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#### TUBERCULOSIS, HIV/AIDS AND MALARIA

This document contains an overview of the epidemiological trends and current situation in WHO's European Region with regard to tuberculosis, HIV/AIDS and malaria. The DOTS Expansion Plan to Stop TB in the WHO European Region 2002–2006 and three draft resolutions are attached to this document, for consideration by the Regional Committee.



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## Introduction

1. Communicable diseases, which account for 25% of deaths worldwide each year, lead to widespread suffering, impose financial hardship, marginalize the poor, and hold back economic growth and improvements in living standards. Among these diseases, tuberculosis (TB), HIV/AIDS and malaria together cause nearly 6 million deaths per year worldwide, resulting in immeasurable suffering and damage to families, communities and economies.

2. In WHO's European Region, TB rates have increased by 60% during the past ten years. At the end of 2001, it was estimated that 1.56 million people were living with HIV/AIDS, compared with 420 000 two years before. With regard to malaria, it is estimated that 1.5 million people are infected.

## Situation analysis

### Tuberculosis

3. In 2000, 369 935 new TB cases were reported in WHO's European Region, compared with 231 608 in 1991. Most of these cases occurred in eastern Europe and the newly independent states of the former Soviet Union (NIS), where TB is increasing alarmingly. Case notification rates have doubled in practically all NIS since 1990, and in the Russian Federation the rates have tripled. In 2000, all NIS except Armenia and Tajikistan reported more than 50 TB cases per 100 000 population. Kazakhstan, Kyrgyzstan and Romania reported 160, 126 and 122 TB cases per 100 000 population respectively. These figures are to be compared with those in western and some central European countries (e.g. the Czech Republic, Slovakia and Slovenia), where most countries report less than or about 20 TB cases per 100 000 population. In contrast to the western part of the Region, the majority of TB cases in the eastern part occur in the economically active segment of the population. In addition, multidrug resistant TB (MDR TB), which is more difficult and almost 100 times more expensive to treat, is spreading in the Region. The highest levels of MDR TB in the world are found in Estonia, Latvia and the Russian Federation. Although TB rates are low in western European countries (except Portugal and Spain), they are not decreasing. Broadly speaking, TB rates are low in the general population but high in immigrants from high-prevalence countries and in vulnerable groups such as the homeless, alcoholics, drug users and HIV-positive people.

4. The current TB situation in eastern Europe and the NIS reflects the complexity of political and socioeconomic change. Data from the NIS show that risk factors for TB include unemployment, malnutrition, alcoholism, a history of incarceration and homelessness.

5. In WHO's European Region there is a significant relationship between TB and poverty. All countries with a TB incidence rate of more than 70 cases per 100 000 population (14 countries) have a GNP per capita of below US \$2700, and all countries with a TB case notification rate of below 15 cases per 100 000 population (9 countries) have a GNP per capita of more than US \$24 000. Only two among the 51 countries in the Region, Spain and Portugal, do not follow the trend with regard to GNP per capita and TB incidence, since these countries have a high TB incidence rate in relation to their GNP. This may be because Spain and Portugal are the only countries in the Region where HIV has started to have a major impact on the TB epidemic.

### HIV/AIDS

6. Out of an estimated 1.56 million people living with HIV/AIDS in WHO's European Region at the end of 2001, 1 million live in eastern Europe and central Asia.

7. The epidemiological situation in Europe is heterogeneous. Eastern Europe continues to experience the fastest-growing epidemic of HIV infection in the world (in some of the countries, the number of infected people is doubling every 9 to 12 months), and there is evidence of newly increasing rates of HIV

infection in western Europe. The number of reported HIV infections in the Region increased by more than 1300% between 1996 and 2001.<sup>1</sup> Based on recent data, Ukraine has reached the level of a generalized HIV/AIDS epidemic, which means that HIV prevalence is over 1% in the general population and over 5% in high-risk groups. A number of other countries are steadily progressing towards that level.

8. Despite this explosive spread, the epidemic in eastern parts of the Region is still at an early stage; the numbers of newly reported AIDS cases remain low but are increasing. This makes the epidemic somewhat “invisible”, and it is expected that the number and rates of AIDS cases will start to go up rapidly in the near future, which will put significant pressure on national governments to respond appropriately to the growing health, economic, social and political consequences of the epidemic.

9. The HIV/AIDS epidemic is still “brewing” predominantly within so-called vulnerable or marginalized groups, i.e. not only injecting drug users and sex workers but also men having sex with men, prisoners, migrants and others. Reports from western Europe show that transmission rates are fairly stable among high-risk groups, even though the numbers of heterosexually transmitted infections is on the rise as well. Central and south eastern European countries, with some exceptions, have a low level epidemic of HIV/AIDS.<sup>2</sup>

10. On average, 75% of all new HIV cases in eastern Europe are among injecting drug users (IDUs). Seventy-seven per cent are men and 84% are under the age of 30 years.

11. It is estimated that at least 1% of the population in the NIS inject drugs,<sup>3</sup> and IDUs make up the overwhelming majority of people living with HIV/AIDS in eastern Europe. A significant part of the IDU population is already HIV-positive (up to 19% in Armenia, 8% in Latvia, and from 20% to over 50% in cities in Belarus, the Russian Federation and Ukraine, etc.).

12. Reported data show that eastern Europe is also affected by an epidemic of other sexually transmitted infections (STI). While rates have decreased or stabilized since 1999, they remain many times higher than ten years ago or than those in central and western Europe today. An STI epidemic indicates widespread unsafe sexual behaviour, which is a major risk factor for HIV infection.

13. It is characteristic of countries of central and eastern Europe (CCEE) that a growing number of very young people are either IDUs or HIV-positive or both. Over 2% of all newly diagnosed HIV cases in the NIS in the first six months of 2001 were younger than 13 years, and almost 20% were between the ages of 13 and 19. Up to over 50% of all IDUs in the NIS are under 25 years.

14. Sex workers in the Region are even younger than IDUs; some sources suggest that up to 80% of all sex workers are under the age of 25, and this figure is even higher among minorities, such as the Roma. They inject drugs disproportionately more often than the general population, STI and HIV are more prevalent among them, and they are the most important link between IDUs and the general population.

15. There are no reliable estimates of the numbers of sex workers in central and eastern Europe. For example, recent efforts by the WHO Regional Office for Europe to collect this kind of information from the Russian Federation resulted in figures ranging from 7000 to 70 000 sex workers in the Moscow region alone. However, limited studies have found that 25% of commercial sex workers in Vilnius are IDUs, compared to 31% of those surveyed in Moscow. Sex workers, together with sex partners of IDUs, represent a significant channel of HIV transmission to the general population.

16. The numbers of newly reported HIV infections among men having sex with men and through transfusions are relatively low and have remained steady over the years, but it is suspected that HIV infections in this group remain significantly undiagnosed.

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<sup>1</sup> WHO data, February 2002.

<sup>2</sup> Prevalence is less than 5% in high-risk groups, and less than 1% among pregnant women.

<sup>3</sup> UNAIDS/WHO – AIDS Epidemic Update, December 2001.

17. The numbers of new infections through heterosexual contact and mother-to-child transmission are rising steadily. Rates of HIV/AIDS and STI are dramatically higher in penal institutions, and injecting drug use is also a serious problem in the prison system, even though there are very few data available. Studies in recent years estimated HIV prevalence in Ukrainian prisons, for example, at around 6%.<sup>4</sup> In the Russian Federation, 2% of all HIV-tested prisoners were positive in the first six months of 2001.<sup>5</sup>

18. The deteriorating situation in eastern parts of the Region is aggravated by the prevailing socioeconomic factors, which lead to conditions that are well known to increase the risk of sexual HIV transmission, such as poverty, sex work, migration, trafficking of women and lack of social cohesion.

## Malaria

19. Out of a total population of 873 457 500 people in WHO's European Region, it is estimated that between 70 and 80 million are currently at risk of malaria. Despite a significant reduction in reported incidence in the period 1995–2001, the magnitude of the malaria problem in the Region cannot be reliably assessed on the basis of the official data available, since it is thought to be much greater than the statistics would indicate. Regional estimates of the number of malaria-infected people are close to 1.5 million. In Turkey, for example, it is generally accepted that the actual magnitude of the malaria problem, as measured by the number of cases, is considerably greater than that reported. In Tajikistan, the total estimate of symptomatic and asymptomatic cases of malaria may approach 300 000 to 400 000.

20. The current situation is complicated by the resumption of *Plasmodium falciparum* malaria transmission in Tajikistan and its spread across the country. Turkey remains a country where the incidence of malaria remains relatively high, and more than 15 million people, or 23% of the total population, reside in areas where malaria is endemic. Taking into account the gravity of the malaria situation in neighbouring Afghanistan and Tajikistan, there exists a very real threat that malaria may assume greater proportions in Uzbekistan. Recent trends also suggest that malaria is assuming epidemic proportions in Georgia. Conditions favourable for malaria transmission exist in nearly 52% of the whole territory of the country, where 93% of the population lives. A recent outbreak of malaria in Bulgaria and sporadic autochthonous cases of malaria reported in Greece and Italy, where malaria had been eradicated, are stark examples of the risk of malaria occurrence if the public health system lowers its vigilance.

21. Malaria, underdevelopment and poverty are closely linked. In the countries of WHO's European Region with large malaria-endemic regions, such as Tajikistan and Turkey, the prevalence of malaria infection most probably correlates with poverty.

## Strategy

### Tuberculosis

22. In 1995, WHO in collaboration with international partners started to support the implementation of the directly observed treatment – short course (DOTS) strategy in the Region. DOTS is a proven strategy for effective TB control and has five key components: (i) political commitment at all levels for TB control activities; (ii) case detection by sputum smear microscopy or culture among symptomatic patients self-reporting to health services; (iii) standardized short-course chemotherapy under direct observation; (iv) regular, uninterrupted supply of all essential anti-TB drugs; and (v) a standardized recording and reporting system that allows assessment of case-finding and treatment results for each patient and of the TB control programme's performance overall.

23. DOTS is among the most cost-effective of all health care interventions available to low- and middle-income countries. The strategy has also proven to be cost-effective in WHO's European Region.

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<sup>4</sup> Bollini, P. (ed). *HIV in prisons*. Copenhagen, WHO Regional Office for Europe, 2001.

<sup>5</sup> Federal AIDS Center, Russian Federation, 2001.

In 1997, an economic evaluation in Armenia confirmed that the DOTS strategy was more cost-effective than the TB control strategy used previously. A similar evaluation conducted in Ivanovo *oblast* in the Russian Federation concluded that the cost per cured case of TB using the DOTS strategy was US \$1626, while with the former traditional strategy it was US \$6293.

## HIV/AIDS

24. The pattern of HIV transmission, the STI epidemic and significant rates of TB infection (including MDR TB) occurring at the same time create the potential for significant outbreaks of sexually transmitted HIV infections in the near future, and in a few years may lead to a large-scale and generalized HIV/AIDS epidemic. There is therefore an urgent need to dramatically scale up current responses in Europe at national and international levels.

25. In the context of the current epidemiological situation, WHO's overall strategy is to reduce the transmission of, the vulnerability to, and the impact of STI and HIV/AIDS. In other words, WHO aims to help countries to prevent the spread of the epidemic by lowering the risk of HIV transmission, to prolong and improve the quality of life for persons living with HIV/AIDS by treatment and care for HIV/AIDS and related morbidity, disability and mortality, and to alleviate the impact of the epidemic by promoting enabling health sector policies and institutional environments.

26. A successful response to the current epidemic therefore has to:

- Immediately provide large-scale targeted interventions for high-risk groups – injecting drug users and their sex partners, sex workers, men having sex with men, prisoners, migrants and minorities;
- Simultaneously prepare and develop the capacity of the health care sector to respond to the imminent widespread, sexually transmitted epidemic.

## Malaria

27. WHO's Regional Office for Europe has committed itself to an intensive response to the burden of malaria, and by 1999 it had developed a regional strategy to Roll Back Malaria (RBM) in affected countries of the Region. The ultimate goal for the European Region is to interrupt the transmission of malaria, particularly *P. falciparum* malaria, by 2010. The Regional RBM Programme addresses malaria-related issues by: (1) expanding and intensifying country-level partnerships, which are supported by regional and global partnerships and the necessary technical assistance and back-up; (2) enhancing national capacities for decision-making; (3) improving capacities for early diagnosis and radical/prompt treatment; (4) strengthening capacities for the early detection, containment and prevention of outbreaks/epidemics; (5) promoting cost-effective and sustainable preventive measures, including vector control; and (6) strengthening surveillance and operational research capabilities.

## Response

### Tuberculosis

28. In 1995, before WHO started to actively promote sound TB control in the Region, only six out of 51 countries were using the DOTS strategy, compared with 34 countries today. Among the CCEE and the NIS, only two countries have not adopted the strategy. However, on average only 17% of the population in the Region is currently provided with services using the DOTS strategy. Although DOTS population coverage is still low in CCEE and NIS, most countries have started to implement the strategy, while in the majority of western European countries the strategy has still not been adopted.

29. Examples of DOTS successes in the Region are better cure rates, a significant drop in TB mortality in some countries, and a decrease in acquired MDR TB in Latvia.



30. The Amsterdam Declaration in 2000 and the Washington Commitment to Stop TB in 2001 have endorsed the need for rapid acceleration of DOTS expansion to reach the targets set by the World Health Assembly for 2005 (70% detection of infectious cases and 85% treatment success) and the goals for 2010 (50% reduction in mortality and prevalence) set out in the Global DOTS Expansion Plan. Most countries in the eastern part of the Region are unable to sustain their TB control programmes without external human and financial resources. In order to coordinate TB control activities, the DOTS Expansion Plan to Stop TB in the WHO European Region 2002–2006 has been developed. This was discussed and approved at the 12<sup>th</sup> Meeting of the Interagency Coordinating Committee focusing on tuberculosis in January 2002. Document EUR/RC52/9 Add.1 is submitted to the Regional Committee for consideration and approval.

## HIV/AIDS

31. WHO's European Region has not been a priority geographic area for global efforts to address the STI/HIV/AIDS epidemic. However, the sharp increase in new cases emerging in recent years requires an immediate and large-scale response by national health care systems. Key elements for an appropriate response will be to develop and maintain strong national and regional political support, as well as to mobilize new sources of funding for the development and implementation of appropriate public health interventions.

32. Appropriate and rational, evidence-based public health policies in response to the STI/HIV/AIDS epidemic should provide access to information, to preventive services (e.g. condoms, family planning, voluntary and confidential testing and counselling), and to widely available, affordable and effective treatment and care for people infected and/or living with STI/HIV/AIDS.

33. It is also necessary to promote ethical legislative and normative activities that conform to the highest standards of civil and human rights, that protect privacy and dignity, and which will also stimulate high-risk populations to seek assistance from the health care sector.

34. Vulnerable groups, such as IDUs, men having sex with men, sex workers, young people and prisoners, are at greatest risk of acquiring STI/HIV/AIDS, and they in turn represent a significant source of infection for the general population. As marginalized populations, they have limited access to health care services and need specific approaches and community-based outreach services.

35. Harm reduction programmes, primarily needle exchange projects (NEP), are the best known preventive intervention aimed at IDUs, who are still the main high-risk group in Europe. Numerous mathematical models of the impact of needle exchange projects support the suggestion that NEPs can prevent significant numbers of infections among clients of the programmes, their drug and sex partners, and their children. In almost all cases, the cost per HIV infection averted is far below the lifetime cost of treating an HIV-infected person. However, the majority of studies of NEP clients demonstrate decreased rates of HIV drug risk behaviour, but not decreased rates of HIV sex risk behaviour. This clearly indicates the need to supplement NEPs with additional services, such as voluntary counselling and testing (VCT), condom promotion and distribution, referrals to STI and opportunistic infection treatment, etc.<sup>6</sup>

36. The national blood transfusion system in each country has to serve as a barrier to STI/HIV transmission through blood and blood products. Ensuring safe blood and blood product supply is one of the basic public health functions of any national health care system.

37. Vertical HIV transmission can be prevented and/or reduced through a series of interventions at primary health care level. Primary prevention encompasses the availability of sexual health and family planning services for women of childbearing age, and access to safe abortions for pregnant women living with HIV/AIDS. Secondary prevention ideally includes full anti-retroviral (ARV) therapy for HIV-positive pregnant women who decide to maintain their pregnancy, as well as for their babies, and access

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<sup>6</sup>The public health impact of needle exchange programs in the United States and abroad – Summary, conclusions and recommendations. University of California School of Public Health, 1993.

to safe alternatives to breastfeeding. As a minimum, every country should be able to provide short-term ARV treatments that are known to reduce mother-to-child transmission of HIV in the pre-, intra- and post-partum periods.

## Malaria

38. The international and political attention that has been mobilized in recent years in malaria-affected countries of WHO's European Region has been translated into real commitments and actions. Armenia, Azerbaijan, Georgia, Tajikistan and Turkey, supported by WHO and other RBM partners, have managed to get their country RBM partnership movements off the ground.

39. Strong political commitment to tackle the disease at national level, intensive support from WHO (both at headquarters and at the Regional Office for Europe), a high level of advocacy for action against malaria, and a broad Roll Back Malaria partnership, along with considerable financial assistance and a sharp focus on the local malaria situation and the needs of countries, have brought about a substantial reduction in the reported incidence of malaria in the Region in recent years. Between 1999 and 2001, the reported number of malaria cases in the Region declined from 37 168 to less than 25 000. It is worth noting that the future malaria situation in the Region is heavily dependent on what will happen in Turkey, taking into account its history of explosive malaria epidemics, and in Tajikistan, where there are insufficient resources to tackle the malaria problem.

## Challenges

40. Common challenges for all three diseases.

- TB, HIV/AIDS and malaria should be recognized as major impediments to social, economic and health development in WHO's European Region;
- Assistance should be provided to countries so that they can build up their capacity to plan, implement, manage and evaluate TB, HIV/AIDS and malaria programmes, including the development of action plans and budgets;
- Country coordination mechanisms, as required by the Global Fund for AIDS, Tuberculosis and Malaria (GFATM), should be established with broad representation from government agencies, nongovernmental organizations, community-based organizations, private sector institutions, and bilateral and multilateral agencies, in order to identify how much is currently being spent on controlling the three diseases, as well as how much additional funding is needed;
- Support should be given to countries to mobilize funds from the GFATM;
- The prevention and care of tuberculosis, HIV/AIDS and malaria should become an integral part of primary health care and a major contributor to the overall development of national health systems;
- Effective collaboration between TB and HIV/AIDS prevention and care programmes should be enhanced, promoting the increased use of all appropriate interventions, including VCT and community-based initiatives in education, care and support.

## Tuberculosis

41. The DOTS strategy needs to be expanded urgently to all European Member States, including western European countries, to reach the goal of TB elimination and the global TB targets as set by the World Health Assembly, in order to reverse the current increasing trend, and to prevent the spread of MDR TB. In countries with high MDR TB rates, the DOTS Plus strategy should be implemented for the management of MDR TB.

42. As a result of the current epidemics of TB and MDR TB in prisons in the NIS, there is an urgent need to implement the DOTS strategy, and it is crucial to integrate TB control in prisons with TB control in the civilian sector.

43. The rapidly growing HIV epidemic in the NIS could fuel a TB/HIV co-epidemic. In spite of the clear interrelationship between TB and HIV, prevention and control programmes are still not cooperating to the extent necessary at country level. Increased efforts must be made to bring these two programmes into full collaboration.

44. As part of current health sector reform processes, TB control services should be prepared to become decentralized and integrated with primary health care.

45. TB control is not a problem of individual countries and must be addressed as an international emergency. Collaboration between countries and the assistance of the international community and donors to low-income countries are therefore crucial for controlling the TB and MDR TB epidemics in the Region.

## HIV/AIDS

46. The main challenges to the successful prevention and control of STI/HIV/AIDS epidemics are:

- Insufficient awareness and understanding of the consequences and impact of the epidemic in the years to come;
- An insufficient level of sustainable political commitment to address the epidemic and its consequences, including hesitation to appropriately reallocate resources within the national health sector;
- Insufficient increases in outside assistance to low- and middle-income countries in need in WHO's European Region;
- A lack of determination to introduce affordable and effective, but sometimes politically controversial, preventive and control measures, such as condom distribution, sex education, harm reduction interventions, etc.;
- Insufficient capacity of national health sectors to provide widely accessible and appropriate preventive, treatment and care services for people living with STI/HIV/AIDS;
- A lack of detailed and sophisticated surveillance data, which prevents the development of effective strategies to deal with the epidemic, makes planning of services impossible and precludes the allocation and deployment of appropriate medium- and long-term resources.

## Malaria

47. The toll of the regional burden of malaria is underestimated. The overall malaria potential is undoubtedly as great now as it was prior to the year 2000, especially in south-eastern Anatolia, where the incidence and prevalence of malaria is the highest in Turkey. Surveys recently conducted by WHO in the southern part of Tajikistan, an area bordering Afghanistan, have shown that the burden of malaria in the Khatlon Region (the most affected area of WHO's European Region), with a total population of nearly 2.2 million people, may be estimated at 150 000 to 250 000 malaria carriers.

48. The situation in the Region is complicated by the magnitude of the malaria problem and the further spread of *P. falciparum* malaria in Tajikistan. The incidence and prevalence of malaria remain relatively high in Turkey, where a quarter of the total population still live in malaria-endemic areas. Malaria is assuming epidemic dimensions in Georgia and Uzbekistan year by year. There is a real threat that the extent of cross-border malaria-related problems may become greater in the Region in years to come. There is a potential threat of the re-establishment of malaria transmission in Balkan and neighbouring countries.

49. The countries' national malaria control programmes are presently faced with a number of problems and constraints in the implementation of anti-malaria activities: (1) poor national capacities for early diagnosis and radical treatment of malaria; (2) a lack of emergency preparedness for malaria epidemics, including acute shortages of insecticides and equipment for vector control; (3) a shortage of qualified technical staff and their inadequate knowledge of and skills in malaria control and prevention; (4) a lack of malaria surveillance, particularly at the grassroots level; (5) a lack of knowledge of and skills in the prevention of malaria in the community, and (6) the limited financial resources invested in malaria control by governments. Generally speaking, the services responsible for malaria control are well aware of the problems and constraints they face, and of possible remedial actions. Although they are striving to implement effective control measures, they are limited by a shortage of resources, particularly for vector control.

50. The annual RBM regional programme requirements (the level of input required to see a visible impact by the project in malaria-affected countries of the Region) are estimated at US \$5–6 million. The inadequacy of funds provided will limit the scope of project activities.