# Tuberculosis in Myanmar
# Progress, Plans and Challenges

World Health Organization
Country Office for Myanmar

Myanmar is one of the world's 22 high tuberculosis (TB) burden countries, with a TB prevalence rate three times higher than the global average and one of the highest in Asia.

There were an estimated 180,000 new TB cases in Myanmar in 2010, more than 40,000 of them in children. An estimated 9,000 cases of multidrug-resistant TB (MDR-TB) cases occur in the country each year, and extensively drug-resistant TB (XDR-TB) has been detected.

Myanmar also has one of the most severe HIV/AIDS epidemics in Asia. The HIV prevalence rate for the adult population was 0.53% in 2011 with an estimated 240,000 people living with HIV. Each year there are about 20,000 new cases of TB/HIV co-infection.

TB is one of the top three priority diseases in the Ministry of Health's National Health Plan. The National TB Programme (NTP) is implementing a National Strategic Plan for TB control, 2011-2015, based on evidence from a 2009-2010 nationwide TB prevalence survey, and in line with the World Health Organization's (WHO) Stop TB Strategy. The National Strategic Plan aims to accomplish the TB-related Millennium Development Goals by 2015.

20 national and international nongovernmental organizations (NGOs) support TB control. Activities are coordinated through a TB Technical and Strategic Group, under the Myanmar Country Coordinating Mechanism.

The funding requirement for TB control 2011-2015 is US$ 186 million, of which US$ 113 million is expected to be available, predominantly from the Global Fund to Fight AIDS, Tuberculosis and Malaria. The funding gap of US$ 73 million presents a significant challenge.

## Background

Despite the availability of highly efficacious treatment for decades, and with medicines costing less than US$ 30 per patient, TB remains a major global health problem. In 2010, 8.8 million people fell ill due to TB and 1.4 million people died, making the disease the biggest infectious killer in the world after HIV.

The 2015 global targets for reduction in the TB disease burden (Box 1) are that the incidence should be falling and that prevalence and death rates should be halved compared with their levels in 1990.

**Box 1. Goals, targets and indicators for TB control**

Millennium Development Goals set for 2015

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|---|---|
| **Goal 6** | Combat HIV/AIDS, malaria and other diseases |
| **Target 6c** | Halt and begin to reverse the incidence of malaria and other major diseases |
| **Indicator 6.9** | Incidence, prevalence and death rates associated with TB |
| **Indicator 6.10** | Proportion of TB cases detected and cured under DOTS |

Stop TB Partnership targets set for 2015 and 2050

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|---|---|
| **By 2015** | Reduce prevalence and death rates by 50% compared with their levels in 1990 |
| **By 2050** | Eliminate TB as a public health problem, defined as a global incidence of active TB of less than one case per 1 million population per year |

**Table 1**. WHO estimates of the TB burden in Myanmar in 2010

| **Population** | **48 million** | |
|---|---|---|
| | Number of cases | Rate (per 100,000 population) |
| Prevalence | 250,000 | 525 |
| Incidence | 180,000 | 384 |
| Incidence (HIV positive) | 20,000 | 40 |
| Mortality (excluding deaths among TB/HIV co-infected) | 20,000 | 41 |
| Case detection (all forms) | 71% | |

*Source: Global Tuberculosis Control. WHO, 2011.*

## TB situation in Myanmar

Among the 22 high TB burden countries, Myanmar has the fourth-highest TB prevalence rate, with 525 cases per 100,000 population (Table 1), compared to the global average of 178 cases per 100,000 population. WHO estimates that 180,000 new TB cases emerge in the country each year, along with 9,000 MDR-TB cases and 20,000 cases co-infected by TB and HIV.

The results of a high-quality nationwide TB prevalence survey in 2009-2010 showed that the prevalence of active TB is higher in urban areas than in rural, higher among men than among women, and higher among the elderly than among young adults. Among adults in urban areas, the prevalence is close to 1%. The prevalence rate is also higher in states, which are dominated by ethnic minority groups (Table 2). The states are mostly rural and less densely populated, with generally weaker health care access than other parts of the country.

TB notification rates have increased sharply since the 1990s, when an average of 20,000 cases were notified per year. In 2011, 140,164 cases were notified by the NTP (78% of notifications) and by private practitioners, NGOs and hospitals (22% of notifications) (Figure 1). Treatment success rates of 85% have been achieved at national level since 2007.

**Table 2.** Prevalence of TB among people aged 15 years and above in Myanmar, 2009-2010

| | | Smear-positive cases | | | Bacteriologically confirmed cases | | |
|---|---|---|---|---|---|---|---|
| | | No. | Rate per 100,000 population | 95% confidence interval | No. | Rate per 100,000 population | 95% confidence interval |
| **All participants (51,367 adults)** | | 123 | 242.3 | 186.1-315.3 | 311 | 612.8 | 502.2-747.6 |
| **Strata** | **Region** | 70 | 191.6 | 137.4-267.3 | 192 | 522.8 | 420.9-649.1 |
| | **State** | 53 | 369.0 | 235.6-577.5 | 119 | 838.1 | 560.3-1,251.5 |
| **Urban /Rural** | **Urban** | 38 | 330.7 | 216.2-505.7 | 103 | 903.2 | 661.8-1,231.5 |
| | **Rural** | 85 | 216.1 | 153.6-304.0 | 208 | 526.8 | 410.1-676.5 |

*Source: Report on National TB Prevalence Survey, 2009-2010. Ministry of Health, Department of Health.*

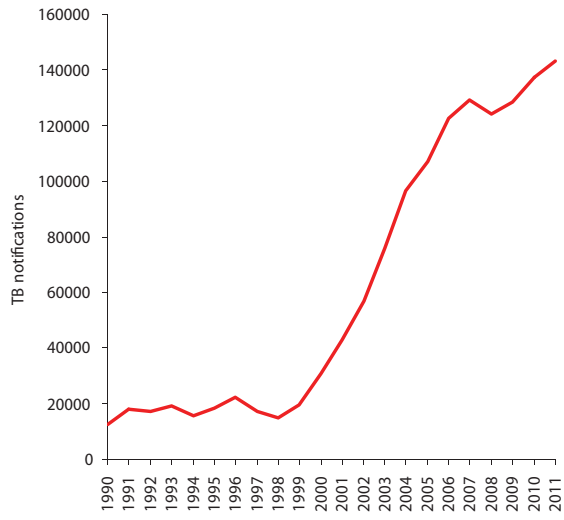


**Figure 1.** Notification of TB cases in 2011 was seven times higher than in 1990, indicating the success for the NTP and partners in detecting TB cases throughout the country.

## TB control achievements in Myanmar

The NTP and its partners have made notable achievements in the components of the WHO Stop TB Strategy, as shown below.

| Stop TB Strategy Components | Achievements |
|---|---|
| **1. Pursue high-quality DOTS expansion and enhancement** | |
| a. Secure political commitment, with adequate and sustained financing | TB is among the Government's top health priorities. Health financing is increasing to reach 5% of Gross National Product by 2015. The Country Coordinating Mechanism chaired by the Minister of Health guides the national response to TB, HIV and Malaria as well as to women and child health and health system strengthening. The TB Technical and Strategic Group ensures coordination between technical partners and oversees progress in the implementation of the National Strategic Plan for TB control, 2011-2015. |
| b. Ensure early case detection and diagnosis through quality assured bacteriology | A country-wide quality-assurance system for 415 public and private microscopy laboratories is managed by the NTP. Sputum collection centres have been developed in areas with low TB case detection rates. |
| c. Provide standardized treatment with supervision, and patient support | Direct observation of treatment is ensured by family members, volunteers and basic health staff (BHS). Defaulter tracing activities are part of routine TB control activities. |
| d. Ensure effective drug supply and management | Fixed-dose combinations and child-friendly medicines are available all over the country and standard operating procedures for drug management are followed. |
| e. Monitor and evaluate performance and impact | Quarterly recording and reporting is routine practice. Surveys are implemented routinely to evaluate performance and impact. |
| **2. Address TB/HIV, MDR-TB and the needs of poor and vulnerable populations** | |
| a. Scale-up of collaborative TB/HIV activities | 18 settings are implementing TB/HIV collaborative activities. The Ministry of Health plans for nationwide coverage of collaborative activities by 2015. |
| b. Scale-up of prevention and management of MDR-TB | Following excellent results from the pilot project, MDR-TB management is being scaled up from 22 to 100 townships by 2015. From mid-2009 to June 2012, 302 MDR-TB patients were enrolled. Cure rates of the first patients enrolled are 71%. |
| c. Address the needs of TB contracts, and of poor and vulnerable populations | Mobile TB team activities are targeting remote areas with limited access to health-care services, as well as poor urban communities. Special efforts are being made in six townships bordering Thailand with significant migrant populations. Prisoners are increasingly being screened for TB. Home visits are carried out to identify contact cases. |
| **3. Contribute to health system strengthening based on primary health care** | |
| a. Help improve health policies, human resource development, financing, supplies, service delivery and information | Extensive training has yielded integration of TB services through BHS at all levels. Between 2005-2011, 18,000 BHS were trained on TB management. The NTP is the sole procurer of quality-assured anti-TB drugs and ensures distribution to partner organizations who adhere to NTP guidelines. |
| b. Strengthen infection control in health services, other congregate settings and households | Infection control measures are implemented at all MDR-TB management sites. Likewise in TB/HIV sites, airborne infection control measures are incorporated into routine clinical practices. |
| c. Upgrade laboratory networks | Two biosafety class III laboratories are working with culture testing and rapid molecular techniques. Xpert MTB/RIF testing started in 2012. A third culture laboratory was established in Taunggyi, Shan State, in 2012. |
| **4. Engage all care providers** | |
| a. Involve all public, voluntary, corporate and private providers though public–private mix approaches | Private providers are engaged at a nationwide scale through a successful partnership with the Myanmar Medical Association (MMA) and Population Services International (PSI), which together account for 15% of TB case finding nationally.13 public hospitals are involved in public–public mix DOTS activities and by 2015, an additional 11 will be included. |

| | |
|---|---|
| b. Promote use of International Standards of Tuberculosis Care | The standards were adapted in 2009 and form a routine part of training activities, especially for general practitioners. |
| 5. Empower people with TB and communities through partnership | |
| a. Pursue advocacy, communication and social mobilization<br><br>b. Foster community participation in TB care, prevention and health promotion<br><br>c. Promote use of the Patients' Charter for Tuberculosis Care | The findings of the knowledge attitude and practice survey of 2009 are guiding NTP activities such as World TB Day events, media campaigns and communication materials.<br>Community-based TB control guidelines have been developed by the NTP. Community-based activities are being implemented by NGOs and form a vital part of TB case-finding, health education, DOT and suspect identification.<br>Workshops for TB patients are being held and the Patients' Charter has been adapted and translated into Myanmar language. |
| 6. Enable and promote research | |
| a. Conduct programme-based operational research | A prioritized research agenda was developed with the Department of Medical Research in 2009. Large-scale surveys are being implemented such as the prevalence survey and regular drug resistance surveys. Operational research activities are fostered by NTP and many partners and guide TB control strategies. |

## National Strategic Plan for Tuberculosis Control, 2011-2015

In 2010, the NTP published a Five Year National Strategic Plan for Tuberculosis Control, 2011-2015. In 2011, the results of the 2009-2010 nationwide TB prevalence survey were finalized, confirming a much higher TB burden than previously estimated by WHO. Based on these results, the NTP has revised the TB epidemiological data, impact targets, policies, control strategies and funding requirements to be better equipped to reach the Millennium Development Goals. Apart from the revisions needed to the National Strategic Plan due to the higher TB burden, the pace of the scale-up of diagnosis, treatment and care for patients suffering from MDR-TB, and efforts to reduce the dual burden of TB and HIV/AIDS among populations at risk and affected by both diseases, were felt to be too slow. The NTP therefore developed an update to the National Strategic Plan in mid-2012.


Under the updated plan, it is expected that from 2011 to 2015:

- 760,000 TB cases, including 190,000 children, will receive high-quality TB diagnosis, treatment and care, representing by 2015 more than 80% of the TB cases arising in the country. More than 85% of all cases will be cured.
- High-quality referral, diagnosis, treatment and care will be implemented by the primary health-care network throughout the whole country, by 24 private and public hospitals, more than 2,000 private practitioners, and by NGOs.
- More than 13,000 volunteers will support TB control efforts at community level.
- Additional interventions to find the many undetected/unreached TB cases will be carried out, such as screening of risk groups (including prisoners), contact investigations and mobile team activities in high-prevalence communities.

- MDR-TB management will be ensured in 100 townships to almost 10,000 MDR-TB patients.
- TB/HIV collaborative activities will be implemented nationwide, and as much as possible TB and HIV health services will be integrated at the township level. All TB cases will undergo provider-initiated HIV counselling and testing, all HIV-positive TB patients will receive antiretroviral therapy and all people living with HIV/AIDS will be routinely screened for TB.
- Diagnosis of TB among people living with HIV and of MDR-TB will be improved by the nationwide use of Xpert MTB/RIF.

Through the implementation of the National Strategic Plan, it is expected that the Millennium Development Goals and the Stop TB Partnership targets will be met.

## Technical collaboration

The NTP collaborates with a number of national and international health and development agencies to implement the Stop TB Strategy (Figure 2). In 2011, PSI and MMA involved general practitioners in 194 and 115 townships, respectively, and international partner organizations were present in 150 townships in all regions/states. The highest presence was in Mandalay and Yangon Regions and the lowest in Kayah, Shan East and Chin States. A further four national NGOs also contribute to TB control and especially to community involvement to reach out to all TB cases in the country. These organizations are: Myanmar Womens' Affairs Federation, Myanmar Maternal and Child Welfare Association, Myanmar Red Cross Society and Myanmar Health Assistant Association. To ensure best use of comparative advantages and to avoid fragmentation and duplication of efforts, regular coordination meetings are held under the TB Technical and Strategic Group.

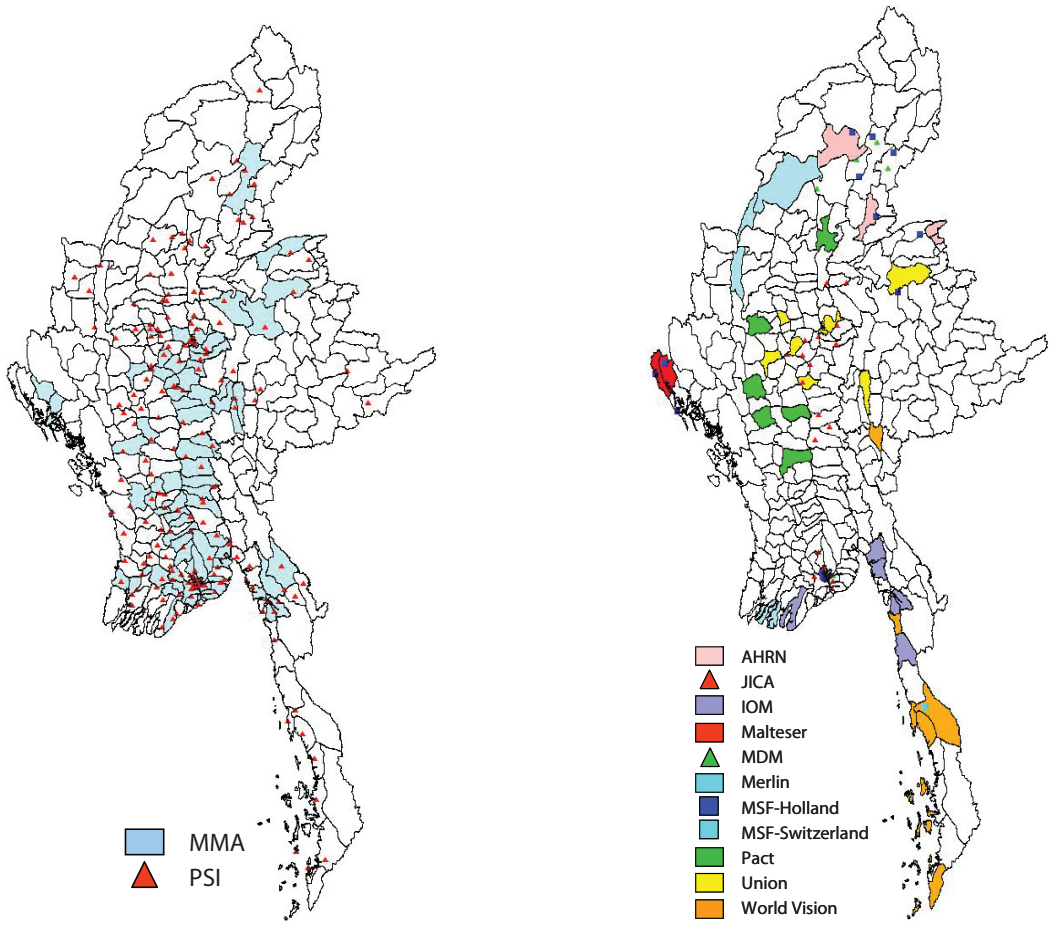


**Figure 2.** MMA, PSI and international partner programme coverage 2011

## Financial collaboration

A major contributor to the success of TB control in Myanmar has been the Global Drug Facility (GDF), which supported anti-TB drugs for seven years from 2002 to 2009. From 2006 to 2011, the Three Diseases Fund or 3DF (a donor consortium of the governments of Australia, Denmark, the Netherlands, Norway, Sweden, United Kingdom and the European Commission) provided US$ 17 million for TB control.

Following withdrawal in late 2005, support from the Global Fund to Fight AIDS, Tuberculosis and Malaria was reinitiated in 2011. Other important financial partners include UNITAID, the United States Agency for International Development (USAID), the Japan International Cooperation Agency (JICA) and TBREACH.

The National Strategic Plan for TB control, 2011-2015, indicates that US$ 186 million is needed to control TB in Myanmar (Figure 3). The estimated funding availability from the government and donors is US$ 113 million, with 23% already committed and another 41% expected from the Global Fund. The funding gap remains huge, with a US$ 73 million shortfall (ranging from US$ 6 million to US$ 27 million per year), but increased future commitments are envisaged especially from the government, the Three Millennium Development Goals Fund (3MDG, successor of 3DF), bilateral donors, UNITAID and possibly development banks.

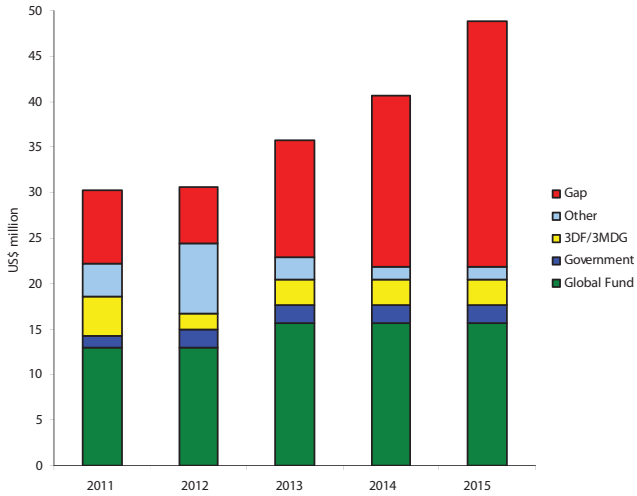


**Figure 3.** Funding requirement, availability and gaps, 2011-2015. "Other" funding sources comprise: WHO, JICA, USAID, TBREACH, UNITAID, NGOs and GDF.


## Challenges and next steps

Major challenges for TB control in Myanmar until 2015 include:

- Mobilize additional financial resources to implement the National Strategic Plan for TB Control, 2011-2015
- Sustain the management capacity and efficiency of the NTP and ensure routine high-quality programme supervision and implementation
- Ensure that trained and motivated health workers are availability at all levels of the health system including in remote areas
- Find the huge proportion of undetected TB cases in states, remote areas and poor urban communities
- Expand MDR-TB management to cover 43% of MDR-TB sufferers compared to 2% in 2011
- Scale up TB/HIV collaborative activities to all townships in the country by ensuring availability of HIV test kits and antiretroviral therapy
- Further strengthen the unique and successful collaboration with the private sector and expand such approaches to cover the whole country and scale-up linkages with hospital specialists
- Expand community involvement in TB control activities to ensure additional case-finding and improved treatment success rates

**The following partners are gratefully acknowledged for their support to fight TB in Myanmar:**