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FOURTH MEETING OF NATIONAL TUBERCULOSIS PROGRAMME MANAGERS

Report on a WHO Meeting

Helsinki, Finland
8–10 June 2000

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EUROPEAN HEALTH21 TARGET 7

IMPROVING MENTAL HEALTH

By the year 2020, the adverse health effects of communicable diseases should be substantially diminished through systematically applied programmes to eradicate, eliminate or control infectious diseases of public health importance

(Adopted by the WHO Regional Committee for Europe at its forty-eighth session, Copenhagen, September 1998)

ABSTRACT

Tuberculosis (TB) control in parts of Europe requires urgent action. Drug-resistant TB is increasing rapidly. In parts of central and eastern Europe, economic decline, poverty, overcrowded prisons and fractured medical services mean that TB rates are increasing and multidrug-resistant strains are rapidly emerging. There is also a growing epidemic of HIV infection, which is likely to compound TB control problems. This fourth biennial meeting of national tuberculosis programme managers was convened to facilitate the exchange of information on TB control from countries across Europe and from international partners. Also addressed were problems in and successes relating to DOTS implementation, the influence of health care reform on national TB control programmes, and strategies to respond to multidrug-resistant strains.

Ten recommendations were agreed, among which was the recognition that national TB programmes needed to be strengthened. There was also a need to adopt an internationally recognized TB control strategy and to accelerate its implementation. TB services needed to be integrated into wider (changing) health structures, and drug supplies needed to be centralized and maintained and their quality assured. It was also agreed that, in relation to multidrug-resistant TB, the first priority from a public health perspective was prevention through an effective and comprehensive TB programme (DOTS); the introduction of a programme specifically to control multidrug-resistant TB should be considered only in areas where there was a national TB programme with proven effectiveness according to internationally recommended guidelines. The support of international partnerships and collaboration were recognized as being essential components in the improvement of TB programmes in a number of countries in the WHO European Region.

Keywords

TUBERCULOSIS – prevention and control
PROGRAM EVALUATION
NATIONAL HEALTH PROGRAMS – organization and administration
TUBERCULOSIS, MULTIDRUG RESISTANT
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Introduction and objectives of the meeting

In recent years the WHO European Region has witnessed an alarming increase in the incidence of tuberculosis (TB) cases. The majority of people suffering from TB live in the countries of eastern Europe and the former Soviet Union where the most pronounced increases have occurred. Several factors have contributed to this, including economic recession, social upheaval, malnutrition, poor living conditions and overcrowded conditions in prisons. Shrinking health budgets, unpaid salaries, poorly maintained health facilities, severe shortages of drugs and laboratory supplies, and a lack of integration into primary health care of tuberculosis control programmes contribute to inadequate control. The situation has been aggravated by a still widely used TB control strategy from the old days based on active case-finding by mass chest X-ray screening of the population and prolonged and often unnecessary hospitalization. This results in priority being given to case-finding rather than high cure rates. Irregular supplies of drugs, a lack of standardized multidrug regimens, unsupervised treatment and spread of the disease within congregate settings have resulted in high levels of multidrug-resistant (MDR) tuberculosis.

The first meeting of the national tuberculosis programme managers was held in June 1994 in Warsaw, Poland. Representatives of 25 countries of central and eastern Europe and the former USSR took part in this meeting at which a 5-point policy package for TB – directly observed treatment, short course (DOTS) – was adopted.

The implementation of the WHO/International Union against Tuberculosis and Lung Disease (IUATLD) TB control strategy (DOTS) has proved effective in a number of European countries that have partially implemented it in pilot areas, or have adopted elements of the strategy in the process of preparing for implementation in the country as a whole. The DOTS strategy includes the following five elements:

- government commitment to supporting the national TB programme;
- case detection through bacterial examination of sputum smear and culture in suspects referring with symptoms to general health services;
- standardized short-course chemotherapy for at least all smear-positive TB cases under proper case management conditions;
- regular uninterrupted supply of all essential anti-TB drugs;
- a monitoring system for programme supervision and evaluation.

At the second meeting, held in 1996 also in Warsaw, a priority plan of action for the enhancement of DOTS implementation was developed. The expansion of DOTS projects was advanced along with attention to advocacy and high-risk groups. The need for further cost-effectiveness analyses was highlighted as was the need for guidelines regarding prisons and prisoners. The third meeting was held in 1998 in Issyk-Kul, Kyrgyzstan, attended by national tuberculosis programme managers from central Asia, the Caucasus and the Russian Federation, to review progress in DOTS implementation in these areas – a subregional meeting.

The fourth meeting of national TB programme managers was held in Helsinki, Finland, from 8 to 10 June 2000 and was co-hosted by the Finnish Lung Health Association (FILHA) and the WHO Regional Office for Europe.

Dr Jarkko Eskola, Director-General of the Finnish Ministry of Social Affairs and Health, welcomed representatives from international and donor organizations, technical consultants and national programme managers (participants' list in Annex 1). He drew attention to the way in which TB highlights the wellbeing of societies and the need for political will to approach both the problems of tuberculosis control and the wider social and economic determinants of the disease, and he reflected on the emergence of signs indicating that political support is germinating.

The President of FILHA, Professor Lauri Laitinen, described the Finnish experience of TB over the past century. He reflected on the notion that, alongside the development of a strong infrastructure which included a network of hospitals and outpatient clinics, and the promotion of BCG vaccination and screening through the adoption of mass radiography, it was the advent of "effective medication carried out under strict supervision, together with active and passive case finding, nation-wide outpatient services and social benefits linked to regular check-ups from the 1960s to the 1980s, which resulted in a rapid decrease in TB incidence". This decline in incidence, witnessed elsewhere in the west, has resulted in a diminution in domestic professional clinical exposure which has been counterbalanced, at least in part, by growing international cooperation with partners struggling to control increasing rates (exemplified by the collaborative efforts between FILHA, the Russian Federation and the Baltic states).

Dr Richard Zaleskis, on behalf of the WHO Regional Director for Europe, Dr Marc Danzon, highlighted the achievements of the previous three meetings. He drew attention to the fact that, among the 27 countries of central and eastern Europe, only four had not adopted DOTS and seven were fully implementing the strategy. In 1998 more than 350 000 new cases of TB were reported in the 51 Member States of the Region, compared with 240 000 cases in 1991. Well coordinated external assistance to countries of the Region is necessary to tackle the problem and the sustainability of TB control efforts is dependent on "mobilizing new partners to maximize and optimize efforts and resources towards the goal of providing effective action in high-incidence countries".

The overall objective of the meeting was to follow up the second national TB programme managers' meeting in 1996 as well as the third meeting held in Issyk-Kul in 1998, and to improve TB control in the European Region based on the WHO recommended TB control strategy.

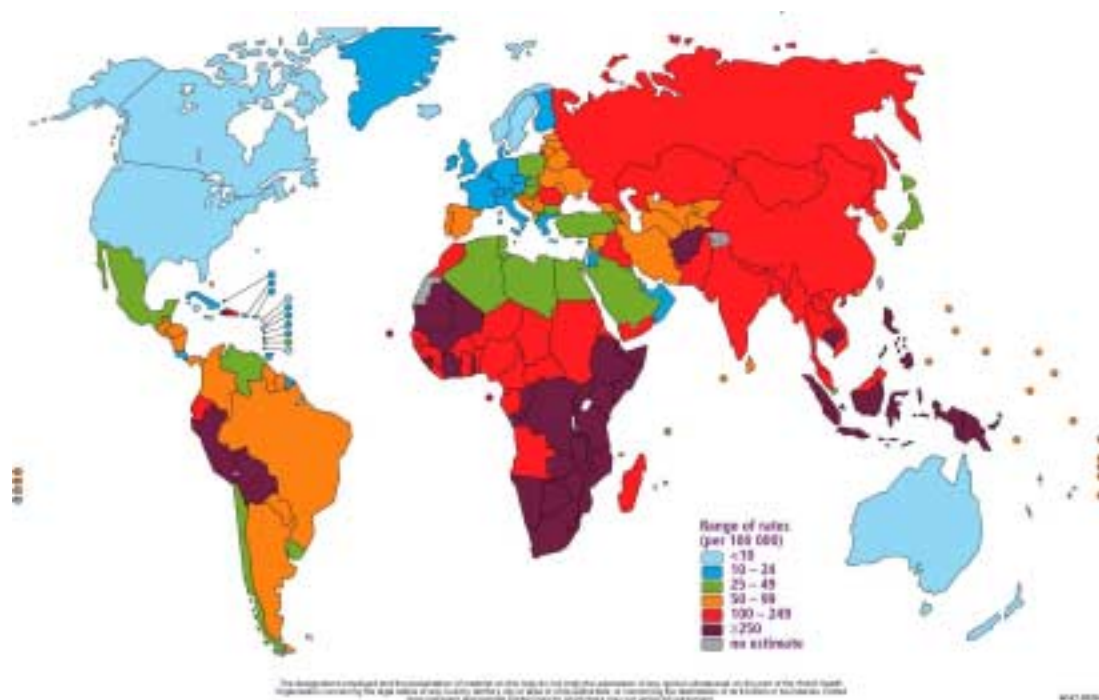
The specific objectives of this meeting were:

- to discuss the extent of the TB problem, with particular emphasis on the interrelationship of DOTS and multidrug-resistant TB;
- to assess the progress achieved since the 1996 programme managers' meeting for all European countries and the 1998 meeting in Kyrgyzstan for selected countries;
- to identify the constraints to successful implementation of the DOTS strategy and to formulate priority action as follow-up to the above-mentioned issues;
- to review the severity of the TB drug resistance situation in selected countries of the Region and their impact on TB policies;
- to review the possible impact of health care reform on effective TB control and to identify possible solutions through more emphasis on research into this topic;
- to discuss and suggest means of support by exploring national and international partnerships for TB control both within and outside the framework of the STOP TB initiative.

Summary of the global and European situation

In 1994, WHO declared TB a global emergency in response to the dramatic increases in rates of disease in many parts of the world. According to WHO, there were approximately 7.3 million new cases of TB in 1997. The geographical distribution of patients is shown in Fig. 1.

Fig. 1. Global TB incidence, 1997



WHO defines MDR TB as resistance to the principal first-line drugs (isoniazid and rifampicin) with or without resistance to other drugs. MDR TB represents one of the greatest challenges to control. Estimates of the magnitude of the burden of drug resistance have in the past been rendered difficult by the lack of firm epidemiological data. Recent epidemiological research suggests there is considerable global variation, with several areas representing hot spots of high incidence (Fig. 2).

In the WHO European Region over recent years there has been an alarming rise in rates of TB. From 1991 to 1996 the number of cases increased by almost 40%. The countries of eastern Europe and the former USSR have, in particular, witnessed marked increases in rates: nearly all of them have rates several times higher than countries in western Europe (Fig. 3).

In western Europe TB rates have, in the main, declined steadily from the turn of the 18th century until the mid-1980s when a levelling-off occurred. In some countries small increases in the numbers of cases notified have been described.

Fig. 2. Prevalence of MDR TB among new TB cases in countries and regions surveyed between 1994 and 1999

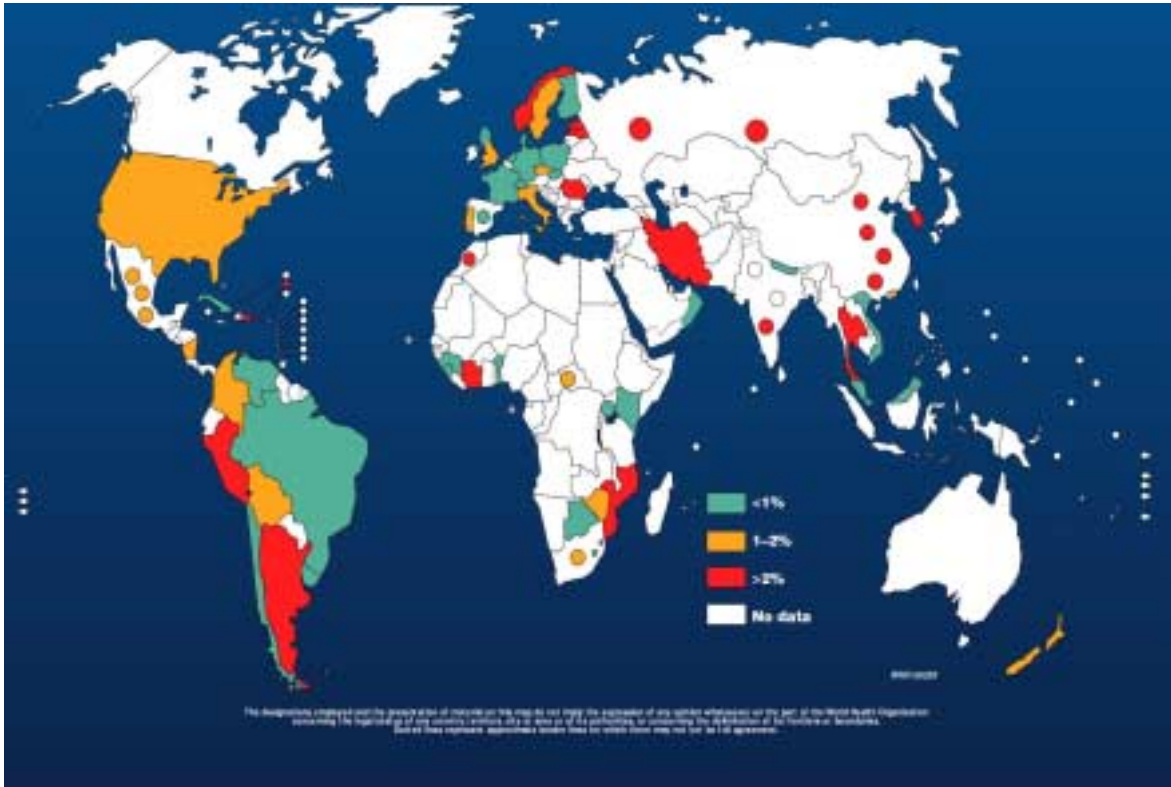
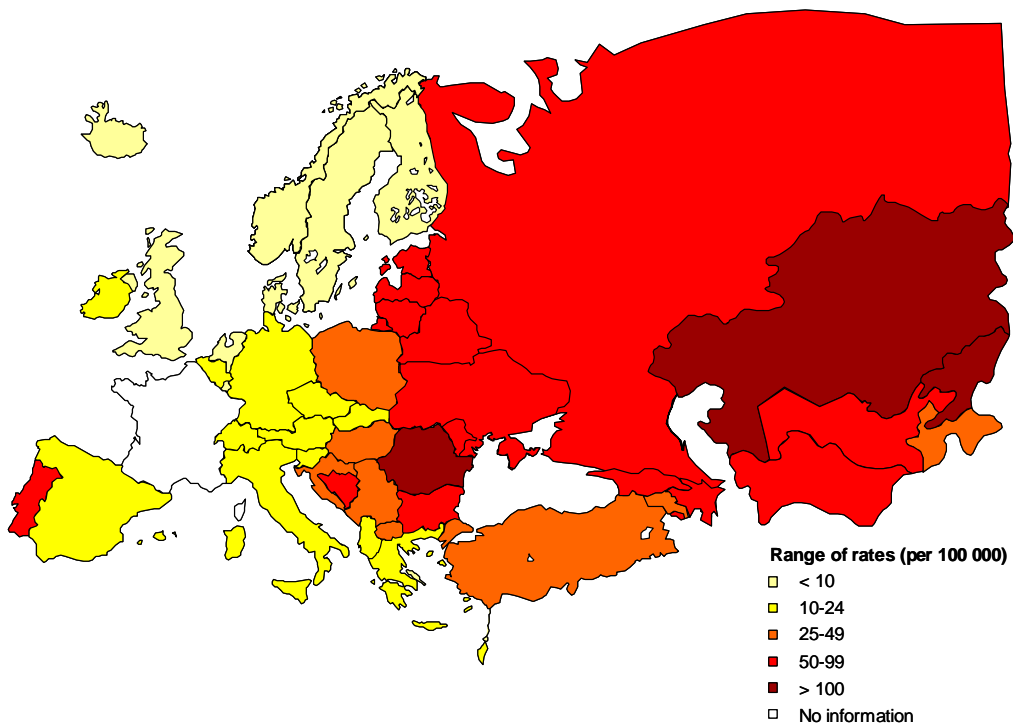
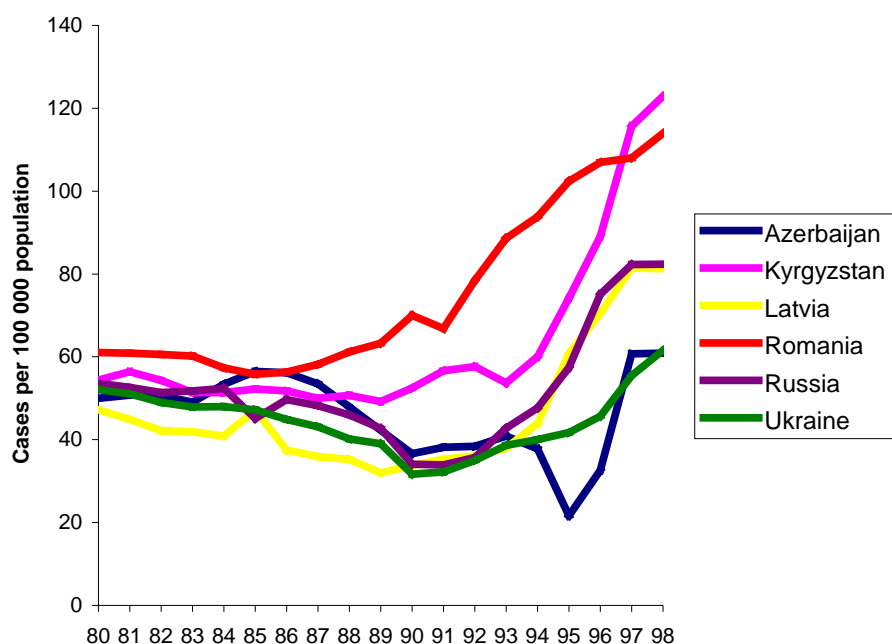


Fig. 3. Tuberculosis case notification rate per 100 000 population in Europe, 1998 (the majority of TB cases occur in the eastern part of the Region)



In the countries of eastern Europe and the former USSR the decline in rates of TB following the Second World War was reversed in the 1980s and 1990s (Fig. 4). Dramatic socioeconomic and political changes are the underlying factors driving the loss of control of TB.

Fig. 4. TB case notification rates (per 100 000 population) in selected countries of eastern Europe and the former USSR, 1980–1998



In Europe the problem of drug resistance parallels the overall situation of TB. In western Europe the median prevalence of primary MDR TB is below 1%. In eastern Europe and the newly independent states (NIS) of the former USSR, irregular drug supplies, a lack of standardized treatment regimens and factors associated with prisons are contributing to an alarming situation in some countries. For example, in the Baltic States drug resistance rates are among the highest in the world (Table 1).

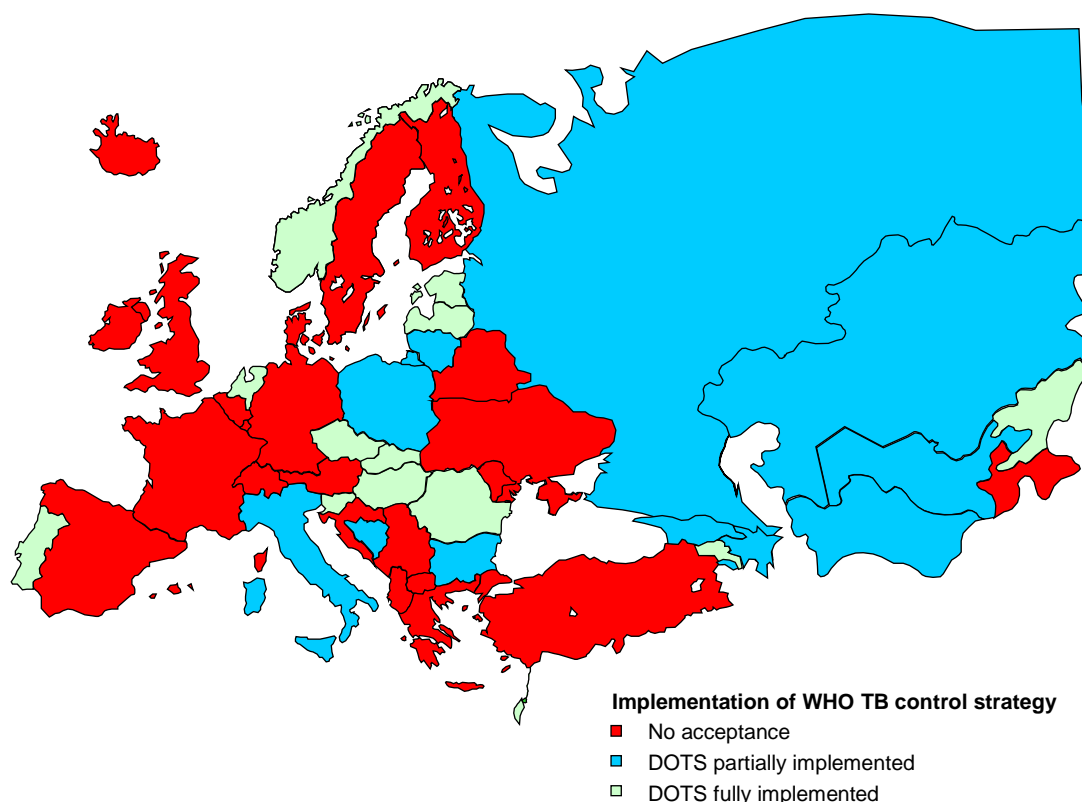
Table 1. Prevalence of primary and acquired drug resistance in selected European countries, 1994–1997

Country	Primary drug resistance		Acquired drug resistance	
	Patients tested	Multidrug-resistant (%)	Patients tested	Multidrug-resistant (%)
Czech Republic	199	1.0	16	6.3
England and Wales	2742	1.1	148	16.9
Estonia	266	10.2	26	19.2
France	1491	0.5	195	4.1
Latvia	347	14.4	228	54.4
Portugal	815	1.7	117	18.8
Romania	1636	2.8	1521	14.4
Russian Federation (Ivanovo oblast)	248	4.0	33	27.3
Spain (Barcelona)	218	0.5	44	20.5

Source: WHO/IUATLD Global Project on Anti-tuberculosis Drug Resistance Surveillance 1994–1997. Geneva, 1997.

The objectives of WHO's TB programme, which mainly focuses on eastern European countries, are to reduce mortality, morbidity and disease transmission and to prevent the development of drug resistance. The targets are to detect 70% of existing cases and to cure 85% of infectious cases. Countries with a low incidence of TB are aiming at elimination of the disease. To achieve these objectives, WHO is advocating the use of DOTS, which the World Bank, in its World Development Report of 1993, described as one of the most cost-effective health interventions available. The extent to which the DOTS strategy is being implemented in the WHO European Region is shown in Fig. 5.

Fig. 5. DOTS implementation status in the European Region, 2000



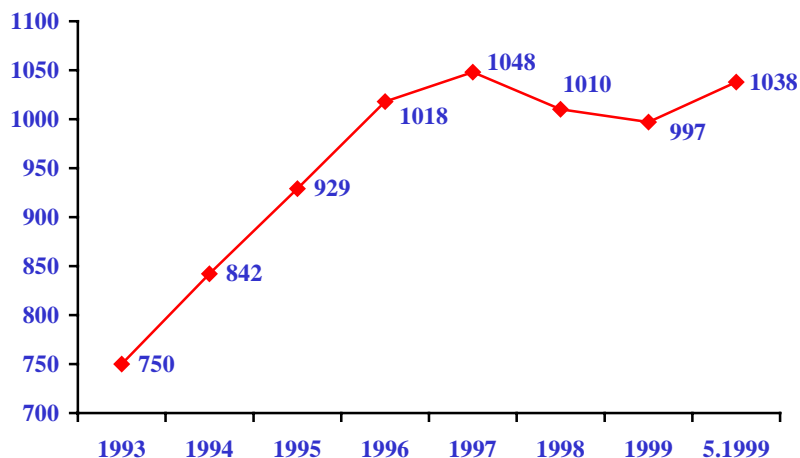
TB in prisons is a particular cause for concern. There are estimated to be 8–10 million prisoners in Europe, and in parts of the continent the number is rising. Many are socially marginalized – alcoholics, dependent on drugs, mentally ill, from ethnic minorities or illegal immigrants. TB rates are rising among some prison populations as illustrated in data from Russian prisons (Table 2 and Fig. 6.)

Table 2. TB incidence in the Russian penitentiary system, 1995–1997

TB incidence per 100 000 prison population	1995	1996	1997
Detainees in SIZO (Pre-trial detention centre)	1119.3	1378.7	1592.0
Rate compared to Russian average	19.3	20.4	21.5
Convicted	2481.0	3395.2	4055.9
Rate compared to Russian average	42.9	50.3	54.9

Source: Abram, ed. *Man and prison*, No. 2, 1999.

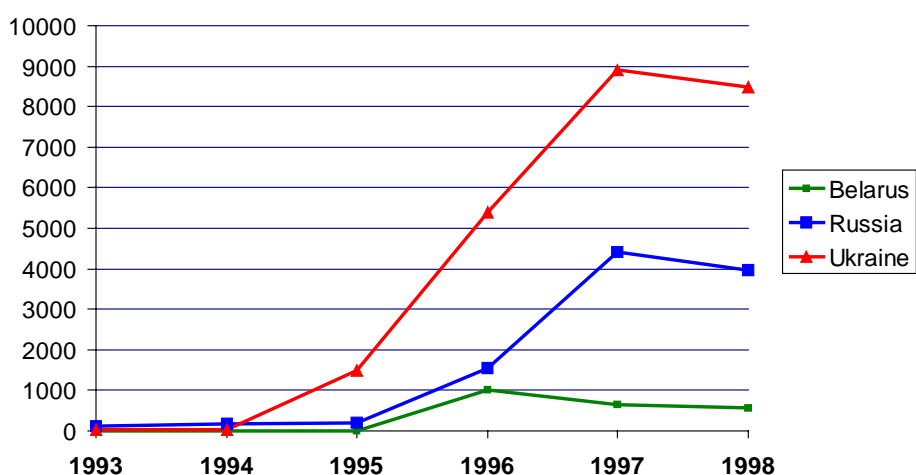
Fig. 6. Number of prisoners in the Russian penitentiary system



The development and spread of MDR TB in prisons is facilitated by many factors including lack of funding, delays in diagnosis, delays in referral for and initiation of treatment, inadequate treatment, frequent transfers, overcrowding and inadequate infection control programmes.

Growth in the incidence of HIV threatens to compound the situation. Although not widespread in much of Europe at present, the incidence of HIV infection is rapidly increasing in much of the former Soviet Union and threatening the already fragile TB programmes.

Fig. 7. Incidence of HIV infection in Belarus, the Russian Federation and Ukraine, 1993–1998



DOTS implementation in Europe

Albania

The social and economic situations in Albania are similar to those in most other former socialist countries. TB case notifications have been increasing since 1992; 698 cases were notified in 1999, an incidence of 19/100 000. However, underreporting and overestimates of the population

size mean that the incidence is likely to be closer to 27/100 000. TB rates in young adults have risen over the past decade, suggesting continuing active transmission. Despite shortages of some drugs MDR TB is not thought to be a major problem. HIV, likewise, is not posing a great problem.

In 1995 Albania established a National Tuberculosis Committee. This Committee adopted the DOTS strategy in 1997, initially in two pilot areas, and in 1999 extended it to Tirana. Problems with the implementation of the strategy have included social unrest in 1997, the question of government commitment, and inadequate resources including insufficient drugs and consumables for laboratories.

A programme of laboratory refurbishment is currently under way, restrictions on the sale of anti-tuberculosis drugs have been introduced, and pulmonologists, general practitioners and laboratory technicians are being trained. Extension of the DOTS strategy to the whole country is planned for July 2000. Political instability, poor motivation and lack of domestic ownership of DOTS are seen as potential future problems with sustainability.

Armenia

TB notification rates have increased steadily over the past decade, although in 1999 they fell for the first time in a decade. With the implementation of the DOTS strategy in mid-1995 treatment success rates began to improve from 85.7% in 1995 to 93.2% in 1998. Compared with 1997, interruptions in treatment have fallen, and the number of patients in treatment who die has declined. The mortality rate of 5.6/100 000 from tuberculosis in 1993 fell to 3.6/100 000 in 1999. The number of new smear-positive cases has increased, however, as has the proportion of smear-positive cases of all pulmonary cases. It is thought this may be related to improved sensitivity of diagnostic approaches.

With support from WHO, medical personnel are being trained, regions equipped with microscopy facilities, and drugs made available. With the DOTS strategy, the time to smear conversion has fallen such that at three months only 20% of patients under DOTS are still smear-positive while over 70% of patients not under the DOTS strategy are still smear-positive. Primary MDR TB rates are 3% of new diagnoses.

Armenia is dependent upon external financial assistance to maintain and develop the national TB control programme. If this support falters the programme is under threat.

The former Yugoslav Republic of Macedonia

Considerable political uncertainty highlighted by numerous changes at ministerial level means that political commitment to TB control is fragile. Recent changes to the organizational structure of care provision and budgetary cuts mean that continuity of care is problematic. These problems are intimately linked to the social and economic instability of the region. TB rates are high, and rates in children show that recent transmission is occurring. Case detection continues to be based on chest X-ray findings and the old system of notification means that little monitoring of treatment is done. With the assistance of WHO and the encouragement of the World Bank, it is envisaged that DOTS pilot projects will begin in September 2000.

Specific problems identified where WHO might be able to offer assistance include enhancement of the notification system, training in and development of the primary health care services, clarification of the role of the TB specialist in the changing programme, and political support.

Italy

The incidence of TB increased in the 1980s, after falling for decades. Recent increases in the incidence of TB are related to AIDS and immigration from higher prevalence countries. Recent changes to the surveillance system resulting from the national health plan (1998–2000) are facilitating (since February 1999) the tracking of patients who are mobile between regions and the coordination of services for them.

Kazakhstan

TB notification rates in Kazakhstan are high and continuing to rise, with very variable patterns in different parts of the country. Some areas have rates as high as 300/100 000 and mortality rates up to and higher than 30/100 000 from TB. Problems of control are encumbered by the geographical isolation of much of the population. In 1998 a decree was issued advancing adherence to the DOTS strategy, and the strategy was implemented across the country in 1999. The reasons for the continuing increase in incidence are unclear. It has been suggested this increase may be due to increased case detection rates.

Since the implementation of DOTS the rate of smear positivity has decreased but rates of TB have continued to rise despite cure rates in the region of 88%. Currently 40 000 patients are covered by standardized regimens with 6000 patients with chronic TB receiving different regimens. Results from the first quarter of 1999 show primary drug resistance rates of 35% with primary MDR TB rates of 5%. Acquired MDR TB rates are 17%. Legal reform now means that treatment is mandatory for TB patients.

Continuing problems with TB control include:

- nutrition for TB patients
- control in prisons
- liaison and coordination between civil and prison authorities
- involvement of primary care services across wide geographic areas
- uncertainty over management of chronic cases
- insufficient equipment
- inadequate resources for training staff
- continuing dependence on fluoroscopy
- uncertainty over the quality of surveillance data.

Greater understanding of the situation might be gained from correlating wider social and economic determinants of health with changes in incidence.

Yugoslavia

TB control is determined overwhelmingly by the influences of war and the continuing crisis in the region. Mass movements of people means that population denominator estimates are very unreliable. It is estimated that the incidence of TB is declining in all age groups except the elderly, and rates in refugees are high. Socioeconomic factors including unemployment, poverty, malnutrition and delayed diagnosis threaten to make the situation worse. Rates of TB have declined but less than would have been expected if the earlier declining trend had been maintained. The rates of bacteriologically-proved cases of TB have increased substantially since 1989.

Problems with TB control include:

- the requirement by many health care services for fees to be paid (although services are officially free at the point of delivery);
- over reliance on X-ray diagnosis;
- late presentation of disease (often because of reliance on X-ray facilities and poor availability of those facilities);
- insufficient political support;
- shortage of drugs.

Influence of health reforms on TB control programmes

Czech Republic

The downward trend for TB notifications has been maintained over the past decade. Incidence rates have fallen from 19.6/100 000 in 1991 to 15.9/100 000 in 1999.

The health service moved from a centralized vertically organized health care system to a decentralized, horizontally oriented system in 1994, which includes eight regions and 86 districts. The health services are state-owned and financed by the Ministry of Health. Obligatory notification of TB cases includes reporting at follow-up 12 months after initial notification. Continuing surveillance through regional consultants assures validity and completeness of notifications.

By focusing on strengthening surveillance it is believed that, even in the face of significant health reform programmes, it is possible to maintain effective TB control programmes.

Kyrgyzstan

The DOTS strategy has been implemented since 1996. This followed support conditional upon two preconditions:

- that health reform was effected
- that the reform should be supported by government funds.

Substantial changes have been made including:

- modification of TB diagnostics from X-ray based to microbiologically-based approaches
- application of the DOTS strategy
- expansion of outpatient services and contraction of bed-based services
- development of a monitoring network to ensure the maintenance of quality and coordination.

These changes have been supported by local cost-effectiveness analyses showing benefits from the DOTS strategy compared with traditional methods. In 1997 the DOTS strategy was extended to the whole country.

The increase in TB rates has slowed down. This is believed to be the result of the DOTS strategy. The priority now is to focus on patients with chronic disease.

The Netherlands

The Netherlands illustrates how health reform can affect TB programmes. Before the 1980s, patients were either referred to dispensaries by their general practitioners or, if they were ill, they were admitted to sanatoria. Population based screening was used based on miniature X-rays. Policy during this period was jointly decided by the Royal Netherlands Association for Tuberculosis Control (KNCV) and the Ministry of Health.

Since 1980 mass miniature radiological screening has ceased, sanatoria have been closed, and ambulatory care through dispensaries has been promoted. Support for TB specialists has been maintained despite declining notification rates, in part because of the standing of the KNCV and the authority this body has to define domestic policy (which is endorsed by the Ministry of Health).

Health reform has meant a shift in service provision, rationalization of policy, and maintenance of the coordination of policy and the control programme by high-level governmental commitment.

Romania

Romania, with a population of 23 million, has endured substantial economic hardship in recent years. In 1995 a centralized vertically organized system was abandoned. Currently there are 850 respiratory physicians working in 46 counties and 4–5 TB units in each county.

Tuberculosis incidence increased from 55.8/100 000 in 1985 to more than 200/100 000 in 1999.

Political uncertainty and frequent changes at ministerial level have resulted in uncertainty over sustained commitment to TB control within the arena of health reform. Confounding this is the development of private primary care practitioners. This is hampering the development of a coordinated, quality-assured TB programme.

Reports on multidrug-resistant TB

Austria

Austria, with a population of approximately 8.5 million people, has about 1400 cases of TB a year. Of these, approximately 50% are proved by bacteriological culture. Culture of specimens and drug sensitivity testing is done through 14 laboratories. Since January 2000 laboratory and clinical data have been collated centrally in one unified database.

Some 95% of all culture-proved TB cases are fully sensitive to all drugs and there have been no recent changes in drug resistance patterns. Resistance to first-line drugs is marginally higher in foreign-born residents compared to Austrian nationals (91% compared to 96% fully sensitive). MDR TB accounts for approximately 0.5% of cases, a proportion which has not changed over the past five years.

Latvia

Latvia has witnessed a dramatic increase in TB and MDR TB rates. In 1990 the incidence of TB was 27/100 000. By 1998 it was 98/100 000. In 1999 there was a decline for the first time since

1989 with incidence rates falling to 68.3/100 000. This increase in incidence has occurred particularly in young and middle-aged men (18–54 years).

Mortality rates from TB continue to be high at 12/100 000. One third of patients die during their first year of illness, two thirds of these within a month of diagnosis. Delays in seeking care and in diagnosis, and MDR TB are the likely causes.

The DOTS strategy was initiated in 1995. In 1997 it was estimated that 91% of hospital patients were covered by the strategy during their intensive phase of treatment, falling to 55% of patients for the continuation phase. The DOTS strategy has since been expanded. Interruptions in treatment and failure rates have decreased from 42% in 1994 to 6.1% in 1998.

MDR TB rates increased dramatically from 1994 to 1998 but have since fallen. The number of cases of primary MDR TB increased from 75 in 1996 to 85 in 1998, and of acquired MDR TB from 166 in 1996 to 188 in 1997 (169 in 1998). Fewer cases of both primary and acquired MDR TB were identified in 1999 (76 and 104, respectively). The high incidence of MDR TB has been ascribed to poor drug availability, poor drug quality in the early 1990s, inappropriate treatment regimens and inadequate case management.

Treatment of patients with MDR TB is through the DOTS-Plus strategy, which began in 1997 and is given in specialized hospitals. Drug costs alone are estimated at US \$5600–6000 per patient.

Russian Federation

Incidence rates of TB started climbing in 1995. Part of this increase can be ascribed to artefact because, for the first time, TB in prisoners and migrants was counted in the official figures. Incidence rates in 1997 reached 73.9/100 000 and the most recent figures suggest incidence rates of 85.2/100 000. TB has hit young adults especially; the rates in young women have almost doubled since 1994. This is creating considerable anxiety since it appears that TB is moving out of its historical “niches” of prisons and the marginalized. The rise among young women, it was suggested, was consequent on economic change not affecting major employers of females (the defence industries) and stress associated with poverty.

Figures presented at the meeting suggested that, overall, the rates of MDR TB were believed to be in the order of 1.9%, and that 6.7% of smear-positive pulmonary TB patients have MDR TB. There is considerable variation between *oblasts*. Figures relating to the benefits of treatment showed that 82.1% of patients were sputum-negative by 4 months while 17.9% remained sputum-positive. There was little correlation between treatment efficacy and rates of occurrence of MDR TB. Various reasons were postulated for this anomaly, including the possibility of laboratory errors and the unreliability of data.

Other problems identified included:

- the management of those with suspected MDR TB;
- the harmonization and coordination of prison and civilian care;
- controlling spread within congregate settings (SIZOs and prisons in particular);
- resolving tensions related to adoption of a “developing” world strategy;
- concerns regarding amplification of MDR TB by adoption of WHO guidelines where rapid sensitivity analysis was not available;

- concerns that the DOTS-Plus approach is dependent on expensive and fast laboratory analysis;
- the management of individuals suspected of (but not proved) MDR TB;
- the need for decrees to be of a practical nature.

Summary of international partners' collaborative experiences

International Federation of Red Cross and Red Crescent Societies

The International Federation of Red Cross and Red Crescent Societies (IFRC) has been involved in assisting TB control efforts in eastern Europe for a number of years, including Belarus, the Republic of Moldova, the Russian Federation and Ukraine, and in the prison systems of Georgia and Azerbaijan. In partnership with WHO and ministries of health, it advocates the DOTS strategy and health reform. In addition, it promotes the development of civic societies.

Its work in relation to TB control has focused on measures to enhance early case detection and referral, and supporting laboratory development and training. Following diagnosis it has been assisting patient follow-up through the promotion of community public health nurses. It also offers assistance and social support to patients with TB and their families.

International Union against Tuberculosis and Lung Disease

The International Union against Tuberculosis and Lung Disease (IUATLD) is active in more than 20 countries including Azerbaijan, Georgia, the Russian Federation and the Baltic States. It focuses on the development of collaborative research to enhance TB control programmes, and support for local research and education including newsletters, conferences and publication of its journal.

Finnish Lung Health Association

The Finnish Lung Health Association (FILHA) has been involved in collaboration related to TB control in many countries including China, Somalia and Tanzania. In Estonia and Latvia it has been particularly active over the past decade including assisting in TB training programmes in collaboration with WHO and IUATLD. Recently, FILHA has started working with colleagues in St Petersburg, Russian Federation, and is offering laboratory and clinical support. Other sites of activity include Murmansk, Karelia and the Leningrad *oblast*.

Norwegian Heart and Lung Association

Originally a patients' organization, the Norwegian Heart and Lung Association has been offering assistance to a number of countries related to TB control including Namibia, the Russian Federation and Senegal. The Association plays a supporting and coordinating role. In the Russian Federation it has concentrated on the Arkhangelsk *oblast*. The DOTS strategy is being implemented in both civil and penal settings.

Médecins sans Frontières

Since June 1995 Médecins sans Frontières has been working in the Kemerovo region in the Russian Federation, starting and continuing in the penal system. It has provided personnel training and laboratory support. One of the aims is to facilitate a sustainable domestic TB control programme locally.

The Royal Netherlands Association for Tuberculosis Control

With 43 staff, including 10 professional staff members, the Royal Netherlands Association for Tuberculosis Control (KNCV) works closely with national and international agencies, including WHO and IUATLD. The fields of activity KNCV is particularly involved in include the development of policy, enhancement of surveillance, support for the national TB programme and training. In Europe it is currently assisting TB control programmes in Georgia, Kazakhstan, Poland, the Russian Federation (Novgorod *oblast*) and the former Yugoslav Republic of Macedonia.

Centers for Disease Control and Prevention

Although the Centers for Disease Control and Prevention (CDC) is primarily a US domestic agency, the new Director of the agency explicitly provided a mandate for international support in 1998. Support is offered to a large number of countries across the globe. In Europe, assistance with TB control is being provided to Latvia, Kazakhstan and the Russian Federation. In the latter, CDC works in partnership with the US funding agency, USAID, and with WHO, the Central TB Research Institute in Russia, and local TB control staff in *oblasts*.

The Nordic School of Public Health

The School works in collaboration with several agencies. Its principal focus of activity is on research and human resource development. In March 2000, the School and WHO organized a workshop on TB control, focusing on the Baltic states, the Russian Federation and Ukraine.

Deutsche Gesellschaft für Technische Zusammenarbeit

Supported by the German Ministry of Internal Affairs, the Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) began to help with the establishment of three pilot projects in the Russian Federation in August 1999. Two projects are in the pre-preparatory phase and it is anticipated they will start in July and October 2000 and a third is further advanced. Financial support goes towards drug procurement, laboratory equipment and training of laboratory staff and clinicians along with capacity-building among health personnel.

Doctors of the World

The objectives of Doctors of the World include decreasing mortality, morbidity and suffering and ensuring that patients' human rights are respected. The organization has been working in Kosovo since 1992 and supports the implementation of the Kosovo TB Control Action Plan based on the WHO DOTS strategy, which was launched in March 2000. The main focus of activity is on management-operational support, procurement of drugs, strengthening laboratories by supplying equipment, training and ensuring quality control, supporting patients, and public education.

Summary of working group discussions

Working group discussions centred on issues relating to the implementation of the DOTS strategy in Europe, including problems which were hindering progress and approaches to overcoming them. The influence of health care reform on TB control, the relative benefits and disadvantages of vertical TB control programmes versus primary health care-based programmes, the effect of a developing private sector, the decentralization of TB programmes, and the impact of integrating TB care in primary health care settings were debated. The magnitude of the problem of MDR TB was discussed together with issues surrounding surveillance programmes

and their quality, and the DOTS-Plus strategy as a model to counter the rise in the number of cases of MDR TB. Three groups discussed these topics over a period of approximately six hours and each drew up a series of recommendations. These recommendations formed the basis for discussion of the finally agreed recommendations.

Implementation of the DOTS strategy

Several obstacles were hindering the implementation of the DOTS strategy. These included:

- a lack of government commitment to the strategy;
- clinicians' resistance to changes in diagnostic and treatment practices;
- "DOTS allergy" – a reluctance to recognize the potential merits of a strategy which is perceived to have been developed for the developing world;
- economic hurdles;
- problems with integration of the strategy into a health care service undergoing reform;
- infrastructural hindrances such as weak transport systems;
- penal systems, including pre-trial detention and lack of coordination with civil health services, which hinder TB control;
- occasionally erratic drug supplies;
- some unconstrained access to anti-tuberculosis drugs;
- concern over the ethics of DOTS.

Of the possible responses to these problems, training was seen as very important. This, it was suggested, should be multidisciplinary and include medical staff, civil TB control staff and prison staff. In addition, greater public awareness should be encouraged.

WHO should offer clear specific advice regarding the organization of the interface between primary care and TB specialists under the DOTS strategy. In addition, WHO should play a greater role in the coordination of external supporting agencies. For example, the Russian participants in the meeting were unaware of GTZ's activities in their country.

Influence of health reform on TB control

Problems relating to health reform and TB control included the following:

- perverse incentives arising from the development of private health care, which hinder quality TB services;
- problems in coordinating care between TB specialists and other health care providers;
- tensions between centralization and decentralization of services;
- concerns that external agencies may inadvertently cause harm in knock-on effects;
- the dwindling part of medical education formed by TB;
- weak domestic advocacy for TB-specific issues;
- continued reliance on mass X-ray screening.

Potential solutions included:

- regulation of the private sector;
- free treatment for TB at the point of access;
- a move to outpatient-based care;
- adoption of international standards of programme monitoring;
- development of domestic NGOs, which should be encouraged to form alliances with existing NGOs (e.g. the Red Cross, HIV groups, ex-prisoners' groups);
- centralization of TB expertise.

Multidrug-resistant TB

Problems identified by the working groups in the control of MDR TB included:

- uncertainty regarding surveillance data
- lack of standardization between laboratories
- lack of outcome data
- irregular treatment consequent upon irregular availability of drugs
- lack of a legislative framework facilitating adherence to treatment
- expense of treatment
- lack of funding for control programmes.

Potential solutions included:

- standardization of laboratory culture and sensitivity analyses;
- institution of standardized national surveillance systems;
- adherence to standardized definitions of “new case”, “primary” and “acquired” drug resistance, etc.;
- evidence-based institution of DOTS-Plus strategies;
- wider use of culture and sensitivity testing.

The working groups also asked:

- whether patients with MDR TB should be separated from other TB patients;
- whether the solution to MDR TB control is individualized treatment or treatment primarily based on local resistance patterns;
- what is the place of surgery.

Recommendations

1. Governmental support (financial, legal, existence of coherent national and local TB policies) is vital for effective implementation of a comprehensive TB programme. While reforming their health care, the governments of the Member States should give priority to defining the implementation of sound TB control programmes based on WHO and IUATLD recommendations, and assure the proficiency of TB control efforts by adapting the basic structure of the programme for efficient implementation.
2. All Member States should adopt the internationally recommended TB control strategy, accelerate its implementation by appointing national TB leaders and draw up a plan of

- action with a corresponding budget. National health care ministries and/or authorities should review their approach to TB diagnosis, treatment and monitoring in compliance with WHO recommendations.
3. All national TB programmes must have strong leadership and be supported by an interdisciplinary team. The programme manager should be responsible for ensuring the implementation of all the components of the programme, including continuing training, surveillance, quality assurance, supervision and monitoring, and clinical and laboratory services.
 4. Health care structures should be strengthened and health sector reform should be implemented step by step without jeopardizing the existing TB network. Decentralization should aim to include all sectors (public/private/NGOs, etc.), ensure that they follow the national TB guidelines and regulations and cooperate with each other, and guarantee that all aspects of the TB programme (prevention, diagnosis and treatment) are available and free of charge.
 5. National TB programmes should ensure that medical services in all health care sectors (primarily the civil and penal sectors) are integrated, and that the specialized TB services are integrated with the general health care system. In order to implement modern TB treatment regimens, governments should ensure centralized supply with first-line TB drugs of acceptable quality and in sufficient amounts. With regard to drug-resistant TB, the first priority from a public health perspective is prevention of MDR TB through an effective and comprehensive TB programme.
 8. The introduction of any MDR TB programme should be considered only in areas where a national TB programme has proved effective, according to internationally recommended guidelines. This should include a well functioning, quality-assured laboratory network, an information management system, clinical expertise and an evidence-based management strategy for drug-resistant TB patients.
 9. The governments of the Member States, WHO and international agencies should urgently address the issues relating to the protection and support of health care personnel involved in TB control.
 10. International partnerships and collaboration are essential to support and improve TB programmes in a number of WHO European Member States.

Annex 1

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