



EUR/TB/FS01
3 September 2007

Background information about tuberculosis

Tuberculosis (TB) is a contagious disease caused by *Mycobacterium tuberculosis*. Like the common cold, it spreads through the air. People who are ill with pulmonary TB (TB of the lungs, the site most commonly affected) are often infectious and can spread the disease by coughing, sneezing or simply talking, as these acts propel TB bacteria into the air. Another person breathing in the bacteria may become infected with TB but will not necessarily become sick with the disease. In this case, the TB skin test will show positive. If the bacteria go on to overcome the body's immune system, the person then becomes ill with TB.

A person ill with TB presents different symptoms depending on the site of the body affected. In pulmonary TB, common symptoms are a cough with sputum production (sometimes with blood), shortness of breath and chest pain. There are also general symptoms such as fever in the evening, night sweats, loss of weight, loss of appetite, fatigue and muscle weakness.

Left untreated, each person with infectious pulmonary TB will infect an average of between 10 and 15 people every year. One in ten people infected with TB (but who are not infected with HIV) become ill with TB at some time during their life. People with both HIV and TB infection are much more likely to become ill with TB.

The main tools for the diagnosis of TB are clinical assessment, and bacteriological and radiological investigation. The examination of a sputum smear by microscopy is the simplest, cheapest and most direct way to identify the presence of TB bacteria and confirm pulmonary TB disease in one to two days. However, to evaluate drug susceptibility, the bacteria need to be cultivated and tested in a suitable laboratory for between 6 and 16 weeks. This makes it possible to identify the drug-resistant forms of TB. X-ray findings may be indicative of TB but usually need confirmation by means of other tests.

TB can generally be treated with a course of four standard, or first-line, anti-TB drugs. There is usually an intensive two-month phase of treatment with use of all drugs, followed by a four-month continuation phase with only two drugs. Direct observation of treatment (DOT) intake and support to patients in different forms are recommended. If treatment is taken incorrectly or incompletely, resistance to TB drugs can be developed and a cure becomes much more difficult, or impossible in some cases.

The World Health Organization (WHO) estimates that one third of the world's population is infected with TB and that 8.8 million new TB cases and 1.6 million deaths from TB occurred in the world in 2005. Eighty percent of all cases were in 22 countries, mainly in Africa and Asia. Seen from a global perspective, the WHO European Region accounts for only 5% of all TB cases and has lower incidence, prevalence and mortality than the regions mentioned above. However, some countries in the European Region have TB incidence rates comparable to those in Africa, and the Region's overall treatment success rate is the same as that in Africa. This is explained by the

prevalence of drug-resistant TB at the highest rates in the world.

In 2006, WHO launched the new Stop TB Strategy. The core of this strategy is DOTS, the TB control strategy launched by WHO in 1995. The six components of the Stop TB Strategy are:

1. Pursue high-quality DOTS expansion and enhancement
2. Address TB/HIV, multidrug-resistant TB (MDR-TB) and other challenges
3. Contribute to health system strengthening
4. Engage all care providers
5. Empower people with TB, and communities
6. Enable and promote research.

The Strategy is to be implemented over the next 10 years, as described in the Global Plan to Stop TB, 2006–2015.¹ The Global Plan is a comprehensive assessment of the action and resources needed to implement the Stop TB Strategy and to achieve the targets below.

- Millennium Development Goal (MDG) 6, Target 8: halt and begin to reverse the incidence of TB by 2015.
- Targets linked to the MDG and endorsed by the Stop TB Partnership:
 - by 2005: detect at least 70% of new sputum smear-positive TB cases and cure at least 85% of these cases;
 - by 2015: reduce TB prevalence and death rates by 50% relative to 1990; and
 - by 2050: eliminate TB as a public health problem (one case per million population).

The Global Plan specifically challenges two epidemiological subregions, sub-Saharan Africa and eastern Europe, to achieve the MDG targets by 2015. The epidemiological subregion defined as eastern Europe includes the countries of the former Soviet Union and some countries of central Europe: Armenia, Azerbaijan, Belarus, Bulgaria, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, the Republic of Moldova, Romania, the Russian Federation, Tajikistan, Turkey, Turkmenistan, Ukraine and Uzbekistan.

Special efforts have been initiated to address TB control in Europe: i) the Stop TB Partnership for Europe, was launched in October 2006, to engage key European stakeholders in promoting a more robust response to the epidemic in the Region; ii) two strategic plans have been developed to address TB in the WHO European Region: one for the 18 high-priority countries of the epidemiological subregion of eastern Europe; and the other for the member states of the European Union.

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¹ The Global Plan to Stop TB, 2006–2015 [web site]. Geneva, Stop TB Partnership, 2007 (www.stoptb.org/globalplan/, accessed 6 July 2007).