

Tuberculosis (TB)

NOVEMBER 2007

Millennium Development Goal 6: To combat HIV/AIDS, malaria and other diseases.

Target 8: By 2015, to have halted and begun to reverse the incidence of malaria and other major diseases.

Are we on track to meet the target?

	Africa		Asia				Latin America & Caribbean	Commonwealth of Independent States	
	Northern	Sub-Saharan	Eastern	South-Eastern	Southern	Western		Europe	Asia
	low mortality	high mortality	moderate mortality	moderate mortality	moderate mortality	low mortality	low mortality	moderate mortality	moderate mortality
Progress on halting and reversing the spread of Tuberculosis									
Number of TB cases, excluding people who are HIV-positive (per 100,000 population)	1990	331	319	485	531	92	156	83	
	2005	490	204	274	290	56	76	137	

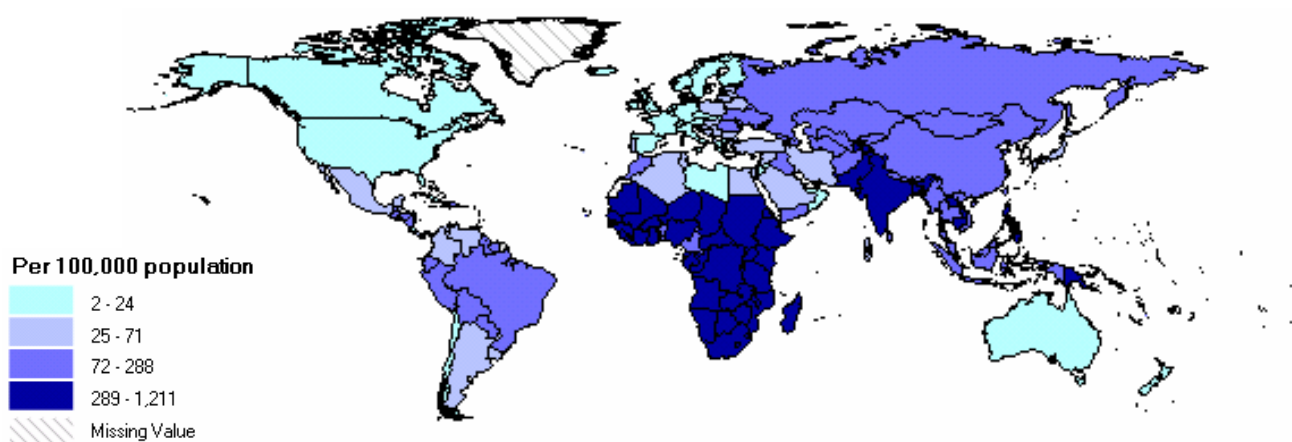
Line 1 (progress) – The words describe current levels. The colours show the trend towards meeting the 2015 target.

Key: **Dark Green** = target met. **Light Green** = almost met, or on target. **Orange** = some/negligible progress, but insufficient to meet target. **Red** = no change or negative progress.

Line 2 (level) – **Number of TB cases (per 100,000 population)** – **Key:** Please refer to map key below.

Source: United Nations Statistics Division - UN Millennium Development Goals Report 2007

Progress: There has been substantial progress in reversing the spread of TB in Asia and Latin America and the Caribbean. This is offset however by an increase of the problem in sub-Saharan Africa and the Commonwealth of Independent States, where the number of TB cases (excluding people who are HIV positive) has increased between 1990 and 2005.



Tuberculosis prevalence per 100,000 population (2005)

Source: UN "Millennium Development Goals Indicators Database" (2007)

“Someone in the world is newly infected with TB bacilli every second.”¹

Key messages

- The World Health Organization (WHO) declared tuberculosis a global emergency in 1993.
- HIV and TB form a deadly combination, each increasing the other's impact. TB is harder to diagnose in HIV-positive people. Somebody infected with HIV and TB is far more likely to become sick with TB than someone with TB alone. In Africa, HIV is the single most important factor contributing to the increase in incidence of TB since 1990.¹
- Multidrug-resistant TB (MDR-TB) and its even more lethal cousin Extensively Drug-resistant TB (XDR-TB) is another worrying issue as they do not respond to standard drug treatment and occur invariably as a result of poorly-managed TB care and control programmes and weak health systems.
- TB is a disease that disproportionately affects poor people, who are more vulnerable to infection and suffer more from the consequences. Poor countries are also less able to prevent the disease from spreading due to an inability to treat cases effectively.
- The Global Plan to Stop TB (2006-2015) was launched in Davos in January 2006 by the UK Chancellor of the Exchequer, Bill Gates and President Obasanjo of Nigeria. This lays out the actions and resources needed to halve TB prevalence and deaths by 2015. This will save 14 million lives from 2006-2015. Implementation of the STOP TB strategy will expand equitable access for all to quality TB diagnosis and treatment. The plan costs US\$ 56 billion, the estimated funding gap being US\$ 31 billion.

Facts and figures

- TB, is a disease caused by bacteria called Mycobacterium tuberculosis that can affect anyone at any age.³
- A total of 1.6 million people died of TB, including 195,000 patients infected with HIV.^{2p.1} By comparison, cancer accounted for 7.6 million deaths in 2005.⁷
- There was an estimated 8.8 million new TB cases in 2005, 7.4 million in Asia and sub-Saharan Africa.^{2p.1}
- In total, one third of the world's population is currently infected with the TB bacillus. However, people infected with TB bacilli will not necessarily become sick with the disease. Only 5-10% of them (provided they are not also infected with HIV) will become sick during their life.¹
- WHO's 2005 targets for Directly Observed Treatment Short Course (DOTS) programmes of 70% case detection and 85% cure were narrowly missed globally: case detection was 60% and treatment success was 84%. However, both targets were achieved in the Western Pacific Region, and treatment success exceeded 85% in the South-East Asia Region.^{2p.2} (See 'What DFID is doing to help' for more information on DOTS)
- A total of 199 countries/areas reported 5 million episodes of TB in 2005 (new patients and relapses); 2.3 million new pulmonary smear-positive patients were reported by DOTS programmes in 2005, and 2.1 million were registered for treatment in 2004.^{2p.1}
- National tuberculosis control programme budgets grew from just over US\$ 500 million in 2002 to US\$ 1.25 billion in 2007, while total costs increased from US\$ 644 million to US\$ 1.65 billion over the same period.^{2p.2}

“The incidence of tuberculosis is levelling off globally, but the number of new cases is still rising.”^{1p.20}

Challenges and solutions

Whereas the global TB prevalence and mortality rates are declining slowly, sub-Saharan Africa is suffering from an increase in both. Moreover, while the DOTS treatment success rate is encouraging, for further improvements to be made in case detection the coverage of DOTS programmes needs to be expanded. This will have knock on effects for successful treatment for the disease and will help to halt its spread.

The increasing incidence and virulence of drug resistant strains of TB presents a major public health challenge. Drug resistant TB is present in all regions of the world and threatens the success of TB control efforts as well as those to fight HIV/AIDS. The existence of MDR-TB and now XDR-TB poses a serious threat to TB control. XDR-TB occurs when there is resistance to all the most effective anti-TB drugs. The current outbreak of XDR-TB in South Africa was originally identified in KwaZulu Natal Province. Mortality has been extremely high and rapid, with most cases having HIV-TB co-infection.

HIV and TB form a deadly combination, each increasing the other's impact. HIV weakens the immune system. TB is the leading cause of death among people who are HIV-positive. Since 1990, HIV is the single most important factor contributing to the increase in incidence of TB in Africa.^{1p.2}

It is essential to ensure that TB treatment is delivered in the correct way; patients are informed of the need to complete the course of their medication and are supported in doing so. Prompt diagnosis and effective treatment require fully-functioning laboratories, reliable drug supplies and skilled health workers.

What the UK government is doing to help

Supporting global partnerships: DFID provides core funding to the WHO, which has developed the DOTS strategy for the detection and cure of TB. In 2004, there were 183 national DOTS programmes.¹ However, where drug resistance is common or HIV/AIDS rates are high, cure rates tend to be lower. DOTS combine:

- Government commitment to sustained TB control
- Detection of TB cases through sputum smear microscopy among symptomatic people
- Regular and uninterrupted supply of high quality TB drugs
- Six - eight months of regularly supervised treatment (including direct observation of drug-taking for at least the first two months)
- Reporting systems to monitor treatment progress and programme performance

DFID has also been a key donor to the [Global Fund to Fight AIDS, TB and Malaria](#) (created in 2002), pledging £359 million through to 2008. Through its first five rounds of funding, the Global Fund has approved nearly 400 grants in 132 countries totalling US\$ 5.5 billion. Seventeen percent of this goes to TB. Expected outcomes after five years include detection of 5 million additional TB cases treated under the DOTS treatment strategy.⁵ DFID supports the [STOPTB Partnership](#) and is committed to providing nearly £9 million from 2002-2008. DFID is also a founder member of UNITAID (International Drug Purchase Facility) who will provide more funds for drugs to treat multi-drug resistant TB (MDR-TB) as well as paediatric formulations of TB drugs.

"Most of the deaths associated with TB occur during an adult's most productive years – between the ages of 15 and 54." ^{4p.14}

Supporting country programmes: DFID supports TB programmes in a number of countries. Increasingly DFID funds the broader health sector plans of developing country governments through sector wide programming and poverty reduction budget support. Such sector programmes will build capacity in health systems to improve the way health services diagnose and treat all major causes of illness.

Developing new research evidence: DFID supports the research and development of TB drugs and diagnostics via WHO's programme on Tropical Disease Research (TDR) and the public/private Product Development Partnership (PDP), the Global Alliance for TB drugs. The Global Alliance will receive £6.5 million from 2005-2008 for the development of new drugs. DFID also supports consortia led by the London School of Hygiene and Tropical Medicine - £5 million (2005-2010) and the Nuffield Institute at Leeds University - £5 million (2006-2011). Both will carry out research in communicable diseases including TB.

Providing cheaper anti-TB treatment: DFID is working with others, including G8 colleagues, to secure greater international commitment to affordable pricing for medicine, including drugs to treat TB.

Impact and results

The China TB project has helped to fill in a substantial resource gap and has made a substantial contribution to the National Tuberculosis Control programme achieving its overall targets (100% DOTS coverage, 70% of case detection rate for new smear positive and 85% cure rate of new smear positive cases by 2005). The cure rate among new smear positive patients has remained at over 90% since the first half of 2005. The increased political commitment of the Government of China for TB control and the availability of additional financial resources from them should help to maintain the high cure rate.

In India, DFID's funding has been critical in reducing death from TB - contributing to MDG 6. In particular:

- Since March 2006, India has achieved nationwide coverage of DOTS treatment for TB, including a network of over 12,000 designated microscopy centres.
- Case detection of new infectious TB cases was 66% in 2006, which is close to the global target of 70%. Treatment success rate has been maintained consistently over the 85% global target.
- In 2006-2007, a total of almost 950,000 courses of treatment for adult cases and about 45,000 courses for children are being supplied. This means that about 50% of RNTCP patients are currently being treated with DFID funded anti-TB drugs.

As a result of the concerted efforts, the TB incidence in India has reduced, resulting in a considerable decline in deaths from TB: from 500,000 per year in the 1990s to 370,000 per year in 2003/4.

The National Tuberculosis Programme has expanded DOTS regimen across Nepal and by July 2005, DOTS had expanded to 462 treatment centres with 2,428 sub centres covering almost 100% of the population. The case detection rates were 70% and the treatment success rate in new smear positive patients (2004 – 2005) was 88%.

“Reaching global targets for tuberculosis control will require accelerated progress especially in sub-Saharan Africa and in countries of the former Soviet Union.” ^{6p.21}

Case studies

China - DFID has allocated £28 million over 7 years in partnership with the World Bank towards reducing TB morbidity and mortality through an effective and sustainable National TB control Programme (NTP) focused on the poor. The programme covers 16 central and western provinces in China with a total population of 688 million people, which includes 82 million from ethnic minorities. In addition, DFID China has committed a further £1 million to provide technical assistance on some innovative activities, such as the Health Promotion Project. The main output of this project is a health promotion ‘toolkit’. The ‘toolkit’ has been regularly used since March 2005 in all project provinces and some non-project areas. It is a long-term national resource aimed at promoting the implementation of health promotion activities, as a means of increasing awareness of TB and the detection rate of TB patients. The effective health promotion work supported by DFID has largely contributed to the increased awareness of TB, improved case detection, improved adherence to treatment and stigma reduction. In addition, continuously focused technical assistance on capacity building has significantly improved the capability of institutions in planning, implementation and evaluation on health promotion activities.

India - DFID has committed £41.7 million over 5 years (2005-10) to support the second phase of the Government of India’s Revised National Tuberculosis Control Programme (RNTCP). The funds will be utilised for the WHO technical assistance and procurement of anti-TB drugs through the Global Drug Facility. A nationwide coverage of RNTCP diagnostic and DOTs treatment was achieved by March 2006. Nearly 1.4 million patients were initiated on TB treatment in 2006 alone. The drug supply has improved due to nationwide monitoring of drug stocks, logistics, distribution and timely procurement of quality anti-TB drugs.

Nepal – The National Tuberculosis Programme is an integral part of the national health sector programme funded by DFID’s budget support (Sector Wide Approach in health, £30 million over 5 years (2004 – 2009). The programme’s purpose is to improve the health status of the Nepalese population through increased utilisation of quality essential services delivered by a well managed health sector.

1. UN: [The Millennium Development Goals Report](#) 2007
2. WHO: Global Tuberculosis Control Report 2007 http://www.who.int/tb/publications/global_report/2007/pdf/full.pdf
3. WHO: [Genomic Resource Centre](#)
4. [UN Statistics Division report on progress to MDG 6](#)
5. [The Global Fund to fight AIDS, Tuberculosis and Malaria “Monthly Progress Update”](#) – 27 July 2006
6. UN: [The Millennium Development Goals Report](#) 2007
7. WHO: [Cancer](#)

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