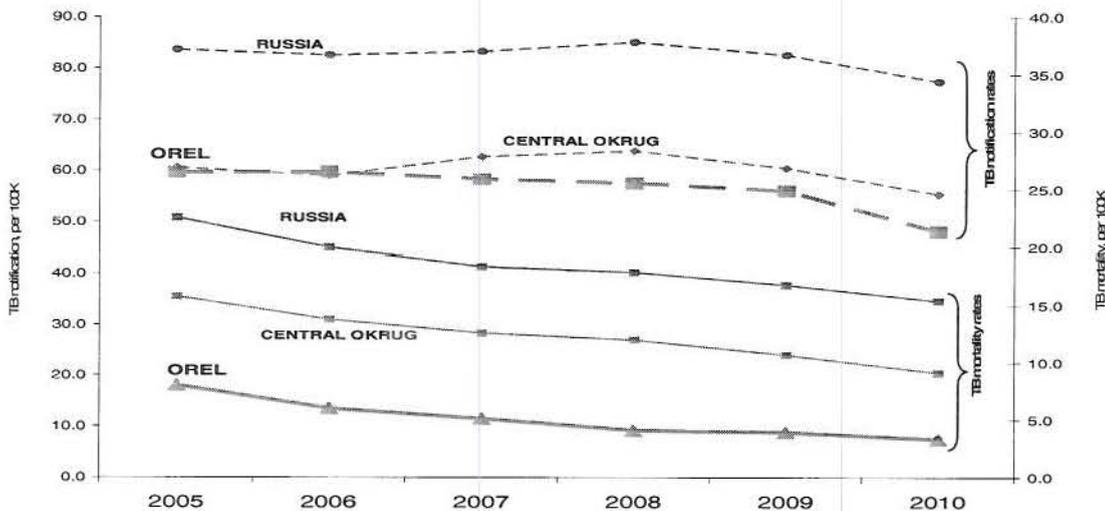
In the later stages of the Project, the WHO TB Control Programme focused on ensuring the sustainable functioning of the regional pilot projects and their future development with financial support from regional and federal budgets. The WHO TB Control Programme supported the transformation of the regional pilot projects into the Centres of Excellence, increasing their capacity for training and establishing training centres affiliated with CTRI RAMS (Orel and Vladimir oblasts) and RIPP MMA (Republic of Chuvashia).

All WHO demonstration sites received Green Light Committee approval and started implementation of their MDR-TB control projects, based on WHO guidelines for programmatic management of DR-TB. In the period 2008-2010, the projects were supported by the Global Fund Round 4 TB project. Since June 2010, the demonstration sites have carried out all activities related to DR/MDR-TB control using national and regional financing.

During Project implementation, WHO staff, in cooperation with the Russian Ministry of Health and Social Development, federal TB (phtisiopulmonology) institutes and CDC representatives, conducted 104 supervising, monitoring and technical support visits to the project sites.

As part of the long-term collaboration between the **Orel oblast TB programme** and the WHO TB Control Programme, Orel oblast facilitated a significant decrease in the notified regional TB rate from 71.4 per 100 000 population in 1999 to 48.1 per 100 000 population in 2010 (a decrease of 32.6%). Over the last few years, this rate has continued to decrease gradually. It is currently lower than in the Russian Federation or the Central Federal Okrug of the Russian Federation (Fig. 18).

Fig. 18. TB notification and mortality rates in Orel oblast, all Russian Federation and Central Federal Okrug, 2005-2010



Source: “Tuberculosis in the Russian Federation, 2010”, Moscow, 2011.

The TB mortality rate decreased from 8.4 per 100 000 population in 1999 to 3.3 per 100 000 population in 2010 (a decrease of 60.7%). It was significantly less than the same rate in the Russian Federation and the Central Federal Okrug of the Russian Federation (Fig. 18). The notified regional TB rate for children decreased from 10.1 per 100 000 children in 2006 to 7.2 in 2010.

The Orel oblast TB programme consistently shows satisfactory results for laboratory TB detection and confirmation. In 2010, TB confirmation by microscopy of new TB cases in Orel oblast was 51.1%, while TB confirmation by culture was 74.3%.

The programme reported a treatment success rate of 84.5% for the 2009 cohort of new TB cases in the civilian sector and 87.5% in the prison sector. The treatment success rate in the 2010 first-quarter and second-quarter cohorts was also high – 84.0%.

In 2010, 139 HIV-infected individuals were newly detected in Orel oblast. From 1987 to the end of 2010, 2007 HIV-infected individuals (cumulative numbers) were registered in the same territory. According to regional TB dispensary data, in 2010 12 TB/HIV patients were under observation and seven TB/HIV cases were newly detected.

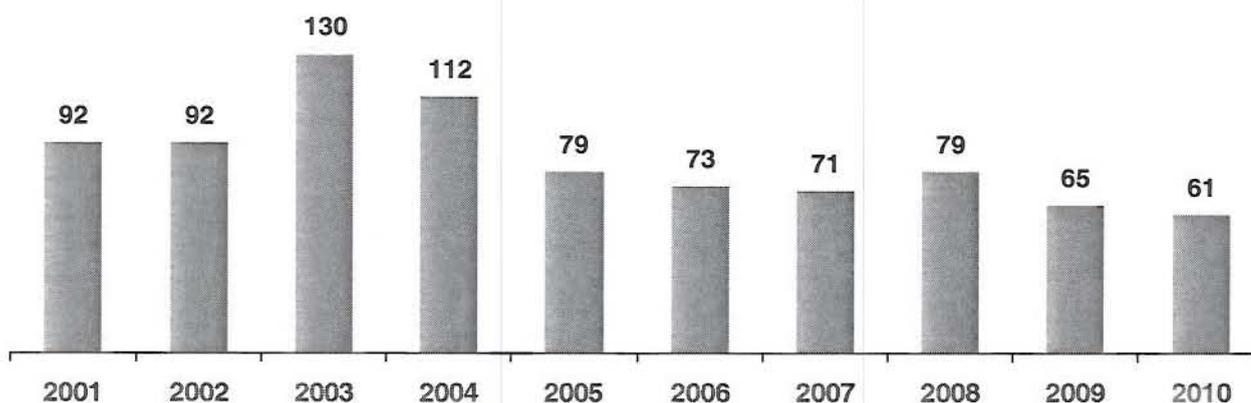
In 2010, the percentage of MDR-TB cases among new TB cases in Orel oblast was recorded at 8.7%. The level of MDR-TB in Orel oblast is one of the lowest in all the Russian regions, having met WHO headquarters requirements for Class A and B.

In the period 2002-2005, the MDR-TB project in Orel oblast was supported by the WHO TB Control Programme, CDC and USAID, and a cohort of 200 MDR-TB patients was enrolled in the Green Light Committee-approved project, with further CDC support for second-line drug supplies. From 1 January 2006 till 30 July 2008, 120 patients were enrolled under the project extension approved by the Green Light Committee in 2006. CDC supported drug supplies for their treatment, and 39 patients received drugs from the Global Fund Round 4 TB control project for the final stage of their treatment. Between 1 August 2008 and 31 May 2010, the project enrolled 96 MDR-TB patients for treatment under the Global Fund Round 4 TB control project in the Russian Federation. Since June 2010, the regional TB control project has enrolled MDR-TB patients for treatment under the national TB control programme. In total, 498 MDR-TB patients were treated.

The treatment success rate among MDR-TB patients registered in the 2002 cohort was 71.4%; in the 2003 cohort it was 58.0%; in the 2004 cohort 55.1%; in the 2005 cohort 61.9%; in the 2006 cohort 59.6%; in the 2007 cohort 70.2%; and in the 2008 cohort 76.9%.

The absolute number of all registered MDR-TB patients decreased from 130 patients in 2003 to 61 patients in 2010 as a result of effective MDR-TB control in the region (Fig. 19).

Fig. 19. Absolute number of MDR-TB patients in Orel oblast



Source: Federal form No. 33.

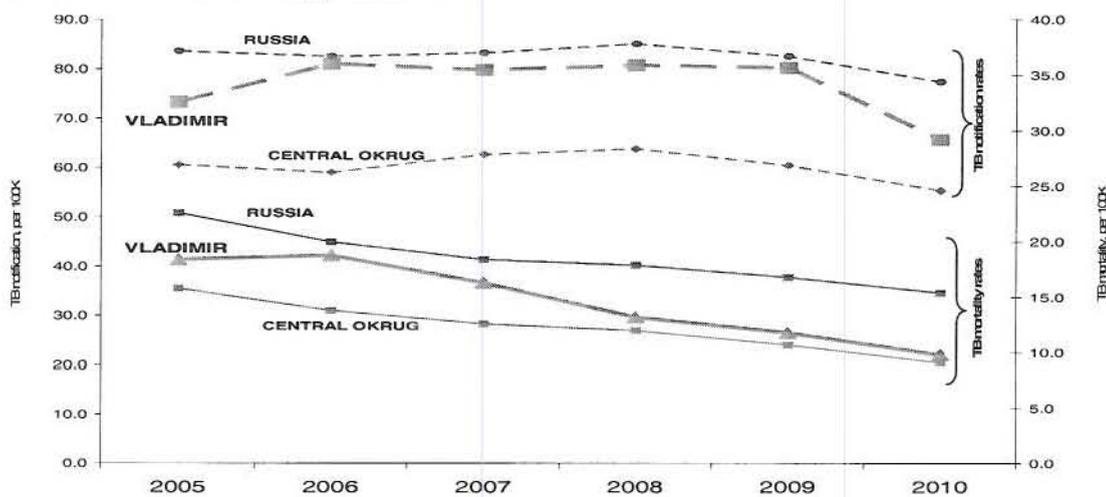
The Project supported the establishment of a social support programme aimed at increasing TB patients' compliance with treatment. The regional TB social support programme was implemented by the Orel branch of the Russian Red Cross, with the supervision and assistance of the Orel regional TB dispensary. In the period 2000-2010, the regional administration cofinanced the programme. In the period 2006-2010, the programme received additional financial support through the Global Fund Round 4 TB control project. During the implementation period, 3436 TB patients received food parcels and hygiene kits, as well as reimbursement of their travel expenses for DOT. However, the regional administration stopped financing the programme in 2011, owing to financial constraints on the regional budget.

The Project initiated and supported a special programme to improve medical workers' compliance with TB detection and treatment practices, since medical workers from general health care facilities and the regional TB service received few incentives for detecting TB promptly or successfully treating new smear-positive TB cases. This programme was the first step in operational research into new managerial tools for the improvement of case management and DOT. The regional

administration cofinanced the programme, but it was not extended to other pilot sites owing to the lack of regional cofinancing for this component. Nevertheless, because of the effective implementation of the WHO-recommended strategy and regional programmes to improve compliance among TB patients and provide incentives for staff, the Orel TB control programme consistently demonstrates the best treatment success rate in the Russian Federation for new smear-positive TB cases (79.5% in the 2007 cohort; 78.9% in the 2008 cohort; 84.6% in the 2009 cohort).

During the programme’s implementation, TB notification rate in **Vladimir oblast** significantly decreased from 105.6 per 100 000 population in 2000 to 65.7 in 2010 (a decrease of 37.8%). TB notification rate decreased significantly compared with the rate for the whole of the Russian Federation, but remained higher than in the Central Federal Okrug (Fig. 20). The TB mortality rate decreased from 15.5 per 100 000 population in 2000 to 9.8 per 100 000 population in 2010 (a decrease of 36.8%), matching that of the Central Federal Okrug (Fig. 20).

Fig. 20. TB notification and mortality rates in Vladimir oblast, all Russian Federation and Central Federal Okrug, 2005-2010



Source: “Tuberculosis in the Russian Federation, 2010”, Moscow, 2011.

The notified regional TB rate for children decreased from 23.3 per 100 000 children in 2006 to 15.9 per 100 000 population in 2010.

In 2010, the regional project reported suboptimal TB confirmation of new TB cases in the civilian sector: 48.4% by microscopy and 59.4% by culture. TB confirmation in the prison sector was very low: 26.7% by microscopy and 30.0% by culture.

Nevertheless, these results from the civilian TB laboratory network show progress towards the achievement of the programme indicator on TB laboratory detection and diagnostics. The regional bacteriological laboratory in Vladimir had numerous long-term managerial and technical problems, and it took some years to optimize laboratory work and adjust laboratory techniques.

The Vladimir oblast TB programme reported an extremely low treatment success rate in the 2009 cohort of new smear-positive TB cases: 52.1% in the civilian sector and 48.9% in the prison sector. One of the reasons for the low treatment success rate in the region is the very high proportion of MDR-TB cases among the new TB cases (19.5% in 2010). These patients were enrolled for treatment in the framework of the Global-Fund-supported MDR-TB project in Vladimir oblast.

In 2010, 308 HIV-infected individuals were newly detected in Vladimir oblast. From 1987 to the end of 2010, 3143 HIV-infected individuals (cumulative numbers) were registered in the same

territory. According to regional TB dispensary data, in 2010 75 TB/HIV patients were under observation and 46 TB/HIV cases were newly detected.

The percentage of MDR-TB cases among new TB cases in 2010 was 19.5%.

In 2006, the MDR-TB project in Vladimir oblast, supported by the WHO TB Control Programme, received Green Light Committee approval. Between 2007 and 31 May 2010, the Vladimir TB Programme enrolled 350 MDR-TB patients for treatment under the Global Fund Round 4 TB control project.

Since June 2010, the regional TB control project has enrolled MDR-TB patients for treatment under the national TB control programme. In total, 482 MDR-TB patients were treated.

The treatment success rate was 75.0% for the 2007 MDR-TB cohort and 51.2% for the 2008 MDR-TB cohort.

The Project supported the establishment of a social support programme to increase TB patients' compliance with treatment. The regional TB dispensary provided support for this programme. In the period 2006-2010, the programme received additional financial support for this component from the Global Fund Round 4 TB control project. Since 2007, the Vladimir administration has cofinanced the regional TB social support programme and in 2011 all programme costs were covered by the regional administration. In total, 7417 TB patients received food parcels and hygiene kits, as well as reimbursement of their travel expenses for DOT.

Between 2002 and 2010, during the implementation of the joint WHO/**Republic of Chuvashia** TB control project, TB notification rate decreased from 85.5 to 73.5 per 100 000 population (a decrease of 14.0%). Nevertheless, the notified regional TB rate is still higher than that in Privolzhsky Federal Okrug, but lower than that for the Russian Federation as a whole (Fig. 21). The TB mortality rate decreased from 15.6 per 100 000 population in 2003 to 11.0 in 2010 (a decrease of 29.5%). Over the last six years, the regional TB mortality rate remained significantly lower than in the Russian Federation or Privolzhsky Federal Okrug (Fig. 20).

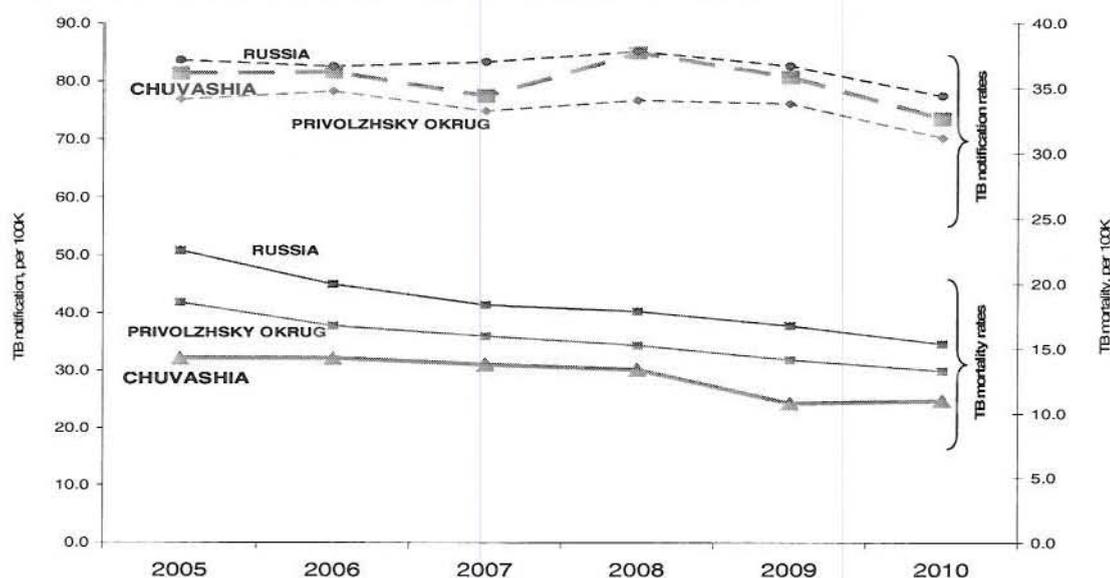
The notified regional TB rate for children decreased from 7.9 per 100 000 of the child population in 2006 to 6.1 in 2010.

In 2010, the civilian TB programme in the Republic of Chuvashia reported 49.9% TB confirmation by microscopy and 63.2% by culture among new TB cases. TB confirmation in the prison sector was low: 39.0% by microscopy and 50.0% by culture.

In the 2009 cohort of new smear-positive TB cases, the treatment success rate was suboptimal (69.3% in the civilian sector and 69.2% in the prison sector), as it was in the first civilian cohort of 2010 (72.0%).

In 2010, 128 HIV-infected individuals were newly detected in the Republic of Chuvashia. From 1987 to the end of 2010, 1206 HIV-infected individuals (cumulative numbers) were registered in that territory. According to republican TB dispensary data, in 2010, 33 TB/HIV patients were under observation and 14 TB/HIV cases were newly detected.

Fig. 21. TB notification and mortality rates in the Republic of Chuvashia, all Russian Federation and Privolzhsky Federal Okrug, 2005-2010



Source: “Tuberculosis in the Russian Federation, 2010”, Moscow, 2011.

The percentage of MDR-TB cases among new TB cases in 2010 was calculated at 15.5%.

In 2006, the MDR-TB project in Chuvashia, supported by the WHO TB Control Programme and USAID, received Green Light Committee approval. From November 2008 to 31 May 2010, 276 MDR-TB patients were enrolled for treatment under the Global Fund Round 4 TB control project. Since June 2010, the regional project has enrolled MDR-TB patients within the national TB control programme. In total, 486 MDR-TB patients were treated. The treatment success rate in the 2008 cohort was 59.4%.

The Project supported the establishment of a social support programme to increase TB patients’ compliance with treatment. The republican TB dispensary provided support for this programme in cooperation with the Republican Ministry of Social Support and Development, with USAID financial support from 2003 to 2009. The Global Fund Round 4 TB control project provided additional financing for this component in the period 2006-2010. In total, 6361 TB patients received food parcels and hygiene kits, as well as reimbursement of their travel expenses for DOT. Nevertheless, the republican administration did not provide any financial support for the republican TB social support programme owing to regional budget constraints. The objective of providing social support for TB patients was included in the republican target TB control programme for 2011-2015, but in 2011 the programme was suspended.

The implementation experience and results of WHO-supported pilot projects were incorporated into the new Ministry of Health and Social Development Executive Orders on TB control No. 109, No. 50 and No. 690. USAID-supported pilot projects on TB and MDR-TB management in Orel and Vladimir oblasts have led to the establishment of Centres of Excellence and Training for nationwide expansion of the revised TB strategy.

Development of a sustainable regional model for TB/HIV control

Strengthening efforts to control the dual TB/HIV epidemic has become one of the top priorities of TB control in the Russian Federation, especially in the context of the high rates of MDR/XDR-TB. Special efforts are being made to improve coordination and the referral system between the TB and HIV control programmes, at both national and regional levels, to ensure that each patient receives the necessary care and support, whichever public health sector he/she enters first.

To complete the above task, the WHO TB Control Programme continued its collaboration with the Centre for TB Care for Patients with HIV under the Ministry of Health and Social Development and with the WHO HIV Control Programme in the Russian Federation to ensure the development of the policy on TB prevention, detection and care for HIV patients, as well as on HIV prevention, detection and care for TB patients. Special emphasis has been given to organizing TB/HIV activities and TB diagnosis and care in TB/HIV patients, strengthening TB/HIV surveillance and analysis of the epidemiological situation, development of recommendations on TB prevention in children of HIV-positive mothers, and development of recommendations on preventive TB treatment in people with HIV.

The outcomes of the annual TB/HIV surveillance data analysis and interpretation were included in the *Annual analytical review of TB in the Russian Federation in 2010* as a new article on HIV infection prevalence in the Russian Federation and its impact on the TB epidemic

Training/workshops/conferences

The Project initiated and supported training courses for various target groups at both regional and federal levels. Since 2000, the Project has supported participation by Russian TB experts in international training courses, workshops and conferences, including the annual World Conferences on Lung Health of the International Union Against Tuberculosis and Lung Disease.

During the first stage of the Project, “Tuberculosis control in the Russian Federation: pilot programme”, the WHO TB Control Programme focused on training and refresher training for regional pilot project staff from TB services and general health care facilities, social workers and regional decision-makers. The training programme aimed to introduce the WHO-recommended strategy for TB control, the technical protocol of the pilot project and proper intersectoral coordination and interaction. Local training was conducted in pilot regions, and WHO representatives and representatives of CTRI RAMS and RIPP MMA conducted training at both federal and regional level, in the form of international training courses and workshops organized by WHO and its partners. Later, the staff trained in international training courses and workshops conducted the Project training programme as trainers and facilitators. During the first stage of the Project, 104 local training courses for staff from regional pilot projects and 14 interregional workshops at the federal level were conducted, and the participation of Russian TB experts in seven international workshops was supported. During the first stage of the Project, the cumulative number of participants in training courses, refresher training courses, workshops and conferences comprised: 2987 TB and general health care physicians, 2059 laboratory technicians and medical nurses, and 419 representatives of local administrations, representatives of nongovernmental organizations and social workers.

During the second stage of the Project, “Advanced development of the tuberculosis control project in the Russian Federation”, the WHO TB Control Programme focused on countrywide dissemination of the revised national TB control strategy outlined by Ministry of Health and Social Development Executive Orders No. 109 and No. 50 and supporting the implementation of the World Bank and Global Fund Round 10 TB control projects. Refresher training courses for regional pilot project staff were also held. At the same time, TB experts from regional pilot projects were involved in training and workshops at the federal level as trainers and facilitators. WHO TB Control Programme officers, in close collaboration with national TB experts, took part in the preparation of educational modules on “Managing TB at the municipal level”, adapted to the most recent Russian regulations on TB for countrywide cascade training of Russian TB specialists under the World-Bank-supported project. The Thematic Working Group on TB Laboratory Diagnostics, made up of WHO experts, developed training modules for general health care and TB laboratory staff on microscopy testing for acid-fast bacilli, as well as training modules in culture identification. The Project supported 80 training courses, workshops and conferences for federal TB experts and TB

specialists from all regions of the Russian Federation, and 83 training courses were conducted in the regional pilot projects for local medical staff, social workers and representatives of local administrations. The cumulative number of participants in Project-supported events was: 3019 TB physicians and managers, 1353 laboratory technicians and nurses and 328 social workers, representatives of regional administrations and journalists.

During the third stage of the Project, “Strengthening implementation of the Stop TB Strategy and enhancing national capacity to reach the Millennium Development Goals”, the WHO TB Control Programme promoted dissemination of the WHO-recommended TB control strategy, focusing on programmatic management of DR/MDR/XDR-TB, TB infection control and TB monitoring and surveillance. The Project supported the establishment of Centres of Excellence and Training at the sites of the regional pilot projects, and these Centres played a key role in the Project’s training programme.

A Centre of Excellence and Training on MDR-TB at the Orel oblast TB dispensary, affiliated with CTRI RAMS, was opened in July 2007 for the promotion of WHO-recommended programmatic management of DR/MDR/XDR-TB. The Centre in Orel hosted training courses and workshops on programmatic management of DR-TB, MDR-TB surveillance and Green-Light-Committee-approved project monitoring for federal TB experts and representatives of Russian regions newly approved by the Green Light Committee. Also, the Centre in Orel, in cooperation with the WHO Country Office in Ukraine and nongovernmental organizations from Tajikistan, conducted training on programmatic management of DR-TB for TB physicians from Ukraine and Tajikistan.

A Centre of Excellence and Training on TB infection control, affiliated with CTRI RAMS, was opened in April 2008 to disseminate new WHO-recommended approaches to TB infection control. The Centre in Vladimir, supported by CDC, hosted specialized training in TB infection control for TB physicians, managers and engineers from Russian regional TB control programmes and federal institutions.

Currently, a Centre of Excellence for best practice in laboratory TB detection and diagnosis is being set up in Cheboksary, Republic of Chuvashia. The Centre should be affiliated with RIPP MMA and should sign a proper agreement according to national rules. Nevertheless, in 2010 and 2011, the Centre hosted its first training courses in laboratory management.

With Project support, Centres of Excellence and Training conducted 41 training courses and workshops in programmatic management of MDR-TB, TB infection control and laboratory TB detection and diagnosis. The cumulative number of participants in Project-supported events was 443 TB physicians and managers and 25 engineers.

Coordination of national and international partner activities in TB control in the Russian Federation

The WHO TB Control Programme ensured effective collaboration among national, international, governmental and nongovernmental organizations, including donor and partner agencies.

The revised TB control strategy is being implemented in close collaboration with the Russian Ministry of Health and Social Development, five federal TB (phtisiopulmonology) research institutes, the Federal Correctional Service and the Russian Health Care Foundation.

The Project coordinates closely with High Level Working Group activities, both contributing to the work of various thematic working groups and benefiting from the High Level Working Group’s decisions on national TB control policy. Special emphasis is given to collaboration and exchange of practical experience with TB control projects implemented by the International Federation of Red

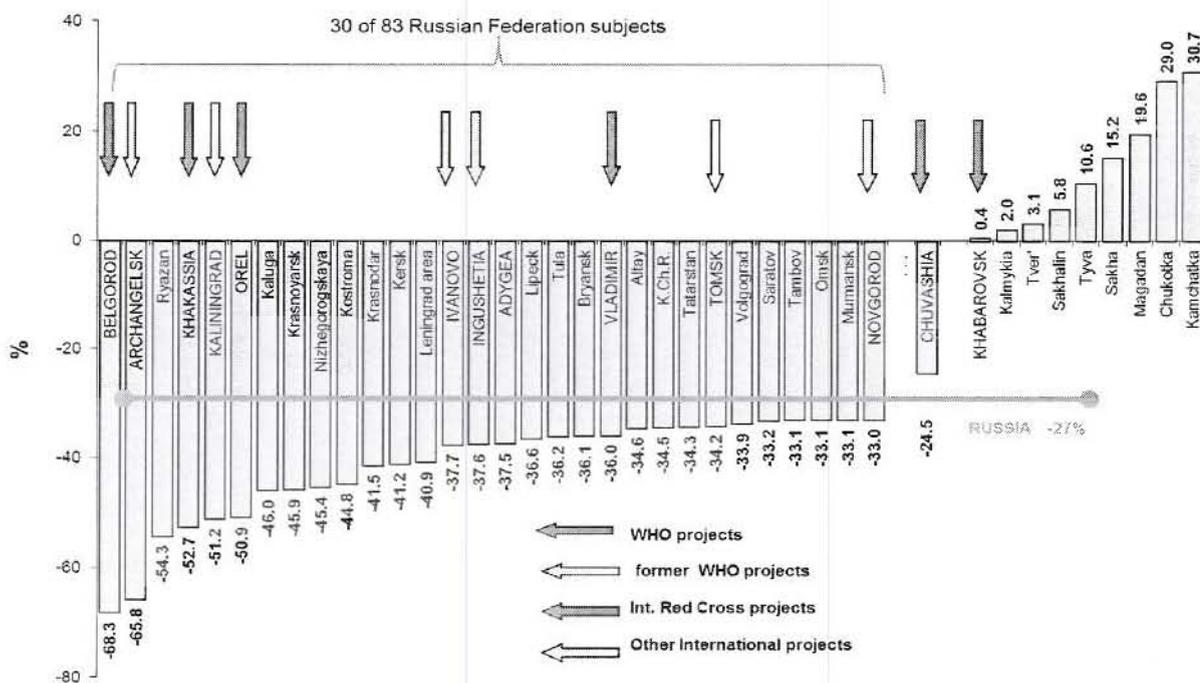
Cross and Red Crescent Societies and supported by USAID. MDR-TB activities are closely coordinated with the Partners in Health project in Tomsk.

The main way of coordinating the activities of international, governmental and nongovernmental organizations in TB control is interagency coordinating meetings. Interagency coordinating meetings were organized monthly, bringing together national and international stakeholders involved in TB activities in the Russian Federation. The meetings allowed an informal exchange of information among national and international partners on their activities and major issues of joint interest. The meetings were hosted by WHO, while the chairmanship of the meetings rotated among the agencies concerned.

International organizations stepped up their efforts to expand the WHO TB control strategy in the regions of the Russian Federation. Regional TB control programmes, supported by international organizations, demonstrated the advantages of the revised national TB strategy, based on proper implementation of WHO recommendations.

Over the last five years, the most positive trend in TB mortality, compared with countrywide indicator trends and Russian TB control programmes, is shown by internationally supported projects in Belgorod, Arkhangelsk, Orel and Kaliningrad oblasts and the Republic of Khakassia (Fig. 22).

Fig. 22. Differences in TB mortality rates in Russian regions, 2005-2009.

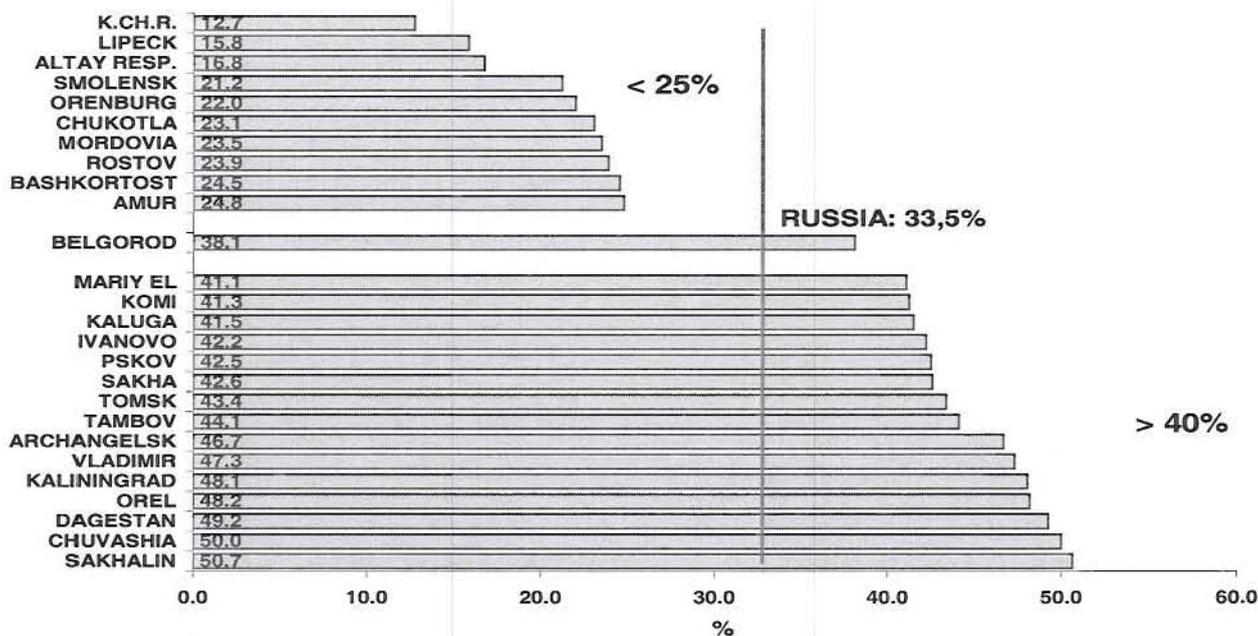


Regions involved in WHO, ICRC and other international TB control projects are marked by arrows. Source: "Tuberculosis in the Russian Federation, 2010", Moscow, 2011.

All internationally supported projects improved TB laboratory detection and diagnostics and achieved much better TB confirmation by microscopy and bacteriology. In 2009, the countrywide smear confirmation rate was 33.5%.

The projects in the Republic of Chuvashia demonstrated 50% smear confirmation among new TB cases; for the project in Orel oblast, the figure was 48.2%, in Vladimir oblast 47.3% and in Pskov oblast 42.5% (Fig. 23).

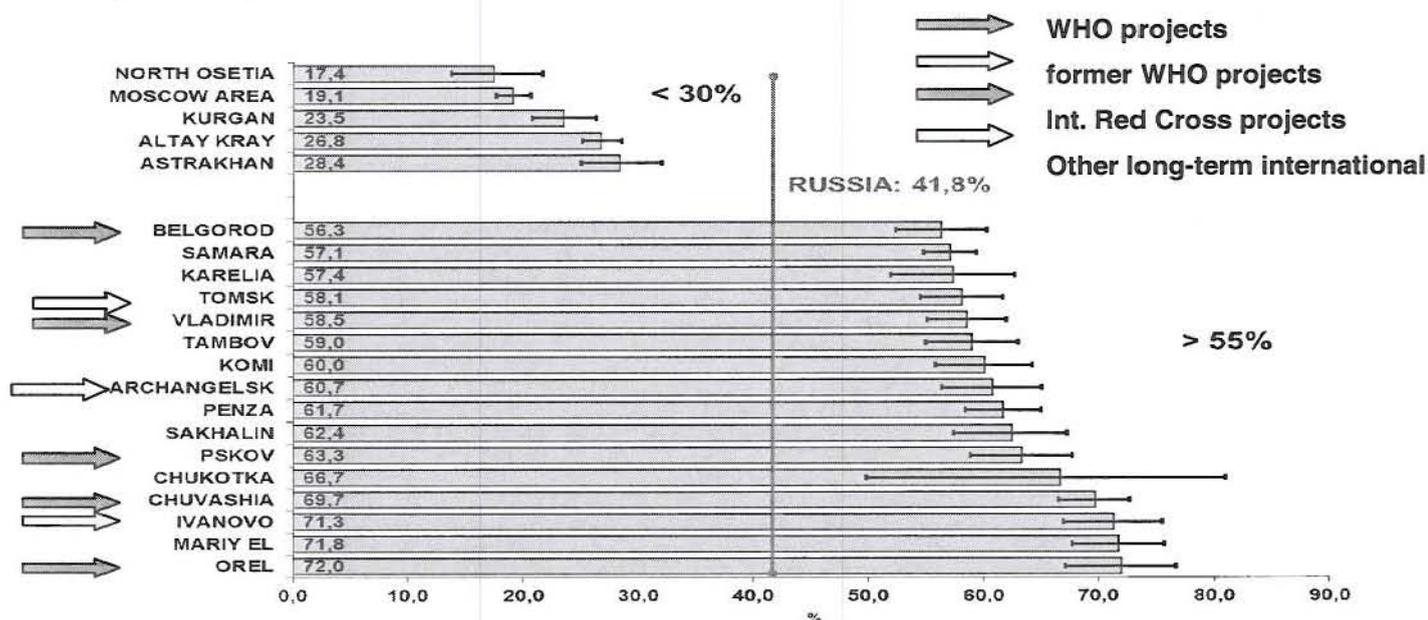
Fig. 23. Laboratory confirmation of TB diagnosis by bacterioscopy: proportion of new smear-positive pulmonary TB cases, Russian Federation, 2009



Source: Form No. 7-TB, Ministry of Health and Social Development; *Indicators of TB control*, Central Research Institute for Organization of Health and Informatization, statistical information, 2007-2009.

The internationally supported projects show the best TB confirmation by culture (Fig. 23). In 2009, TB confirmation by culture among new TB cases in Orel oblast was 72.0%: in the Republic of Chuvashia it was 69.7%, in Arkhangelsk oblast 67.0%, in Pskov oblast 63.3% and in Vladimir oblast 58.5% (Fig. 24). The countrywide indicator was 41.8%.

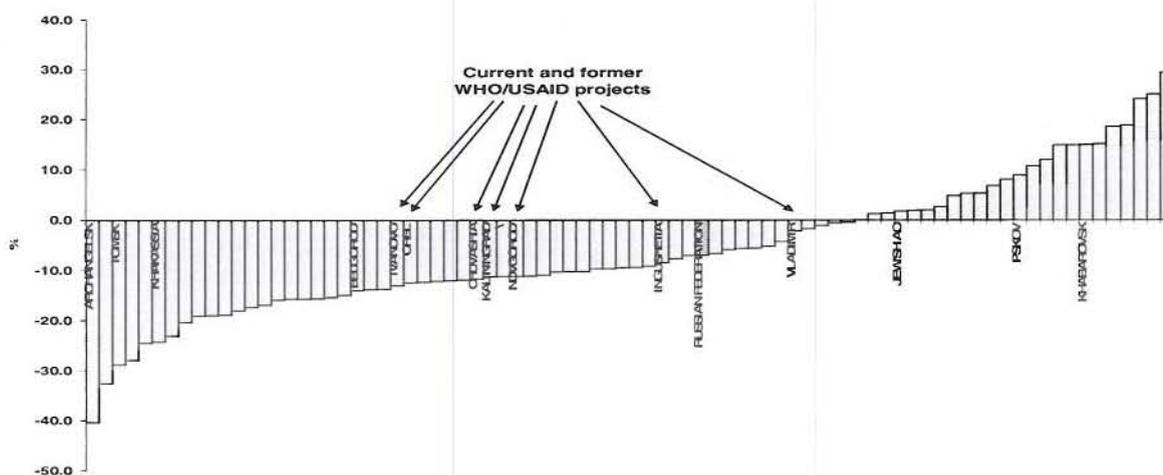
Fig. 24. Laboratory confirmation of TB diagnosis by culture: proportion of new culture-positive pulmonary TB cases, Russian Federation, 2009



Source: *Indicators of TB control*, Central Research Institute for Organization of Health and Informatization, statistical information, 2007-2009.

The sustained decrease in the registered prevalence of bacteriologically positive TB cases in recent years is a good indicator of the effectiveness of the TB control strategy. Practically all territories participating in long-term international projects have demonstrated this trend (Fig. 25).

Fig. 25. Differences in registered prevalence of bacteriologically positive TB cases in the Russian regions in 2006-2009



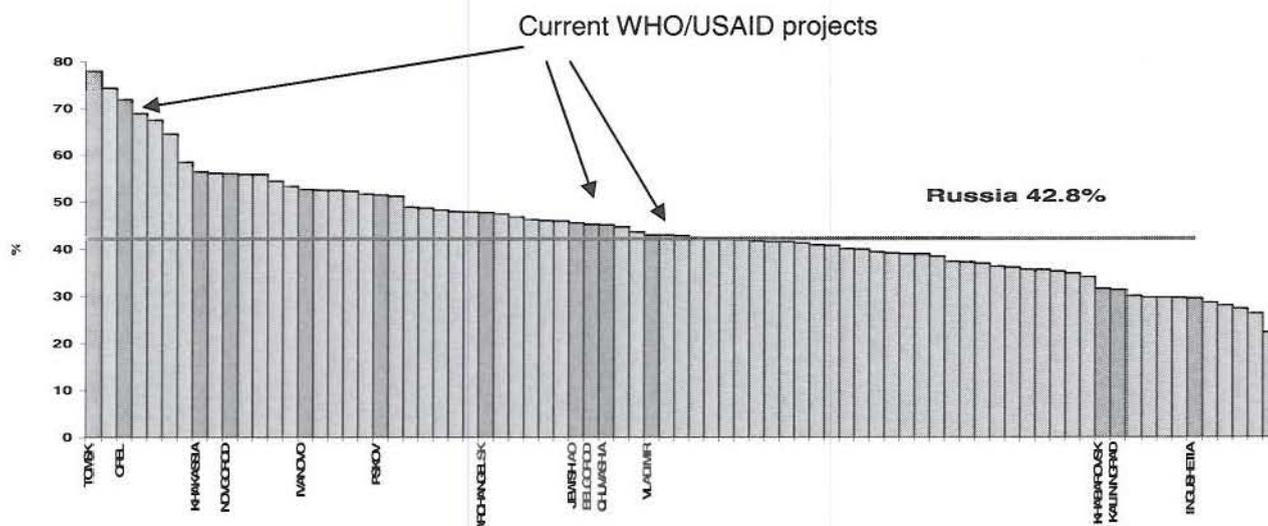
Regions with long-term international projects are marked with arrows.
 Source: "Tuberculosis in the Russian Federation, 2010", Moscow, 2011.

Figs. 26a and 26b demonstrate the improvement in smear and bacteriology TB diagnostics in internationally supported regions during the years of implementation of the projects concerned. Since 2000, TB confirmation in the Russian Federation has increased from 42.8% to 49.1% in 2009. In 2009, the most satisfactory TB confirmation among new pulmonary TB cases was achieved in

the Republic of Chuvashia and Ivanovo and Orel oblasts, followed by Pskov, Arkhangelsk and Ivanovo oblasts.

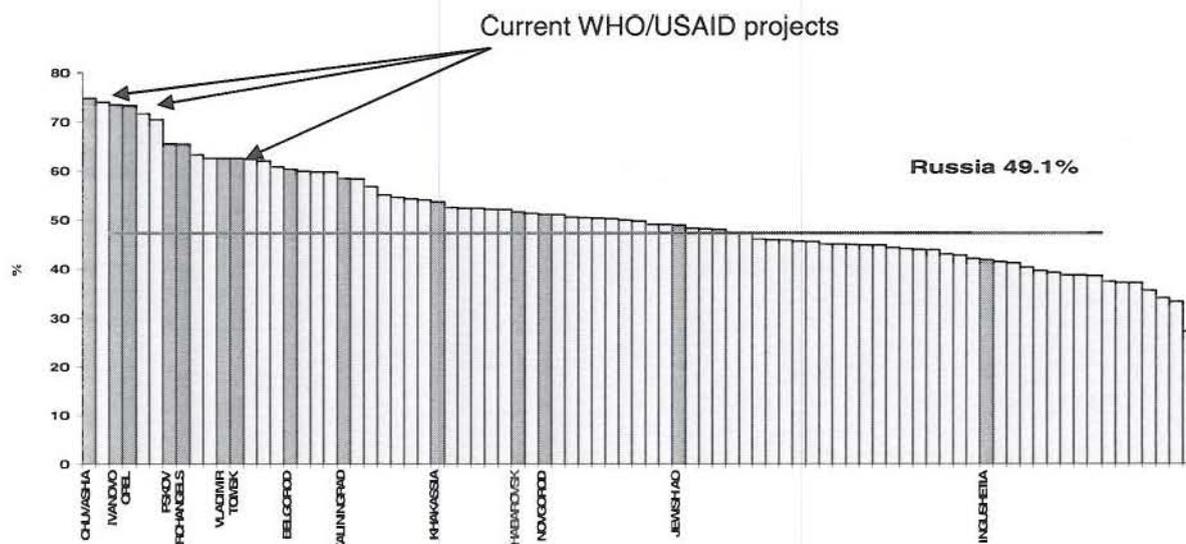
Fig. 26. Proportion of new bacteriologically positive TB cases (all methods), Russian regions with long-term international projects, 2000 and 2009

a. New respiratory TB cases in Russian regions, 2000



Source: National reports No. 33.

b. New pulmonary TB cases in Russian regions, 2009



Source: National reports No. 7-TB.

Internationally supported projects demonstrated better results in the improvement of regional TB control programmes and, as a consequence, they displayed more positive trends in the regional TB indicators compared with countrywide indicators.

Assistance to the Russian Government and the Russian Health Care Foundation in DOTS and DOTS-Plus expansion

This section describes assistance to the Russian Government and the Russian Health Care Foundation in DOTS and DOTS-Plus expansion through the World-Bank-supported TB and AIDS

control project and the Global Fund Round 4 project “Promoting the strategic response to TB treatment and care for vulnerable populations in the Russian Federation”.

In the period 2004–2008, the WHO TB Control Programme provided technical assistance for the preparation and implementation of the World-Bank-loan-supported TB and AIDS control project in the Russian Federation. It focused on the following areas:

- strengthening the planning, management and coordination of TB control;
- training in TB control at the national and okrug levels and development of training modules and other training materials;
- external monitoring and evaluation of the project.

The WHO TB Control Programme supported publishing and distribution to regional TB control programmes of the new regulatory materials for implementation of the revised national TB control strategy, including a recording/reporting form for cohort analysis.

A series of training courses and workshops were organized by the WHO TB Control Programme throughout 2004 to assist with needs assessment and development of implementation plans in the regions covered by the World Bank loan project. A total of 118 national experts were trained before their visits to the regions for needs assessment, since about 80% of the potential trainers were clinicians and needed training in the practicalities and methods of needs assessment required by the World Bank. WHO TB Control Programme staff revised the needs assessment reports written by national TB experts from the Russian regions participating in the Project and recommended improvements to the Russian Health Care Foundation. The WHO TB Control Programme established coordination offices at the five federal TB research institutes in order to provide external monitoring and supervision of the World Bank loan project. These offices facilitated the development of implementation plans and needs assessment in the areas supervised by the institutes.

WHO TB Control Programme officers, in close collaboration with national TB experts, took part in the preparation of educational modules on “Managing TB at the municipal level”, “Microscopy TB detection” and “Culture for TB detection” (including Facilitators’ Guide), adapted to the most recent Russian regulations on TB, for cascade training countrywide. In order to assist with training activities, the WHO TB Control Programme conducted train-the-trainer courses for regional TB control programmes. Trained trainers provided cascade training at the regional level for rapid countrywide expansion of the revised national TB control strategy.

In terms of improvement of TB laboratory detection and diagnosis, the WHO TB Control Programme provided assistance in the development of the national system of external laboratory quality control, including training for laboratory staff and coordination of the activities of regional laboratories, laboratories of federal TB (phtisiopulmonology) research institutes and the Federal Centre of External Quality Assurance in Laboratory Medicine. Four-yearly rounds of panel testing were supported by the World Bank project, and a national external quality control mechanism was established. As a result, 1500 laboratories participated in Federal Centre of External Quality Assurance in Laboratory Medicine activities for microscopy, 100 laboratories for culture and 120 laboratories for drug susceptibility testing.

In terms of providing proper monitoring for the World Bank TB control project, the WHO TB Control Programme drew up a standard methodological protocol for independent monitoring and trained 48 national experts. A total of 118 independent monitoring visits to Russian regions have been conducted by WHO staff and national independent experts. Twenty-three indicators were identified to evaluate the effectiveness of the TB component of the World Bank project. Recommendations on optimization of project activities were provided for World Bank, supervisory TB research institutes and regional and national authorities.

In the period 2005-2010, under the agreement with the the Russian Health Care Foundation, the WHO TB Control Programme provided technical assistance for the Russian Health Care Foundation and partners with the implementation of the Global Fund Round 4 TB control project in the Russian Federation.

The Global Fund Round 4 grant was intended to strengthen TB control and contribute to the improvement of National Tuberculosis Programme indicators. The main areas concerned were strengthening health system coordination and management of supplies, DOT, infection control, management of drug resistance, monitoring of case management (detection and treatment), prevention of HIV in TB patients and antiretroviral treatment in TB patients. Another objective of the project was to strengthen MDR-TB control. Planned activities also included training for human resources in prevention and management of TB/HIV, strengthening of the information system, supervision and monitoring. The implementation of the project was classified as B1 by the Global Fund (according to the Global Fund classification rate for Global Fund supported projects). The Global Fund Round 4 project implementation supported efforts by the Ministry of Health and Social Development to improve the TB situation in the country. During the project's operational period (2005-2010), TB notification rate decreased by 7.9% and the TB mortality rate by 31.3%.

The WHO TB Control Programme provided assistance in needs assessment, monitoring and training within the Global Fund Round 4 TB control project, with a particular focus on the expansion of WHO-recommended programmatic management of DR-TB. WHO Country Office TB project officers facilitated the preparation of applications to the Green Light Committee by Russian regional TB control programmes and federal TB (phtisiopulmonology) institutes, as well as communication between applicants and the Green Light Committee secretariat. The WHO TB Control Programme coordinated and arranged Green Light Committee preapproval and monitoring missions to the Russian MDR-TB control projects. WHO Country Office projects officers took part in Green Light Committee missions and conducted technical support missions for the projects at the request of the Russian Health Care Foundation and regional authorities.

During the first stage of implementation, the Global Fund Round 4 TB control project was confronted with an inadequate second-line drug supply through the Green Light Committee mechanism, owing to contradictions between national and Green Light Committee rules and requirements for drug procurement. The WHO TB Control Programme facilitated national registration and reregistration of second-line drugs which were available through the Green Light Committee mechanism. WHO Country Office project officers provided drug calculations and plans for second-line drug distribution for Green-Light-Committee-approved projects. To improve collaboration in drug management between the Russian Ministry of Health and Social Development, national authorities, the Global Drug Facility and the Russian Health Care Foundation, the WHO TB Control Programme organized and hosted two missions by representatives from WHO headquarters, the WHO Regional Office for Europe, the Global Drug Facility and the International Dispensary Association (17-20 December 2007 and 26-29 May 2009). These resolved the drug procurement problems and created a proper second-line drug supply within the Global Fund Round 4 project.

The WHO TB Control Programme arranged six preapproval visits and 63 Green Light Committee monitoring missions. Twelve national TB experts took part in these visits in order to be trained in monitoring of MDR-TB control projects. WHO Country Office projects officers conducted eight technical support missions to Green-Light-Committee-approved projects.

Finally, 30 Russian projects received Green Light Committee approval, four of which are being carried out at Federal TB research institutes. A total of 6538 MDR-TB patients were enrolled for treatment and provided with second-line drugs for their full courses of treatment. In addition, 1000

MDR-TB patients treated in the federal programme received second-line drugs supplied by the Project to avoid breaks in treatment.

The final report on treatment outcomes of the 2007 cohort is now available. A total of 190 MDR-TB patients were enrolled in the 2007 cohort in two Russian regions – Vladimir and Arkhangelsk oblasts. The treatment success rate in Vladimir was 75.0%, compared with 42.2% in Arkhangelsk (on average, the treatment success rate for the 2007 cohort was 46.3%). A total of 26.8% of enrolled patients defaulted.

The 24-month report on the 2008 cohort is now available. A total of 1352 MDR-TB patients were enrolled in the 2008 cohort in 18 Green-Light-Committee-approved projects. The treatment success rate was 52.2%, and 3.7% of enrolled patients are still under treatment. (The treatment success rate, excluding patients who are still on treatment, was calculated at 54.2%). A total of 18.0% of enrolled patients defaulted.

The WHO TB Control Programme, as a Russian Country Coordination Mechanism member, provided assistance for the Mechanism in preparation for the Russian application to the Global Fund Round 10 TB control component. On 7 April 2011, the Global Fund Technical Review Panel finally approved the Russian application in category 2b. However, on 29 July 2011, the Executive Director of the Global Fund, Professor Michel Kazatchkine, wrote to the Chair of the Russian Country Coordination Mechanism, Professor V. Pokrovsky, to say that the Russian Ambassador to the United Nations Section in Geneva had informed him of the Russian Government's decision to reject the Global Fund grant because the Russian Federation has sufficient resources of its own for effective TB control.

Assistance in the revision of the national TB drug policy

The WHO Country Office TB Programme monitored second-line drug stocks in the regional Green-Light-Committee-approved projects to guarantee treatment completion for all MDR-TB patients enrolled in the projects. The programme also monitored TB drug stocks and the drug supply situation through federal and regional mechanisms at pilot sites. Technical support to improve the drug management system was provided in line with the outcomes of the technical support mission to assess second-line drug procurement via the Global Drug Facility/Global Fund/International Dispensary Association mechanism for the Russian Federation.

Information, education and communication (IEC) strategy

Throughout the reporting period, the WHO TB Control Programme continued to raise the profile of TB on the national agenda through a number of advocacy and communication activities.

The WHO TB Control Programme provided financial and administrative support for selected national partners to attend the National TB Programme Managers' Meeting of the WHO European Region (Wolfheze Workshops) between 1999 and 2011. The Russian Federation was represented by Ministry of Health and Social Development officials and National Tuberculosis Programme managers. WHO also assisted Russian TB specialists in the preparation and submission of abstracts to the World and European Conferences on Lung Health of the International Union Against Tuberculosis and Lung Disease, thus ensuring dissemination of Russian National Tuberculosis Programme experience and promoting international standards in Russian TB control. Regular participation by Russian experts in the Stop TB Partnership working groups was also supported through the years of the grant implementation.

Dissemination of information on the latest developments and updates in WHO policy on TB control is one of the tasks of the WHO TB Control Programme. In total, about 15 WHO guidelines and handbooks were translated and printed in the period 1999-2011. In particular, in 2011 the WHO

document *Treatment of tuberculosis: guidelines for national programmes*, 4th ed., was translated and published in Russian. The electronic TB Library was established at the WHO Office in Moscow, providing access to training materials on TB control developed by partners and ensuring access to technical documentation via Internet in order to avoid duplication of efforts. The WHO TB Training and Education Collaboration for the WHO European Region has coordinated training and education activities by international partners on TB control since 2000, meeting twice a year (once a year since 2010) and ensuring the highest standards and methodology in internationally supported training and educational activities.

The World TB Day campaign was facilitated annually through the organization of a press conference with the Ministry of Health and Social Development, WHO, the Federal Correctional Service, the National Tuberculosis Programme and national and international partners. Children's poster competitions, journalism competitions and other World TB Day activities were organized annually and coordinated by the Interagency Coordinating Committee for World TB Day. Monthly interagency meetings brought together all national and international agencies involved in TB control activities in the Russian Federation. These meetings were intended to facilitate the exchange of everyday work information and ensure proper coordination of activities.

PROJECT MANAGEMENT

The WHO Regional Office for Europe provides technical and administrative support for the implementation of the Project.

The Coordinator of the WHO TB Control Programme is responsible for the implementation and monitoring of the Project. On 17 November 2008, the Coordinator was reassigned to WHO headquarters and a national professional officer assumed the responsibilities of the post. Five fully-funded TB National Project Officers, one Technical Officer (international professional) on laboratory issues (since November 2008), and two Programme Assistants supported the Coordinator a.i. in implementation, evaluation and monitoring of the Project. Financial, administrative and secretarial assistance was also provided for the TB Control Programme by a pool of WHO Country Office administrative assistants. An office driver and cleaner also assisted. From the WHO Regional Office for Europe, technical assistance with project implementation was provided by the regional TB Technical Assistance Mechanism (six international professional officers, the Special Representative of the Regional Director to Prevent and Combat MDR/XDR-TB in the WHO European Region and two programme assistants).

MAIN PROJECT ACHIEVEMENTS

The WHO TB Control Project, based on USAID Grant No. 118-G-00-99-00112 (1999–2011), focused on both regional and federal activities, including revision of the national TB control strategy and technical support for the World Bank TB/HIV loan. It has acted as a catalyst for fundamental changes in TB control in the Russian Federation to bring it into line with international standards of TB care. The main achievements have been as follows.

- Revision of the National TB Control strategy, facilitated by the High Level Working Group mechanism, and implementation of WHO pilot projects. Key elements of the Stop TB Strategy were accepted by the National Tuberculosis Programme. The implementation experience and results of WHO-supported pilot projects were incorporated into the new Ministry of Health and Social Development Executive Orders on TB control (No. 109, No. 50 and No. 690).
- The USAID pilot projects on TB and MDR-TB management in Orel and Vladimir oblasts have led to the establishment of Centres of Excellence and Training for nationwide

expansion of the revised TB strategy, contributed to the development of the MDR-TB control approach in the country and facilitated the expansion of MDR-TB control within the Global Fund TB control project (Round 4).

- With WHO technical assistance, the Russian Federation five-year strategic plan for TB control was developed and served as a basis for the Russian Federation's application for funding from the Global Fund (Round 4) and the World Bank TB/HIV loan to the Russian Federation.
- WHO technical assistance was provided for implementation of the World Bank TB loan to the Russian Federation, coordination with the Global Fund (Round 4) TB/HIV project and development of the World Bank TB/HIV loan project appraisal document, workplans and related documents.
- WHO technical assistance was provided for development of a successful application and further implementation of the Global Fund Round 4 TB/HIV control project.
- Countrywide dissemination of the revised national TB strategy and mobilization of additional resources from the World Bank, Global Fund and partners, as well as ensuring increased governmental commitment to TB control and sustainable internal funding. This increased the capacity of the TB laboratory network and improved case management and TB monitoring.
- The focus on control of TB in HIV-infected patients within pilot project activities provided additional experience. This contributed to the development of a federal strategy on TB/HIV control and its implementation within the framework of the Global Fund project.
- Implementation of a comprehensive advocacy, communication and social mobilization campaign on TB, MDR/XDR-TB and TB/HIV prevention and care in line with the World TB Day campaigns aimed at raising awareness and involvement of civil society and TB patients, promotion of human rights and access to the best diagnostics and care.
- Supervision and monitoring as a form of technical assistance were reintroduced in the Russian TB control system, changing from controlling and identifying deficiencies to mentoring and on-site improvements. This approach did not exist before the WHO Project started.
- The WHO Project promoted the international TB control strategy among a large number of Russian TB professionals at different levels, by facilitating delivery of accurate information in Russian, advocacy and publications.
- The capacities of the federal TB research institutes have been strengthened in a number of ways, e.g. establishment of coordinating offices, involvement in independent monitoring, training, participation in international conferences, etc.
- Effective mechanisms for coordination between national and international stakeholders have been created, allowing collaborative TB-related efforts to be conducted in the Russian Federation and enabling a fruitful dialogue to develop between Russian and international experts.
- A critical mass of TB doctors and managers has been trained, with WHO support for the curriculum development and training organization, thus enabling the effectiveness of WHO-recommended TB control principles to be demonstrated in the pilot region.
- In cooperation with other partners, the Project initiated the provision of psychosocial support for TB patients to improve compliance with treatment and contributed to the development of models of proven efficacy, which were recognized as such by the national authorities.

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- A number of operational research projects in TB control and surveillance were initiated and implemented in cooperation with national TB research institutes.

MAJOR DIFFICULTIES AND CHALLENGES AT THE FEDERAL/NATIONAL LEVEL

- Direct observation of TB treatment is not conducted for 100% of patients, and organizational approaches to control outpatient treatment should be developed.
- Low compliance with standardized regimens and DOT by TB physicians requires clear TB treatment instructions and national managerial tools to monitor treatment effectiveness.
- Risk of revision of national instructions on TB chemotherapy, disregarding international recommendations, requires technical assistance to gather evidence in support of WHO recommendations and pressure to stay committed to the Stop TB Strategy.
- Growing MDR-TB rates require an urgent search for consensus among national stakeholders with international approaches to DR-TB management and development of a national guide on MDR-TB management and care and introduction of this approach countrywide. There are no up-to-date national regulations in this field.
- The risk of collapse of regional Green-Light-Committee-approved MDR/XDR-TB control programmes after the end of the Global Fund Round 4 project (2011) can be avoided only by continued technical support by international partners until the national MDR-TB framework is developed and enforced.
- The increase in TB/HIV cases requires joint action by both HIV and TB control programmes, technical and managerial approaches to TB prevention in people living with HIV and combined TB/antiretroviral treatment of TB/HIV patients; however, the level of MDR-TB in TB/HIV cases has yet to be established.
- The lack of a national drug resistance surveillance system and insufficient capacity in the TB laboratory network, including the lack of a national TB reference laboratory, to provide rapid and accurate quality-assured diagnosis of TB and MDR-TB require urgent efforts to support the national laboratory and surveillance system.
- Weak drug management system and monitoring of drug supplies at all levels; although all Russian regions were fully supplied with second-line drugs in 2010, the Russian Federation has not yet developed national guidelines on MDR-TB control and treatment in line with the international recommendations. The Russian Federation has updated, but not yet submitted, the MDR/XDR-TB component of its national TB control plan. Urgent development of the MDR/XDR-TB country response strategy and plan is required as an essential part of the regional Consolidated Action Plan to Prevent and Combat Multidrug- and Extensively Drug-Resistant Tuberculosis in the WHO European Region 2011–2015.
- WHO pilot projects on DOTS and MDR-TB management proved to be very successful and led to the establishment of Centres of Excellence that serve the country's needs in training on MDR-TB, infection control and TB laboratory services and are affiliated with the WHO Collaborating Centre at CTRIRAMS. However, the training process is yet to be standardized and made sustainable.
- The human resource crisis in the TB service and insufficient involvement of medical schools in training on the revised TB control policy require special efforts in human resource development.

FUTURE PLANS/NEXT STEPS

Federal/national level

The WHO TB Control Programme applied to USAID for a grant to continue its assistance in TB control in the Russian Federation in the period 2011-2015. The goal of the Project is to strengthen the technical and managerial capacities of the Russian health system to respond effectively to TB, MDR/XDR-TB and the TB/HIV epidemic by adequately addressing the various TB-related challenges in line with the Stop TB Strategy.

The activities of the WHO TB Control Programme, in close cooperation with the High Level Working Group and all national and international partners, will target the following TB control problems prioritized for the Russian Federation in 2011-2015.

The new project should focus on the following specific objectives at the federal level.

1. Strengthening the national TB programme to prevent and control MDR/XDR-TB and TB/HIV.
2. Improving the TB programme monitoring system as a process of mutual technical assistance and transfer of knowledge and expertise among professionals.
3. Human resource development for TB control as an integral part of human resources for health.
4. Mainstreaming TB surveillance and recording and reporting documentation with a strong analytical component in cooperation with the relevant research institutes.
5. Coordination of national and international TB partners.
6. Advocacy and promotion of innovative methods for the rapid diagnosis of TB and MDR-TB.

Regional level

The new project should support future development of regional TB control programmes based on the WHO-recommended TB control strategy.

1. Provision of technical assistance through existing Centres of Excellence, contributing to their advancement as international Centres of Excellence for the WHO European Region.
2. Development of Centres of Excellence for the TB control laboratory component in Chuvashia and at least one Centre of Excellence east of the Ural mountains.