4. SUMMARY OF PLANNED ACHIEVEMENTS, RESOURCE NEEDS AND IMPACT

4.1 Planned achievements

Full implementation of the Global Plan for TB control will mean:

- 50 million people will be treated in DOTS and DOTS-Plus programmes;
- more than 3 million HIV-positive TB patients will be enrolled on antiretroviral therapy;
- advocacy, communications and social mobilization will have become an integral part of TB control;
- new drugs and diagnostic tests will be in use, and a new vaccine licensed.

See Table 2: Summary of planned achievements

The Global Plan to Stop TB 2006–2015 represents a massive intensification of effort over the next decade compared with the past decade (see Table 2, which also provides the milestones for 2010). Between 2006 and 2015, 21 million smear-positive patients and nearly 30 million with smear-negative or extrapulmonary TB will be treated in DOTS programmes, compared with 12 million patients in each category from 1996 to 2005.

The annual number of people to be treated in DOTS programmes will remain roughly stable over the 10 years of the plan, at about 5 million patients per year, as improvements in case detection are offset by reductions in transmission (Figure 8a). Most of the people to be treated will be in the African, South-East Asian and Western Pacific regions (Figure 8b).

There will be a major expansion in DOTS-Plus programmes, mostly in Eastern Europe, with an acceleration over the next few years (Figures 8c and 8d). Overall, the number of people with multidrug-resistant TB treated in DOTS-Plus programmes will rise from 10 000 in the past 10 years to nearly 800 000 in the next ten.

TB/HIV collaborative activities will be massively scaled-up in line with UNAIDS plans for universal access, largely in Africa but also (for HIV testing and counselling for TB patients) in South-East Asia (Figures 8e and 8f). Some 29 million TB patients will be tested and counselled for HIV, and nearly 210 million people living with HIV (PLHWA) will be screened for TB. More than 3 million TB patients will be enrolled on antiretroviral therapy and a similar number of people living with HIV will have completed isoniazid preventive therapy.

These achievements will be secured through substantial geographic expansion of activities to improve case detection and successful treatment rates in DOTS programmes, as well as very large increases in geographic coverage of TB/HIV collaborative activities and DOTS-Plus programmes (Tables 2 and 3). These activities include:

- improvements in quality of DOTS through measures such as better staffing and supervision;
- the introduction or expansion of initiatives such as public-private mix, community-based care, PAL, and intensified TB case-finding among PLHWA;
- an increase in the number of laboratories capable of conducting bacterial culture and drug susceptibility testing.

Table 3 (page 56) sets out the planned milestones for 2010 and 2015 for the major implementation activities.

By the end of the plan period, the first of an exciting battery of new tools should have come into use, with the promise of further major breakthroughs close behind. These goals are extremely challenging, and there is inevitably an element of scientific risk and uncertainty. But new tools will be an essential component of any strategy to eliminate TB by 2050, and the current prospects offer hope.

The Working Group on New TB Drugs envisages that the first new TB drug for 40 years will be introduced in 2010. This new drug or combination of drugs will achieve cure in three to four months compared with six to eight months now. The target for 2015 is clinical testing of a rational drug combination therapy that can reduce the duration of treatment to one to two months or less. This treatment will be effective against multidrug-resistant TB and will be compatible with antiretroviral treatment for people with TB/HIV. By then, clinical trials will be under way for a new treatment of latent TB infection. All the new regimens will need to be affordable and easily managed in the field.

In addition, the Working Group on New TB Drugs expects that by 2015 an environment will have been developed that allows sustained development of new TB drugs that can ultimately be combined into novel and revolutionary TB regimens. One of the
### TABLE 2: SUMMARY OF PLANNED ACHIEVEMENTS

<table>
<thead>
<tr>
<th><strong>DOTS EXPANSION</strong></th>
<th>2006 (b)</th>
<th>2010 (b)</th>
<th>2015 (b)</th>
<th>2006-2015</th>
<th>1996-2005</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total number of new ss+ patients treated in DOTS programmes (millions)</strong></td>
<td>2.1 (3.3)</td>
<td>2.2 (2.8)</td>
<td>1.8 (2.2)</td>
<td>21 (27)</td>
<td>12 (36)*</td>
</tr>
<tr>
<td><strong>Case detection rate (%)</strong></td>
<td>65%</td>
<td>78%</td>
<td>84%</td>
<td>76%</td>
<td>32%</td>
</tr>
<tr>
<td><strong>Total number of new ss+ patients successfully treated in DOTS programmes (millions)</strong></td>
<td>1.8 (2.1)</td>
<td>1.9 (2.2)</td>
<td>1.6 (1.8)</td>
<td>18 (21)</td>
<td>9 (11)**</td>
</tr>
<tr>
<td><strong>Treatment success rate (%)</strong></td>
<td>83%</td>
<td>86%</td>
<td>87%</td>
<td>85%</td>
<td>80%</td>
</tr>
<tr>
<td><strong>Total number of new ss-/extra-pulmonary patients treated in DOTS programmes (millions)</strong></td>
<td>3.0 (4.5)</td>
<td>3.0 (3.9)</td>
<td>2.7 (3.2)</td>
<td>29 (39)</td>
<td>12 (45)*</td>
</tr>
<tr>
<td><strong>Percentage of new ss-/extra-pulmonary patients treated in DOTS programmes</strong></td>
<td>66%</td>
<td>78%</td>
<td>84%</td>
<td>76%</td>
<td>26%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>DOTS-Plus</strong></th>
<th>2006 (b)</th>
<th>2010 (b)</th>
<th>2015 (b)</th>
<th>2006-2015</th>
<th>1996-2005</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total number of detected MDR-TB patients treated in DOTS-Plus programmes (millions)</strong></td>
<td>0.02 (0.12)</td>
<td>0.09 (0.14)</td>
<td>0.11 (0.11)</td>
<td>0.8 (1.3)</td>
<td>0.01***</td>
</tr>
<tr>
<td><strong>Percentage of detected MDR-TB cases treated in DOTS-Plus programmes</strong></td>
<td>17%</td>
<td>60%</td>
<td>100%</td>
<td>60%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>TB/HIV</strong></th>
<th>2006 (b)</th>
<th>2010 (b)</th>
<th>2015 (b)</th>
<th>2006-2015</th>
<th>1996-2005</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total number of PLWHA attending HIV services screened for TB (millions)</strong></td>
<td>11 (18)</td>
<td>22 (23)</td>
<td>26 (26)</td>
<td>206 (225)</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Percentage of PLWHA attending HIV services screened for TB (c)</strong></td>
<td>61%</td>
<td>98%</td>
<td>100%</td>
<td>91%</td>
<td></td>
</tr>
<tr>
<td><strong>Total number of newly diagnosed and eligible PLWHA offered IPT (millions)</strong></td>
<td>1.2 (30)</td>
<td>2.6 (35)</td>
<td>3.1 (40)</td>
<td>24 (354)</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Percentage of PLWHA offered IPT</strong></td>
<td>4%</td>
<td>8%</td>
<td>8%</td>
<td>7%</td>
<td></td>
</tr>
<tr>
<td><strong>Total number of TB patients in DOTS programmes HIV tested and counselled (millions)</strong></td>
<td>1.6 (3.4)</td>
<td>3.1 (3.8)</td>
<td>2.9 (3.4)</td>
<td>27 (36)</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Percentage of TB patients treated in DOTS programmes HIV tested and counselled</strong></td>
<td>47%</td>
<td>81%</td>
<td>85%</td>
<td>74%</td>
<td></td>
</tr>
<tr>
<td><strong>Total number of TB patients (HIV positive and eligible) in DOTS programmes enrolled on ART (millions)</strong></td>
<td>0.2 (0.5)</td>
<td>0.3 (0.6)</td>
<td>0.4 (0.6)</td>
<td>3.2 (5.6)</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Percentage of TB patients (HIV positive and eligible) in DOTS programmes enrolled on ART</strong></td>
<td>44%</td>
<td>57%</td>
<td>57%</td>
<td>57%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Advocacy, Communications and Social Mobilization</strong></th>
<th><strong>2006 (b)</strong></th>
<th><strong>2010 (b)</strong></th>
<th><strong>2015 (b)</strong></th>
<th><strong>2006-2015</strong></th>
<th><strong>1996-2005</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intensive capacity building to implement ACSM activities in 6 priority countries with GFATM funding.</strong></td>
<td><strong>15 countries implementing ACS, generating quantitative and qualitative data on ACS contribution to TB control.</strong></td>
<td><strong>All high-burden countries implementing ACS initiatives.</strong></td>
<td><strong>ACS is a standard component of the international strategy for TB control.</strong></td>
<td><strong>NA</strong></td>
<td><strong>NA</strong></td>
</tr>
</tbody>
</table>

**New Tools Working Groups**

<table>
<thead>
<tr>
<th><strong>Vaccines</strong></th>
<th><strong>by 2006</strong></th>
<th><strong>by 2010</strong></th>
<th><strong>by 2015</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>5 candidates in phase I trials.</strong></td>
<td><strong>9 candidates in phase II trials; at least 2 vaccines in phase IIb or ‘Proof of Concept’ trials by 2008; beginning of phase III trials.</strong></td>
<td><strong>4 phase III efficacy trials carried out. One safe, effective, licensed vaccine available by 2015.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Drugs</strong></td>
<td><strong>by 2006</strong></td>
<td><strong>by 2010</strong></td>
<td><strong>by 2015</strong></td>
</tr>
<tr>
<td><strong>27 new compounds in the TB pipeline.</strong></td>
<td><strong>1-2 new drugs registered for TB indication; treatment shortened to 3-4 months.</strong></td>
<td><strong>7 new drugs registered for TB indication; regimen revolutionized: clinical testing of drugs that can shorten treatment to 1-2 months.</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Diagnostics

| **Rapid culture for case detection and DST in demonstration phase.** | **Point of care, rapid culture, improved microscopy, Phage detection (DST) and simplified NAAT introduced.** | **Predictive test for LTBI in demonstration phase.** |

(a) The percentages are not always exactly the numerator divided by the denominator due to rounding errors.
(b) Numbers in parentheses indicate the denominator. For DOTS Expansion it is new TB cases.
(c) HIV services include testing and counselling and HIV treatment and care services.

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**DOTS-Plus** is the total number of detected MDR-TB cases.

For PLWHA screened for TB it is total number of PLWHA attending HIV services.

For DOTS Expansion it is new TB cases.

Since total registered cases are sometimes lower than total notifications, the denominator (11 million) is lower than total notifications (12 million).

**Refers to number of patients approved by GLC from 2000-2004.**
FIGURE 8: PLANNED ACHIEVEMENTS BY DOTS EXPANSION, DOTS-PLUS AND TB/HIV WORKING GROUPS, 2006–2015

a. All TB cases to be treated in DOTS programmes, all regions, 2006-2015

b. MDR-TB cases detected and MDR-TB cases in DOTS-Plus programmes, all regions, 2006-2015
e. TB/HIV patients tested and counselled, enrolled on ART, and PLWHA completing IPT, all regions, 2006-2015
PART I: STRATEGIC DIRECTIONS

b. All TB cases to be treated in DOTS programmes by region, 2006-2015

![Graph showing all TB cases to be treated in DOTS programmes by region, 2006-2015.](image)

- Smear-negative / Extra-Pulmonary
- Smear-positive


d. MDR-TB cases detected and MDR-TB cases in DOTS-Plus programmes by region, 2006-2015

![Graph showing MDR-TB cases detected and MDR-TB cases in DOTS-Plus programmes by region, 2006-2015.](image)

- MDR-TB cases on DOTS-Plus treatment
- Total detected MDR-TB cases

f. TB/HIV patients tested and counselled, enrolled on ART, and PLWHA completing IPT by region, 2006-2015

![Graph showing TB/HIV patients tested and counselled, enrolled on ART, and PLWHA completing IPT by region, 2006-2015.](image)

- TB patients tested and counselled
- PLWHA completing IPT
- TB patients enrolled on ART
<table>
<thead>
<tr>
<th>TABLE 3: MAJOR IMPLEMENTATION ACTIVITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
</tr>
<tr>
<td><strong>DOTS coverage</strong></td>
</tr>
<tr>
<td><strong>DOTS quality improvement</strong></td>
</tr>
<tr>
<td><strong>Public-Private Mix DOTS</strong></td>
</tr>
<tr>
<td><strong>Community DOTS</strong></td>
</tr>
<tr>
<td><strong>Practical Approach to Lung Health</strong></td>
</tr>
<tr>
<td><strong>Culture and Drug Susceptibility Testing</strong></td>
</tr>
<tr>
<td><strong>DOTS-Plus</strong></td>
</tr>
<tr>
<td><strong>TB/HIV collaborative activities</strong></td>
</tr>
</tbody>
</table>

* The populations covered refer to the number of people living in areas where the approaches have been implemented.
lessons learnt since the introduction of the existing anti-TB drugs is that continued worldwide commitment, research and vigilance to ensure a constant pipeline of new antimicrobials is required to eliminate tuberculosis within the twenty-first century.

The Working Group on New TB Diagnostics plans to introduce by 2008 an easy-to-use diagnostic technology for referral laboratories, with an accuracy similar to that of culture but capable of providing results in a few hours or days instead of weeks. By 2010 new tests will be available for detection of active TB at the first point of care, e.g. for use by rural health workers. Such tests will be more sensitive, simpler and as affordable as smear microscopy. They will involve either an instrument-free device requiring minimal training or a hand-held, simplified instrument that requires minor training. By 2015 we will have a rapid diagnostic procedure capable not only of identifying people with latent infection (whether HIV-positive or not) but also discriminating those at greatest risk of progression to active disease.

The development of new vaccines is particularly challenging but potentially most rewarding. The timetable for vaccine development is driven by the availability of suitable candidates and the need for extensive clinical trials to establish their safety and confirm their efficacy in human populations. The Working Group on New TB Vaccines expects that a new, safe, effective vaccine – the first of a series – will be licensed and available at a reasonable cost by 2015.

4.2 Resource needs and financing

The total cost of the Global Plan for 2006–2015 is estimated as US$56.1 billion.

- 80% (US$44.3 billion) is for country-level activities, especially in Africa.
- A large part of the cost ($US28.9 billion) is for DOTS programmes.
- DOTS-Plus and TB/HIV activities will cost about US$5.8 billion and US$6.7 billion respectively.
- Research and development of new tools requires US$9 billion.

Resource needs

Table 4 provides a summary of total costs and funding gaps from 2006 to 2015 by Working Groups. Figure 9 provides the distribution of costs in different ways, as explained below.

The total cost of the Global Plan for the ten-year period is US$56.2 billion, of which US$25.3 billion is currently estimated as available, leaving a funding gap of US$30.8 billion (Figure 9a). The Working Groups have each planned for a two- to sevenfold increase in annual investments compared with the first Global Plan. Overall the plan involves a threefold increase in annual investment in TB control compared with the first Global Plan to Stop TB.

The majority of the cost is for investment in DOTS programmes (US$28.9 billion), followed by TB/HIV activities (US$6.7 billion) and DOTS-Plus (US$5.8 billion) (Figure 9b). The total cost of research and development is US$9 billion, most of which is for drugs and vaccines.

More than 80% of the total cost is for investment at the country level (US$44.3 billion), while US$11.9 billion is needed at global level to support research and development (US$9 billion) and technical cooperation by international agencies (US$2.9 billion) (Figure 9c). Over 40% of country-level investments are needed in Africa (US$19.4 billion), followed by Eastern Europe with a total need of US$9.2 billion; other regions each need between US$2 billion and US$6 billion (Figure 9d).

Figure 10 shows the distribution of costs from 2006–2015. The total costs per year increase steadily over time, from US$4.2 billion in 2006 to US$6.5 billion in 2015.

Figure 11 shows total country needs by region from 2006–2015. Of the US$44.3 billion needed for investment at country level, the biggest regional cost increases over the plan period are in Africa and Eastern Europe, with costs in other regions remaining fairly stable.

Figure 12 shows total country needs by region and activity. In all regions, DOTS Expansion accounts for the largest share of costs, although TB/HIV is important in Africa and DOTS-Plus is important in Eastern Europe.

Financing and resource mobilization

Figure 13 shows the distribution of total country needs by region and activity. The funding needed for implementation is estimated at US$22.5 billion, out of a total need of US$47.2 billion (Table 4 and Figure 13a, b). The shortfall in available funding increases from US$1.4 billion in 2006 to US$3.1 billion in 2015. There are two major reasons for this increase in the funding gap. The first is that the estimates of available funding are based on the assumption that domestic and donor funding (excluding GFATM) will be sustained at 2005 and 2004 levels, respectively (see also footnote to Table 4). At the same time, the Plan includes large investments in new interventions, in line with the new Stop TB Strategy (Figure 13a). These include new approaches to DOTS implementation (e.g. PPM, PAL) as well as much more widespread implementation of DOTS-Plus, TB/HIV and ACSM-related interventions. The Plan also includes much more investment in technical cooperation, which is needed to support this substantial increase in both the number and scale of interventions. These additional large investments will require increased funding commitments from both governments of high-burden countries and donors. Given the existing distribution of funding for TB control and the size of the funding gap, it is likely that a large proportion of this gap will need to be financed by the governments of high-burden countries themselves (donor funding would need to increase about eight times to fill the gap for implementation whereas domestic funding would need to double to fill this gap).
**FIGURE 9: DISTRIBUTION OF TOTAL COSTS OF THE GLOBAL PLAN, 2006–2015**

**a. Total needs, available funding and funding gap, 2006-2015**
Total needs: US$ 56.1 billion

- Funding gap: US$ 30.8 billion; 55%
- Available funding: US$ 25.3 billion; 45%

**b. Total needs by WG area of responsibility*, 2006-2015**
Total needs: US$ 56.1 billion

- **Drugs**: US$ 4.8 billion; 8%
- **DOTS-Plus**: US$ 5.8 billion; 10%
- **TB/HIV**: US$ 6.7 billion; 12%
- **ACSM**: US$ 2.9 billion; 5%
- **Vaccines**: US$ 3.6 billion; 6%
- **DOTS Expansion**: US$ 32 billion; 57%
- **Diagnostics**: US$ 0.5 billion; 0.9%

* The cost for international agencies (technical cooperation) for DOTS Expansion, DOTS-Plus, TB/HIV and ACSM Working Groups is included under DOTS Expansion.

**c. Total needs for countries, R&D and international agencies, 2006-2015**
Total needs: US$ 56.1 billion

- **Country Needs**: US$ 44.3 billion; 79%
- **R&D**: US$ 9 billion; 16%
- **International Agencies**: US$ 2.9 billion; 5%

**d. Total country needs for implementation by region, 2006-2015**
Total needs: US$ 44.3 billion

- **AFR Low**: US$ 3.6 billion; 8%
- **AFR High**: US$ 15.8 billion; 36%
- **SEAR**: US$ 6.3 billion; 14%
- **LAC**: US$ 1.8 billion; 4%
- **EMR**: US$ 3.0 billion; 7%
- **WPR**: US$ 4.7 billion; 11%
- **EEUR**: US$ 9.2 billion; 21%
- **SEAR**: US$ 6.3 billion; 14%

* The cost for international agencies (technical cooperation) for DOTS Expansion, DOTS-Plus, TB/HIV and ACSM Working Groups is included under DOTS Expansion.
### TABLE 4: TOTAL COSTS AND FUNDING GAPS 2006–2015 BY WORKING GROUP (US$ BILLIONS)

<table>
<thead>
<tr>
<th></th>
<th>Second Global Plan to Stop TB, ten-year period, 2006-2015</th>
<th>First Global Plan, five-year period, 2001-2005</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Costs</td>
<td>Available Funding*</td>
</tr>
<tr>
<td>IMPLEMENTATION WORKING GROUPS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DOTS EXPANSION Country Needs</td>
<td>28.9</td>
<td></td>
</tr>
<tr>
<td>DOTS-PLUS Country Needs</td>
<td>5.8</td>
<td></td>
</tr>
<tr>
<td>TB/HIV Country Needs</td>
<td>6.7</td>
<td></td>
</tr>
<tr>
<td>ACSM Country Needs</td>
<td>2.9</td>
<td></td>
</tr>
<tr>
<td>International Agencies (technical cooperation)**</td>
<td>2.9</td>
<td>0.7</td>
</tr>
<tr>
<td>Total Implementation WG</td>
<td>47.2</td>
<td>22.5</td>
</tr>
<tr>
<td>NEW TOOLS WORKING GROUPS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research &amp; Development</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VACCINES***</td>
<td>3.6</td>
<td>2.1</td>
</tr>
<tr>
<td>DRUGS</td>
<td>4.8</td>
<td>0.6</td>
</tr>
<tr>
<td>DIAGNOSTICS</td>
<td>0.5</td>
<td>0.1</td>
</tr>
<tr>
<td>Total New Tools</td>
<td>9.0</td>
<td>2.8</td>
</tr>
<tr>
<td>TOTAL NEEDS GLOBAL PLAN</td>
<td>56.1</td>
<td>25.3</td>
</tr>
</tbody>
</table>

* Domestic funding assumes government commitments in 2005 are sustained and increase in line with inflation; GFATM commitments are based on results of Rounds 1 to 5 (these cover 2006-2011); other donor funding assumes commitments reported in 2004 are sustained and increase in line with inflation.

** Technical cooperation includes strategic and technical support, capacity building, monitoring and evaluation, operational research and policy development, and WG operations.

*** Includes costs for maintenance of the current BCG vaccination programme.

N.B. Column totals may not add up exactly due to rounding.
FIGURE 10: TOTAL COSTS FOR IMPLEMENTATION AND NEW TOOLS, 2006–2015

FIGURE 11: TOTAL COUNTRY NEEDS BY REGION, 2006–2015

FIGURE 12: TOTAL COUNTRY NEEDS FOR IMPLEMENTATION BY REGION

Total needs: US$44.3 billion
FIGURE 13: TOTAL COUNTRY NEEDS, AVAILABLE FUNDING AND FUNDING GAPS FOR IMPLEMENTATION, 2006–2015

a. Funding needs

Total needs: US$47.2 billion

- Technical Cooperation
- ACSM
- TB/HIV
- DOTS-Plus
- DOTS Expansion-Improved quality and new approaches
- DOTS Expansion-Basic diagnosis and treatment

b. Funding and funding gaps

Total needs: US$47.2 billion

- Gap
- Other donor funding
- GFATM
- Domestic funding

c. Funding and funding gaps by region*

Total country needs: US$44.3 billion

- Gap
- Other Donor Sources (if sustained)
- GFATM
- Domestic funding (if sustained)

* Since technical cooperation is not estimated at regional level, the total gap represented here is US$ 22.5 billion rather than US$ 24.7 billion.
To mobilize the level of financial support required to implement the Global Plan for 2006–2015 (US$56.1 billion over 10 years), the profile of TB on international and national development agendas must be greatly enhanced and political commitment strengthened at all levels. The Partnership will achieve these goals through: intensified and strategically focused advocacy at all levels; coalition building to engage a broader range of partners; strengthened partnership building, particularly with new donors; and mobilization of civil society by empowering patient activists and communities. Since the largest gap in funding needs for country-level implementation is in Africa, a particular focus on this region is necessary (figure 13 c).

Currently budgets for TB control are channelled through diverse routes. In 2005 over half of the finance for TB in the 22 high-burden countries was from government budgets, including some external funding through direct support by donors of poverty reduction strategies. The remaining TB control funds came from loans, grants (including for specific TB projects) and the GFATM. In many countries, private spending on TB also accounts for a considerable proportion of the total. Governments and donors also fund programmes aimed at strengthening the broader health sector, including increasing the size and retention of the health workforce.

To scale up funding to meet the objectives of this Plan, it will be necessary to work through, and to coordinate better, this same range of funding instruments. Current levels of public health spending in most low-income countries fall far short of the minimum needed to deliver universal access to services. In Abuja in 2000, African governments committed themselves to increase funding for health from an average of 8% to 15% of their budgets. However, most are far from reaching that target. Countries can be supported to mobilize additional domestic resources for health but additional external finances are needed to help close the gap.

Donor countries have committed themselves to increasing their assistance to development. If used effectively, such new resources can lead to greatly expanded access to essential health services, including TB diagnosis and treatment. However, the diversity of funding instruments carries a risk of duplication, gaps, and lack of coherence in channeling finance to where it can be used effectively. The Stop TB Partnership, working from the resource needs identified in this Plan, will support the analysis of the relative needs and effectiveness of different funding channels (e.g. health sector support through government budgets or the GFATM), to help ensure that resources are used to greatest impact.

4.3 Impact of the Global Plan

Full implementation of the second Global Plan for TB Control will mean:

• 14 million lives will be saved in the 10 years 2006–2015;
• the MDG target for TB – to have halted and begun to reverse the incidence of TB by 2015 – will be achieved
• the Partnership’s own ambitious targets for 2015 – to halve prevalence and death rates from the 1990 baseline – will be met globally.

On the basis of this ambitious but realistic scenario, the global targets for 2015 will be achieved and a total of 14 million lives will be saved during the Plan period, mostly in the South-East Asian, Western Pacific and African regions (Figure 14). Almost 30 million TB cases will be prevented, mostly in the South-East Asian and the Western Pacific regions. The number of new cases of TB will fall from about 8 million in 2005 to fewer than 6 million in 2015.

See Figure 15. Projected rates of TB incidence, prevalence and deaths, assuming full implementation of the Global Plan in seven regions of the world

Globally and in all regions, TB incidence rates will fall by 2015, thus meeting the MDG target relevant to TB (figure 15a). In most of the regions where the global TB epidemic is concentrated (Latin America, Eastern Mediterranean, South-East Asia and Western Pacific), prevalence and death rates will have reached or exceeded the Partnership’s targets for 2015 (to halve prevalence and death rates from the 1990 baseline) (figure 15 b, c). The gains made in the two other regions (Eastern Europe and Africa) over the period of the Plan (2006–2015) will be similar to progress in other regions, despite their formidable challenges. However, achievement of the Partnership’s targets may well be later than 2015 in Eastern Europe and even later in Africa, because the targets are expressed with 1990 as a baseline year and the 1990s saw huge upsurges of TB in both regions.

To achieve the targets in Africa and Eastern Europe by 2015 would require tremendous improvements in health systems in general, an early 50% reduction in HIV incidence, and the very rapid availability of new tools. It is unlikely that even massive additional funding or even greater effort would be successful in completely overcoming the constraints by 2015, though all efforts must be made to halve prevalence and deaths as swiftly as possible. The different regional needs and results are considered in more detail in Part II.

Cost-effectiveness

Combining projected costs and projected impact, the Global Plan will cost about US$150 per disability adjusted life year (DALY) gained – or less than US$1 per day of life saved. TB control in the South-East Asian and Western Pacific regions is particularly cost-effective, at about US$60–70 per DALY gained. By contrast, the cost per DALY is markedly higher in Eastern Europe, because of the extensive reliance on relatively expensive hospitalization during normal TB treatment and because of the
FIGURE 14: NUMBER OF LIVES EXPECTED TO BE SAVED UNDER THE GLOBAL PLAN, 2006-2015

![Graph showing lives saved under the Global Plan, 2006-2015](image)

FIGURE 15: PROJECTED RATES OF CHANGES IN TB INCIDENCE, PREVALENCE AND DEATHS, ASSUMING FULL IMPLEMENTATION OF THE GLOBAL PLAN IN SEVEN REGIONS OF THE WORLD

a. TB incidence rate by region, 2006-2015

![Graph showing TB incidence rates by region, 2006-2015](image)

b. Prevalence in 2015 in comparison with targets

![Graph showing prevalence in 2015 compared to targets](image)
much higher costs associated with treating MDR-TB. See Figure 16: Cost-effectiveness of Global Plan

**New tools**
The above projections are based on optimal use of existing drugs, diagnostics, and vaccines. They do not, at this stage, incorporate assumptions about the impact of new tools introduced within the Plan period.

Modelling work commissioned by the UN Millennium Project confirmed the large potential gains from rapid scale-up of DOTS, but suggested that the impact of DOTS could be substantially increased if new tools were available. For example, by reducing the likelihood of default and failure, shorter drug regimens could bring down annual incidence and mortality by around 40% by 2030. Simplified regimens combined with new diagnostic tests could facilitate broader case detection in DOTS programmes, which would magnify these benefits significantly. Further modelling work is currently being undertaken by the Working Group on New TB Diagnostics.

It is difficult to predict the exact effects of new vaccines because we do not know their mode of action and efficacy. However, the impact of new vaccines can be simulated by introducing vaccine-related parameters into existing epidemiological models of the TB pandemic, and making guesses about the unknowns. Doing so suggests that the introduction between 2014 and 2018 of a new vaccine that can be given to everybody could reduce TB incidence in Africa and South-East Asia by over 20% during the first 10 years of use and up to 40% by 2050.