Tuberculosis Control in the Western Pacific Region
Prepared by

Dr Angelito Bravo was the lead author of this report. The following WHO staff from the regional and the country offices contributed to the report: Pieter van Maaren, Katsunori Osuga, Bernard Tomas, Masaki Ota, Cornelia Hennig, Liu Yuhong, Giampaolo Mezzabotta, Nguyen Nhat Linh, Jacques Sebert, Jamhoih Tonsing, Michael Voniatis and Rajendra Yadav.

Correspondence: stoptb@wpro.who.int

Acknowledgements

We would like to thank the national TB control programme (NTP) managers and statisticians from all countries and areas of the Western Pacific Region for providing data for this publication and to the Stop TB team in the TB Monitoring and Evaluation unit at WHO headquarters responsible for the 2009 Global TB Report.

WHO Library Cataloguing in Publication Data

Tuberculosis control in the Western Pacific Region: 2009 Report


ISBN 978 92 9061 438 8 (NLM Classification: WF 200)

© World Health Organization 2009
All rights reserved.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers’ products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

The World Health Organization does not warrant that the information contained in this publication is complete and correct and shall not be liable for any damages incurred as a result of its use. Publications of the World Health Organization can be obtained from Marketing and Dissemination, World Health Organization, 20 Avenue Appia, 1211 Geneva 27, Switzerland (tel: +41 22791 2476; fax: +41 22791 4857; e-mail: bookorders@who.int). Requests for permission to reproduce WHO publications, in part or in whole, or to translate them - whether for sale or for noncommercial distribution - should be addressed to Publications, at the above address (fax: +41 22 791 4806; e-mail: permissions@who.int). For WHO Western Pacific Regional Publications, request for permission to reproduce should be addressed to Publications Office, World Health Organization, Regional Office for the Western Pacific, P.O. Box 2932, 1000, Manila, Philippines, fax: +632 521 1036, e-mail: publications@wpro.who.int

Layout and design by Alexander Pascual, www.alexdesigns.ph
# Contents

List of figures ................................................................. iv
List of tables ............................................................... vi
List of abbreviations ..................................................... vii
Executive summary ......................................................... ix
Summary Table ............................................................... xii

1 Introduction .................................................................. 1

2 Epidemiology ................................................................ 3
  2.1 Estimated burden ...................................................... 3
  2.2 Progress towards 2010 regional goal ................................ 4
  2.3 Case notification and trend ................................................ 5
  2.4 Drug resistance .......................................................... 8
  2.5 TB-HIV ........................................................................ 11
    2.5.1 Estimated prevalence of HIV among new TB cases ........ 11
    2.5.2 Surveillance data on HIV in TB cases ............................... 12

3 TB Control .................................................................. 13
  3.1 DOTS coverage, case detection, and trend ......................... 13
  3.2 Treatment outcomes .................................................... 14
  3.3 Laboratory capacity ..................................................... 15

4 Profiles of countries with a high burden of TB in the Region .......... 17
  4.1 Cambodia .................................................................. 17
  4.2 China ........................................................................ 21
  4.3 The Lao People’s Democratic Republic ......................... 25
  4.4 Mongolia ................................................................ 29
  4.5 Papua New Guinea ..................................................... 33
  4.6 The Philippines .......................................................... 37
  4.7 Viet Nam .................................................................. 41

5 Summary of the TB burden and epidemiologic indicators of Pacific island countries and areas in the Region .................. 45

Annexes ........................................................................ 49
  Annex 1: Estimation of prevalence and TB mortality rates for future years ........................................... 49
  Annex 2: Estimation of MDR-TB prevalence ........................ 50
  Annex 3: Definitions ........................................................ 51
    1. Definitions of tuberculosis cases ......................................... 51
    2. Definitions of treatment outcome ........................................... 51
    3. Indicators to assess treatment outcome ................................. 52
    4. Case detection rate and DOTS detection rate ..................... 52
    5. Definitions of MDR-TB and XDR-TB ................................. 53
List of figures

Figure 1. Estimated incident cases of all forms of TB by WHO Region, 2007 (N=9,272,799) .............................................................3
Figure 2. Prevalence (left) and incidence (right) rates of all forms of TB by country and area, 2007 .......................................................3
Figure 3. Number of estimated incident cases of all forms of TB among countries with a high burden of TB in the Region, 2007 ..................4
Figure 4. Estimated prevalence (left) and mortality (right) rates in the Region, 1990, 2000–2007 ...............................................................4
Figure 5. Case notification rates per 100,000 population for all forms of TB in countries and areas in the Region and neighbouring countries and areas, 2007 ..........................................................5
Figure 6. Case notification rates (all forms of TB and smear-positive cases) in the Region, 1998–2007 ..........................................................6
Figure 7. Smear-positive notification rates, by age and sex, in the Region and the seven countries with a high burden of TB, 2007 ....................7
Figure 8. Distribution of sex ratio (male to female) of notified smear-positive cases by age group in Cambodia and Vietnam, 2007 .............7
Figure 9. Percentage of MDR-TB among new and re-treatment cases in selected countries and areas within the Region, 2007 ......................8
Figure 10. Geographical distribution of proportion of MDR-TB among new TB cases by country and area in the Region, 2000–2008 .................9
Figure 11. Geographical distribution of proportion of MDR-TB among re-treatment TB cases by country and area in the Region and by province in China, 2000–2008 ..............................................................10
Figure 12. Estimated HIV prevalence in incident TB cases (%) in selected countries in the Region, 2007 ..........................................................11
Figure 13. Estimated prevalence of HIV in new TB cases against prevalence of HIV in adults in countries and areas in the Region, 2007 ..............11
Figure 14. Trends in DOTS coverage and case detection in smear-positive cases in the Region, 1995–2007 ....................................................13
Figure 15. Treatment outcomes for new smear-positive cases registered in 2006 in DOTS areas in countries with a high burden of TB in the Region .................................................................................14
Figure 16. Unfavourable outcomes among new smear-positive cases and re-treatment smear-positive cases registered in 2006 in DOTS areas in countries with a high burden of TB in the Region .........................................................14
Figure 17. Cambodia ........................................................................................................................................................................17
Figure 18. Case notification rates (all forms of TB and smear-positive), Cambodia, 1998–2007 .................................................................19
Figure 19. Geographical distribution of notification rates of all forms of TB cases, Cambodia, 2007 ...............................................................19
Figure 20. Distribution of forms of TB among new cases, Cambodia, 2003–2007 .....................................................................................19
Figure 21. Distribution of forms of TB among notified cases, Cambodia, 2003–2007 .............................................................................20
Figure 22. China ......................................................................................................................................................................................21
Figure 23. Case notification rates (all forms of TB and smear-positive), China, 1998–2007 .................................................................22
Figure 24. Geographical distribution of notification rates of all forms of TB cases, China, 2007 .................................................................22
Figure 25. Distribution of forms of TB among new cases, China, 2003–2007 .....................................................................................23
Figure 26. Distribution of forms of TB among new and re-treatment cases, China, 2003–2007 .................................................................23
Figure 27.  The Lao People's Democratic Republic..............................................................25
Figure 28.  Trend of case notification rates (all forms of TB and smear-positive), The Lao People's Democratic Republic, 1998–2007 ....................26
Figure 29.  Geographical distribution of notification rates of all forms of TB cases, The Lao People's Democratic Republic, 2007 ............................27
Figure 30.  Distribution of forms of TB among new cases, The Lao People's Democratic Republic, 2003–2007 ................................................28
Figure 31.  Distribution of forms of TB among new and re-treatment cases, The Lao People's Democratic Republic, 2003–2007 .............................29
Figure 32.  Mongolia .........................................................................................................29
Figure 33.  Case notification rates (all forms of TB and smear-positive), Mongolia, 1998–2007 ..................................................................30
Figure 34.  Geographical distribution of notification rates of all forms of TB cases, Mongolia, 2007 ..................................................................31
Figure 35.  Distribution of forms of TB among new cases, Mongolia, 2003–2007 ...............31
Figure 36.  Distribution of forms of TB among notified cases, Mongolia, 2003–2007 ..........................................................31
Figure 37.  Papua New Guinea ........................................................................................33
Figure 38.  Case notification rates (all forms of TB and smear-positive), Papua New Guinea, 1998–2007 ........................................................34
Figure 39.  Geographical distribution of notification rates of all forms of TB cases, Papua New Guinea, 2007 ..................................................35
Figure 40.  Distribution of forms of TB among new cases, Papua New Guinea, 2003–2007 .................................................................35
Figure 41.  Distribution of forms of TB among new and re-treatment cases, Papua New Guinea, 2003–2007 .................................................36
Figure 42.  The Philippines ..........................................................................................37
Figure 43.  Case notification rates (all forms of TB and smear-positive), The Philippines, 1998–2007 ..............................................................38
Figure 44.  Geographical distribution of notification rates of all forms of TB cases, The Philippines, 2007 ......................................................39
Figure 45.  Distribution of forms of TB among new cases, The Philippines, 2003–2007 .................................................................39
Figure 46.  Distribution of forms of TB among new and re-treatment cases, The Philippines, 2003–2007 ......................................................40
Figure 47.  Viet Nam ...................................................................................................41
Figure 48.  Case notification rates (all forms of TB and smear-positive), Viet Nam, 1998–2007 .................................................................43
Figure 49.  Geographical distribution of notification rates of all forms of TB cases, Viet Nam, 2007 .................................................................43
Figure 50.  Distribution of forms of TB among new cases, Viet Nam, 2003–2007 .............44
Figure 51.  Distribution of forms of TB among new and re-treatment cases, Viet Nam, 2003–2007 .................................................................44
Figure 52.  Geographic distribution of the Pacific island countries and areas ....................45
Figure 53.  Trend of case notification rates (all forms of TB and smear-positive cases)
in selected Pacific island countries and areas in the Region, 2000–2007 ............................46
List of tables

Table 1. Main TB indicators 2007 ................................................................. xii
Table 2. Estimated TB prevalence and mortality in 2010 by countries with a high burden of TB in the Region, and 2010 regional target .............................. 5
Table 3. Case notification number and rates (all forms of TB and smear-positive cases) among countries with a high burden of TB in the Region, 2006–2007 ................................................................................................................. 6
Table 4. Breakdown of re-treatment cases and number of cases receiving DST in the seven countries with a high burden of TB, 2007 ................................. 8
Table 5. Surveillance data on HIV in TB cases in selected countries in the Region, 2007 ........................................................................................................ 12
Table 6. Case detection rates of smear-positive cases in countries with a high burden of TB in the Region, 2006–2007 ................................................................. 13
Table 7. External quality assessment of sputum smear microscopy in countries with a high burden of TB in the Region, 2007 .................................................. 15
Table 8. Laboratory services in countries with a high burden of TB in the Region, 2007 ............................................................................................................. 15
Table 9. Key indicators, Cambodia, 2007 .......................................................... 18
Table 10. Surveillance and DOTS implementation, Cambodia, 2007 .............................................................. 18
Table 11. Trend of DOTS performance indicators, Cambodia ................................................. 18
Table 12. Key indicators, China, 2007 ........................................................................... 21
Table 13. Surveillance and DOTS implementation, China, 2006 ........................................................ 21
Table 14. Trend of DOTS performance indicators, China ........................................................ 22
Table 15. Key indicators, The Lao People's Democratic Republic, 2007 ........................................ 25
Table 16. Surveillance and DOTS implementation, The Lao People's Democratic Republic, 2007 ............................................................ 26
Table 18. Key indicators, Mongolia, 2007 ........................................................................... 29
Table 19. Surveillance and DOTS implementation, Mongolia, 2007 ................................................. 30
Table 20. Trend of DOTS performance indicators, Mongolia, 2000–2007 ................................. 30
Table 21. Key indicators, Papua New Guinea, 2007 .............................................................. 33
Table 22. Surveillance and DOTS implementation, Papua New Guinea, 2007 ........................................ 34
Table 24. Key indicators, The Philippines, 2007 ........................................................................... 37
Table 25. Surveillance and DOTS implementation, The Philippines, 2007 ................................. 38
Table 27. Key indicators, Viet Nam, 2007 .............................................................. 42
Table 28. Surveillance and DOTS implementation, Viet Nam, 2007 .......................................................... 42
Table 29. Trend of DOTS performance indicators, Viet Nam, 2000–2007 ............................................. 42
Table 30. Key indicators of TB control in the Pacific island countries and areas in the Region, 2007 ................................................................. 46
Table 31. Estimated burden of TB, 2000 and 2007 .............................................................. 64
Table 32. Whole country and area case notifications and case detection rates, 2007 ........................................................................................................ 66
Table 33. DOTS coverage, case notifications and case detection rates, 2007 ......................... 68
Table 34. Laboratory services, management of MDR-TB and collaborative TB-HIV activities .............................................................................................. 70
Table 35. Treatment outcomes, 2006 cohort ........................................................................... 72
Table 36. Re-treatment outcomes, 2006 cohort ........................................................................ 74
Table 37. DOTS treatment success and case detection rates, 1994–2007 ........................................ 76
Table 38. New smear-positive case notification by age and sex, absolute numbers, DOTS and non-DOTS, 2007 ................................................................. 78
Table 39. New smear-positive case notification rates by age and sex, DOTS and non-DOTS, 2007 ........................................................................ 80
Table 40. Number of TB cases notified, 1980–2007 ................................................................ 82
List of abbreviations

ART  antiretroviral therapy
CTX  co-trimoxazole prophylaxis
DOTS  directly observed treatment, short-course
DRS  drug resistance surveillance
DST  drug susceptibility testing
EQA  external quality assessment
GLC  Green Light Committee
HIV  human immunodeficiency virus
IDU  injecting drug users
IPT  isoniazid preventive therapy
MDR-TB  multidrug-resistant tuberculosis
NAP  national AIDS control programme
NTP  national tuberculosis control programme
PLWHA  people living with HIV/AIDS
pop  population
ss+ or ss-  sputum smear-positive or sputum smear-negative
SRLN  supranational laboratory network
TB  tuberculosis
WHO  World Health Organization
Executive summary

The 2009 report on tuberculosis (TB) control in the WHO Western Pacific Region presents data on disease burden, case notifications in 2007 and treatment outcomes for patients registered in 2006. The report also includes information on drug resistance, TB-HIV co-infection, laboratory services, profiles of seven countries with a high burden of TB in the Region, and a summary of the epidemiologic indicators in Pacific island countries and areas in the Region. The report aims to provide an update on the current epidemiological situation of TB and to show progress in TB control in the Region.

The report highlights the following:

**TB burden**
There were an estimated 1.9 million incident cases of TB (108 per 100 000 population) in 2007, including 0.9 million new smear-positive cases (48 per 100 000 population). In absolute numbers, China, the Philippines, Viet Nam, and Cambodia ranked first to fourth, respectively. These four countries accounted for 93% of the total estimated incident cases in the Region. Cambodia had the highest incidence rate (495 per 100 000 population). Death from TB occurred in approximately 0.3 million cases (16 per 100 000 population). The mortality rate was highest in Cambodia (89 per 100 000 population).

**Progress towards 2010 regional goal**
The 2010 regional goal is to decrease by half the TB prevalence and mortality rates from 2000. From 2000 to 2007, the TB prevalence rate declined by 24% at a rate of -4.5% per year and the mortality rate declined by 19% at a rate of -3.7% per year. At the current rate of decline, the prevalence rate will drop from 260 to 169 per 100 000 population by 2010, and the mortality rate from 21 to 15 per 100 000 population.

**Case notification and trends**
The Region accounted for approximately 1.4 million cases of all forms of TB notified in 2007 (77 per 100 000 population), corresponding to 25% of the total cases notified globally. There were approximately 0.7 million notified cases of smear-positive TB (38 per 100 000 population), corresponding to 26% of the total smear-positive cases notified globally. The largest number of smear-positive cases was reported from China (0.5 million), followed by the Philippines (87 000) and Viet Nam (54 000).

**Treatment outcomes**
Of the 0.7 million new pulmonary smear-positive cases registered for treatment in directly observed treatment, short-course (DOTS) areas in 2006, treatment success rate was 92%. Treatment success rates were above the 85% target in all countries with a high burden of TB, except Papua New Guinea, where it was reported at 73%.

**Multidrug-resistant TB**
The proportion of MDR-TB in new TB cases was estimated to be 4%, of which cases from China, the Philippines, and Viet Nam accounted for 97% of the overall total MDR-TB cases. The proportion of MDR-TB in re-treatment cases was estimated to be 24%.
**TB-HIV co-infection**

Among the reporting countries and areas, 95 300 TB patients, which represents 7.0% of the 1 365 284 TB cases notified (new and relapse), were tested for HIV infection. Out of 95 300 tested, 6679 were found to be HIV positive (7.0%). The overall estimated prevalence of HIV in new TB cases was 2.7% in the Region.

**Laboratory services**

In 2007, there were 7997 TB laboratories that performed acid-fast bacilli (AFB) smear microscopy, 6262 (78%) of which participated in external quality assessment (EQA) programmes. In five of the seven countries with a high burden of TB—Cambodia, China, the Lao People’s Democratic Republic, Mongolia, and the Philippines—over 93 % of sputum smear microscopy centres participated in EQA activities.
## Summary Table

### Table 1. Main TB indicators 2007

<table>
<thead>
<tr>
<th>Population thousands</th>
<th>DOTS coverage %</th>
<th>Incidence and case</th>
<th>Prevalence</th>
<th>Mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>all forms rate †</td>
<td>ss+ rate †</td>
<td>new ss+ %</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2000 All forms rate †</td>
<td>2007 All forms rate †</td>
<td>change* %</td>
</tr>
<tr>
<td>American Samoa</td>
<td>67</td>
<td>100</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Australia</td>
<td>20 743</td>
<td>100</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Brunei Darussalam</td>
<td>390</td>
<td>100</td>
<td>59</td>
<td>39</td>
</tr>
<tr>
<td>Cambodia</td>
<td>14 444</td>
<td>100</td>
<td>495</td>
<td>219</td>
</tr>
<tr>
<td>China</td>
<td>1 328 630</td>
<td>100</td>
<td>98</td>
<td>44</td>
</tr>
<tr>
<td>China, Hong Kong SAR</td>
<td>7206</td>
<td>100</td>
<td>62</td>
<td>28</td>
</tr>
<tr>
<td>China, Macao SAR</td>
<td>481</td>
<td>100</td>
<td>63</td>
<td>28</td>
</tr>
<tr>
<td>Cook Islands</td>
<td>13</td>
<td>100</td>
<td>15</td>
<td>7</td>
</tr>
<tr>
<td>Fiji</td>
<td>839</td>
<td>100</td>
<td>21</td>
<td>9</td>
</tr>
<tr>
<td>French Polynesia</td>
<td>263</td>
<td>100</td>
<td>27</td>
<td>8</td>
</tr>
<tr>
<td>Guam</td>
<td>173</td>
<td>100</td>
<td>34</td>
<td>3</td>
</tr>
<tr>
<td>Japan</td>
<td>127 967</td>
<td>99</td>
<td>21</td>
<td>9</td>
</tr>
<tr>
<td>Kiribati</td>
<td>95</td>
<td>100</td>
<td>365</td>
<td>164</td>
</tr>
<tr>
<td>Lao PDR</td>
<td>5859</td>
<td>100</td>
<td>151</td>
<td>67</td>
</tr>
<tr>
<td>Malaysia</td>
<td>26 572</td>
<td>100</td>
<td>103</td>
<td>45</td>
</tr>
<tr>
<td>Marshall Islands</td>
<td>59</td>
<td>96</td>
<td>215</td>
<td>97</td>
</tr>
<tr>
<td>Micronesia</td>
<td>111</td>
<td>97</td>
<td>37</td>
<td>44</td>
</tr>
<tr>
<td>Mongolia</td>
<td>2629</td>
<td>100</td>
<td>205</td>
<td>92</td>
</tr>
<tr>
<td>Nauru</td>
<td>10</td>
<td>100</td>
<td>33</td>
<td>33</td>
</tr>
<tr>
<td>New Caledonia</td>
<td>291</td>
<td>100</td>
<td>22</td>
<td>9</td>
</tr>
<tr>
<td>New Zealand</td>
<td>4179</td>
<td>100</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>Niue</td>
<td>2</td>
<td>100</td>
<td>24</td>
<td>34</td>
</tr>
<tr>
<td>Northern Mariana Islands</td>
<td>184</td>
<td>100</td>
<td>58</td>
<td>32</td>
</tr>
<tr>
<td>Palau</td>
<td>20</td>
<td>100</td>
<td>60</td>
<td>27</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>6331</td>
<td>14</td>
<td>250</td>
<td>108</td>
</tr>
<tr>
<td>Philippines</td>
<td>87 960</td>
<td>100</td>
<td>790</td>
<td>130</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>48 224</td>
<td>100</td>
<td>90</td>
<td>40</td>
</tr>
<tr>
<td>Samoa</td>
<td>187</td>
<td>100</td>
<td>19</td>
<td>8</td>
</tr>
<tr>
<td>Singapore</td>
<td>29</td>
<td>100</td>
<td>128</td>
<td>58</td>
</tr>
<tr>
<td>Solomon Islands</td>
<td>496</td>
<td>100</td>
<td>128</td>
<td>58</td>
</tr>
<tr>
<td>Tokelau</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tonga</td>
<td>104</td>
<td>100</td>
<td>24</td>
<td>13</td>
</tr>
<tr>
<td>Tuvalu</td>
<td>11</td>
<td>100</td>
<td>166</td>
<td>75</td>
</tr>
<tr>
<td>Vanuatu</td>
<td>226</td>
<td>83</td>
<td>77</td>
<td>35</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>87 375</td>
<td>100</td>
<td>171</td>
<td>76</td>
</tr>
<tr>
<td>Wallis and Futuna</td>
<td>15</td>
<td>100</td>
<td>15</td>
<td>7</td>
</tr>
<tr>
<td><strong>Western Pacific Region</strong></td>
<td><strong>1 776 440</strong></td>
<td><strong>100</strong></td>
<td><strong>108</strong></td>
<td><strong>48</strong></td>
</tr>
</tbody>
</table>

---

est. = estimated; CDR = case detection rate; ss+ = sputum smear-positive; ss− = sputum smear-negative; unk. = sputum smear result unknown;  
* 2007 value / 2000 value, expressed as a percentage. The 2010 target is 50%  
† per 100,000 population
<table>
<thead>
<tr>
<th>New and relapse</th>
<th>Notified TB cases</th>
<th>Cure/Success</th>
<th>Est. HIV-TB</th>
<th>Est. MDR-TB</th>
</tr>
</thead>
<tbody>
<tr>
<td>New pulmonary</td>
<td>2006 ss+ cohort</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>number</td>
<td>ss+ number</td>
<td>rate †</td>
<td>ss/-unk.</td>
<td>cured</td>
</tr>
<tr>
<td>New and relapse</td>
<td>number</td>
<td></td>
<td>number</td>
<td></td>
</tr>
<tr>
<td>new and relapse</td>
<td>rate †</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>number</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>1115</td>
<td>5</td>
<td>281</td>
<td>1</td>
<td>372</td>
</tr>
<tr>
<td>207</td>
<td>53</td>
<td>136</td>
<td>35</td>
<td>8</td>
</tr>
<tr>
<td>35 601</td>
<td>246</td>
<td>19 421</td>
<td>134</td>
<td>7120</td>
</tr>
<tr>
<td>979 902</td>
<td>74</td>
<td>465 877</td>
<td>35</td>
<td>430 634</td>
</tr>
<tr>
<td>5363</td>
<td>74</td>
<td>1501</td>
<td>21</td>
<td>2779</td>
</tr>
<tr>
<td>342</td>
<td>71</td>
<td>138</td>
<td>29</td>
<td>147</td>
</tr>
<tr>
<td>94</td>
<td>11</td>
<td>52</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>64</td>
<td>24</td>
<td>19</td>
<td>7</td>
<td>32</td>
</tr>
<tr>
<td>53</td>
<td>31</td>
<td>5</td>
<td>3</td>
<td>43</td>
</tr>
<tr>
<td>24 779</td>
<td>19</td>
<td>9433</td>
<td>7</td>
<td>9051</td>
</tr>
<tr>
<td>334</td>
<td>351</td>
<td>103</td>
<td>108</td>
<td>78</td>
</tr>
<tr>
<td>1305</td>
<td>67</td>
<td>3080</td>
<td>53</td>
<td>437</td>
</tr>
<tr>
<td>16 129</td>
<td>61</td>
<td>9578</td>
<td>36</td>
<td>4086</td>
</tr>
<tr>
<td>158</td>
<td>267</td>
<td>19</td>
<td>32</td>
<td>97</td>
</tr>
<tr>
<td>133</td>
<td>123</td>
<td>47</td>
<td>42</td>
<td>162</td>
</tr>
<tr>
<td>4654</td>
<td>177</td>
<td>1856</td>
<td>71</td>
<td>673</td>
</tr>
<tr>
<td>3</td>
<td>30</td>
<td>3</td>
<td>30</td>
<td>50</td>
</tr>
<tr>
<td>41</td>
<td>39</td>
<td>12</td>
<td>5</td>
<td>115</td>
</tr>
<tr>
<td>274</td>
<td>7</td>
<td>81</td>
<td>2</td>
<td>108</td>
</tr>
<tr>
<td>44</td>
<td>44</td>
<td>47</td>
<td>42</td>
<td>45</td>
</tr>
<tr>
<td>11</td>
<td>54</td>
<td>5</td>
<td>25</td>
<td>3</td>
</tr>
<tr>
<td>15 002</td>
<td>237</td>
<td>2087</td>
<td>33</td>
<td>5731</td>
</tr>
<tr>
<td>37 554</td>
<td>78</td>
<td>10 927</td>
<td>23</td>
<td>18 778</td>
</tr>
<tr>
<td>397</td>
<td>80</td>
<td>142</td>
<td>29</td>
<td>147</td>
</tr>
<tr>
<td>18</td>
<td>171</td>
<td>12</td>
<td>114</td>
<td>75</td>
</tr>
<tr>
<td>122</td>
<td>54</td>
<td>41</td>
<td>18</td>
<td>38</td>
</tr>
<tr>
<td>97 400</td>
<td>111</td>
<td>54 457</td>
<td>62</td>
<td>17 554</td>
</tr>
<tr>
<td>2</td>
<td>13</td>
<td>1</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>1 365 284</td>
<td>77</td>
<td>666 412</td>
<td>38</td>
<td>548 024</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Region</th>
<th>Cure/Success</th>
<th>Est. HIV-TB</th>
<th>Est. MDR-TB</th>
<th>Percentage of new re-treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Samoa</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Australia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brunei Darussalam</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cambodia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>China</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>China, Hong Kong SAR</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>China, Macao SAR</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cook Islands</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fiji</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>French Polynesia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guam</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kiribati</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lao PDR</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malaysia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marshall Islands</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Micronesia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mongolia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nauru</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Caledonia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Zealand</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Niue</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Palau</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Philippines</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Republic of Korea</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samoa</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solomon Islands</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tokelau</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tonga</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuvalu</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vanuatu</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viet Nam</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wallis and Futuna</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Western Pacific Region**
Introduction

This report is the annual report on tuberculosis (TB) control published by the World Health Organization (WHO), Regional Office for the Western Pacific. Geographically and economically, the Western Pacific Region (the Region)—which covers East Asia and the Pacific—has great diversity of natural and human resources, economic dynamism, technological expertise and agricultural productivity. The Region has a total population of 1.776 million, representing approximately 27% of the world’s population.

Each year, 36 countries and areas in the Region\(^1\) submit data to WHO using a standardized data collection form for reporting surveillance data. Using data on disease burden and case notifications in 2007 and treatment outcomes of patients registered for treatment in 2006, this report presents an assessment of TB epidemiology, burden, estimation and progress towards the regional goal of reducing 2000 prevalence and mortality rates by half by 2010.\(^2\) The outcome targets are detection of at least 70% of new smear-positive cases and successful treatment of at least 85% of detected cases. This report includes data on drug resistance,\(^3\) TB-HIV surveillance and laboratory services within the Region.

The report provides country and area-specific data, which include epidemiologic indicators and detailed estimation of prevalence and mortality for Pacific island countries and areas, and the seven countries and areas with a high burden of TB. In addition, a list of major partners involved in TB control activities with contact information is listed for each country with a high burden of TB.

There are seven annexes. The first four describe methods for estimation of prevalence, mortality and numbers of multidrug-resistant TB\(^4\) (MDR-TB) cases, and provide definitions and formulas used to derive estimates. Annex 5 lists the different partners involved in the seven countries with a high burden of TB. Annex 6 lists all the tables used as reference in this report. The notified prevalence of resistance to anti-TB drugs can be found in Annex 7.

---

1. See Table 1 for countries and areas in the Region.
2. The regional goal differs from the Millennium Development Goals.
4. Isolate resistant to at least isoniazid and rifampicin.
2 Epidemiology

2.1 Estimated burden

In 2007, there were an estimated 3.5 million prevalent cases of TB (197 per 100,000 population) in the Region. Over 1.9 million of these were new cases (108 per 100,000 population), including 0.9 million new smear-positive cases (48 per 100,000 population). The estimated number of incident cases account for 21% of the global burden of TB (Figure 1). Figure 2 shows the estimated prevalence and incidence rates of TB by country and area. The incidence rate was highest in Cambodia (495 per 100,000 population). Cases from Cambodia, China, the Philippines and Viet Nam together account for 93% of all incident cases. Figure 3 shows the number of incident cases among countries with a high burden of TB in the Region.

Figure 1. Estimated incident cases of all forms of TB by WHO Region, 2007 (N=9,272,799)

Figure 2. Prevalence (left) and incidence (right) rates of all forms of TB by country and area, 2007
Death from TB occurred in approximately 0.3 million cases in 2007 (16 per 100,000 population). The mortality rate was highest in Cambodia (89 per 100,000 population) and lowest in Australia and New Zealand (1 per 100,000 population). Deaths from TB in Cambodia, China, the Philippines, and Viet Nam account for 93% of all TB mortality in the Region.

2.2 Progress towards 2010 regional goal

The 2010 regional goal is to decrease by half the TB prevalence and mortality rates from 2000. From 2000 to 2007, the prevalence rate declined by 24% at a rate of -4.5% per year and the mortality rate declined by 19% at a rate of -3.7% per year (Figure 4). At the current rate of decline, by 2010 the prevalence rate is projected to drop from 260 to 169 per 100,000 population and the mortality rate from 21 to 15 per 100,000 population (see the estimation method in Annex 1) (Table 2). It is evident that with the current trend for prevalence and mortality rates, this goal will not be met.
Table 2. Estimated TB prevalence and mortality in 2010 by countries with a high burden of TB in the Region, and 2010 regional goal

<table>
<thead>
<tr>
<th>Country</th>
<th>Prevalence rate</th>
<th>Mortality rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Overall change 2000-2007</td>
<td>Annual rate of decline</td>
</tr>
<tr>
<td>Cambodia</td>
<td>-12%</td>
<td>-2.0%</td>
</tr>
<tr>
<td>China</td>
<td>-28%</td>
<td>-5.3%</td>
</tr>
<tr>
<td>Lao People’s Democratic Republic</td>
<td>-16%</td>
<td>-2.7%</td>
</tr>
<tr>
<td>Mongolia</td>
<td>-21%</td>
<td>-3.9%</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>-12%</td>
<td>-1.8%</td>
</tr>
<tr>
<td>Philippines</td>
<td>-17%</td>
<td>-2.6%</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>-11%</td>
<td>-1.7%</td>
</tr>
<tr>
<td>Western Pacific Region</td>
<td>-24%</td>
<td>-4.5%</td>
</tr>
</tbody>
</table>

* Average from 2000 through 2007
† Per 100 000 population, assuming current rate of change
‡ Assuming current annual rate of change

2.3 Case notification and trend

The Region accounted for approximately 1.4 million cases of all forms of TB notified in 2007 (77 per 100 000 population), corresponding to 25% of the total cases notified globally. There were approximately 0.7 million notified cases of smear-positive TB (38 per 100 000 population), corresponding to 26% of the total smear-positive cases notified globally. The largest number of smear-positive cases was reported from China (0.5 million), followed by the Philippines (87 000) and Viet Nam (54 000). Together with Cambodia, cases from these countries accounted for 94% of all cases notified in the Region. Figure 5 shows case notification rates for all forms of TB in countries and areas in the Region and neighbouring countries and areas in 2007. Two countries with a high burden of TB in the Region, Cambodia and Papua New Guinea, had case notification rates of ≥200 per 100 000 population.

Figure 5. Case notification rates per 100 000 population for all forms of TB in countries and areas in the Region and neighbouring countries and areas, 2007

The boundaries shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. White lines on maps represent approximate border lines for which there may not yet be full agreement. © WHO 2005. All rights reserved
Since 2002, the case notification rates in the Region have steadily increased from 47 to 75 per 100,000 population in all forms of TB (trend +11.8% per year; 95% CI, +5.4% to +18.2%) and from 22 to 38 per 100,000 population in new smear-positive TB cases (trend +14.7% per year; 95% CI, +6.9% to +22.5%). Compared to 2005 however, the case notification rate in new smear-positive cases in 2006 was relatively unchanged (Figure 4).

Figure 6. Case notification rates (all forms of TB and smear-positive cases) in the Region, 1998–2007

Table 3 shows case notification rates among countries with a high burden of TB for 2006 and 2007. An increase in the rate can be seen in Papua New Guinea for all forms of TB by 17% and smear-positive cases by 7%. A decrease in the rate can be seen in Mongolia for all forms of TB by 9% and smear-positive cases by 13%.

Table 3. Case notification number and rates (all forms of TB and smear-positive cases) among countries with a high burden of TB in the Region, 2006–2007

<table>
<thead>
<tr>
<th>Country</th>
<th>All forms (new and relapse)</th>
<th>Smear-positive</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2006</td>
<td>2007</td>
</tr>
<tr>
<td>Cambodia</td>
<td>34660</td>
<td>244</td>
</tr>
<tr>
<td>China</td>
<td>94089</td>
<td>71</td>
</tr>
<tr>
<td>Lao People's Democratic Republic</td>
<td>3958</td>
<td>69</td>
</tr>
<tr>
<td>Mongolia</td>
<td>5049</td>
<td>194</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>12620</td>
<td>203</td>
</tr>
<tr>
<td>Philippines</td>
<td>147305</td>
<td>171</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>97363</td>
<td>113</td>
</tr>
</tbody>
</table>

Table 3: Case notification number and rates (all forms of TB and smear-positive cases) among countries with a high burden of TB in the Region, 2006–2007

* per 100,000 population
# number

Figure 7 shows the case notification rates (new smear-positive) by age and sex for the Region and the seven countries with a high burden of TB. In general, TB disproportionately affected males and older persons, however in Mongolia and Papua New Guinea, cases were equally distributed in different age groups.
Figure 7. Smear-positive notification rates, by age and sex, in the Region and the seven countries with a high burden of TB, 2007

The distribution of sex ratio of notified smear-positive cases by age group showed very different patterns between Cambodia and Viet Nam (Figure 8). The sex ratio is consistently close to 1.0 through all ages, except the age group of 65 years or older in Cambodia, while the ratio is more than 2.0 from ages 25 to 64 in Viet Nam. Further study is needed to analyze the data and explain the difference in these patterns.

Figure 8. Distribution of sex ratio (male to female) of notified smear-positive cases by age group in Cambodia and Viet Nam, 2007
2.4 Drug resistance

Figure 9 shows the proportions of MDR-TB cases in new and re-treatment cases estimated to have occurred in selected countries and areas in 2007 (see Annex 2 for estimation method). A total of 135,411 MDR-TB cases were estimated to have occurred in 2007 (see Annex 5).

In 2007, the proportion of MDR-TB in new TB cases was estimated to be 4%. The proportion of MDR-TB in re-treatment cases was estimated to be 24%. MDR-TB cases from China, the Philippines, and Viet Nam accounted for 97% of the total estimated MDR-TB cases among both new and re-treatment cases. The proportion of re-treatment cases among all notified cases in 2007 was 10% (see Annex 7). Table 4 shows a breakdown of re-treatment cases and the percentage of re-treatment cases who received drug susceptibility testing (DST).

Table 4. Breakdown of re-treatment cases and number of cases receiving DST in the seven countries with a high burden of TB, 2007

<table>
<thead>
<tr>
<th>Country</th>
<th>a Relapse number</th>
<th>b After failure number</th>
<th>c After default number</th>
<th>a + b + c</th>
<th># of ss+ re-treatment DST</th>
<th>% of re-treatment cases who received DST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cambodia</td>
<td>645</td>
<td>75</td>
<td>20</td>
<td>743</td>
<td>56</td>
<td>7.5</td>
</tr>
<tr>
<td>China</td>
<td>46,379</td>
<td>2,534</td>
<td>2,814</td>
<td>51,727</td>
<td>236</td>
<td>0.5</td>
</tr>
<tr>
<td>Lao People’s Democratic Republic</td>
<td>122</td>
<td>17</td>
<td>12</td>
<td>151</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Mongolia</td>
<td>293</td>
<td>90</td>
<td>35</td>
<td>418</td>
<td>180</td>
<td>43.1</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>96</td>
<td>-</td>
<td>-</td>
<td>96</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Philippines</td>
<td>3,087</td>
<td>479</td>
<td>535</td>
<td>4,101</td>
<td>325</td>
<td>7.9</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>6714</td>
<td>599</td>
<td>345</td>
<td>7,658</td>
<td>0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

# = number; ss+ = sputum smear-positive
Based on overall case management data, 10,231 new patients and 1,596 re-treatment patients were reported with available DST results in the Region. Of these, 1% (89/10,231) and 29% (468/1,596) had MDR-TB, respectively. It is evident that there is a need to scale up the capacity to detect and treat MDR-TB cases in the Region, particularly in countries and areas reported to have a high prevalence of MDR-TB.

Figures 10 and 11 show the geographical distribution of the proportion of MDR-TB among new and re-treatment TB cases by country and area in the Region. In China, the proportion of MDR-TB among new cases tested for resistance was greater than 7% in three provinces—Henan (7.8%), Heilongjiang (7.2%), and Inner Mongolia (7.0%). These provinces have implemented a successful DOTS programme for nearly 10 years. This suggests that MDR-TB management in addition to a successful DOTS programme is essential.

**Figure 10.** Geographical distribution of proportion of MDR-TB among new TB cases by country and area in the Region, 2000–2008*

*The data from Australia, Fiji, Guam, New Caledonia, and Solomon Islands indicate new and re-treatment cases combined. Only data on new cases are available for the Commonwealth of the Northern Mariana Islands and Vanuatu.

The boundaries shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. White lines on maps represent approximate border lines for which there may not yet be full agreement.

© WHO 2005. All rights reserved.
Information on MDR-TB in Papua New Guinea is limited. However, a recent report showed that between 2000 and 2006, there were 60 bacteriologically confirmed cases of TB identified among villagers in the Western Province of Papua New Guinea presenting to clinics in the islands in Torres Strait, which lies between mainland Australia and Papua New Guinea. Of the TB strains isolated, 15 (25%) were MDR-TB. No XDR-TB strains were detected. The information on the patients’ history of TB treatment before presenting to the clinics was not known. This report may suggest that the prevalence of MDR-TB in the western province of Papua New Guinea is high. It is critical to improve the quality of DOTS to prevent the emergence of MDR-TB in the community.

Based on data from the Global Project on Anti-tuberculosis Drug Resistance Surveillance, the proportion of XDR-TB among MDR-TB cases was 14.6% and 30.9% in Japan (Annex 8).

---

5 Gilpin CM et al. Evidence of primary transmission of multidrug-resistant tuberculosis in the Western Province of Papua New Guinea. MJA, 2008;188:148-152
2.5 TB-HIV

2.5.1 Estimated prevalence of HIV among new TB cases

HIV infection fuels the TB epidemic, particularly in countries and areas with a high burden of TB. HIV reduces cell-mediated immunity and is an important risk factor for the development of TB. The annual risk of developing active TB disease in a co-infected person ranges from 5% to 15%, depending on the degree of immune suppression. In the past 10–15 years, TB case numbers have increased by 300%–400% in high HIV-prevalent countries. To a lesser extent, TB-HIV co-infection also affects some countries and areas in the Region.

In 2007, the overall estimated prevalence of HIV in new TB cases was 2.7% in the Region. Figure 12 shows the prevalence for selected countries.

Figure 12. Estimated HIV prevalence in incident TB cases (%) in selected countries in the Region, 2007

In all countries and areas in the Region, HIV prevalence in new TB cases is consistently higher than the prevalence of HIV in the adult population (Figure 13).

Figure 13. Estimated prevalence of HIV in new TB cases against prevalence of HIV in adults in countries and areas in the Region, 2007
2.5.2 Surveillance data on HIV in TB cases

In Cambodia, HIV prevalence fell to an estimated 0.8% among the adult population in 2007, down from a peak of 2.0% in 1998. Three national surveys of HIV prevalence in TB patients showed a significant decline, from 11.8% in 2003 to 9.9% in 2005 to 7.8% in 2006. Current estimates for 2007 showed a prevalence of 8.0%.

The overall percentage of TB patients tested for HIV in the Region was 7.0% of total notified cases. Across the reporting countries and areas, HIV testing of 95,300 TB patients led to the identification of 6,679 HIV-positive cases, representing 7.0% of total tested cases (Table 5).

Table 5. Surveillance data on HIV in TB cases in selected countries in the Region, 2007

<table>
<thead>
<tr>
<th>Country and area</th>
<th>TB cases notified (new and relapse)</th>
<th>Tested for HIV</th>
<th>Positive for HIV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># (percentage)</td>
<td># (percentage)</td>
<td></td>
</tr>
<tr>
<td>Cambodia</td>
<td>35,601 (40.0)</td>
<td>2,922 (20.5)</td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>979,502 (3.5)</td>
<td>1,187 (3.4)</td>
<td></td>
</tr>
<tr>
<td>Lao People’s Democratic Republic</td>
<td>3,905 (10.9)</td>
<td>155 (36.6)</td>
<td></td>
</tr>
<tr>
<td>Mongolia</td>
<td>16,129 (62.5)</td>
<td>1,629 (16.2)</td>
<td></td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>15,002 (0.8)</td>
<td>17 (14.5)</td>
<td></td>
</tr>
<tr>
<td>Philippines</td>
<td>140,588 (0.1)</td>
<td>0 (0)</td>
<td></td>
</tr>
<tr>
<td>Viet Nam</td>
<td>97,400 (14.7)</td>
<td>627 (4.4)</td>
<td></td>
</tr>
<tr>
<td><strong>Western Pacific Region</strong></td>
<td><strong>1,365,284 (7.0)</strong></td>
<td><strong>6,679 (7.0)</strong></td>
<td></td>
</tr>
</tbody>
</table>

# = number; % = percentage
3 TB Control

3.1 DOTS coverage, case detection, and trend

Overall, DOTS coverage in the Region was 99.6% in 2007 (Table 6) with 28 countries and areas, including six countries with a high burden of TB, reaching 100% coverage. The case detection rates for Mongolia and Papua New Guinea decreased from the previous year by 14% and 32%, respectively. The overall case detection rate for the Region, however, remained the same compared to the previous year.

Table 6. Case detection rates of smear-positive cases in countries with a high burden of TB in the Region, 2006–2007

<table>
<thead>
<tr>
<th>Country</th>
<th>DOTS coverage in 2007 (%)</th>
<th>Case detection rates (%)</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>DOTS area</td>
<td>DOTS + non-DOTS area*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2006</td>
<td>2007</td>
<td>% change</td>
<td>2006</td>
<td>2007</td>
</tr>
<tr>
<td>Cambodia</td>
<td>100</td>
<td>62</td>
<td>61 -2</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>China</td>
<td>100</td>
<td>80</td>
<td>80 0</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Lao People's Democratic Republic</td>
<td>100</td>
<td>77</td>
<td>78 1</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Mongolia</td>
<td>100</td>
<td>88</td>
<td>76 -14</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>14</td>
<td>22</td>
<td>15 -32</td>
<td></td>
<td>28</td>
<td>31</td>
</tr>
<tr>
<td>Philippines</td>
<td>100</td>
<td>75</td>
<td>75 0</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>100</td>
<td>86</td>
<td>82 -5</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Western Pacific Region</strong></td>
<td><strong>99.6</strong></td>
<td><strong>77</strong></td>
<td><strong>77 0</strong></td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

* Countries and areas with 100% DOTS coverage have no non-DOTS area by definition; the figures are the same in the left column.

In 2005, the Region reached the global and regional target of detecting 70% of the estimated new smear-positive TB cases and has sustained high case detection rates since then (Figure 14). In 2007, 20 countries and areas in the Region reached the target, contributing to a regional case detection rate of 77%.

Figure 14. Trends in DOTS coverage and case detection in smear-positive cases in the Region, 1995–2007

6 A revised internal definition of DOTS coverage for Papua New Guinea was used in 2007, which may explain the decrease.
3.2 Treatment outcomes

The Region continued to observe treatment success rates beyond the target of 85%. In 2006, treatment success was reported at 92% overall for the approximately 0.7 million new pulmonary smear-positive cases registered for treatment in DOTS areas. Across the Region, 19 countries and areas reached the 85% treatment success target. Because DOTS coverage in the Region was nearly 100%, approximately only 400 cases were not treated under DOTS. The success treatment target was not met in this group due to a high number of non-evaluated cases. Among those countries with a high burden of TB, the treatment success rate was the highest in China (94%), followed by Cambodia (93%) and Viet Nam (92%). The treatment success rate of Papua New Guinea improved from 71% in 2005 to 73% in the 2006 cohort (Figure 15).

Figure 15. Treatment outcomes for new smear-positive cases registered in 2006 in DOTS areas in countries with a high burden of TB in the Region

Overall, unfavourable treatment outcomes of 8% and 13% were reported from the 2006 cohorts of new smear-positive cases and re-treatment smear-positive cases, respectively. Transfer-out accounted more than one third of unfavourable outcomes for both new smear-positive cases and re-treatment smear-positive cases (Figure 16). It should be noted that the cases reported under the category transfer-out can have any of the other treatment outcomes, but detailed information is not available, as follow-up outcomes are not recorded in the TB registers.

Figure 16. Unfavourable outcomes among new smear-positive cases and re-treatment smear-positive cases registered in 2006 in DOTS areas in the Region*

*Number in each segment indicates the respective proportion of treatment outcome.
3.3 Laboratory capacity

In 2007, there were 7997 TB laboratories that performed acid-fast bacilli (AFB) smear microscopy, 6262 (78%) of which participated in external quality assessment (EQA) programmes. In five of the seven countries with a high burden of TB—Cambodia, China, the Lao People’s Democratic Republic, Mongolia, and the Philippines—over 93% of sputum smear microscopy centres participated in EQA activities. Between 2006 and 2007, the percentage of laboratories participating in EQA programmes increased significantly in Papua New Guinea (Table 7).

Table 7. External quality assessment of sputum smear microscopy in countries with a high burden of TB in the Region, 2007

<table>
<thead>
<tr>
<th>Country</th>
<th># of smear microscopy labs</th>
<th>Labs included in EQA (%)</th>
<th>% change from 2006</th>
<th># of labs with unsatisfactory result (%)*</th>
<th>Labs in which necessary corrective actions were taken (%)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cambodia</td>
<td>201</td>
<td>93</td>
<td>-7</td>
<td>30</td>
<td>79</td>
</tr>
<tr>
<td>China</td>
<td>3294</td>
<td>100</td>
<td>8</td>
<td>3</td>
<td>100</td>
</tr>
<tr>
<td>Lao People’s Democratic Republic</td>
<td>155</td>
<td>99</td>
<td>11</td>
<td>46</td>
<td>95</td>
</tr>
<tr>
<td>Mongolia</td>
<td>37</td>
<td>100</td>
<td>0</td>
<td>19</td>
<td>57</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>70</td>
<td>49</td>
<td>24</td>
<td>18</td>
<td>100</td>
</tr>
<tr>
<td>Philippines</td>
<td>2374</td>
<td>100</td>
<td>0</td>
<td>30</td>
<td>63</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>737</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

# = number; labs = laboratories; EQA = external quality assessment; - = not available

* - Based on data presented at the “Workshop on Strengthening TB Laboratories”, held in Hong Kong, October 2008.

Of the 7997 laboratories, 463 laboratories were capable of performing AFB culture and 224 were capable of performing DST (Table 8). Of these, 327 and 187, respectively, were located in China. All seven countries with high burden of TB, except for the Lao People’s Democratic Republic, have at least one laboratory performing culture testing. Overall, the number of laboratories in the Region capable of doing culture and DST is insufficient, given the threat of MDR-TB and TB-HIV co-infection and the need to detect and treat cases under such conditions.

Table 8. Laboratory services in countries with a high burden of TB in the Region, 2007

<table>
<thead>
<tr>
<th>Country</th>
<th>Population (thousand)</th>
<th>Sputum smear</th>
<th>Culture</th>
<th>DST</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td># of labs /100 000 pop</td>
<td># of labs /5 mil. pop</td>
<td># of labs /10 mil. pop</td>
<td># of labs /mil. pop</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>-----------------------</td>
<td>--------------</td>
<td>---------</td>
<td>-----</td>
</tr>
<tr>
<td>Cambodia</td>
<td>14 444</td>
<td>201</td>
<td>1.4</td>
<td>3</td>
</tr>
<tr>
<td>China</td>
<td>1 328 630</td>
<td>3294</td>
<td>0.2</td>
<td>327</td>
</tr>
<tr>
<td>Lao People’s Democratic Republic</td>
<td>5859</td>
<td>155</td>
<td>2.6</td>
<td>0</td>
</tr>
<tr>
<td>Mongolia</td>
<td>2629</td>
<td>37</td>
<td>1.4</td>
<td>1</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>6331</td>
<td>70</td>
<td>1.1</td>
<td>1</td>
</tr>
<tr>
<td>Philippines</td>
<td>87 960</td>
<td>2374</td>
<td>2.7</td>
<td>3</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>87 375</td>
<td>737</td>
<td>0.8</td>
<td>17</td>
</tr>
<tr>
<td>Western Pacific Region</td>
<td>1 776 440</td>
<td>7997</td>
<td>0.5</td>
<td>463</td>
</tr>
</tbody>
</table>

# = number; labs = laboratories; pop = population; DST = drug susceptibility test; mil = million

1. To provide cultures for diagnosis of diagnostic lung, extrapulmonary and smear-negative TB cases, as well as DST for re-treatment and failure cases, most countries and areas will need one culture facility per 5 million population and one DST facility per 10 million population. However, for countries and areas with large populations, one laboratory for culture and DST in each major administrative area (e.g. province) may be sufficient.
Profiles of countries with a high burden of TB in the Region

Seven countries in the Region have a high burden of TB, accounting for 93% of the regional estimated incident cases. This section highlights epidemiological profiles and trends of TB for these countries.

**4.1 Cambodia**

Based on the 2004 intercensal survey, Cambodia's population was projected to be 14.3 million by the end of 2007. The population density is 74 per square kilometre. The median age is just less than 20 years, with the proportion of ages 0–24 being twice that of those 25–50. The male-to-female ratio is gradually normalizing after the distortions caused by 30 years of war during the last century. Although 85% of the population lives in rural areas, there is a significant urban drift, especially among young people.

Cambodia is one of 22 countries worldwide with a high burden of TB. It has the highest estimated incidence, prevalence and mortality rate in the Region. Although the national HIV prevalence in adults as well as HIV prevalence in incident TB cases has declined considerably in recent years, Cambodia remains affected by a TB/HIV epidemic. Drug resistance is starting to emerge among re-treated cases.

Main achievements of the national TB control programme (NTP) include sustaining treatment success rates of over 85% for over a decade, improving access to TB services through community-DOTS approaches, and expanding TB/HIV collaborative activities to increasing number of provinces. Major challenges include: strengthening the laboratory network; addressing infection control issues; and increasing case detection, laboratory capacity and motivation of staff.

*Figure 17. Cambodia*
### Surveillance and epidemiology

#### Table 9. Key indicators, Cambodia, 2007

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (thousand)</td>
<td>14,444</td>
</tr>
<tr>
<td><strong>TB Burden</strong></td>
<td></td>
</tr>
<tr>
<td>Incidence (all forms/100,000 population)</td>
<td>495</td>
</tr>
<tr>
<td>Incidence (ss+/100,000 population)</td>
<td>219</td>
</tr>
<tr>
<td>Prevalence (all forms/100,000 population)</td>
<td>664</td>
</tr>
<tr>
<td>Mortality (deaths/100,000 population)</td>
<td>89</td>
</tr>
<tr>
<td>Prevalence of HIV in adult incident TB cases (%)</td>
<td>8</td>
</tr>
<tr>
<td>New multidrug-resistant TB cases (%)</td>
<td>0</td>
</tr>
<tr>
<td>Previously treated multidrug-resistant TB cases (%)</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Table 10. Surveillance and DOTS implementation, Cambodia, 2007

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of notified cases (new and relapse)</td>
<td>35,601</td>
</tr>
<tr>
<td>Notification rate (new and relapse/100,000 population)</td>
<td>246</td>
</tr>
<tr>
<td>Notification rate (new ss+/100,000 population)</td>
<td>134</td>
</tr>
<tr>
<td>Case detection rate (all new, %)</td>
<td>49</td>
</tr>
<tr>
<td>Case detection rate (new ss+, %)</td>
<td>61</td>
</tr>
<tr>
<td>DOTS notification rate (new and relapse/100,000 population)</td>
<td>246</td>
</tr>
<tr>
<td>DOTS notification rate (new ss+/100,000 population)</td>
<td>134</td>
</tr>
<tr>
<td>DOTS case detection rate (all new, %)</td>
<td>49</td>
</tr>
<tr>
<td>DOTS case detection rate (new ss+, %)</td>
<td>61</td>
</tr>
<tr>
<td>DOTS treatment success (2006 cohort new ss+, %)</td>
<td>93</td>
</tr>
</tbody>
</table>

#### Table 11. Trend of DOTS performance indicators, Cambodia

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DOTS coverage (%)</td>
<td>99</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>DOTS notification rate (new and relapse/100,000 population)</td>
<td>148</td>
<td>147</td>
<td>185</td>
<td>209</td>
<td>223</td>
<td>253</td>
<td>244</td>
<td>246</td>
</tr>
<tr>
<td>DOTS notification rate (new ss+/100,000 population)</td>
<td>116</td>
<td>110</td>
<td>130</td>
<td>140</td>
<td>138</td>
<td>149</td>
<td>136</td>
<td>134</td>
</tr>
<tr>
<td>DOTS case detection rate (all new, %)</td>
<td>272</td>
<td>27</td>
<td>35</td>
<td>39</td>
<td>43</td>
<td>49</td>
<td>48</td>
<td>49</td>
</tr>
<tr>
<td>DOTS case detection rate (new ss+, %)</td>
<td>50</td>
<td>48</td>
<td>57</td>
<td>62</td>
<td>62</td>
<td>68</td>
<td>62</td>
<td>61</td>
</tr>
<tr>
<td>DOTS treatment success (new ss+, %)</td>
<td>91</td>
<td>92</td>
<td>92</td>
<td>93</td>
<td>91</td>
<td>93</td>
<td>93</td>
<td>-</td>
</tr>
<tr>
<td>DOTS re-treatment success (ss+, %)</td>
<td>90</td>
<td>92</td>
<td>89</td>
<td>87</td>
<td>86</td>
<td>76</td>
<td>85</td>
<td>-</td>
</tr>
</tbody>
</table>

Since 1998, case notification rates for all forms of TB increased from 36 to 74 per 100,000 population (trend +10% per year). Likewise, the rates for smear-positive cases increased from 110 to 150 per 100,000 population (trend +3% per year) (Figure 18).
The notification rates for all forms of TB vary among provinces and is highest in Svay Rieng (414/100 000 population), and lowest in Ratanak Kiri (67/100 000 population) (Figure 19). Provincial figures are available in Annex 6.

The distribution of forms of TB among new cases notified from 2003–2007 is shown in Figure 20. The proportion of smear-positive cases gradually decreased from 69% to 56% while the proportion of extrapulmonary cases gradually increased from 15% to 24%. The proportion of smear-negative cases remained steady with a range of 16% to 20%.

Since 2003, the proportion of relapse cases among all forms of cases has remained steady with a range of 2% to 3% (Annex 5). Likewise, the proportion of re-treatment cases to all notified cases remained steady with a range of 3% to 4% (Figure 21). Among re-treatment cases, the combination of relapse, after failure and after default cases accounted for a mean of 2% per year of the total notified cases since 2003.
MDR-TB activities

Cambodia submitted a Green Light Committee (GLC) application in 2006 through a joint nongovernmental organization (NGO) and NTP project and received approval for enrolment of 130 MDR-TB patients. Currently, over 60 patients have been initiated on treatment through these NGO-initiated projects that are closely implemented with the NTP in the existing public health facilities. The NTP plans to scale up these initiatives once funds from the Global Fund Round 7 are available, which are expected in mid-2009. A technical working group for MDR-TB has been established under the stewardship of the National Center for Tuberculosis and Leprosy Control (CENAT), and with representations from all key partners. The group is currently working on the national guidelines for programmatic management of MDR-TB.

In 2009, a GLC application for the planned expansion will be submitted, national guidelines will be finalized and standard training materials on MDR-TB will be developed. The main challenge relates to strengthening the national and two regional laboratories to perform quality-assured culture and DST services for MDR-TB programme.

Key partners

- Cambodia Health Committee (CHC)
- Christian Action Research and Education (CARE)
- Family Health International (FHI)
- Japan Anti-Tuberculosis Association (JATA)
- Japan International Cooperation Agency (JICA)
- National Center for Tuberculosis and Leprosy Control (CENAT)
- Programme for Appropriate Technology in Health (PATH)
- Reproductive Health Association of Cambodia (RHAC)
- Reproductive and Child Health Alliance (RACHA)
- The Tuberculosis Control Assistance Programme (TB CAP)
- U.S. Agency for International Development (USAID)
- U.S. Centers for Disease Control and Prevention (CDC)
- World Health Organization (WHO)
4.2 China

China is the most populous country in the world, with an estimated 1.3 billion citizens. Population growth rates have slowed and life expectancy has risen in recent decades. While a child born in China in the 1950s could expect to live 46 years, one born in 2000 can expect to live for over 71 years.

China is maintaining an overall high case detection and treatment success while accelerating efforts to improve access to TB care for all people with TB in order to contribute to a reduction in prevalence and mortality. Capacity building and activities to improve the quality of data and their analysis (sub-national, disaggregated) will contribute to a better understanding and identification of hard-to-reach populations (migrants, ethnic minorities, women, the elderly and populations at risk).

Figure 22. China

Surveillance and epidemiology

Table 12. Key indicators, China, 2007

<table>
<thead>
<tr>
<th>Population (thousand)</th>
<th>1 328 630</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB Burden</td>
<td></td>
</tr>
<tr>
<td>Incidence (all forms/100 000 population)</td>
<td>98</td>
</tr>
<tr>
<td>Incidence (ss+/100 000 population)</td>
<td>44</td>
</tr>
<tr>
<td>Prevalence (all forms/100 000 population)</td>
<td>194</td>
</tr>
<tr>
<td>Mortality (deaths/100 000 population)</td>
<td>15</td>
</tr>
<tr>
<td>Prevalence of HIV in adult incident TB cases (%)</td>
<td>1.9</td>
</tr>
<tr>
<td>New multidrug-resistant TB cases (%)</td>
<td>5</td>
</tr>
<tr>
<td>Previously treated multidrug-resistant TB cases (%)</td>
<td>26</td>
</tr>
</tbody>
</table>

Table 13. Surveillance and DOTS implementation, China, 2006

| Number of notified cases (new and relapse) | 979 502 |
| Notification rate (new and relapse/100 000 population) | 74 |
| Notification rate (new ss+/100 000 population) | 35 |
| Case detection rate (all new, %) | 71 |
| Case detection rate (new ss+, %) | 80 |
| DOTS notification rate (new and relapse/100 000 population) | 74 |
| DOTS notification rate (new ss+/100 000 population) | 35 |
| DOTS case detection rate (all new %) | 71 |
| DOTS case detection rate (new ss+, %) | 80 |
| DOTS treatment success (2006 cohort new ss+, %) | 94 |
Table 14. Trend of DOTS performance indicators, China

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DOTS coverage (%)</strong></td>
<td>68</td>
<td>68</td>
<td>78</td>
<td>91</td>
<td>96</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td><strong>DOTS notification rate (new and relapse)/100 000 population</strong></td>
<td>27</td>
<td>28</td>
<td>30</td>
<td>43</td>
<td>58</td>
<td>68</td>
<td>71</td>
<td>74</td>
</tr>
<tr>
<td><strong>DOTS notification rate (new ss+ /100 000 population)</strong></td>
<td>15</td>
<td>14</td>
<td>14</td>
<td>20</td>
<td>29</td>
<td>36</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td><strong>DOTS case detection rate (all new, %)</strong></td>
<td>24</td>
<td>25</td>
<td>27</td>
<td>37</td>
<td>52</td>
<td>64</td>
<td>68</td>
<td>71</td>
</tr>
<tr>
<td><strong>DOTS case detection rate (new ss+, %)</strong></td>
<td>31</td>
<td>31</td>
<td>30</td>
<td>43</td>
<td>64</td>
<td>80</td>
<td>79</td>
<td>80</td>
</tr>
<tr>
<td><strong>DOTS treatment success (new ss+, %)</strong></td>
<td>95</td>
<td>96</td>
<td>93</td>
<td>94</td>
<td>94</td>
<td>94</td>
<td>94</td>
<td>-</td>
</tr>
<tr>
<td><strong>DOTS re-treatment success (ss+, %)</strong></td>
<td>89</td>
<td>93</td>
<td>88</td>
<td>89</td>
<td>89</td>
<td>90</td>
<td>89</td>
<td>-</td>
</tr>
</tbody>
</table>

Since 2002, case notification rates for all forms of TB and smear-positive cases have increased significantly, from 36 to 74 per 100 000 population (trend +14% per year) and 15 to 35 per 100 000 population (trend +17% per year), respectively. The rates for smear-positive cases have remained steady from 2005 to 2007 (Figure 23).

Figure 23. Case notification rates (all forms of TB and smear-positive), China, 1998–2007

The notification rates for all forms of TB vary among provinces and is highest in Xizang (178/100 000 population) and lowest in Beijing (15.1/100 000 population) (Figure 24). Provincial figures are available in Annex 6.

Figure 24. Geographical distribution of notification rates of all forms of TB cases, China, 2007
The distribution of forms of TB among new cases notified from 2003 to 2007 is shown in Figure 25. The proportion of smear-positive cases increased from 49% to 56% from 2003 to 2005 then started to decline to 50% in 2007. The proportion of smear-negative cases decreased from 45% to 39% between 2004 and 2005 and then started to increase again to 46% in 2007. The proportion of extrapulmonary cases gradually decreased from 6% in 2003 to 4% in 2007.

**Figure 25.** Distribution of forms of TB among new cases, China, 2003–2007

Since 2003, the proportion of relapse cases among all forms of cases has decreased from 11% to 5% (Annex 7). Re-treatment cases accounted for 20% of all notified cases in 2003 (Figure 26). This has gradually decreased to 11% in 2007. Among re-treatment cases, the proportion of the combination of relapse after failure and after default cases has decreased from 10% to 5%.

**Figure 26.** Distribution of forms of TB among new and re-treatment cases, China, 2003–2007

**MDR-TB activities**

To address the epidemic of MDR-TB, rapid scale-up of programmatic management of MDR-TB is needed, including sustainable financing for human resources, as well as quality-assured laboratories and second-line drugs.

Collaboration and coordination between the public health sector and general and specialized hospitals remains a challenge due to current financing arrangements for public health services in the hospitals.

In 2008, China laid the foundation for a sound control of MDR-TB by designing and developing a Chinese specific MDR-TB programme based on international guidelines for the programmatic management of drug-resistant tuberculosis in its Global Fund-supported projects. Appropriate technical guidelines, training materials and a revised recording and reporting system to incorporate MDR-TB contribute to quality implementation.
Key partners

- All China Women’s Federation
- Bill and Melinda Gates Foundation
- China Anti-TB Association
- China Medical Association, subgroup TB
- Clinton Foundation
- Damien Foundation Belgium (DFB)
- UK Department for International Development (DFID)
- World Bank
- World Health Organization (WHO)
4.3 The Lao People’s Democratic Republic

The Lao People’s Democratic Republic has a population of 5.6 million (2005), a population growth rate of 2%, a sparse population density (23.7 per square kilometre) with large inter-provincial variations, and an average household size of 5.9 persons. The topography breaks into lowland areas along the Mekong River that depend predominantly on paddy rice, and highland areas that depend on upland rice and the gathering of non-timber forest products for livelihoods. The population is young, but there are signs of changes in the demographic structure. The percentage of the population under age 15 decreased from 43.6% to 39% between 1995 and 2005. The nation is rural, with the beginnings of a rural-to-urban shift, as indicated by the increase in urban areas, with the percentage of the population living in rural areas decreasing from 83% to 72.9% from 1995 to 2005.

The mountainous geography and the low population density in many areas pose challenges to TB control activities in the Lao People’s Democratic Republic, increasing difficulties in communication, monitoring, and distribution of supplies and equipment. Staff in remote provinces and districts often receive limited support and have fewer resources for TB diagnosis, resulting in a high turn-over of personnel. TB cases residing in distant villages have limited access to a district hospital due to distance and transportation costs. Increased involvement of the private sector in TB control activities is expected due to economic progress in Vientiane and large provincial capitals.

Figure 27. The Lao People’s Democratic Republic

Surveillance and epidemiology

Table 15. Key indicators, The Lao People’s Democratic Republic, 2007

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (thousand)</td>
<td>5859</td>
</tr>
<tr>
<td>TB Burden</td>
<td></td>
</tr>
<tr>
<td>Incidence (all forms/100 000 population)</td>
<td>151</td>
</tr>
<tr>
<td>Incidence (ss+/100 000 population)</td>
<td>67</td>
</tr>
<tr>
<td>Prevalence (all forms/100 000 population)</td>
<td>289</td>
</tr>
<tr>
<td>Mortality (deaths/100 000 population)</td>
<td>24</td>
</tr>
<tr>
<td>Prevalence of HIV in adult incident TB cases (%)</td>
<td>3.3</td>
</tr>
<tr>
<td>New multidrug-resistant TB cases (%)</td>
<td>3</td>
</tr>
<tr>
<td>Previously treated multidrug-resistant TB cases (%)</td>
<td>20</td>
</tr>
</tbody>
</table>
Table 16. Surveillance and DOTS implementation, The Lao People’s Democratic Republic, 2007

| Number of notified cases (new and relapse) | 3905 |
| Notification rate (new and relapse/100 000 population) | 67 |
| Notification rate (new ss+/100 000 population) | 53 |
| Case detection rate (all new, %) | 43 |
| Case detection rate (new ss+, %) | 78 |
| DOTS notification rate (new and relapse/100 000 population) | 67 |
| DOTS notification rate (new ss+/100 000 population) | 53 |
| DOTS case detection rate (all new %) | 43 |
| DOTS case detection rate (new ss+, %) | 78 |
| DOTS treatment success (2006 cohort new ss+, %) | 92 |


<table>
<thead>
<tr>
<th>DOTS coverage (%)</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td>75</td>
<td>77</td>
<td>85</td>
<td>98</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>DOTS notification rate (new and relapse)/100 000 population</td>
<td>31</td>
<td>30</td>
<td>47</td>
<td>49</td>
<td>55</td>
<td>64</td>
<td>69</td>
<td>67</td>
</tr>
<tr>
<td>DOTS notification rate (new ss+/100 000 population)</td>
<td>29</td>
<td>28</td>
<td>33</td>
<td>33</td>
<td>39</td>
<td>47</td>
<td>53</td>
<td>53</td>
</tr>
<tr>
<td>DOTS case detection rate (all new, %)</td>
<td>19</td>
<td>19</td>
<td>28</td>
<td>31</td>
<td>35</td>
<td>40</td>
<td>44</td>
<td>43</td>
</tr>
<tr>
<td>DOTS case detection rate (new ss+, %)</td>
<td>40</td>
<td>41</td>
<td>48</td>
<td>48</td>
<td>57</td>
<td>72</td>
<td>77</td>
<td>78</td>
</tr>
<tr>
<td>DOTS treatment success (new ss+, %)</td>
<td>77</td>
<td>76</td>
<td>75</td>
<td>79</td>
<td>86</td>
<td>90</td>
<td>92</td>
<td>-</td>
</tr>
<tr>
<td>DOTS re-treatment success (ss+, %)</td>
<td>61</td>
<td>52</td>
<td>66</td>
<td>54</td>
<td>78</td>
<td>87</td>
<td>82</td>
<td>-</td>
</tr>
</tbody>
</table>

Since 1998, case notification rates increased for all forms and smear-positive TB cases from 43 to 67 per 100 000 population (trend +6% per year) and 30 to 53 per 100 000 population (trend +7% per year), respectively (Figure 28). Both rates have remained steady from 2005 to 2007.

Figure 28. Trend of case notification rates (all forms of TB and smear-positive), The Lao People’s Democratic Republic, 1998–2007

The notification rates for all forms of TB vary among provinces and is highest in Savannakhet (107/100 000 population) and lowest in Huaphanh (10/100 000 population) (Figure 29). Provincial figures are available in Annex 6.
The distribution of forms of TB among new cases notified from 2003–2007 is shown in Figure 27. The proportion of smear-positive cases increased from 71% to 80%, while that of smear-negative and extrapulmonary cases decreased 18% to 12% and 12% to 7%, respectively (Fig. 30).

Since 2003, the proportion of relapse cases among all forms of cases has remained steady with a range of 3% to 4% (Annex 5). Likewise, the proportion of re-treatment cases to all notified cases remained steady with a range of 4% to 7% (Figure 31). Among re-treatment cases, the combination of relapse, after failure and after default cases accounted for a mean of 5% per year of the total notified cases since 2003.
MDR-TB activities

Activities to address MDR-TB include: conducting various activities for managing MDR-TB; upgrading the National Reference Laboratory to BSL-3 for culture, identification and DST (2009) and conducting drug resistance surveillance (DRS) for the first time. An application to GLC will be submitted to establish an MDR-TB unit (2009–2010), ensuring the procurement and management of second-line drugs.

Key partners

- Damien Foundation Belgium (DFB)
- World Health Organization (WHO)
4.4 Mongolia

Mongolia is the fifth largest country in Asia, with a total area of 1.565 million square kilometres. In 2007, the population reached 2.6 million, giving an overall population density of 1.7 persons per square kilometre, making it the least densely populated country in the world.

Major challenges in TB control activities in Mongolia include the distances between health facilities and communities, and the poverty characterizing many TB cases. Most TB cases receive the first two months of treatment in hospital while the continuation phase is completed on an ambulatory basis. Prisoners, the homeless, and unemployed persons are identified as vulnerable groups for TB with treatment success rates among these populations lower when compared to the general population. MDR-TB is a continuing challenge to TB control in Mongolia, especially among prisoners.

Figure 32. Mongolia

Surveillance and epidemiology

Table 18. Key indicators, Mongolia, 2007

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (thousand)</td>
<td>2629</td>
</tr>
<tr>
<td>TB Burden</td>
<td></td>
</tr>
<tr>
<td>Incidence (all forms/100 000 population)</td>
<td>205</td>
</tr>
<tr>
<td>Incidence (ss+/100 000 population)</td>
<td>92</td>
</tr>
<tr>
<td>Prevalence (all forms/100 000 population)</td>
<td>234</td>
</tr>
<tr>
<td>Mortality (deaths/100 000 population)</td>
<td>29</td>
</tr>
<tr>
<td>Prevalence of HIV in adult incident TB cases (%)</td>
<td>0.1</td>
</tr>
<tr>
<td>New multidrug-resistant TB cases (%)</td>
<td>1</td>
</tr>
<tr>
<td>Previously treated multidrug-resistant TB cases (%)</td>
<td>26</td>
</tr>
</tbody>
</table>
Table 19. Surveillance and DOTS implementation, Mongolia, 2007

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of notified cases (new and relapse)</td>
<td>4654</td>
</tr>
<tr>
<td>Notification rate (new and relapse/100 000 population)</td>
<td>177</td>
</tr>
<tr>
<td>Notification rate (new ss+/100 000 population)</td>
<td>71</td>
</tr>
<tr>
<td>Case detection rate (all new, %)</td>
<td>81</td>
</tr>
<tr>
<td>Case detection rate (new ss+, %)</td>
<td>76</td>
</tr>
<tr>
<td>DOTS notification rate (new and relapse/100 000 population)</td>
<td>177</td>
</tr>
<tr>
<td>DOTS notification rate (new ss+/100 000 population)</td>
<td>71</td>
</tr>
<tr>
<td>DOTS case detection rate (all new %)</td>
<td>81</td>
</tr>
<tr>
<td>DOTS case detection rate (new ss+, %)</td>
<td>76</td>
</tr>
<tr>
<td>DOTS treatment success (2006 cohort new ss+, %)</td>
<td>88</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Year</th>
<th>DOTS coverage (%)</th>
<th>DOTS notification rate (new and relapse)/100 000 population</th>
<th>DOTS notification rate (new ss+/100 000 population)</th>
<th>DOTS case detection rate (all new %)</th>
<th>DOTS case detection rate (new ss+, %)</th>
<th>DOTS treatment success (new ss+, %)</th>
<th>DOTS re-treatment success (ss+, %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>100</td>
<td>123</td>
<td>55</td>
<td>57</td>
<td>61</td>
<td>87</td>
<td>71</td>
</tr>
<tr>
<td>2001</td>
<td>100</td>
<td>138</td>
<td>64</td>
<td>71</td>
<td>71</td>
<td>87</td>
<td>98</td>
</tr>
<tr>
<td>2002</td>
<td>100</td>
<td>150</td>
<td>65</td>
<td>71</td>
<td>72</td>
<td>87</td>
<td>98</td>
</tr>
<tr>
<td>2003</td>
<td>100</td>
<td>151</td>
<td>59</td>
<td>78</td>
<td>66</td>
<td>87</td>
<td>82</td>
</tr>
<tr>
<td>2004</td>
<td>100</td>
<td>175</td>
<td>69</td>
<td>91</td>
<td>77</td>
<td>88</td>
<td>81</td>
</tr>
<tr>
<td>2005</td>
<td>100</td>
<td>174</td>
<td>71</td>
<td>87</td>
<td>78</td>
<td>88</td>
<td>76</td>
</tr>
<tr>
<td>2006</td>
<td>100</td>
<td>194</td>
<td>71</td>
<td>98</td>
<td>88</td>
<td>88</td>
<td>-</td>
</tr>
<tr>
<td>2007</td>
<td>100</td>
<td>177</td>
<td>71</td>
<td>82</td>
<td>88</td>
<td>88</td>
<td>-</td>
</tr>
</tbody>
</table>

Since 1998, case notification rates have increased for all forms and smear-positive TB cases from 119 to 194 per 100 000 population (trend +5% per year) and 56 to 82 per 100 000 population (trend +3% per year), respectively (Figure 33). In 2007, the rates have decreased compared to the previous year by 9% for all forms and 13% for smear-positive TB cases.

Figure 33. Case notification rates (all forms of TB and smear-positive), Mongolia, 1998–2007

The notification rates for all forms of TB vary among provinces and is highest in Darkhan-uul (326/100 000 population) and lowest in Bayanhongor (30/100 000 population) (Figure 34). Provincial figures are available in Annex 6.
The distribution of forms of TB among new cases notified from 2003–2007 is shown in Figure 35. The proportions have remained steady for smear-positive cases with a range of 41% to 45% and extrapulmonary cases with a range of 38% to 42%. The proportion of smear-negative cases decreased from 22% to 15%.

Since 2003, the proportion of relapse cases among all forms of cases gradually increased from 4% to 6% (Annex 7). The proportion of re-treatment cases to all notified cases increased from 6% to 12% (Figure 36). Among re-treatment cases, the combination of relapse, after failure and after default cases accounted for a mean of 7% per year of the total notified cases since 2003.
MDR-TB activities

The problem of MDR-TB in the country is becoming increasingly evident since the first survey was conducted in 1999. Three drug resistance surveys were carried out in the past. In 1999, with support from WHO and the Research Institute of Tuberculosis/JATA, a nationwide drug resistance survey was conducted on specimens from newly diagnosed smear-positive TB cases from all provinces and districts nationwide. The MDR rate was 1.0%. In 2001, in collaboration with the Government of the Netherlands, the TB department of the National Center for Communicable Disease (NCCD) conducted a drug resistance survey among prisoners. The sputum specimens from 56 new TB cases were examined for DST. The MDR rate was 16.1%. In 2004, a survey among 164 re-treatment cases found an overall MDR-TB of 47.6%. When disaggregated, MDR-TB was found to be 57% among failures and chronics; 36% among returns after default; 34% among relapse cases; and 27% among cases with an unknown type of re-treatment.

In January 2006, the Green Light Committee approved the application submitted by the Ministry of Health, Mongolia in November 2005, to undertake a project on MDR-TB management for 375 patients. The funding for this project is through Global Fund Round 4 and Regional Coordinating Committee (RCC) (extension of Round 1). In June 2006 the first MDR-TB patient was enrolled and by May 2008 a total of 132 patients started on treatment. With support of RCC grant an additional 790 MDR-TB patients will be enrolled in treatment, thus totalling 1165 patients. The TB Surveillance Department of NCCD plays a main role in the DOTS-Plus project. The TB hospital has a 30-bed MDR-TB ward which admits MDR-TB patients for intensive phase regardless of clinical status and has been operating at full capacity. The same is true for the 10-bed TB prison hospital, which manages MDR-TB prison patients during both intensive and continuation phases while the patient is incarcerated. At the NCCD, there is a daily treatment unit for MDR-TB patients where patients come every day to have free lunch and treatment. This unit was established through an RCC grant.

Key partners
- Japan Anti-Tuberculosis Association (JATA)
- Mongolian Anti-Tuberculosis Association
- World Health Organization (WHO)
- World Vision
4.5 Papua New Guinea

Papua New Guinea is the largest developing country in the Pacific. The country has over 600 islands and has a total population of around 6.6 million (2008). Land mass area is 461,691 square kilometres with the mainland making up 85% and approximately 600 smaller islands constituting the remaining 15%. Administratively, the country has 20 provinces and 87 districts. The country presents a challenging environment for all health programmes, with its rugged terrain, very low population density and poor human resource development. The average population density is just 13 people per square kilometre.

The pace of DOTS expansion (DOTS coverage rate and DOTS detection rate) has been slow and the quality of DOTS implementation (DOTS cure rate and DOTS treatment success rate) poor. Although the prevalence and death rates have been estimated by WHO to be decreasing slowly, this may be erroneous because it is based on case notification and not on any prevalence studies. The rate of decline would be difficult to achieve with the rise in number of MDR-cases (causing an increase in the TB prevalence rate) and the worsening of the HIV epidemic (causing an increase in the TB mortality rate). It is therefore essential to strengthen the NTP before these problems are out of control, particularly as the HIV epidemic has the potential to amplify the transmission dynamics of TB and hence the effects of any failures in the TB programme.

Figure 37. Papua New Guinea

Surveillance and epidemiology

Table 21. Key indicators, Papua New Guinea, 2007

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (thousand)</td>
<td>6331</td>
</tr>
<tr>
<td>TB Burden</td>
<td></td>
</tr>
<tr>
<td>Incidence (all forms/100 000 population)</td>
<td>250</td>
</tr>
<tr>
<td>Incidence (ss+/100 000 population)</td>
<td>108</td>
</tr>
<tr>
<td>Prevalence (all forms/100 000 population)</td>
<td>430</td>
</tr>
<tr>
<td>Mortality (deaths/100 000 population)</td>
<td>60</td>
</tr>
<tr>
<td>Prevalence of HIV in adult incident TB cases (%)</td>
<td>18.5</td>
</tr>
<tr>
<td>New multidrug-resistant TB cases (%)</td>
<td>3</td>
</tr>
<tr>
<td>Previously treated multidrug-resistant TB cases (%)</td>
<td>20</td>
</tr>
</tbody>
</table>
Table 22. Surveillance and DOTS implementation, Papua New Guinea, 2007

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of notified cases (new and relapse)</td>
<td>15,002</td>
</tr>
<tr>
<td>Notification rate (new and relapse/100,000 population)</td>
<td>237</td>
</tr>
<tr>
<td>Notification rate (new ss+/100,000 population)</td>
<td>33</td>
</tr>
<tr>
<td>Case detection rate (all new, %)</td>
<td>94</td>
</tr>
<tr>
<td>Case detection rate (new ss+, %)</td>
<td>31</td>
</tr>
<tr>
<td>DOTS notification rate (new and relapse/100,000 population)</td>
<td>80</td>
</tr>
<tr>
<td>DOTS notification rate (new ss+/100,000 population)</td>
<td>17</td>
</tr>
<tr>
<td>DOTS case detection rate (all new %)</td>
<td>31</td>
</tr>
<tr>
<td>DOTS case detection rate (new ss+, %)</td>
<td>15</td>
</tr>
<tr>
<td>DOTS treatment success (2006 cohort new ss+, %)</td>
<td>73</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOTS coverage (%)</td>
<td>8</td>
<td>13</td>
<td>24</td>
<td>46</td>
<td>47</td>
<td>53</td>
<td>40</td>
<td>14</td>
</tr>
<tr>
<td>DOTS notification rate (new and relapse)/100,000 population</td>
<td>53</td>
<td>71</td>
<td>95</td>
<td>98</td>
<td>152</td>
<td>154</td>
<td>132</td>
<td>80</td>
</tr>
<tr>
<td>DOTS notification rate (new ss+/100,000 population)</td>
<td>8</td>
<td>9</td>
<td>17</td>
<td>16</td>
<td>20</td>
<td>23</td>
<td>17</td>
<td>14</td>
</tr>
<tr>
<td>DOTS case detection rate (all new, %)</td>
<td>20</td>
<td>30</td>
<td>37</td>
<td>42</td>
<td>65</td>
<td>61</td>
<td>52</td>
<td>31</td>
</tr>
<tr>
<td>DOTS case detection rate (new ss+, %)</td>
<td>7</td>
<td>8</td>
<td>15</td>
<td>17</td>
<td>18</td>
<td>20</td>
<td>22</td>
<td>15</td>
</tr>
<tr>
<td>DOTS treatment success (new ss+, %)</td>
<td>63</td>
<td>67</td>
<td>53</td>
<td>58</td>
<td>65</td>
<td>71</td>
<td>73</td>
<td>-</td>
</tr>
<tr>
<td>DOTS re-treatment success (ss+, %)</td>
<td>65</td>
<td>60</td>
<td>51</td>
<td>47</td>
<td>53</td>
<td>55</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Since 1998, case notification rates for all forms of TB have fluctuated from year to year with a range of 195 to 248 per 100,000 population and a mean of 217 per 100,000 population (Figure 38). The case notification rates for smear-positive cases remained steady with a range of 24 to 41 per 100,000 population and a mean of 34 per 100,000 population.

Figure 38. Case notification rates (all forms of TB and smear-positive), Papua New Guinea, 1998–2007

The notification rates for all forms of TB vary among provinces and is highest in the National Capital District (1185/100,000 population), and lowest in Enga (20/100,000 population) (Figure 39). Provincial figures are available in Annex 6.
Figure 39. Geographical distribution of notification rates of all forms of TB cases, Papua New Guinea, 2007

The distribution of forms of TB among new cases notified from 2003–2007 is shown in Figure 40. The proportion of smear-positive cases decreased from 19% to 14%. The proportion of smear-negative cases decreased by 10% from the previous year (48% to 38%) in contrast to the proportion of extrapulmonary cases, which increased by 11% (38% to 47%).

Figure 40. Distribution of forms of TB among new cases, Papua New Guinea, 2003–2007

Since 2003, the proportion of relapse cases among all forms of cases decreased from 7% to 1% (Annex 7). The proportion of re-treatment cases to all notified cases remained the same at 8%, compared to the previous year. The proportion was at 3% in 2004, but increased to 12% in 2005 (Figure 41). Among re-treatment cases, the combination of relapse, after failure and after default cases, decreased from 7% to 1% of the total notified cases since 2003.
MDR-TB activities

The country has not been doing diagnosis of MDR-TB as per guidelines, using laboratory methods, due to the lack of such facilities within the country. In 2008, the Central Public Health Laboratory re-started culture for *Mycobacterium tuberculosis* but stopped within a few weeks after it was found that appropriate infection control measures were not in place. The Department of Health and Ageing (Canberra, Australia) is currently trying to assist the country to improve infection control measures. WHO has contracted with the Queensland Mycobacterium Reference Laboratory (Brisbane, Australia) to conduct culture and drug sensitivity testing, as an interim measure.

Second-line drugs, being expensive, are often in short supply. The country plans to submit proposals to the GLC and Global Drug Facility seeking support for programmatic management of drug resistant TB, but this can happen only after the country is able to start the culture and drug sensitivity testing.

Key partners

- Australian Agency for International Development (AusAID)
- City Pharmacy (Port Moresby)
- HOPE Worldwide (Port Moresby)
- JTA International (Port Moresby)
- The Papua New Guinea Institute of Medical Research (Goroka)
- World Health Organization (WHO)
- World Vision (Port Moresby)
4.6 The Philippines

The Philippines consists of 7107 islands, with a land area of 300,000 square kilometres. The population as of 2007 is approximately 90 million, giving a population density of 295 per square kilometre. Among the 14 regions of the country, Calabarzon (Region IV-A) has the largest population, with 11.7 million, followed by National Capital Region (NCR), with 11.6 million and Central Luzon (Region III), with 9.7 million. These three regions comprise more than one third (37.3%) of the Philippine population.

The Philippines has developed an effective infrastructure for TB control activities. Collaborative efforts between public and private sectors and the establishment of TB diagnostic committees have successfully contributed to a dramatic increase in case detection and a decline in the number of over-diagnosis of smear-negative cases. Efforts are being made to build on the existing system to mainstream programmatic management of MDR-TB activities.

Figure 42. The Philippines

Surveillance and epidemiology

Table 24. Key indicators, The Philippines, 2007

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (thousand)</td>
<td>87,960</td>
</tr>
<tr>
<td>TB Burden</td>
<td></td>
</tr>
<tr>
<td>Incidence (all forms/100,000 population)</td>
<td>290</td>
</tr>
<tr>
<td>Incidence (ss+ /100,000 population)</td>
<td>130</td>
</tr>
<tr>
<td>Prevalence (all forms/100,000 population)</td>
<td>500</td>
</tr>
<tr>
<td>Mortality (deaths/100,000 population)</td>
<td>41</td>
</tr>
<tr>
<td>Prevalence of HIV in adult incident TB cases (%)</td>
<td>0.3</td>
</tr>
<tr>
<td>New multidrug-resistant TB cases (%)</td>
<td>4</td>
</tr>
<tr>
<td>Previously treated multidrug-resistant TB cases (%)</td>
<td>21</td>
</tr>
</tbody>
</table>
Table 25. Surveillance and DOTS implementation, The Philippines, 2007

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of notified cases (new and relapse)</td>
<td>140,588</td>
</tr>
<tr>
<td>Notification rate (new and relapse/100,000 population)</td>
<td>160</td>
</tr>
<tr>
<td>Notification rate (new ss+/100,000 population)</td>
<td>98</td>
</tr>
<tr>
<td>Case detection rate (all new, %)</td>
<td>54</td>
</tr>
<tr>
<td>Case detection rate (new ss+, %)</td>
<td>75</td>
</tr>
<tr>
<td>DOTS notification rate (new and relapse/100,000 population)</td>
<td>160</td>
</tr>
<tr>
<td>DOTS notification rate (new ss+/100,000 population)</td>
<td>98</td>
</tr>
<tr>
<td>DOTS case detection rate (all new %)</td>
<td>54</td>
</tr>
<tr>
<td>DOTS case detection rate (new ss+, %)</td>
<td>75</td>
</tr>
<tr>
<td>DOTS treatment success (2006 cohort new ss+, %)</td>
<td>88</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOTS coverage (%)</td>
<td>90</td>
<td>95</td>
<td>98</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>DOTS notification rate (new and relapse)/100,000 population</td>
<td>118</td>
<td>139</td>
<td>150</td>
<td>166</td>
<td>160</td>
<td>165</td>
<td>171</td>
<td>160</td>
</tr>
<tr>
<td>DOTS notification rate (new ss+/100,000 population)</td>
<td>66</td>
<td>77</td>
<td>83</td>
<td>91</td>
<td>96</td>
<td>98</td>
<td>99</td>
<td>98</td>
</tr>
<tr>
<td>DOTS case detection rate (all new, %)</td>
<td>39</td>
<td>44</td>
<td>49</td>
<td>55</td>
<td>53</td>
<td>55</td>
<td>58</td>
<td>54</td>
</tr>
<tr>
<td>DOTS case detection rate (new ss+, %)</td>
<td>48</td>
<td>56</td>
<td>61</td>
<td>68</td>
<td>72</td>
<td>75</td>
<td>77</td>
<td>75</td>
</tr>
<tr>
<td>DOTS treatment success (new ss+, %)</td>
<td>88</td>
<td>88</td>
<td>88</td>
<td>88</td>
<td>87</td>
<td>89</td>
<td>88</td>
<td>-</td>
</tr>
<tr>
<td>DOTS re-treatment success (ss+, %)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>76</td>
<td>53</td>
<td>-</td>
<td>80</td>
<td></td>
</tr>
</tbody>
</table>

Since 1998, case notification rates for all forms of TB decreased from 220 to 160 per 100,000 population. Smear-positive cases have remained steady with a range of 76 to 99 per 100,000 population (Figure 43).

Figure 43. Case notification rates (all forms of TB and smear-positive), The Philippines, 1998–2007

The notification rates for all forms of TB vary among regions and is highest in Western Visayas (224/100,000 population) and lowest in Cordillera Administrative Region (81/100,000 population) (Figure 44). Provincial figures are available in Annex 6.
The distribution of forms of TB among new cases notified from 2003–2007 is shown in Figure 45. The proportion of smear-positive cases increased from 56% to 63%, while the proportion of smear-negative cases decreased from 43% to 36%. The proportion of extrapulmonary cases remained steady at 1%.

Since 2003, the proportion of relapse cases among all forms of cases remained steady with a range of 2% to 3% (Annex 7). Likewise, the proportion of re-treatment cases to all notified cases remained steady also with a range of 2% to 3% (Figure 46). Among re-treatment cases, the combination of relapse, after failure and after default cases accounted for a mean of 3% per year of the total notified cases since 2003.
MDR-TB activities

The Philippines has had the first GLC approved DOTS-Plus project at the Makati Medical Centre since 2000. Since then, the project that was initially limited to a private DOTS facility, has expanded into the public sector and the community, and over the last two years has been implemented as Programmatic Management of Drug-resistant Tuberculosis (PMDT). Two years ago, the country developed national guidelines for the implementation of PMDT and, in September 2008, the Interim Guidelines for Quality Assured TB Culture in the Philippines was published and distributed. By the end of 2008, six MDR-TB treatment centres have been operating, five in Metro Manila and one in Cebu City. In the meantime, TB laboratory strengthening was undertaken. The National TB Reference Laboratory is now able to perform quality assured culture and proficient, approved DST over the last year, while the Tropical Disease Foundation laboratory continues to perform QA culture, proficient, approved DST and also introduced on a pilot basis the Line Probe Assay technique for rapid diagnosis in the latter part of 2008. In addition, two more laboratories in Metro Manila started providing QA TB culture services (one public and one private), as did a public laboratory in Cebu towards the end of 2008. Since 2000, more than 1500 MDR-TB cases have been enrolled for treatment under the DOTS-Plus project and the PMDT with a treatment success rate of 74% (2007). The NTP, in collaboration with its partners and local government units, has plans to expand the PMDT nationwide within the next six years, with the goal of treating a total of approximately 12 000 MDR-TB cases.

Key Partners

- Japan Anti-Tuberculosis Association (JATA) Philippines
- Philippine Business for Social Progress (PBSP)
- Philippine Coalition Against Tuberculosis (PhilCAT)
- Tropical Disease Foundation, Inc. (TDFI)
- World Health Organization (WHO)
- World Vision Development Foundation
4.7 Viet Nam

The estimated population of Viet Nam rose to 84,155,800 in 2006, with 49.1% males. The population density is 252 people per square kilometre, with most (73%) living in rural areas. Over the past few years, Viet Nam has witnessed a gradual change in its population structure. In 2006, the percentage of the population ages 0–14 was 26.4%, a decrease of 8.6% in comparison with 1999. However, the proportion of those over 64 years increased rapidly (by 11%) over the same six-year period. The ageing trend in the population is remarkable.

In 2008, TB control in Viet Nam made landmark steps towards greater openness and collaboration with new partners. Key milestones of this process have been the workshop on TB prevalence survey in March which disclosed that TB prevalence in Viet Nam is 1.5 times higher than previously estimated; the launch of the Viet Nam Stop TB Partnership in June; the very fruitful collaboration with the National AIDS Programme (VAAC) for the production of joint guidelines on TB/HIV and the organization of two workshops with the provinces and other stakeholders; and the involvement of nongovernmental organizations and mass organizations in the preparation of the proposal for Round 9 of the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) and their active participation in all gatherings of stakeholders, such as the sub-Country Coordinating Mechanism (CCM) meetings.

Challenges for 2009 are persistent lack of decline in the number of new cases; insufficient political commitment at the central and local level, requiring energetic advocacy; completing a comprehensive and substantial application to Round 9 of GFATM; strong and effective action to tackle poor collaboration with the private sector; reaching out to patients in remote areas and closed settings; scaling up programmatic management of MDR-TB, TB/HIV and Practical Approaches to Lung Health (PAL); and strengthening community participation through greater involvement of mass and grass-root organizations.

Figure 47. Viet Nam
4 | PROFILES OF COUNTRIES WITH A HIGH BURDEN OF TB IN THE REGION

**Surveillance and epidemiology**

**Table 27.** Key indicators, Viet Nam, 2007

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (thousand)</td>
<td>87,375</td>
</tr>
<tr>
<td><strong>TB Burden</strong></td>
<td></td>
</tr>
<tr>
<td>Incidence (all forms/100,000 population)</td>
<td>171</td>
</tr>
<tr>
<td>Incidence (ss+/100,000 population)</td>
<td>76</td>
</tr>
<tr>
<td>Prevalence (all forms/100,000 population)</td>
<td>220</td>
</tr>
<tr>
<td>Mortality (deaths/100,000 population)</td>
<td>24</td>
</tr>
<tr>
<td>Prevalence of HIV in adult incident TB cases (%)</td>
<td>8.1</td>
</tr>
<tr>
<td>New multidrug-resistant TB cases (%)</td>
<td>3</td>
</tr>
<tr>
<td>Previously treated multidrug-resistant TB cases (%)</td>
<td>19</td>
</tr>
</tbody>
</table>

**Table 28.** Surveillance and DOTS implementation, Viet Nam, 2007

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of notified cases (new and relapse)</td>
<td>54,457</td>
</tr>
<tr>
<td>Notification rate (new and relapse/100,000 population)</td>
<td>111</td>
</tr>
<tr>
<td>Notification rate (new ss+/100,000 population)</td>
<td>62</td>
</tr>
<tr>
<td>Case detection rate (all new, %)</td>
<td>61</td>
</tr>
<tr>
<td>Case detection rate (new ss+, %)</td>
<td>82</td>
</tr>
<tr>
<td>DOTS notification rate (new and relapse/100,000 population)</td>
<td>111</td>
</tr>
<tr>
<td>DOTS notification rate (new ss+/100,000 population)</td>
<td>62</td>
</tr>
<tr>
<td>DOTS case detection rate (all new, %)</td>
<td>61</td>
</tr>
<tr>
<td>DOTS case detection rate (new ss+, %)</td>
<td>82</td>
</tr>
<tr>
<td>DOTS treatment success (2006 cohort new ss+, %)</td>
<td>92</td>
</tr>
</tbody>
</table>

**Table 29.** Trend of DOTS performance indicators, Viet Nam, 2000–2007

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DOTS coverage (%)</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>DOTS notification rate (new and relapse/100,000 population)</td>
<td>114</td>
<td>114</td>
<td>118</td>
<td>113</td>
<td>118</td>
<td>113</td>
<td>113</td>
<td>111</td>
</tr>
<tr>
<td>DOTS notification rate (new ss+/100,000 population)</td>
<td>68</td>
<td>68</td>
<td>70</td>
<td>68</td>
<td>70</td>
<td>66</td>
<td>65</td>
<td>62</td>
</tr>
<tr>
<td>DOTS case detection rate (all new, %)</td>
<td>58</td>
<td>59</td>
<td>61</td>
<td>60</td>
<td>62</td>
<td>60</td>
<td>61</td>
<td>61</td>
</tr>
<tr>
<td>DOTS case detection rate (new ss+, %)</td>
<td>82</td>
<td>83</td>
<td>87</td>
<td>85</td>
<td>89</td>
<td>84</td>
<td>85</td>
<td>82</td>
</tr>
<tr>
<td>DOTS treatment success (new ss+, %)</td>
<td>92</td>
<td>93</td>
<td>92</td>
<td>92</td>
<td>93</td>
<td>92</td>
<td>92</td>
<td>-</td>
</tr>
<tr>
<td>DOTS re-treatment success (ss+, %)</td>
<td>79</td>
<td>85</td>
<td>85</td>
<td>85</td>
<td>84</td>
<td>83</td>
<td>83</td>
<td>-</td>
</tr>
</tbody>
</table>

Since 1998, case notification rates for all forms of TB and new smear-positive cases have remained steady with a range of 111 to 117 per 100,000 population and 62 to 71 per 100,000 population, respectively (Figure 44).
The notification rates for all forms of TB vary among provinces and is highest in Ho Chi Minh (223/100 000 population) and lowest in Son La (35/100 000 population) (Figure 49). Provincial figures are available in Annex 6.
The distribution of forms of TB among new cases notified from 2003–2007 is shown in Figure 50. The proportion of smear-positive cases decreased from 64% to 60%, while the proportion of extrapulmonary cases increased from 17% to 21%. The proportion of smear-negative cases remained steady at 19%.

**Figure 50.** Distribution of forms of TB among new cases, Viet Nam, 2003–2007

Since 2003, the proportion of relapse cases among all forms of cases remained steady with a range of 6% to 7% (Annex 7). Likewise, the proportion of re-treatment cases to all notified cases remained steady with a range of 7% to 8% (Figure 51). Among re-treatment cases, the combination of relapse, after failure and after default cases accounted for a mean of 8% per year of the total notified cases since 2003.

**Figure 51.** Distribution of forms of TB among new and re-treatment cases, Viet Nam, 2003–2007

**MDR-TB activities**

PMDT implementation, supported by The Royal Netherlands Embassy and GFATM Round 6 funds, started in May 2009 at Ho Chi Minh City TB Hospital by enrolling 100 MDR-TB patients. The MDR-TB prevalence countrywide is 2.7% in new cases and 19.3% in re-treatment cases. Viet Nam is estimated to produce about 4000 detectable new MDR-TB cases per year and is among MDR high burden countries (13th position).

**Key partners**

- Embassy of the United States
- NTP, Viet Nam
- PATH United States
- The Netherlands Embassy
- US Centers for Disease Control and Prevention (CDC)
- United States Agency for International Development (USAID)
- Viet Nam Red Cross
- Viet Nam Women’s Union
- World Health Organization (WHO)
5 Summary of the TB burden and epidemiologic indicators of Pacific island countries and areas in the Region

The Pacific island countries and areas include American Samoa, Cook Islands, Fiji, French Polynesia, Guam, Kiribati, Northern Mariana Islands, Marshall Islands, Federated States of Micronesia, Nauru, New Caledonia, Niue, Palau, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu, Vanuatu, and Wallis and Futuna (Figure 52). The Pacific island countries and areas are divided into 4 groups: Chamorro, Micronesia, Polynesia and Melanesia.

Figure 52. Geographic distribution of the Pacific island countries and areas

The boundaries shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

©WHO 2005. All rights reserved
Table 30 shows the key indicators of TB control in Pacific island countries and areas. There were an estimated 1895 new TB cases in Pacific island countries and areas, representing 0.10% of the total TB cases in the Region. Incidence rates were highest in Kiribati (364 per 100 000 population) and lowest in American Samoa (5 per 100 000 population). The estimated incidence rate for Niue and Tokelau was zero.

**Table 30.** Key indicators of TB control in the Pacific island countries and areas in the Region, 2007

<table>
<thead>
<tr>
<th>Country and area</th>
<th>Population (thousand)</th>
<th>Estimated incidence</th>
<th>Treatment outcome† (% success)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>All forms</td>
<td>ss+</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Number</td>
<td>Rate*</td>
</tr>
<tr>
<td>American Samoa</td>
<td>67</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Cook Islands</td>
<td>13</td>
<td>2</td>
<td>15</td>
</tr>
<tr>
<td>Fiji</td>
<td>839</td>
<td>174</td>
<td>21</td>
</tr>
<tr>
<td>French Polynesia</td>
<td>263</td>
<td>71</td>
<td>27</td>
</tr>
<tr>
<td>Guam</td>
<td>173</td>
<td>59</td>
<td>34</td>
</tr>
<tr>
<td>Kiribati</td>
<td>95</td>
<td>347</td>
<td>365</td>
</tr>
<tr>
<td>Marshall Islands</td>
<td>59</td>
<td>128</td>
<td>215</td>
</tr>
<tr>
<td>Micronesia</td>
<td>111</td>
<td>108</td>
<td>97</td>
</tr>
<tr>
<td>Northern Mariana Islands</td>
<td>84</td>
<td>49</td>
<td>58</td>
</tr>
<tr>
<td>Nauru</td>
<td>10</td>
<td>3</td>
<td>33</td>
</tr>
<tr>
<td>New Caledonia</td>
<td>242</td>
<td>52</td>
<td>22</td>
</tr>
<tr>
<td>Niue</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Palau</td>
<td>20</td>
<td>12</td>
<td>60</td>
</tr>
<tr>
<td>Samoa</td>
<td>187</td>
<td>35</td>
<td>19</td>
</tr>
<tr>
<td>Solomon Islands</td>
<td>496</td>
<td>634</td>
<td>128</td>
</tr>
<tr>
<td>Tokelau</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Tonga</td>
<td>100</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>Tuvalu</td>
<td>11</td>
<td>18</td>
<td>166</td>
</tr>
<tr>
<td>Vanuatu</td>
<td>226</td>
<td>174</td>
<td>77</td>
</tr>
<tr>
<td>Wallis and Futuna</td>
<td>15</td>
<td>2</td>
<td>15</td>
</tr>
</tbody>
</table>

* - Rates are per 100 000 population; † - Treatment outcome for new smear positive cases, DOTS
All forms = includes new and relapse cases; ss+ = smear-positive

Case notification rates vary across Pacific island countries and areas (Figure 53). The fluctuation of rates over time can be attributed to small population sizes. Case notification rates for all forms of TB were highest in Kiribati (351 per 100 000 population) and lowest in American Samoa (4 per 100 000 population). Case notification rates for smear-positive cases were highest in Tuvalu (114 per 100 000 population) and lowest in Guam (3 per 100 000 population).

**Figure 53.** Trend of case notification rates (all forms of TB and smear-positive cases) in selected Pacific island countries and areas in the Region, 2000–2007
Annexes

Annex 1: Estimation of prevalence and TB mortality rates for future years

A linear regression model for each country and area was fitted on log-transformed TB prevalence data that were collected annually from the respective countries and areas:

\[ \ln(r) = \beta_0 + \beta_1 t \]

with \( r \) the prevalence rate per 100,000 population and \( t \) expressed in years. The slope \( \beta_1 \) can be interpreted as a constant rate of change per year assuming an exponential decline of the un-transformed prevalence rate. To estimate numbers of prevalent cases in future years for which data were not yet available, predicted values of prevalence rates and their respective 95% confidence intervals were estimated. For the estimation of mortality rates in future years, a linear regression model was fitted as above by substituting prevalence rates with TB mortality rates.
Annex 2: Estimation of MDR-TB prevalence

Based on drug resistance data reported from 114 countries and two special administrative regions of China, logistic regression models were fitted to estimate the proportion of MDR-TB among new, previously treated, and combined TB cases for a further 69 countries for which surveyed data were not available. The estimated number of new TB cases by country and area was used to calculate the number of MDR-TB cases that occurred among new cases. To estimate the number of previously treated cases for each country and area, the ratio of notified re-treatment cases to notified new cases in 2006 was multiplied by the total number of new cases estimated to have occurred in the same year; therefore, the total number of estimated case included estimated re-treatment cases.

The method and models were described in detail in:

Zignol M et al. Global Incidence of Multidrug-resistant Tuberculosis. *Journal of Infectious Diseases*, 2006, 194:479-85; and

Annex 3: Definitions

1. Definitions of tuberculosis cases

A case of tuberculosis: A patient in whom tuberculosis (TB) has been bacteriologically confirmed or has been diagnosed by a clinician. Any person given treatment for TB should be recorded.

All forms: The sum of new smear-positive pulmonary, relapse, new smear-negative pulmonary and extrapulmonary cases.

New smear-positive pulmonary TB: A patient who has never received treatment for TB, or who has taken anti-TB drugs for less than 30 days and who has one of the following:

- two or more initial sputum smear examinations positive for acid fast bacilli (AFB);
- one sputum examination positive for AFB plus radiographic abnormalities consistent with active pulmonary TB as determined by a clinician; or
- one sputum specimen positive for AFB and at least one sputum that is culture-positive for AFB.

New smear-negative pulmonary tuberculosis: A case of pulmonary TB that does not meet the above definition for smear-positive TB.

Extrapulmonary tuberculosis: TB of organs other than the lungs, e.g., pleura, lymph nodes, abdomen, genito-urinary tract, skin, joints, bones, meninges. Diagnosis should be based on one culture-positive specimen, or histological or strong clinical evidence consistent with active extrapulmonary TB, followed by a decision by a clinician to treat with a full course of anti-TB chemotherapy. (A patient diagnosed with both pulmonary and extrapulmonary TB should be classified as a case of pulmonary TB.)

Re-treatment case: Patient previously treated for TB, undergoing treatment for a new episode of bacteriologically positive (sputum smear or culture) TB.

Relapse: A patient previously treated for TB and declared cured or treatment completed, who is later diagnosed with bacteriologically positive (culture smear) TB.

2. Definitions of treatment outcome

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cured</td>
<td>Former smear-positive patient who was smear-negative in the last month of treatment, and on at least one previous occasion.</td>
</tr>
<tr>
<td>Completed treatment</td>
<td>A patient who has completed treatment but who does not meet the criteria to be classified either as a cure or a failure.</td>
</tr>
<tr>
<td>Treatment success</td>
<td>The sum of patients who are cured and those who have completed treatment.</td>
</tr>
<tr>
<td>Died</td>
<td>A patient who dies for any reason during the course of treatment.</td>
</tr>
<tr>
<td>Failure</td>
<td>Smear-positive patient who remained smear-positive at five months or later during treatment.</td>
</tr>
<tr>
<td>Defaulted</td>
<td>A patient who has interrupted treatment for two consecutive months or more.</td>
</tr>
<tr>
<td>Transferred out</td>
<td>A patient who has been transferred to another recording and reporting unit and for whom the treatment outcome is not known.</td>
</tr>
<tr>
<td>Not evaluated</td>
<td>A patient who did not have the treatment outcome evaluated. Note: In countries where culture is current practice, patients can be classified as cured or failed based on the culture results.</td>
</tr>
</tbody>
</table>

The case definition of new smear-positive changed in 2007 and will be applied in future regional reports.
3. Indicators to assess treatment outcome

**Cure rate:** Proportion of cured cases out of all cases registered in a given period (2006, in this report).

**Treatment success rate:** The sum of the proportion of patients who were cured and patients who completed treatment out of all cases registered in a given period. The global target is an 85% cure rate and a greater treatment success rate.

The cure rate and treatment success rate are expressed as a percentage of registered cases. The number of new cases registered for treatment in 2006 (reported in 2008) is compared to the number of cases notified as smear-positive in 2006 (reported in 2007). Differences may arise because NTPs do not compile data at the end of each calendar year, diagnoses may be incorrect, patients are lost between diagnosis and the start of treatment, or records may be lost. All registered cases should be evaluated. Data on the six standard, mutually exclusive outcomes of treatment are compiled. These figures are reported as percentages of all registered cases, so that the possible outcomes plus the fraction of cases not evaluated add up to 100%. When a country or area states the number of patients registered for treatment, but gives no outcomes, no result is reported, rather than reporting zero treatment success. Although treatment outcomes are expressed as percentages, they are referred to as rates. The six possible outcomes plus the fraction of cases not evaluated add up to 100%. If the number of registered cases is lower than the sum of the six outcomes or is missing, the denominator for treatment success will be the number evaluated or the number of smear-positive cases notified in the previous year, whichever is greater.

4. Case detection rate and DOTS detection rate

**Directly observed treatment, short-course (DOTS)**

The recommended strategy for TB control is comprised of:

- political commitment with increased and sustained financing;
- case detection through quality-assured bacteriology;
- standardized treatment with supervision and patient support;
- an effective drug supply and management system; and
- monitoring and evaluation system, and impact measurement.

**Targets for TB control established by the World Health Assembly (1991)**

- To cure 85% of the sputum smear-positive TB cases detected.
- To detect 70% of the estimated new sputum smear-positive TB cases.

Case notifications represent only a fraction of the true number of cases in a country or area because the coverage by effective NTP may be incomplete.

The estimated cases detection rate is defined as:

$$\text{Case detection rate (\%) = \frac{\text{Annual new smear-positive notifications (country and area)}}{\text{Estimated annual new smear-positive incidence (country and area)}}}$$

$$\text{DOTS detection rate (\%) = \frac{\text{Annual new smear-positive notifications under DOTS}}{\text{Estimated annual new smear-positive incidence (country and area)}}}$$

**DOTS detection rate**

Case detection under DOTS:

Note: The case detection rate and DOTS detection rate are identical when a country or area has a 100% DOTS enrolment rate. Updated estimated incidence for 2006 used in this report was provided by World Health Organization (WHO).

**Population with access to DOTS:** The country and area's population who live in administrative areas where DOTS services are available.

**DOTS enrolment rate (all forms):** This rate indicates a proportion of cases enrolled in DOTS, out of notified cases.

$$\text{DOTS enrolment rate (all forms) (\%) = \frac{\text{Annual notifications of all forms under DOTS}}{\text{Total annual notifications of all forms}}}$$

$$\text{DOTS enrolment rate (new ss+) (\%) = \frac{\text{Annual notification of new ss+ under DOTS}}{\text{Total annual notifications of new ss+}}}$$
5. Definitions of MDR-TB and XDR-TB

<table>
<thead>
<tr>
<th>MDR-TB, or multidrug-resistant TB</th>
<th>Strains of TB that are resistant to at least the two main first-line anti-TB drugs—isoniazid and rifampicin.</th>
</tr>
</thead>
<tbody>
<tr>
<td>XDR-TB, or extensively drug-resistant TB</td>
<td>TB that is resistant to any fluoroquinolone, and at least one of three injectable second-line drugs (capreomycin, kanamycin, and amikacin), in addition to MDR-TB. The WHO Global Task Force on XDR-TB agreed on this definition of XDR-TB in October 2006.</td>
</tr>
</tbody>
</table>
### Annex 4: Formulas for estimating tuberculosis incidence, prevalence, and mortality

<table>
<thead>
<tr>
<th>Formulas</th>
<th>Definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ( I = \frac{T}{d} ) and ( I_s = \frac{T_s}{d_s} )</td>
<td>( N ) = Population ( I ) = Incidence of tuberculosis (TB) = number of new cases of TB per year</td>
</tr>
<tr>
<td>2. ( P = t I ) and ( P_s = t I_s )</td>
<td>( P ) = Prevalence of TB</td>
</tr>
<tr>
<td>3. ( \frac{I}{N} = \lambda k )</td>
<td>( T ) = TB case notifications (per year) ( D ) = Deaths from TB</td>
</tr>
<tr>
<td>4. ( D = f_l ) and ( D_s = f_l s )</td>
<td>( IRR ) = TB incidence rate ratio (TB incidence rate in HIV-positive persons/TB incidence in HIV-negative persons)</td>
</tr>
<tr>
<td>5. ( I = I_a + I_n ) or ( I = m_a r_a N_a + m_a r_s N_s + m_n r_a N_a + m_n r_s N_s )</td>
<td>( d ) = Proportion of cases notified (case detection rate) ( t ) = Average duration of TB disease (years) ( \lambda ) = Rate of infection with Mycobacterium tuberculosis (MTB) (annual rate of infection per person per year) ( k ) = Ratio of incidence of smear-positive TB to rate of MTB infection</td>
</tr>
<tr>
<td>6. ( IRR = \frac{m_a r_a}{m_a r_s} ) and ( \frac{I}{N} = \frac{I}{N} )</td>
<td>( t ) = Proportion of TB patients who die from TB (case fatality rate [CFR]) ( m ) = Prevalence of infection with MTB</td>
</tr>
<tr>
<td>7. ( \frac{I_a}{I_a} = \frac{IRR N_a}{1 + N_a (IRR - 1)} )</td>
<td>( r ) = Rate of progression to TB disease in MTB-infected individuals (per person per year) ( s ) = Sputum smear-positive TB (no subscript implies all forms) ( a ) = Adult (15–49 years old)</td>
</tr>
<tr>
<td>8. ( I_n = \frac{L_n - L_a s}{N_n} )</td>
<td>( n ) = Other age groups (&lt;15 or &gt;49), assumed HIV-uninfected</td>
</tr>
<tr>
<td>9. ( D_a = D_a + f \cdot (I_a I_n) )</td>
<td>( + ) = HIV-positive ( - ) = HIV-negative ( * ) = Attributable to HIV infection</td>
</tr>
<tr>
<td>10. ( h = \frac{p(IRR)}{1 + p(IRR - 1)} )</td>
<td>( h ) = Prevalence of HIV in new TB cases ( p ) = Prevalence of HIV in the general population</td>
</tr>
</tbody>
</table>

### Annex 5: Directory of partners for countries with high burden of TB

#### Cambodia

<table>
<thead>
<tr>
<th>Organization</th>
<th>Address</th>
<th>Contact Person</th>
<th>Email</th>
<th>Phone</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td>US Agency for International Development (USAID)</td>
<td>#1, St. 96, Khan Daun Penh, Phnom Penh</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University Research Co. (URC)</td>
<td>Phnom Penh Center, Second floor, Corner of Sihanouk &amp; Sotheares Bld, Tonle Bassac, Phnom Penh</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Programme for Appropriate Technology in Health (PATH)</td>
<td>#22, St. 184, Phnom Penh</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Tuberculosis Control Assistance Program (TB CAP)</td>
<td>National Center for TB and Leprosy services (CENAT)</td>
<td>St. 278-95, Beong Keng Kang II, Phnom Penh</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Christian Action Research and Action (CARE)</td>
<td>#52, WS 352, Phnom Penh</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family Health International (FHI)</td>
<td>#11, St. 302, Beong Keng Kang I, Phnom Penh</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cambodia Health Committee (CHC)</td>
<td>#64, St. 592, Beong Kok II, Toul Kork, Phnom Penh</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reproductive Health Association of Cambodia (RHAC)</td>
<td>#6, St. 150, Sangat Veal Vong, Phnom Penh</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>US-Centers for Disease Control and Prevention National Institute of Public Health, P.O Box 1300, Phnom Penh</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Japan Anti-Tuberculosis Association (JATA)</td>
<td>#6, St. 288, Beong Keng Kang II, Phnom Penh</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reproductive and Child Health Alliance (RACHA)</td>
<td>#160, St. 71, Tonle Bassac, Phnom Penh</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Japan International Cooperation Agency (JICA)</td>
<td>National Center for TB and Leprosy services (CENAT)</td>
<td>St. 278-95, Beong Keng Kang II, Phnom Penh</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### China

<table>
<thead>
<tr>
<th>Organization</th>
<th>Address</th>
<th>Contact Person</th>
<th>Email</th>
<th>Phone</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Damien Foundation Belgium</td>
<td>Rm 0601 Guangming Hotel Liangmaqiao Road, Beijing 100016</td>
<td><a href="mailto:alex.jaucot@damien-bel.org">alex.jaucot@damien-bel.org</a></td>
<td>Tel: (8610)84512250 ext 14 Fax: (8610)64637144</td>
<td></td>
<td></td>
</tr>
<tr>
<td>China Medical Association, subgroup TB</td>
<td>#97 Machang, Tongzhou District, Beijing 101149 Fu Yu Tel: (8610)69546690 ext 609 Fax: (8610)80882505</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>World Bank</td>
<td>16th floor, China World Tower 2. No.1 Jiangguomenwai Avenue, Beijing 10004 Zhang Shuo <a href="mailto:szhang2@worldbank.org">szhang2@worldbank.org</a> Tel: (8610) 58617786 Fax: (8610) 58617800</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinton Foundation</td>
<td>5-1-42 Tayuan Diplomatic Office Bldg. #1 Xindong Road, Beijing 100600 Herb Harwell Tel: (8610)85324950 ext 126 Fax: (8610)85324953</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bill and Melinda Gates Foundation</td>
<td>Room 1201, China Resources Building, 8 Jiangguomenbei Avenue, Beijing 100005 Daniel P. Chin <a href="mailto:Daniel.chin@gatesfoundation.org">Daniel.chin@gatesfoundation.org</a> Tel: (8610) 58111888 Fax: (8610) 58111999</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DFID China</td>
<td>30th floor South Tower Kerry Centre, Chao Yang District 1 Guang Hua Road Beijing 100020 Tel: (8610) 8529 6682 Fax: (8610) 8529 6602/3/4/5 Qiao Jianrong <a href="mailto:jr-qiai@dfid.gov.uk">jr-qiai@dfid.gov.uk</a> Tel: (8610) 85296882 2005</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>China Anti-TB Association</td>
<td>Nanwei Road, Xuanwu district, Beijing 100050 DuanMu Hongjin <a href="mailto:wanly@chinatb.org">wanly@chinatb.org</a> Tel: (8650)83133137</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All China Women’s Association</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

8 Contact persons, e-mail, telephone and fax numbers are current as of March 2009
### Lao People’s Democratic Republic

Damien Foundation Belgium  
Dr Guido Groenen  
guido.groenen@skynet.be

### Mongolia

<table>
<thead>
<tr>
<th>World Vision</th>
<th>Mongolian Anti-tuberculosis Association</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st khoroo, Sansar mega center “B” part, 5th floor, Ulaanbaatar</td>
<td>Room 308, Building of “San” University, Bayangol district, Ulaanbaatar</td>
</tr>
<tr>
<td>Ambal Badamjav, <a href="mailto:ambal@wvi.org">ambal@wvi.org</a></td>
<td>Solongo Bekhbat, <a href="mailto:mvpho@magicnet.mn">mvpho@magicnet.mn</a></td>
</tr>
<tr>
<td>Tel: (976)70155323/(976)70155322</td>
<td>Tel: (976)11366617</td>
</tr>
</tbody>
</table>

### Papua New Guinea

<table>
<thead>
<tr>
<th>World Vision (Port Moresby)</th>
<th>City Pharmacy (Port Moresby)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marlon Villanueva</td>
<td>Sourav Mukherjee</td>
</tr>
<tr>
<td><a href="mailto:marlon_villanueva@wvi.org">marlon_villanueva@wvi.org</a></td>
<td><a href="mailto:sourav@cpl.com.pg">sourav@cpl.com.pg</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>JTA International (Port Moresby)</th>
<th>PNG Institute of Medical Research (Goroka)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ms Ingrid Glastonbury</td>
<td>Geraldine Maibani</td>
</tr>
<tr>
<td><a href="mailto:ingrid.glastonbury@jta.com.au">ingrid.glastonbury@jta.com.au</a></td>
<td>Geraldine Maibani/pngimr.org.pg</td>
</tr>
</tbody>
</table>

### Philippines

<table>
<thead>
<tr>
<th>Philippine Coalition Against Tuberculosis (PhilCAT)</th>
<th>Tropical Disease Foundation, Inc. (TDFI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quezon Institute, E. Rodriguez Avenue</td>
<td>International TB Center</td>
</tr>
<tr>
<td>Quezon City, Metro Manila</td>
<td>Urban Road</td>
</tr>
<tr>
<td>Amelia Sarmiento <a href="mailto:agsarmiento@philcat.org">agsarmiento@philcat.org</a></td>
<td>Makati, Metro Manila</td>
</tr>
<tr>
<td></td>
<td>Dr Thelma Tupasi</td>
</tr>
<tr>
<td></td>
<td><a href="mailto:tetupasi@tdf.org.ph">tetupasi@tdf.org.ph</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RIT/JATA Philippines</th>
<th>Philippine Business for Social Progress (PBSP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tayuman Street and Rizal Ave corner 2nd Floor</td>
<td>Supported by USAID</td>
</tr>
<tr>
<td>Santa Cruz, City of Manila</td>
<td>Intramuros</td>
</tr>
<tr>
<td>Metro Manila</td>
<td>City of Manila, Metro Manila</td>
</tr>
<tr>
<td>Dr Christina Giango</td>
<td><a href="mailto:JAGutierrez@pbs.org.ph">JAGutierrez@pbs.org.ph</a></td>
</tr>
</tbody>
</table>

### Viet Nam

<table>
<thead>
<tr>
<th>NTP, Viet Nam</th>
<th>US Centers for Disease Control and Prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td>463 Hoang Hoa Tham Street, Ba Dinh District, Hanoi</td>
<td>Rose Garden, 6 Ngoc Khanh Street, Hanoi</td>
</tr>
<tr>
<td>Prof Dinh Ngoc Sy</td>
<td>Dr Mitchell Wolfe</td>
</tr>
<tr>
<td><a href="mailto:vnntp463@hn.vn.vn">vnntp463@hn.vn.vn</a></td>
<td><a href="mailto:mswh@cdc.gov">mswh@cdc.gov</a></td>
</tr>
<tr>
<td>Tel: 84.4.37614890</td>
<td>Tel: 84.4.38314604</td>
</tr>
<tr>
<td>Fax: 84.4.832 5865</td>
<td>Fax: 84.4.38314580</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Viet Nam Women’s Union</th>
<th>US Centers for Disease Control and Prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td>39 Hang Chuoi, Hanoi</td>
<td>Rose Garden, 6 Ngoc Khanh Street, Hanoi</td>
</tr>
<tr>
<td><a href="mailto:JAGutierrez@pbs.org.ph">JAGutierrez@pbs.org.ph</a></td>
<td>Dr Mitchell Wolfe</td>
</tr>
<tr>
<td>Tel: 84.4.39713436</td>
<td><a href="mailto:mswh@cdc.gov">mswh@cdc.gov</a></td>
</tr>
<tr>
<td>Fax: 84.4.39713143</td>
<td>Tel: 84.4.38314604</td>
</tr>
<tr>
<td>Fax: 84.4.38314580</td>
<td>Fax: 84.4.38314580</td>
</tr>
</tbody>
</table>
Embassy of Netherlands
Daeha Office Tower, 6th Floor, 360 Kim Ma Street, Hanoi
Ger Steenbergen
ger.steenbergen@minbuza.nl
Tel: 84.4.38315650
Fax: 84.4.832 5865

US Agency for International Development (USAID)
‘15/F Tung Shing Square,
#2 Ngo Quyen Street, Hanoi
Ellen Lynch
Tel: 84.4.39351265

Viet Nam Red Cross
82 Nguyen Du Street, Hanoi
Tel: 84.4.38224030
Fax: 84.4.9424285

US Embassy
7 Lang Ha Street, Hanoi
Dr Michael Lademarco
lademarcoMF@state.gov
Tel: 84.4.38314580
Fax: 84.4.38505028

Programme for Appropriate Technology in Health (PATH) US
Floor 2nd, Hanoi Towers
49 Hai Ba Trung Street, Hanoi
Michelle Gardner
mgardner@path.org
Tel: 84.4.39362215
Fax: 84.4.39362216
### Annex 6: Subnational data for 7 countries with a high burden of TB, 2007

<table>
<thead>
<tr>
<th>Sub-national area</th>
<th>All forms of TB notified</th>
<th>Number</th>
<th>Rate per 100 000 population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cambodia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Banteay Meanchey</td>
<td></td>
<td>1767</td>
<td>216</td>
</tr>
<tr>
<td>Battambang</td>
<td></td>
<td>1937</td>
<td>187</td>
</tr>
<tr>
<td>Kampong Cham</td>
<td></td>
<td>3953</td>
<td>207</td>
</tr>
<tr>
<td>Kampong Chhnang</td>
<td></td>
<td>1184</td>
<td>220</td>
</tr>
<tr>
<td>Kampong Speu</td>
<td></td>
<td>1848</td>
<td>242</td>
</tr>
<tr>
<td>Kampong Thom</td>
<td></td>
<td>1503</td>
<td>212</td>
</tr>
<tr>
<td>Kampong Thom</td>
<td></td>
<td>1503</td>
<td>212</td>
</tr>
<tr>
<td>Kandal</td>
<td></td>
<td>3279</td>
<td>256</td>
</tr>
<tr>
<td>Kep</td>
<td></td>
<td>88</td>
<td>218</td>
</tr>
<tr>
<td>Koh Kong</td>
<td></td>
<td>202</td>
<td>97</td>
</tr>
<tr>
<td>Kratie</td>
<td></td>
<td>541</td>
<td>154</td>
</tr>
<tr>
<td>Mondul Kiri</td>
<td></td>
<td>44</td>
<td>98</td>
</tr>
<tr>
<td>Oddar Meanchey</td>
<td></td>
<td>379</td>
<td>369</td>
</tr>
<tr>
<td>Pailin</td>
<td></td>
<td>131</td>
<td>372</td>
</tr>
<tr>
<td>Phnom Penh</td>
<td></td>
<td>3298</td>
<td>236</td>
</tr>
<tr>
<td>Preah Vihear</td>
<td></td>
<td>304</td>
<td>189</td>
</tr>
<tr>
<td>Prey Veng</td>
<td></td>
<td>3676</td>
<td>346</td>
</tr>
<tr>
<td>Pursat</td>
<td></td>
<td>1417</td>
<td>320</td>
</tr>
<tr>
<td>Ratanak Kiri</td>
<td></td>
<td>86</td>
<td>67</td>
</tr>
<tr>
<td>Siemreap</td>
<td></td>
<td>3120</td>
<td>346</td>
</tr>
<tr>
<td>Kampong Som</td>
<td></td>
<td>451</td>
<td>202</td>
</tr>
<tr>
<td>Stung Treng</td>
<td></td>
<td>188</td>
<td>171</td>
</tr>
<tr>
<td>Svay Rieng</td>
<td></td>
<td>2279</td>
<td>414</td>
</tr>
<tr>
<td>Takeo</td>
<td></td>
<td>2563</td>
<td>277</td>
</tr>
<tr>
<td>China</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anhui</td>
<td></td>
<td>43 518</td>
<td>71</td>
</tr>
<tr>
<td>Beijing</td>
<td></td>
<td>2392</td>
<td>15</td>
</tr>
<tr>
<td>Chongqing</td>
<td></td>
<td>27 793</td>
<td>99</td>
</tr>
<tr>
<td>Fujian</td>
<td></td>
<td>23 351</td>
<td>66</td>
</tr>
<tr>
<td>Gansu</td>
<td></td>
<td>24032</td>
<td>92</td>
</tr>
<tr>
<td>Guangdong</td>
<td></td>
<td>68 777</td>
<td>74</td>
</tr>
<tr>
<td>Guangxi</td>
<td></td>
<td>45 183</td>
<td>96</td>
</tr>
<tr>
<td>Guizhou</td>
<td></td>
<td>41 361</td>
<td>110</td>
</tr>
<tr>
<td>Hainan</td>
<td></td>
<td>9388</td>
<td>112</td>
</tr>
<tr>
<td>Hebei</td>
<td></td>
<td>39 814</td>
<td>58</td>
</tr>
<tr>
<td>Heilongjiang</td>
<td></td>
<td>38 494</td>
<td>101</td>
</tr>
<tr>
<td>Henan</td>
<td></td>
<td>83 737</td>
<td>89</td>
</tr>
<tr>
<td>Hongkong +</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hubei</td>
<td></td>
<td>51 145</td>
<td>90</td>
</tr>
<tr>
<td>Hunan</td>
<td></td>
<td>50 823</td>
<td>80</td>
</tr>
<tr>
<td>Inner Mongolia</td>
<td></td>
<td>24 192</td>
<td>101</td>
</tr>
<tr>
<td>Jiangsu</td>
<td></td>
<td>47 479</td>
<td>63</td>
</tr>
<tr>
<td>Jiangxi</td>
<td></td>
<td>37 798</td>
<td>87</td>
</tr>
</tbody>
</table>
## ANNEXES

<table>
<thead>
<tr>
<th>Sub-national area</th>
<th>All forms of TB notified</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
</tr>
<tr>
<td>Jilin</td>
<td>21 765</td>
</tr>
<tr>
<td>Liaoning</td>
<td>23 839</td>
</tr>
<tr>
<td>Macau +</td>
<td>3783</td>
</tr>
<tr>
<td>Ningxia</td>
<td>4996</td>
</tr>
<tr>
<td>Qinghai</td>
<td>24 318</td>
</tr>
<tr>
<td>Shaanxi</td>
<td>40 603</td>
</tr>
<tr>
<td>Shandong</td>
<td>8013</td>
</tr>
<tr>
<td>Shanghai</td>
<td>23 388</td>
</tr>
<tr>
<td>Sichuan</td>
<td>70 390</td>
</tr>
<tr>
<td>Taiwan</td>
<td>-</td>
</tr>
<tr>
<td>Tianjin</td>
<td>4310</td>
</tr>
<tr>
<td>Xinjiang</td>
<td>29 310</td>
</tr>
<tr>
<td>Xizang</td>
<td>4993</td>
</tr>
<tr>
<td>Yunnan</td>
<td>20 906</td>
</tr>
<tr>
<td>Zhejiang</td>
<td>37 928</td>
</tr>
</tbody>
</table>

## Lao People's Democratic Republic

<table>
<thead>
<tr>
<th>Sub-national area</th>
<th>All forms of TB notified</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
</tr>
<tr>
<td>Vientiane Municipality</td>
<td>746</td>
</tr>
<tr>
<td>Phongsaly</td>
<td>44</td>
</tr>
<tr>
<td>Luangnamtha</td>
<td>134</td>
</tr>
<tr>
<td>Oudomxay</td>
<td>170</td>
</tr>
<tr>
<td>Bokeo</td>
<td>99</td>
</tr>
<tr>
<td>Luangprabang</td>
<td>150</td>
</tr>
<tr>
<td>Huaphanh</td>
<td>30</td>
</tr>
<tr>
<td>Xayabury</td>
<td>155</td>
</tr>
<tr>
<td>Xiengkuang</td>
<td>36</td>
</tr>
<tr>
<td>Vientiane</td>
<td>232</td>
</tr>
<tr>
<td>Borikhmamxay</td>
<td>83</td>
</tr>
<tr>
<td>Khammuane</td>
<td>326</td>
</tr>
<tr>
<td>Savannakhet</td>
<td>922</td>
</tr>
<tr>
<td>Saravane</td>
<td>221</td>
</tr>
<tr>
<td>Sekong</td>
<td>43</td>
</tr>
<tr>
<td>Champasack</td>
<td>518</td>
</tr>
<tr>
<td>Attapeu</td>
<td>75</td>
</tr>
</tbody>
</table>

## Mongolia

<table>
<thead>
<tr>
<th>Sub-national area</th>
<th>All forms of TB notified</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
</tr>
<tr>
<td>Arhangay</td>
<td>74</td>
</tr>
<tr>
<td>Bayan-olgii</td>
<td>70</td>
</tr>
<tr>
<td>Bayanhongor</td>
<td>24</td>
</tr>
<tr>
<td>Bulgan</td>
<td>70</td>
</tr>
<tr>
<td>Dornod</td>
<td>212</td>
</tr>
<tr>
<td>Dornogovi</td>
<td>72</td>
</tr>
<tr>
<td>DUNDGOVI</td>
<td>23</td>
</tr>
<tr>
<td>Zavkhan</td>
<td>37</td>
</tr>
<tr>
<td>Govi-altay</td>
<td>21</td>
</tr>
</tbody>
</table>
### Annexes

#### Sub-national area

<table>
<thead>
<tr>
<th>Sub-national area</th>
<th>All forms of TB notified</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
</tr>
<tr>
<td>Hentiy</td>
<td>176</td>
</tr>
<tr>
<td>Hovd</td>
<td>45</td>
</tr>
<tr>
<td>Hovsgol</td>
<td>150</td>
</tr>
<tr>
<td>Omnoovgi</td>
<td>28</td>
</tr>
<tr>
<td>Ovchurangay</td>
<td>89</td>
</tr>
<tr>
<td>Selenge</td>
<td>268</td>
</tr>
<tr>
<td>Subbaatar</td>
<td>115</td>
</tr>
<tr>
<td>Tov</td>
<td>108</td>
</tr>
<tr>
<td>Uvs</td>
<td>55</td>
</tr>
<tr>
<td>Govisumber</td>
<td>30</td>
</tr>
<tr>
<td>Orkhan</td>
<td>130</td>
</tr>
<tr>
<td>Darkhan-uul</td>
<td>294</td>
</tr>
<tr>
<td>Ulaanbaatar</td>
<td>2487</td>
</tr>
</tbody>
</table>

#### Papua New Guinea

<table>
<thead>
<tr>
<th>Sub-national area</th>
<th>All forms of TB notified</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
</tr>
<tr>
<td>National Capital District</td>
<td>3858</td>
</tr>
<tr>
<td>Central</td>
<td>648</td>
</tr>
<tr>
<td>Eastern Highlands</td>
<td>559</td>
</tr>
<tr>
<td>East New Britain</td>
<td>917</td>
</tr>
<tr>
<td>East Sepik</td>
<td>826</td>
</tr>
<tr>
<td>Enga</td>
<td>71</td>
</tr>
<tr>
<td>Gulf</td>
<td>1360</td>
</tr>
<tr>
<td>Madang</td>
<td>661</td>
</tr>
<tr>
<td>Manus</td>
<td>18</td>
</tr>
<tr>
<td>Milne bay</td>
<td>593</td>
</tr>
<tr>
<td>Morobe</td>
<td>1053</td>
</tr>
<tr>
<td>North Solomons</td>
<td>423</td>
</tr>
<tr>
<td>New Ireland</td>
<td>115</td>
</tr>
<tr>
<td>Oro</td>
<td>447</td>
</tr>
<tr>
<td>Southern Highlands</td>
<td>278</td>
</tr>
<tr>
<td>Simbu</td>
<td>296</td>
</tr>
<tr>
<td>Western Highlands</td>
<td>224</td>
</tr>
<tr>
<td>West New Britain</td>
<td>890</td>
</tr>
<tr>
<td>West Sepik</td>
<td>315</td>
</tr>
<tr>
<td>Western</td>
<td>427</td>
</tr>
</tbody>
</table>

#### Philippines

<table>
<thead>
<tr>
<th>Sub-national area</th>
<th>All forms of TB notified</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
</tr>
<tr>
<td>Autonomous region in Muslim Mindanao (ARMM)</td>
<td>4015</td>
</tr>
<tr>
<td>Cordillera Administrative region (CAR)</td>
<td>1294</td>
</tr>
<tr>
<td>National Capital region (NCR)</td>
<td>21 308</td>
</tr>
<tr>
<td>Region I (Ilocos region)</td>
<td>6457</td>
</tr>
<tr>
<td>Region II (Cagayan Valley)</td>
<td>5023</td>
</tr>
<tr>
<td>Region III (Central Luzon)</td>
<td>14 274</td>
</tr>
<tr>
<td>Region IV-A (Calabarzon)</td>
<td>15 598</td>
</tr>
<tr>
<td>Region IV-B (Mimaropa)</td>
<td>2303</td>
</tr>
<tr>
<td>Region IX (Western Mindanao)</td>
<td>6736</td>
</tr>
<tr>
<td>Region V (Bicol region)</td>
<td>11 125</td>
</tr>
<tr>
<td>Sub-national area</td>
<td>All forms of TB notified</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td></td>
<td>Number</td>
</tr>
<tr>
<td>Region VI (Western Visayas)</td>
<td>16011</td>
</tr>
<tr>
<td>Region VII (Central Visayas)</td>
<td>9672</td>
</tr>
<tr>
<td>Region VIII (Eastern Visayas)</td>
<td>6194</td>
</tr>
<tr>
<td>Region X (Northern Mindanao)</td>
<td>5899</td>
</tr>
<tr>
<td>Region XI (Davao Region)</td>
<td>6896</td>
</tr>
<tr>
<td>Region XII (Soccsksargen)</td>
<td>5565</td>
</tr>
<tr>
<td>CARAGA</td>
<td>4813</td>
</tr>
<tr>
<td>Viet Nam</td>
<td></td>
</tr>
<tr>
<td>An Giang</td>
<td>4474</td>
</tr>
<tr>
<td>Ba Ria – Vung Tau</td>
<td>1220</td>
</tr>
<tr>
<td>Bac Giang</td>
<td>2348</td>
</tr>
<tr>
<td>Bac Kan</td>
<td>107</td>
</tr>
<tr>
<td>Bac Lieu</td>
<td>980</td>
</tr>
<tr>
<td>Bac Ninh</td>
<td>777</td>
</tr>
<tr>
<td>Ben Tre</td>
<td>1354</td>
</tr>
<tr>
<td>Binh Dinh</td>
<td>1971</td>
</tr>
<tr>
<td>Binh Duong</td>
<td>1691</td>
</tr>
<tr>
<td>Binh Phuoc</td>
<td>813</td>
</tr>
<tr>
<td>Binh Thuan</td>
<td>1509</td>
</tr>
<tr>
<td>Ca Mau</td>
<td>1394</td>
</tr>
<tr>
<td>Can Tho</td>
<td>2046</td>
</tr>
<tr>
<td>Cao Bang</td>
<td>282</td>
</tr>
<tr>
<td>Da Nang city</td>
<td>1504</td>
</tr>
<tr>
<td>Dak Lak</td>
<td>799</td>
</tr>
<tr>
<td>Dong Nai</td>
<td>3311</td>
</tr>
<tr>
<td>Dong Thap</td>
<td>2698</td>
</tr>
<tr>
<td>Gia Lai</td>
<td>578</td>
</tr>
<tr>
<td>Ha Giang</td>
<td>276</td>
</tr>
<tr>
<td>Ha Nam</td>
<td>985</td>
</tr>
<tr>
<td>Ha Noi</td>
<td>2573</td>
</tr>
<tr>
<td>Ha Tay</td>
<td>1932</td>
</tr>
<tr>
<td>Ha Tinh</td>
<td>1398</td>
</tr>
<tr>
<td>Hai Duong</td>
<td>1379</td>
</tr>
<tr>
<td>Hai Phong</td>
<td>2163</td>
</tr>
<tr>
<td>Ho Chi Minh city</td>
<td>14052</td>
</tr>
<tr>
<td>Hoa Binh</td>
<td>502</td>
</tr>
<tr>
<td>Hung Yen</td>
<td>1156</td>
</tr>
<tr>
<td>Khanh Hoa</td>
<td>1363</td>
</tr>
<tr>
<td>Kien Giang</td>
<td>2543</td>
</tr>
<tr>
<td>Kon Tum</td>
<td>281</td>
</tr>
<tr>
<td>Lai Chau</td>
<td>164</td>
</tr>
<tr>
<td>Lam Dong</td>
<td>488</td>
</tr>
<tr>
<td>Lang Son</td>
<td>735</td>
</tr>
<tr>
<td>Lao Cai</td>
<td>236</td>
</tr>
<tr>
<td>Long An</td>
<td>1937</td>
</tr>
<tr>
<td>Sub-national area</td>
<td>All forms of TB notified</td>
</tr>
<tr>
<td>-------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td></td>
<td>Number</td>
</tr>
<tr>
<td>Nam Dinh</td>
<td>1623</td>
</tr>
<tr>
<td>Nghe An</td>
<td>2540</td>
</tr>
<tr>
<td>Ninh Binh</td>
<td>689</td>
</tr>
<tr>
<td>Ninh Thuan</td>
<td>817</td>
</tr>
<tr>
<td>Phu Tho</td>
<td>990</td>
</tr>
<tr>
<td>Phu Yen</td>
<td>756</td>
</tr>
<tr>
<td>Quang Binh</td>
<td>815</td>
</tr>
<tr>
<td>Quang Nam</td>
<td>1631</td>
</tr>
<tr>
<td>Quang Ngai</td>
<td>1362</td>
</tr>
<tr>
<td>Quang Ninh</td>
<td>1047</td>
</tr>
<tr>
<td>Quang Tri</td>
<td>546</td>
</tr>
<tr>
<td>Soc Trang</td>
<td>1741</td>
</tr>
<tr>
<td>Son La</td>
<td>363</td>
</tr>
<tr>
<td>Tay Ninh</td>
<td>2129</td>
</tr>
<tr>
<td>Thai Binh</td>
<td>1774</td>
</tr>
<tr>
<td>Thai Nguyen</td>
<td>816</td>
</tr>
<tr>
<td>Thanh Hoa</td>
<td>3895</td>
</tr>
<tr>
<td>Thua Thien - Hue</td>
<td>1153</td>
</tr>
<tr>
<td>Tien Giang</td>
<td>1966</td>
</tr>
<tr>
<td>Tra Vinh</td>
<td>1444</td>
</tr>
<tr>
<td>Tuyen Quang</td>
<td>303</td>
</tr>
<tr>
<td>Vinh Long</td>
<td>1237</td>
</tr>
<tr>
<td>Vinh Phuc</td>
<td>572</td>
</tr>
<tr>
<td>Yen Bai</td>
<td>352</td>
</tr>
<tr>
<td>Dien Bien</td>
<td>173</td>
</tr>
<tr>
<td>Dac Nong</td>
<td>163</td>
</tr>
<tr>
<td>Hau Giang</td>
<td>1168</td>
</tr>
</tbody>
</table>

+ Listed as countries and areas; - = no data available
### Table 31. Estimated burden of TB, 1990 and 2007

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All forms</strong></td>
<td>number</td>
<td>rate</td>
<td>number</td>
<td>number</td>
</tr>
<tr>
<td>American Samoa</td>
<td>10</td>
<td>21</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Australia</td>
<td>1120</td>
<td>7</td>
<td>503</td>
<td>1139</td>
</tr>
<tr>
<td>Brunei Darussalam</td>
<td>148</td>
<td>58</td>
<td>67</td>
<td>26</td>
</tr>
<tr>
<td>Cambodia</td>
<td>56 742</td>
<td>585</td>
<td>25 258</td>
<td>260</td>
</tr>
<tr>
<td>China</td>
<td>1 338 563</td>
<td>116</td>
<td>602 242</td>
<td>52</td>
</tr>
<tr>
<td>China, Hong Kong SAR</td>
<td>5355</td>
<td>94</td>
<td>2410</td>
<td>42</td>
</tr>
<tr>
<td>China, Macao SAR</td>
<td>258</td>
<td>69</td>
<td>116</td>
<td>31</td>
</tr>
<tr>
<td>Cook Islands</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fiji</td>
<td>366</td>
<td>51</td>
<td>165</td>
<td>23</td>
</tr>
<tr>
<td>French Polynesia</td>
<td>66</td>
<td>34</td>
<td>30</td>
<td>15</td>
</tr>
<tr>
<td>Guam</td>
<td>69</td>
<td>51</td>
<td>31</td>
<td>23</td>
</tr>
<tr>
<td>Japan</td>
<td>58 085</td>
<td>47</td>
<td>26 128</td>
<td>21</td>
</tr>
<tr>
<td>Kiribati</td>
<td>369</td>
<td>513</td>
<td>166</td>
<td>231</td>
</tr>
<tr>
<td>Lao PDR</td>
<td>7278</td>
<td>179</td>
<td>3 275</td>
<td>80</td>
</tr>
<tr>
<td>Marshall Islands</td>
<td>143</td>
<td>302</td>
<td>64</td>
<td>136</td>
</tr>
<tr>
<td>Micronesia</td>
<td>182</td>
<td>188</td>
<td>12</td>
<td>35</td>
</tr>
<tr>
<td>Mongolia</td>
<td>4552</td>
<td>205</td>
<td>2 049</td>
<td>92</td>
</tr>
<tr>
<td>New Caledonia</td>
<td>159</td>
<td>93</td>
<td>72</td>
<td>41</td>
</tr>
<tr>
<td>Nauru</td>
<td>8</td>
<td>85</td>
<td>4</td>
<td>38</td>
</tr>
<tr>
<td>Niue</td>
<td>1</td>
<td>59</td>
<td>1</td>
<td>26</td>
</tr>
<tr>
<td>Northern Mariana Islands</td>
<td>32</td>
<td>51</td>
<td>41</td>
<td>32</td>
</tr>
<tr>
<td>Palau</td>
<td>10</td>
<td>64</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>10 307</td>
<td>250</td>
<td>4636</td>
<td>112</td>
</tr>
<tr>
<td>Philippines</td>
<td>240 889</td>
<td>393</td>
<td>108 400</td>
<td>177</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>70 946</td>
<td>165</td>
<td>31 926</td>
<td>74</td>
</tr>
<tr>
<td>Samoa</td>
<td>51</td>
<td>92</td>
<td>23</td>
<td>14</td>
</tr>
<tr>
<td>Singapore</td>
<td>1493</td>
<td>50</td>
<td>672</td>
<td>22</td>
</tr>
<tr>
<td>Solomon Islands</td>
<td>980</td>
<td>312</td>
<td>441</td>
<td>141</td>
</tr>
<tr>
<td>Tokelau</td>
<td>9</td>
<td>69</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Tonga</td>
<td>32</td>
<td>34</td>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td>Tuvalu</td>
<td>21</td>
<td>25</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>Vanuatu</td>
<td>207</td>
<td>139</td>
<td>93</td>
<td>62</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>133 898</td>
<td>202</td>
<td>60 245</td>
<td>91</td>
</tr>
<tr>
<td>Wallis and Futuna</td>
<td>9</td>
<td>63</td>
<td>4</td>
<td>28</td>
</tr>
<tr>
<td>Western Pacific Region</td>
<td>1 954 134</td>
<td>129</td>
<td>878 939</td>
<td>58</td>
</tr>
</tbody>
</table>

* Incidence, prevalence and mortality estimates include patients with HIV. Estimates labelled “HIV+” are estimates of TB in HIV-positive adults (age 15-49). Estimates for all years are re-calculated as new information becomes available and techniques are refined so they may differ from those published previously. See Explanatory notes on page 67 for further details. Data can be downloaded from http://stoptb.wprc.who.int.
### Incidence, 2007

<table>
<thead>
<tr>
<th>Smear-positive</th>
<th>Smear-positive HIV+</th>
<th>All forms</th>
<th>All forms HIV+</th>
<th>All forms</th>
<th>All forms HIV+</th>
<th>All forms</th>
<th>All forms HIV+</th>
<th>All forms</th>
<th>All forms HIV+</th>
<th>HIV prevalence in adult incident TB cases (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>number</strong></td>
<td><strong>rate</strong></td>
<td><strong>number</strong></td>
<td><strong>rate</strong></td>
<td><strong>number</strong></td>
<td><strong>rate</strong></td>
<td><strong>number</strong></td>
<td><strong>rate</strong></td>
<td><strong>number</strong></td>
<td><strong>rate</strong></td>
<td><strong>new</strong></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>579</td>
<td>3</td>
<td>14</td>
<td>0</td>
<td>1303</td>
<td>6</td>
<td>20</td>
<td>0</td>
<td>129</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>151</td>
<td>39</td>
<td>0</td>
<td>0</td>
<td>252</td>
<td>65</td>
<td>0</td>
<td>0</td>
<td>27</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>31 621</td>
<td>219</td>
<td>1946</td>
<td>13</td>
<td>95 974</td>
<td>664</td>
<td>2780</td>
<td>19</td>
<td>12 925</td>
<td>89</td>
<td>1843</td>
</tr>
<tr>
<td>585 126</td>
<td>44</td>
<td>8647</td>
<td>1</td>
<td>2 582 469</td>
<td>194</td>
<td>12 353</td>
<td>1</td>
<td>200 614</td>
<td>15</td>
<td>6774</td>
</tr>
<tr>
<td>2 007</td>
<td>28</td>
<td>–</td>
<td>–</td>
<td>4501</td>
<td>63</td>
<td>–</td>
<td>–</td>
<td>384</td>
<td>5</td>
<td>–</td>
</tr>
<tr>
<td>135</td>
<td>28</td>
<td>–</td>
<td>–</td>
<td>301</td>
<td>63</td>
<td>–</td>
<td>–</td>
<td>22</td>
<td>5</td>
<td>–</td>
</tr>
<tr>
<td>1</td>
<td>7</td>
<td>–</td>
<td>–</td>
<td>4</td>
<td>31</td>
<td>–</td>
<td>–</td>
<td>1</td>
<td>4</td>
<td>–</td>
</tr>
<tr>
<td>78</td>
<td>9</td>
<td>1</td>
<td>0</td>
<td>255</td>
<td>30</td>
<td>2</td>
<td>0</td>
<td>29</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>21</td>
<td>8</td>
<td>–</td>
<td>–</td>
<td>83</td>
<td>32</td>
<td>–</td>
<td>–</td>
<td>8</td>
<td>3</td>
<td>–</td>
</tr>
<tr>
<td>6</td>
<td>3</td>
<td>–</td>
<td>–</td>
<td>63</td>
<td>36</td>
<td>–</td>
<td>–</td>
<td>4</td>
<td>2</td>
<td>–</td>
</tr>
<tr>
<td>12 135</td>
<td>9</td>
<td>44</td>
<td>0</td>
<td>35 767</td>
<td>28</td>
<td>63</td>
<td>0</td>
<td>3331</td>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td>156</td>
<td>164</td>
<td>–</td>
<td>–</td>
<td>402</td>
<td>423</td>
<td>–</td>
<td>–</td>
<td>46</td>
<td>49</td>
<td>–</td>
</tr>
<tr>
<td>3 954</td>
<td>67</td>
<td>103</td>
<td>2</td>
<td>16 906</td>
<td>289</td>
<td>147</td>
<td>3</td>
<td>1410</td>
<td>24</td>
<td>99</td>
</tr>
<tr>
<td>11 904</td>
<td>45</td>
<td>1552</td>
<td>6</td>
<td>32 251</td>
<td>121</td>
<td>2217</td>
<td>8</td>
<td>4830</td>
<td>18</td>
<td>1296</td>
</tr>
<tr>
<td>57</td>
<td>97</td>
<td>–</td>
<td>–</td>
<td>166</td>
<td>281</td>
<td>–</td>
<td>–</td>
<td>19</td>
<td>32</td>
<td>–</td>
</tr>
<tr>
<td>49</td>
<td>44</td>
<td>–</td>
<td>–</td>
<td>171</td>
<td>100</td>
<td>–</td>
<td>–</td>
<td>10</td>
<td>9</td>
<td>–</td>
</tr>
<tr>
<td>2429</td>
<td>92</td>
<td>3</td>
<td>0</td>
<td>6142</td>
<td>234</td>
<td>4</td>
<td>0</td>
<td>762</td>
<td>29</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>33</td>
<td>–</td>
<td>–</td>
<td>3</td>
<td>33</td>
<td>–</td>
<td>–</td>
<td>0</td>
<td>3</td>
<td>–</td>
</tr>
<tr>
<td>13</td>
<td>6</td>
<td>–</td>
<td>–</td>
<td>60</td>
<td>126</td>
<td>–</td>
<td>–</td>
<td>4</td>
<td>2</td>
<td>–</td>
</tr>
<tr>
<td>134</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>303</td>
<td>7</td>
<td>2</td>
<td>0</td>
<td>30</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>–</td>
<td>–</td>
<td>0</td>
<td>0</td>
<td>–</td>
<td>–</td>
<td>0</td>
<td>0</td>
<td>–</td>
</tr>
<tr>
<td>16</td>
<td>10</td>
<td>–</td>
<td>–</td>
<td>60</td>
<td>25</td>
<td>–</td>
<td>–</td>
<td>6</td>
<td>2</td>
<td>–</td>
</tr>
<tr>
<td>6</td>
<td>27</td>
<td>–</td>
<td>–</td>
<td>14</td>
<td>71</td>
<td>–</td>
<td>–</td>
<td>2</td>
<td>8</td>
<td>–</td>
</tr>
<tr>
<td>6815</td>
<td>108</td>
<td>1026</td>
<td>16</td>
<td>27 197</td>
<td>430</td>
<td>1465</td>
<td>23</td>
<td>3817</td>
<td>60</td>
<td>1049</td>
</tr>
<tr>
<td>114 701</td>
<td>130</td>
<td>306</td>
<td>0</td>
<td>440 035</td>
<td>500</td>
<td>437</td>
<td>0</td>
<td>36 305</td>
<td>41</td>
<td>271</td>
</tr>
<tr>
<td>19 609</td>
<td>40</td>
<td>144</td>
<td>0</td>
<td>60 969</td>
<td>126</td>
<td>206</td>
<td>0</td>
<td>4887</td>
<td>10</td>
<td>45</td>
</tr>
<tr>
<td>16</td>
<td>8</td>
<td>–</td>
<td>–</td>
<td>47</td>
<td>29</td>
<td>–</td>
<td>–</td>
<td>5</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>525</td>
<td>12</td>
<td>14</td>
<td>0</td>
<td>1190</td>
<td>27</td>
<td>20</td>
<td>0</td>
<td>122</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>285</td>
<td>58</td>
<td>–</td>
<td>–</td>
<td>891</td>
<td>180</td>
<td>–</td>
<td>–</td>
<td>185</td>
<td>21</td>
<td>–</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>–</td>
<td>–</td>
<td>0</td>
<td>0</td>
<td>–</td>
<td>–</td>
<td>0</td>
<td>0</td>
<td>–</td>
</tr>
<tr>
<td>11</td>
<td>11</td>
<td>–</td>
<td>–</td>
<td>29</td>
<td>28</td>
<td>–</td>
<td>–</td>
<td>2</td>
<td>2</td>
<td>–</td>
</tr>
<tr>
<td>8</td>
<td>75</td>
<td>–</td>
<td>–</td>
<td>21</td>
<td>201</td>
<td>–</td>
<td>–</td>
<td>2</td>
<td>17</td>
<td>–</td>
</tr>
<tr>
<td>78</td>
<td>35</td>
<td>–</td>
<td>–</td>
<td>221</td>
<td>102</td>
<td>–</td>
<td>–</td>
<td>27</td>
<td>12</td>
<td>–</td>
</tr>
<tr>
<td>66 109</td>
<td>76</td>
<td>4218</td>
<td>5</td>
<td>192 092</td>
<td>220</td>
<td>6026</td>
<td>7</td>
<td>20 678</td>
<td>24</td>
<td>3101</td>
</tr>
<tr>
<td>1</td>
<td>7</td>
<td>–</td>
<td>–</td>
<td>4</td>
<td>25</td>
<td>–</td>
<td>–</td>
<td>0</td>
<td>3</td>
<td>–</td>
</tr>
<tr>
<td>858 539</td>
<td>48</td>
<td>18 019</td>
<td>1</td>
<td>3 500 160</td>
<td>197</td>
<td>25 741</td>
<td>1</td>
<td>290 546</td>
<td>16</td>
<td>14 583</td>
</tr>
</tbody>
</table>

### Prevalence, 2007

### TB mortality, 2007

### HIV prevalence in adult incident TB cases (%) **new** re-treatment All cases Smear-positive

### MDR, 2007

### Percentage of

### Number among
### Table 32. Case notifications and case detection rates, DOTS and non-DOTS combined, 2007

<table>
<thead>
<tr>
<th>Population thousands</th>
<th>All notified number</th>
<th>New and relapse</th>
<th>New pulmonary</th>
<th>Other new number</th>
<th>Re-treatment cases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>New</td>
<td>ss+</td>
<td>ss/-</td>
<td>unk.</td>
</tr>
<tr>
<td><strong>ALL FORMS</strong></td>
<td></td>
<td>number</td>
<td>rate</td>
<td>number</td>
<td>rate</td>
</tr>
<tr>
<td><strong>New pulmonary</strong></td>
<td></td>
<td>number</td>
<td>number</td>
<td>number</td>
<td>rate</td>
</tr>
<tr>
<td><strong>New extra-pulmonary</strong></td>
<td></td>
<td>number</td>
<td>number</td>
<td>number</td>
<td>rate</td>
</tr>
<tr>
<td><strong>After failure</strong></td>
<td></td>
<td>number</td>
<td>number</td>
<td>number</td>
<td>rate</td>
</tr>
<tr>
<td><strong>New and relapse</strong></td>
<td></td>
<td>number</td>
<td>number</td>
<td>number</td>
<td>rate</td>
</tr>
<tr>
<td><strong>Non-DOTS</strong></td>
<td></td>
<td>number</td>
<td>number</td>
<td>number</td>
<td>rate</td>
</tr>
</tbody>
</table>

- **American Samoa**: 67
- **Australia**: 20,743
- **Brunei Darussalam**: 390
- **Cambodia**: 14,444
- **China**: 1,328,630
- **China, Hong Kong SAR**: 7,206
- **China, Macao SAR**: 4,811
- **Cook Islands**: 13
- **Fiji**: 839
- **French Polynesia**: 263
- **Guam**: 173
- **Japan**: 127,967
- **Kiribati**: 95
- **Lao People's Democratic Republic**: 58,591
- **Malaysia**: 26,772
- **Marshall Islands**: 59
- **Micronesia**: 111
- **Mongolia**: 262
- **Nauru**: 10
- **New Caledonia**: 102
- **New Zealand**: 4179
- **Niue**: 2
- **Northern Mariana Islands**: 91
- **Palau**: 20
- **Papua New Guinea**: 63,31
- **Philippines**: 87,960
- **Republic of Korea**: 48,224
- **Samoa**: 187
- **Singapore**: 44,361
- **Solomon Islands**: 496
- **Tokelau**: 1
- ** Tonga**: 100
- **Tuvalu**: 11
- **Vanuatu**: 226
- **Viet Nam**: 87,375
- **Wallis and Futuna**: 15

**Western Pacific Region**: 1,776,440

---

ss+ = sputum smear-positive; ss- = sputum smear-negative; unk. = sputum smear result unknown; re-treat. = re-treatment; pulm. lab. confirm. = pulmonary case confirmed by positive smear or culture. See Explanatory notes on page 67 for further details. Data can be downloaded from http://stoptb.wpro.who.int.
### Incidence and case detection rates

<table>
<thead>
<tr>
<th>Country</th>
<th>Estimated incidence</th>
<th>Case detection rate</th>
<th>Proportions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>all forms number</td>
<td>ss+ number</td>
<td>ss+ (% of pulm.)</td>
</tr>
<tr>
<td></td>
<td>all new %</td>
<td>new ss+ %</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>American Samoa</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Australia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>11</td>
<td>5</td>
<td>634</td>
</tr>
<tr>
<td>Brunei Darussalam</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>799</td>
<td>19,421</td>
<td>71,504</td>
</tr>
<tr>
<td>Cambodia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2814</td>
<td>61,089</td>
<td>465,877</td>
<td>1,305,770</td>
</tr>
<tr>
<td>China</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>160</td>
<td>3,273</td>
<td>4,463</td>
</tr>
<tr>
<td>China, Hong Kong SAR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>14</td>
<td>41</td>
<td>250</td>
</tr>
<tr>
<td>China, Macao SAR</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cook Islands</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fiji</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>62</td>
</tr>
<tr>
<td>French Polynesia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>0</td>
<td>38</td>
</tr>
<tr>
<td>Guam</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>532</td>
<td>0</td>
<td>14,657</td>
</tr>
<tr>
<td>Japan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>18</td>
<td>0</td>
<td>103</td>
</tr>
<tr>
<td>Kiribati</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>0</td>
<td>76</td>
<td>3080</td>
</tr>
<tr>
<td>Lao People's Democratic Republic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>214</td>
<td>542</td>
<td>0</td>
<td>15,506</td>
</tr>
<tr>
<td>Malaysia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>0</td>
<td>33</td>
</tr>
<tr>
<td>Marshall Islands</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>3</td>
<td>31</td>
</tr>
<tr>
<td>Micronesia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>191</td>
<td>0</td>
<td>18,568</td>
</tr>
<tr>
<td>Mongolia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Nauru</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>32</td>
</tr>
<tr>
<td>New Caledonia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>13</td>
<td>0</td>
<td>158</td>
</tr>
<tr>
<td>New Zealand</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Niue</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>Northern Mariana Islands</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Palau</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1181</td>
<td>2,647</td>
<td>15,796</td>
<td>6815</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>535</td>
<td>9,74</td>
<td>86,464</td>
<td>235,084</td>
</tr>
<tr>
<td>Philippines</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>436</td>
<td>3,101</td>
<td>43,047</td>
<td>1,522</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>142</td>
<td>634</td>
</tr>
<tr>
<td>Singapore</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>32</td>
</tr>
<tr>
<td>Solomon Islands</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>Tonga</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>Tuvalu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>79</td>
</tr>
<tr>
<td>Vanuatu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>Viet Nam</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>345</td>
<td>149,588</td>
<td>66,109</td>
<td>61</td>
</tr>
<tr>
<td>Wallis and Futuna</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Western Pacific Region</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4450</td>
<td>68,661</td>
<td>631,675</td>
<td>1,919,306</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 33. DOTS coverage, case notifications and case detection rates, 2007

<table>
<thead>
<tr>
<th>DOTS coverage</th>
<th>New and relapse (WHO total)</th>
<th>TB cases reported from DOTS services</th>
<th>Re-treatment cases.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>number</td>
<td>rate</td>
<td>number</td>
</tr>
<tr>
<td></td>
<td>ss+</td>
<td>ss-</td>
<td>unk.</td>
</tr>
<tr>
<td>American Samoa</td>
<td>100</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Australia</td>
<td>100</td>
<td>113</td>
<td>15</td>
</tr>
<tr>
<td>Brunei Darussalam</td>
<td>100</td>
<td>207</td>
<td>33</td>
</tr>
<tr>
<td>Cambodia</td>
<td>100</td>
<td>356</td>
<td>246</td>
</tr>
<tr>
<td>China</td>
<td>100</td>
<td>979</td>
<td>74</td>
</tr>
<tr>
<td>China, Hong Kong SAR</td>
<td>100</td>
<td>451</td>
<td>58</td>
</tr>
<tr>
<td>China, Macao SAR</td>
<td>100</td>
<td>342</td>
<td>71</td>
</tr>
<tr>
<td>Cook Islands</td>
<td>100</td>
<td>94</td>
<td>11</td>
</tr>
<tr>
<td>Fiji</td>
<td>100</td>
<td>64</td>
<td>24</td>
</tr>
<tr>
<td>French Polynesia</td>
<td>100</td>
<td>53</td>
<td>31</td>
</tr>
<tr>
<td>Guam</td>
<td>99</td>
<td>24</td>
<td>19</td>
</tr>
<tr>
<td>Kiribati</td>
<td>100</td>
<td>334</td>
<td>351</td>
</tr>
<tr>
<td>Lao People's Democratic Republic</td>
<td>100</td>
<td>3905</td>
<td>67</td>
</tr>
<tr>
<td>Malaysia</td>
<td>100</td>
<td>16</td>
<td>61</td>
</tr>
<tr>
<td>Marshall Islands</td>
<td>96</td>
<td>158</td>
<td>267</td>
</tr>
<tr>
<td>Micronesia</td>
<td>89</td>
<td>137</td>
<td>123</td>
</tr>
<tr>
<td>Mongolia</td>
<td>100</td>
<td>4654</td>
<td>177</td>
</tr>
<tr>
<td>Nauru</td>
<td>100</td>
<td>3</td>
<td>30</td>
</tr>
<tr>
<td>New Caledonia</td>
<td>100</td>
<td>47</td>
<td>19</td>
</tr>
<tr>
<td>New Zealand</td>
<td>100</td>
<td>274</td>
<td>7</td>
</tr>
<tr>
<td>Niue</td>
<td>100</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Northern Mariana Islands</td>
<td>100</td>
<td>44</td>
<td>52</td>
</tr>
<tr>
<td>Palau</td>
<td>100</td>
<td>11</td>
<td>54</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>14</td>
<td>504</td>
<td>80</td>
</tr>
<tr>
<td>Philippines</td>
<td>100</td>
<td>140</td>
<td>160</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>100</td>
<td>8707</td>
<td>18</td>
</tr>
<tr>
<td>Samoa</td>
<td>100</td>
<td>397</td>
<td>80</td>
</tr>
<tr>
<td>Solomon Islands</td>
<td>100</td>
<td>23</td>
<td>23</td>
</tr>
<tr>
<td>Tokelau</td>
<td>100</td>
<td>18</td>
<td>171</td>
</tr>
<tr>
<td>Tuvalu</td>
<td>100</td>
<td>83</td>
<td>122</td>
</tr>
<tr>
<td>Vanuatu</td>
<td>100</td>
<td>97</td>
<td>400</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>100</td>
<td>2</td>
<td>13</td>
</tr>
<tr>
<td>Wallis and Futuna</td>
<td>100</td>
<td>325</td>
<td>173</td>
</tr>
</tbody>
</table>

ss+ = sputum smear-positive; ss- = sputum smear-negative; unk. = sputum smear result unknown; re-treat. = re-treatment; pulm. lab. Confirmed = pulmonary case confirmed by positive smear or culture. See Explanatory notes on page 67 for further details. Data can be downloaded from http://stoptb.wpro.who.int.
<table>
<thead>
<tr>
<th>Estimated incidence and case detection rate</th>
<th>Proportions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated incidence</td>
<td>Case detection rate</td>
</tr>
<tr>
<td>all forms number</td>
<td>ss+ number</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>11</td>
<td>5</td>
</tr>
<tr>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>799</td>
<td>19 421</td>
</tr>
<tr>
<td>61 089</td>
<td>0 465 877</td>
</tr>
<tr>
<td>138</td>
<td>0 2474</td>
</tr>
<tr>
<td>14</td>
<td>0 250</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>527</td>
<td>0 14 597</td>
</tr>
<tr>
<td>18</td>
<td>0 103</td>
</tr>
<tr>
<td>0</td>
<td>76 3080</td>
</tr>
<tr>
<td>542</td>
<td>0 14 692</td>
</tr>
<tr>
<td>2</td>
<td>0 33</td>
</tr>
<tr>
<td>0</td>
<td>3 31</td>
</tr>
<tr>
<td>191</td>
<td>0 1856</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>32 52</td>
</tr>
<tr>
<td>13</td>
<td>0 158</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1147</td>
<td>0 15 796</td>
</tr>
<tr>
<td>974</td>
<td>0 86 464</td>
</tr>
<tr>
<td>660</td>
<td>858</td>
</tr>
<tr>
<td>35</td>
<td>16</td>
</tr>
<tr>
<td>32</td>
<td>17</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>65 012</strong></td>
<td><strong>951</strong></td>
</tr>
</tbody>
</table>
### Table 34. Laboratory services, collaborative TB/HIV activities and management of MDR-TB, Western Pacific, 2006–2007

<table>
<thead>
<tr>
<th>Country</th>
<th>smear</th>
<th>culture</th>
<th>DST</th>
<th>Smear labs included in EQA</th>
<th>TB patients tested for HIV</th>
<th>TB patients, HIV-positive</th>
<th>HIV+ TB patients, CPT</th>
<th>HIV+ TB patients, ART</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Samoa</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Australia</td>
<td>127</td>
<td>13</td>
<td>6</td>
<td>127</td>
<td>423</td>
<td>15</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Brunei Darussalam</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cambodia</td>
<td>201</td>
<td>3</td>
<td>1</td>
<td>186</td>
<td>4721</td>
<td>1628</td>
<td>954</td>
<td>385</td>
</tr>
<tr>
<td>China</td>
<td>3294</td>
<td>327</td>
<td>187</td>
<td>3294</td>
<td>1440</td>
<td>108</td>
<td>26</td>
<td>60</td>
</tr>
<tr>
<td>China, Hong Kong SAR</td>
<td>26</td>
<td>20</td>
<td>3</td>
<td>21</td>
<td>4511</td>
<td>33</td>
<td>21</td>
<td>15</td>
</tr>
<tr>
<td>China, Macao SAR</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>399</td>
<td>4</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Cook Islands</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fiji</td>
<td>4</td>
<td></td>
<td>0</td>
<td>4</td>
<td>67</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>French Polynesia</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>26</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Guam</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>40</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Japan</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kiribati</td>
<td>2</td>
<td></td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Lao People’s Democratic Republic</td>
<td>155</td>
<td>0</td>
<td>404</td>
<td>91</td>
<td>91</td>
<td>85</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malaysia</td>
<td>656</td>
<td>18</td>
<td>3</td>
<td>154</td>
<td>13035</td>
<td>1438</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Marshall Islands</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>103</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Micronesia</td>
<td>4</td>
<td></td>
<td>0</td>
<td>4</td>
<td>18</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mongolia</td>
<td>37</td>
<td>1</td>
<td>1</td>
<td>37</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Nauru</td>
<td>1</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>New Caledonia</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>25</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>New Zealand</td>
<td>10</td>
<td>10</td>
<td>3</td>
<td>1</td>
<td>131</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Niue</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Northern Mariana Islands</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>50</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Palau</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>9</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>70</td>
<td></td>
<td>0</td>
<td>34</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Philippines</td>
<td>2344</td>
<td>3</td>
<td>3</td>
<td>2344</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>260</td>
<td>12</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samoa</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solomon Islands</td>
<td>9</td>
<td></td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Tokelau</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tonga</td>
<td>1</td>
<td></td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Tuvalu</td>
<td>1</td>
<td></td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Vanuatu</td>
<td>6</td>
<td></td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>737</td>
<td>17</td>
<td>2</td>
<td>0</td>
<td>14230</td>
<td>708</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wallis and Futuna</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Western Pacific Region</strong></td>
<td><strong>7997</strong></td>
<td><strong>463</strong></td>
<td><strong>224</strong></td>
<td><strong>6262</strong></td>
<td><strong>39650</strong></td>
<td><strong>4043</strong></td>
<td><strong>1098</strong></td>
<td><strong>551</strong></td>
</tr>
</tbody>
</table>

ART indicates antiretroviral therapy; CPT, co-trimoxazole preventive therapy; DST, drug susceptibility testing; EQA, external quality assurance; HIV+, HIV-positive; pts, patients. See Explanatory notes on pages 187 for further details. Some countries provided the number of TB patients found to be HIV-positive, but did not provide the number of TB patients tested. The regional total of TB patients tested is therefore lower than the number of patients actually tested, and cannot be used to calculate a regional estimate of HIV prevalence in TB patients. Data can be downloaded from www.who.int/tb
<table>
<thead>
<tr>
<th>Collaborative TB/HIV activities</th>
<th>Management of MDR-TB, 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB patients tested for HIV</td>
<td>Lab-confirmed MDR DST in new cases MDR in new cases Re-treatment DST Re-treatment MDR</td>
</tr>
<tr>
<td>TB patients, HIV-positive</td>
<td>new cases new cases</td>
</tr>
<tr>
<td>HIV+ TB patients, CPT</td>
<td></td>
</tr>
<tr>
<td>HIV+ TB patients, ART</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>0 0 0 0 0 0 0 0 0 0 0 American Samoa</td>
</tr>
<tr>
<td>460</td>
<td>25 793 17 39 8 Australia</td>
</tr>
<tr>
<td>0</td>
<td>0 0 0 0 0 148 0 2 0 Brunei Darussalam</td>
</tr>
<tr>
<td>14,245</td>
<td>0 0 0 0 0 0 0 0 0 0 0 Cambodia</td>
</tr>
<tr>
<td>34,557</td>
<td>79 50 13 236 66 China</td>
</tr>
<tr>
<td>4075</td>
<td>25 3238 19 145 6 China, Hong Kong SAR</td>
</tr>
<tr>
<td>360</td>
<td>5 251 4 31 1 China, Macao SAR</td>
</tr>
<tr>
<td>22</td>
<td>0 0 0 0 0 0 0 0 0 Cook Islands</td>
</tr>
<tr>
<td>37</td>
<td>0 0 0 0 0 0 0 0 0 Fiji</td>
</tr>
<tr>
<td>19</td>
<td>0 0 0 0 0 0 0 0 0 French Polynesia</td>
</tr>
<tr>
<td>58</td>
<td>0 38 0 1 0 Guam</td>
</tr>
<tr>
<td>16,104</td>
<td>58 4457 26 443 32 Japan</td>
</tr>
<tr>
<td>424</td>
<td>0 0 0 0 0 Lao People's Democratic Republic</td>
</tr>
<tr>
<td>10,082</td>
<td>0 0 0 0 0 Malaysia</td>
</tr>
<tr>
<td>98</td>
<td>0 0 0 0 0 Marshall Islands</td>
</tr>
<tr>
<td>11</td>
<td>0 0 0 0 0 Micronesia</td>
</tr>
<tr>
<td>3</td>
<td>0 123 9 2 180 65 Mongolia</td>
</tr>
<tr>
<td>0</td>
<td>0 0 0 0 0 Nauru</td>
</tr>
<tr>
<td>21</td>
<td>0 0 0 0 0 New Caledonia</td>
</tr>
<tr>
<td>106</td>
<td>0 0 0 0 0 New Zealand</td>
</tr>
<tr>
<td>0</td>
<td>0 0 0 0 0 Niue</td>
</tr>
<tr>
<td>43</td>
<td>0 0 0 0 0 Northern Mariana Islands</td>
</tr>
<tr>
<td>11</td>
<td>0 0 0 0 0 Palau</td>
</tr>
<tr>
<td>117</td>
<td>0 0 0 0 0 Papua New Guinea</td>
</tr>
<tr>
<td>46</td>
<td>0 0 0 0 0 Phillipines</td>
</tr>
<tr>
<td>14,377</td>
<td>4 827 3 105 1 Republic of Korea</td>
</tr>
<tr>
<td>0</td>
<td>0 0 0 0 0 Samoa</td>
</tr>
<tr>
<td>3</td>
<td>0 0 0 0 0 Singapore</td>
</tr>
<tr>
<td>0</td>
<td>0 0 0 0 0 Solomon Islands</td>
</tr>
<tr>
<td>23</td>
<td>0 0 0 0 0 Tokelau</td>
</tr>
<tr>
<td>43</td>
<td>0 0 0 0 0 Tonga</td>
</tr>
<tr>
<td>0</td>
<td>0 0 0 0 0 Tuvalu</td>
</tr>
<tr>
<td>0</td>
<td>0 0 0 0 0 Vanuatu</td>
</tr>
<tr>
<td>14,377</td>
<td>0 0 0 0 0 Viet Nam</td>
</tr>
<tr>
<td>0</td>
<td>0 0 0 0 0 Wallis and Futuna</td>
</tr>
<tr>
<td>95,300</td>
<td>6679 1946 1214 948 10,231 89 1596 468 Western Pacific Region</td>
</tr>
</tbody>
</table>
### Table 35. Treatment outcomes, 2006 cohort

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of cases</th>
<th>% of notified</th>
<th>% of cohort</th>
<th>New smear-positive cases, DOTS</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Notified</td>
<td>Regist'd</td>
<td>Cured</td>
<td>Completed</td>
<td>Died</td>
</tr>
<tr>
<td>American Samoa</td>
<td>3</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Australia</td>
<td>238</td>
<td>370</td>
<td>155</td>
<td>13</td>
<td>72</td>
</tr>
<tr>
<td>Brunei Darussalam</td>
<td>128</td>
<td>153</td>
<td>162</td>
<td>84</td>
<td>0</td>
</tr>
<tr>
<td>Cambodia</td>
<td>19 294</td>
<td>19 349</td>
<td>100</td>
<td>90</td>
<td>3</td>
</tr>
<tr>
<td>China</td>
<td>468 291</td>
<td>470 456</td>
<td>100</td>
<td>92</td>
<td>2</td>
</tr>
<tr>
<td>China, Hong Kong SAR</td>
<td>1238</td>
<td>1238</td>
<td>100</td>
<td>72</td>
<td>6</td>
</tr>
<tr>
<td>China, Macao SAR</td>
<td>144</td>
<td>144</td>
<td>100</td>
<td>88</td>
<td>0</td>
</tr>
<tr>
<td>Cook Islands</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fiji</td>
<td>73</td>
<td>73</td>
<td>100</td>
<td>66</td>
<td>4</td>
</tr>
<tr>
<td>French Polynesia</td>
<td>24</td>
<td>26</td>
<td>108</td>
<td>85</td>
<td>0</td>
</tr>
<tr>
<td>Guam</td>
<td>221</td>
<td>211</td>
<td>100</td>
<td>99</td>
<td>0</td>
</tr>
<tr>
<td>Japan</td>
<td>10 068</td>
<td>8562</td>
<td>85</td>
<td>20</td>
<td>33</td>
</tr>
<tr>
<td>Kiribati</td>
<td>129</td>
<td>126</td>
<td>98</td>
<td>61</td>
<td>29</td>
</tr>
<tr>
<td>Lao People's Democratic Republic</td>
<td>3041</td>
<td>3047</td>
<td>100</td>
<td>88</td>
<td>0</td>
</tr>
<tr>
<td>Malaysia</td>
<td>9414</td>
<td>9414</td>
<td>100</td>
<td>46</td>
<td>3</td>
</tr>
<tr>
<td>Marshall Islands</td>
<td>45</td>
<td>44</td>
<td>98</td>
<td>73</td>
<td>2</td>
</tr>
<tr>
<td>Micronesia</td>
<td>41</td>
<td>78</td>
<td>190</td>
<td>60</td>
<td>29</td>
</tr>
<tr>
<td>Mongolia</td>
<td>2129</td>
<td>2129</td>
<td>100</td>
<td>84</td>
<td>4</td>
</tr>
<tr>
<td>Nauru</td>
<td>2</td>
<td>2</td>
<td>100</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>New Caledonia</td>
<td>9</td>
<td>9</td>
<td>100</td>
<td>89</td>
<td>1</td>
</tr>
<tr>
<td>New Zealand</td>
<td>97</td>
<td>101</td>
<td>104</td>
<td>76</td>
<td>7</td>
</tr>
<tr>
<td>Niue</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northern Mariana Islands</td>
<td>15</td>
<td>26</td>
<td>173</td>
<td>42</td>
<td>42</td>
</tr>
<tr>
<td>Palau</td>
<td>6</td>
<td>5</td>
<td>86</td>
<td>40</td>
<td>20</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>1481</td>
<td>1494</td>
<td>101</td>
<td>59</td>
<td>15</td>
</tr>
<tr>
<td>Philippines</td>
<td>85 740</td>
<td>85 797</td>
<td>100</td>
<td>80</td>
<td>8</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>3431</td>
<td>3422</td>
<td>100</td>
<td>78</td>
<td>2</td>
</tr>
<tr>
<td>Samoa</td>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Singapore</td>
<td>537</td>
<td>537</td>
<td>100</td>
<td>70</td>
<td>14</td>
</tr>
<tr>
<td>Solomon Islands</td>
<td>124</td>
<td>124</td>
<td>100</td>
<td>73</td>
<td>16</td>
</tr>
<tr>
<td>Tokelau</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tonga</td>
<td>14</td>
<td>14</td>
<td>100</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>Tuvalu</td>
<td>4</td>
<td>4</td>
<td>100</td>
<td>75</td>
<td>0</td>
</tr>
<tr>
<td>Vanuatu</td>
<td>42</td>
<td>42</td>
<td>100</td>
<td>75</td>
<td>0</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>56 437</td>
<td>56 470</td>
<td>100</td>
<td>90</td>
<td>2</td>
</tr>
<tr>
<td>Wallis and Futuna</td>
<td>0</td>
<td>4</td>
<td>50</td>
<td>50</td>
<td>0</td>
</tr>
<tr>
<td>Western Pacific Region</td>
<td>662 273</td>
<td>663 261</td>
<td>100</td>
<td>89</td>
<td>3</td>
</tr>
</tbody>
</table>

*Not eval. indicates not evaluated (percentage of registered cases for which outcomes were not recorded); success, sum of cured and completed; cases regist’d, the denominator for calculating treatment outcomes. The number of cases registered for treatment in 2005 is used as the denominator for calculating treatment outcomes unless it is less than the sum of outcomes, in which case the sum of outcomes is used. If the number of cases registered is not reported, then the number of cases notified in 2004 is used, or the sum of outcomes if the latter is greater. Data can be downloaded from www.who.int/tb*
### New smear-positive cases, non-DOTS

<table>
<thead>
<tr>
<th>% of notified</th>
<th>% of cohort</th>
<th>.% Success</th>
<th>Number Regist'd</th>
<th>% of cohort</th>
<th>.% Success</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cured</td>
<td>Completed</td>
<td>Died</td>
<td>Failed</td>
<td>Default</td>
</tr>
<tr>
<td>American Samoa</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Australia</td>
<td>67</td>
<td>77</td>
<td>79</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Brunei Darussalam</td>
<td>3</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cambodia</td>
<td>1389</td>
<td>48</td>
<td>37</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>China</td>
<td>78146</td>
<td>85</td>
<td>5</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>China, Hong Kong SAR</td>
<td>100</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>China, Macao SAR</td>
<td>33</td>
<td>45</td>
<td>45</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Cook Islands</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>French Polynesia</td>
<td>52</td>
<td>19</td>
<td>19</td>
<td>32</td>
<td>0</td>
</tr>
<tr>
<td>Guam</td>
<td>15</td>
<td>20</td>
<td>60</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Japan</td>
<td>170</td>
<td>78</td>
<td>5</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>Marshall Islands</td>
<td>5</td>
<td>20</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
### Re-treatment outcomes, 2006 cohort

<table>
<thead>
<tr>
<th>Country</th>
<th>Relapse, DOTS</th>
<th></th>
<th>After failure, DOTS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% of cohort</td>
<td>% of cohort</td>
<td>% of cohort</td>
<td>% of cohort</td>
</tr>
<tr>
<td></td>
<td>Cured</td>
<td>Completed</td>
<td>Died</td>
<td>Failed</td>
</tr>
<tr>
<td>American Samoa</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Australia</td>
<td>54</td>
<td>9</td>
<td>76</td>
<td>6</td>
</tr>
<tr>
<td>Brunei Darussalam</td>
<td>3</td>
<td>100</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cambodia</td>
<td>660</td>
<td>80</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>China</td>
<td>47 526</td>
<td>85</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>China, Hong Kong SAR</td>
<td>312</td>
<td>68</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>China, Macao SAR</td>
<td>25</td>
<td>44</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Cook Islands</td>
<td>Fiji</td>
<td>4</td>
<td>50</td>
<td>0</td>
</tr>
<tr>
<td>French Polynesia</td>
<td>Guam</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Japan</td>
<td>688</td>
<td>18</td>
<td>37</td>
<td>15</td>
</tr>
<tr>
<td>Kiribati</td>
<td>4</td>
<td>75</td>
<td>0</td>
<td>25</td>
</tr>
<tr>
<td>Lao People's Democratic Republic</td>
<td>133</td>
<td>78</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Malaysia</td>
<td>381</td>
<td>35</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Marshall Islands</td>
<td>16</td>
<td>31</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Micronesia</td>
<td>2</td>
<td>50</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mongolia</td>
<td>274</td>
<td>52</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td>Nauru</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>New Caledonia</td>
<td>5</td>
<td>60</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>New Zealand</td>
<td>9</td>
<td>89</td>
<td>11</td>
<td>0</td>
</tr>
<tr>
<td>Niue</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Northern Mariana Islands</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Palau</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>2225</td>
<td>67</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>Philippines</td>
<td>1174</td>
<td>64</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>Samoa</td>
<td>109</td>
<td>57</td>
<td>16</td>
</tr>
<tr>
<td>Singapore</td>
<td>Solomon Islands</td>
<td>5</td>
<td>60</td>
<td>40</td>
</tr>
<tr>
<td>Tokelau</td>
<td>Tonga</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Tuvalu</td>
<td>Vanuatu</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Western Pacific Region</td>
<td>Wallis and Futuna</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Not eval. indicates not evaluated (percentage of registered cases for which outcomes were not recorded); success, sum of cured and completed; cases regist'd, the denominator for calculating treatment outcomes. The number of cases registered for treatment in 2005 is used as the denominator for calculating treatment outcomes unless it is missing or is less than the sum of outcomes, in which case the sum of outcomes is used. Data can be downloaded from www.who.int/tb
### ANNEXES

<table>
<thead>
<tr>
<th>% of cohort</th>
<th>Number regist'd</th>
<th>% Success</th>
<th>% of cohort</th>
<th>Number regist'd</th>
<th>% Success</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>Transferred</td>
<td>Not eval.</td>
<td></td>
<td>Completed</td>
<td>Died</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>9</td>
<td>17</td>
<td>43</td>
<td>164</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>67</td>
<td>35</td>
<td>40</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>100</td>
<td>16</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>16</td>
<td>25</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>% of cohort</th>
<th>Number regist'd</th>
<th>% Success</th>
<th>% of cohort</th>
<th>Number regist'd</th>
<th>% Success</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>Transferred</td>
<td>Not eval.</td>
<td></td>
<td>Completed</td>
<td>Died</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>100</td>
<td>16</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>16</td>
<td>25</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
### Table 37. DOTS treatment success and case detection rates, 1994–2007

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>American Samoa</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Australia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>85</td>
<td>76</td>
<td>63</td>
<td>56</td>
<td>64</td>
</tr>
<tr>
<td>Brunei Darussalam</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>67</td>
<td>75</td>
<td>66</td>
<td>74</td>
<td>76</td>
</tr>
<tr>
<td>Cambodia</td>
<td>84</td>
<td>91</td>
<td>94</td>
<td>91</td>
<td>95</td>
<td>93</td>
<td>91</td>
<td>92</td>
<td>92</td>
<td>93</td>
<td>91</td>
<td>93</td>
<td>93</td>
</tr>
<tr>
<td>China</td>
<td>94</td>
<td>96</td>
<td>96</td>
<td>96</td>
<td>97</td>
<td>96</td>
<td>95</td>
<td>96</td>
<td>93</td>
<td>94</td>
<td>94</td>
<td>94</td>
<td>94</td>
</tr>
<tr>
<td>China, Hong Kong SAR</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>85</td>
<td>76</td>
<td>76</td>
<td>78</td>
<td>79</td>
</tr>
<tr>
<td>China, Macao SAR</td>
<td>75</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cook Islands</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>67</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fiji</td>
<td>90</td>
<td>86</td>
<td>86</td>
<td>91</td>
<td>90</td>
<td>92</td>
<td>85</td>
<td>85</td>
<td>78</td>
<td>86</td>
<td>71</td>
<td>66</td>
<td></td>
</tr>
<tr>
<td>French Polynesia</td>
<td>67</td>
<td>95</td>
<td>100</td>
<td>74</td>
<td>85</td>
<td>97</td>
<td>80</td>
<td>82</td>
<td>83</td>
<td>80</td>
<td>83</td>
<td>80</td>
<td>85</td>
</tr>
<tr>
<td>Guam</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kiribati</td>
<td>83</td>
<td>88</td>
<td>91</td>
<td>86</td>
<td>94</td>
<td>88</td>
<td>94</td>
<td>93</td>
<td>90</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lao People's Democratic Republic</td>
<td>74</td>
<td>73</td>
<td>55</td>
<td>65</td>
<td>80</td>
<td>79</td>
<td>77</td>
<td>76</td>
<td>75</td>
<td>79</td>
<td>86</td>
<td>90</td>
<td>92</td>
</tr>
<tr>
<td>Malaysia</td>
<td>69</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marshall Islands</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Micronesia</td>
<td>64</td>
<td>80</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mongolia</td>
<td>78</td>
<td>86</td>
<td>84</td>
<td>86</td>
<td>87</td>
<td>87</td>
<td>87</td>
<td>88</td>
<td>88</td>
<td>88</td>
<td>88</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nauru</td>
<td></td>
<td>50</td>
<td>25</td>
<td>100</td>
<td>50</td>
<td>67</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Caledonia</td>
<td>62</td>
<td>75</td>
<td>70</td>
<td>77</td>
<td>89</td>
<td>84</td>
<td>85</td>
<td>75</td>
<td>94</td>
<td>94</td>
<td>89</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Zealand</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Niue</td>
<td>70</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northern Mariana Islands</td>
<td>80</td>
<td>81</td>
<td>74</td>
<td>71</td>
<td>75</td>
<td>88</td>
<td>73</td>
<td>85</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Palau</td>
<td>64</td>
<td>67</td>
<td>75</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>93</td>
<td>72</td>
<td>66</td>
<td>63</td>
<td>67</td>
<td>53</td>
<td>58</td>
<td>65</td>
<td>71</td>
<td>73</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Philippines</td>
<td>80</td>
<td>82</td>
<td>83</td>
<td>84</td>
<td>87</td>
<td>88</td>
<td>88</td>
<td>87</td>
<td>89</td>
<td>88</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>71</td>
<td>76</td>
<td>71</td>
<td>82</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samoa</td>
<td>50</td>
<td>80</td>
<td>100</td>
<td>86</td>
<td>94</td>
<td>92</td>
<td>77</td>
<td>84</td>
<td>100</td>
<td>91</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Singapore</td>
<td>88</td>
<td>86</td>
<td>95</td>
<td>85</td>
<td>88</td>
<td>87</td>
<td>77</td>
<td>81</td>
<td>83</td>
<td>84</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solomon Islands</td>
<td>65</td>
<td>73</td>
<td>92</td>
<td>92</td>
<td>81</td>
<td>89</td>
<td>90</td>
<td>87</td>
<td>87</td>
<td>85</td>
<td>90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tokelau</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tonga</td>
<td>89</td>
<td>75</td>
<td>82</td>
<td>75</td>
<td>94</td>
<td>80</td>
<td>93</td>
<td>92</td>
<td>83</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuvalu</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vanuatu</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viet Nam</td>
<td>91</td>
<td>91</td>
<td>90</td>
<td>85</td>
<td>93</td>
<td>92</td>
<td>93</td>
<td>92</td>
<td>93</td>
<td>92</td>
<td>93</td>
<td>92</td>
<td>93</td>
</tr>
<tr>
<td>Wallis and Futuna</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Western Pacific Region</td>
<td>90</td>
<td>91</td>
<td>93</td>
<td>93</td>
<td>95</td>
<td>94</td>
<td>92</td>
<td>93</td>
<td>90</td>
<td>91</td>
<td>91</td>
<td>92</td>
<td>92</td>
</tr>
</tbody>
</table>

Treatment success = sum of cured and completed; DOTS new smear-positive case detection rate = notified (new and relapse) cases divided by estimated incident cases. The table includes updated information; data shown here may differ from those published in previous reports. Data can be downloaded from http://stoptb.wpro.who.int.

Table 37 data is available in the Annexes section of the document.
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>American Samoa</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Australia</td>
<td>40</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brunei Darussalam</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cambodia</td>
<td>40</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>90</td>
<td>90</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>China, Hong Kong SAR</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>China, Macao SAR</td>
<td>102</td>
<td>102</td>
<td>102</td>
<td>102</td>
<td>102</td>
<td>102</td>
<td>102</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cook Islands</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fiji</td>
<td>51</td>
<td>54</td>
<td>54</td>
<td>58</td>
<td>58</td>
<td>58</td>
<td>71</td>
<td>75</td>
<td>83</td>
<td>69</td>
<td>74</td>
<td>90</td>
<td>67</td>
</tr>
<tr>
<td>French Polynesia</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>Guam</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kiribati</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lao People's Democratic Republic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malaysia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marshall Islands</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Micronesia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mongolia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nauru</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Caledonia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Zealand</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Niue</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northern Mariana Islands</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Palau</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Philippines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Republic of Korea</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samoa</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Singapore</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solomon Islands</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tokelau</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tonga</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuvalu</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vanuatu</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viet Nam</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wallis and Futuna</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Western Pacific Region</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 38. New smear-positive case notification by age and sex, absolute numbers, DOTS and non-DOTS, 2007

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>American Samoa</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Australia</td>
<td>3</td>
<td>30</td>
<td>33</td>
<td>20</td>
<td>15</td>
<td>14</td>
<td>37</td>
<td>4</td>
<td>26</td>
<td>37</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Brunei Darussalam</td>
<td>0</td>
<td>5</td>
<td>10</td>
<td>15</td>
<td>21</td>
<td>10</td>
<td>17</td>
<td>0</td>
<td>6</td>
<td>6</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Cambodia</td>
<td>50</td>
<td>883</td>
<td>1526</td>
<td>2190</td>
<td>2102</td>
<td>1761</td>
<td>1644</td>
<td>64</td>
<td>749</td>
<td>1351</td>
<td>1698</td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>878</td>
<td>44011</td>
<td>46374</td>
<td>56224</td>
<td>54960</td>
<td>56288</td>
<td>70376</td>
<td>1235</td>
<td>29960</td>
<td>24914</td>
<td>23542</td>
<td></td>
</tr>
<tr>
<td>China, Hong Kong SAR</td>
<td>5</td>
<td>63</td>
<td>80</td>
<td>110</td>
<td>177</td>
<td>175</td>
<td>425</td>
<td>1</td>
<td>59</td>
<td>94</td>
<td>74</td>
<td></td>
</tr>
<tr>
<td>China, Macao SAR</td>
<td>14</td>
<td>12</td>
<td>14</td>
<td>30</td>
<td>16</td>
<td>13</td>
<td>2</td>
<td>10</td>
<td>4</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cook Islands</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fiji</td>
<td>1</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>7</td>
<td>11</td>
<td>4</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>French Polynesia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guam</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td>1</td>
<td>142</td>
<td>372</td>
<td>512</td>
<td>668</td>
<td>1174</td>
<td>3678</td>
<td>3</td>
<td>134</td>
<td>318</td>
<td>231</td>
<td></td>
</tr>
<tr>
<td>Kiribati</td>
<td>2</td>
<td>15</td>
<td>7</td>
<td>10</td>
<td>6</td>
<td>10</td>
<td>3</td>
<td>8</td>
<td>13</td>
<td>6</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Lao People's Democratic Republic</td>
<td>11</td>
<td>150</td>
<td>238</td>
<td>302</td>
<td>418</td>
<td>361</td>
<td>330</td>
<td>7</td>
<td>126</td>
<td>175</td>
<td>215</td>
<td></td>
</tr>
<tr>
<td>Malaysia</td>
<td>216</td>
<td>1291</td>
<td>2224</td>
<td>2082</td>
<td>1839</td>
<td>1394</td>
<td>1395</td>
<td>226</td>
<td>1098</td>
<td>1101</td>
<td>849</td>
<td></td>
</tr>
<tr>
<td>Marshall Islands</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Micronesia</td>
<td>1</td>
<td>8</td>
<td>5</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td>3</td>
<td>5</td>
<td>13</td>
<td>6</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Mongolia</td>
<td>4</td>
<td>280</td>
<td>270</td>
<td>232</td>
<td>158</td>
<td>48</td>
<td>34</td>
<td>23</td>
<td>273</td>
<td>250</td>
<td>139</td>
<td></td>
</tr>
<tr>
<td>Nauru</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Niue</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Caledonia</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>New Zealand</td>
<td>11</td>
<td>1</td>
<td>7</td>
<td>4</td>
<td>4</td>
<td>8</td>
<td>1</td>
<td>14</td>
<td>7</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Niue</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northern Mariana Islands</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Palau</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>16</td>
<td>178</td>
<td>171</td>
<td>112</td>
<td>67</td>
<td>50</td>
<td>6</td>
<td>32</td>
<td>148</td>
<td>153</td>
<td>84</td>
<td></td>
</tr>
<tr>
<td>Philippines</td>
<td>466</td>
<td>8524</td>
<td>11781</td>
<td>13810</td>
<td>12846</td>
<td>8481</td>
<td>4862</td>
<td>380</td>
<td>4389</td>
<td>5594</td>
<td>5291</td>
<td></td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>16</td>
<td>589</td>
<td>953</td>
<td>1144</td>
<td>1308</td>
<td>906</td>
<td>1684</td>
<td>34</td>
<td>570</td>
<td>807</td>
<td>466</td>
<td></td>
</tr>
<tr>
<td>Samoa</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Singapore</td>
<td>15</td>
<td>18</td>
<td>63</td>
<td>98</td>
<td>80</td>
<td>105</td>
<td>1</td>
<td>13</td>
<td>13</td>
<td>13</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Solomon Islands</td>
<td>5</td>
<td>15</td>
<td>16</td>
<td>12</td>
<td>9</td>
<td>6</td>
<td>5</td>
<td>12</td>
<td>25</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tokelau</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tonga</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td>5</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuvalu</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vanuatu</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>6</td>
<td>8</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Viet Nam</td>
<td>48</td>
<td>3587</td>
<td>7431</td>
<td>8391</td>
<td>8451</td>
<td>5046</td>
<td>7026</td>
<td>59</td>
<td>1939</td>
<td>2354</td>
<td>1923</td>
<td></td>
</tr>
<tr>
<td>Wallis and Futuna</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Western Pacific Region</td>
<td>1726</td>
<td>59827</td>
<td>71557</td>
<td>85284</td>
<td>83198</td>
<td>75836</td>
<td>91686</td>
<td>2102</td>
<td>39574</td>
<td>37234</td>
<td>34619</td>
<td></td>
</tr>
</tbody>
</table>

For some countries, breakdown of notified cases by age and sex is missing, or is provided for a subset of cases. See Explanatory notes on page 187 for further details. Data can be downloaded from www.who.int/tb
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>American Samoa</td>
<td>12</td>
<td>7</td>
<td>23</td>
<td>7</td>
<td>56</td>
<td>70</td>
<td>40</td>
<td>27</td>
<td>21</td>
<td>60</td>
<td>1.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Australia</td>
<td>15</td>
<td>9</td>
<td>2</td>
<td>0</td>
<td>11</td>
<td>16</td>
<td>27</td>
<td>36</td>
<td>19</td>
<td>19</td>
<td>1.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brunei Darussalam</td>
<td>2105</td>
<td>1839</td>
<td>1459</td>
<td>114</td>
<td>1632</td>
<td>2877</td>
<td>3888</td>
<td>4207</td>
<td>3600</td>
<td>3103</td>
<td>1.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cambodia</td>
<td>18129</td>
<td>17647</td>
<td>21339</td>
<td>2113</td>
<td>73971</td>
<td>71288</td>
<td>79766</td>
<td>73089</td>
<td>73935</td>
<td>91715</td>
<td>2.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>64</td>
<td>37</td>
<td>137</td>
<td>6</td>
<td>122</td>
<td>174</td>
<td>184</td>
<td>241</td>
<td>212</td>
<td>562</td>
<td>2.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>China, Hong Kong SAR</td>
<td>8</td>
<td>3</td>
<td>6</td>
<td>2</td>
<td>24</td>
<td>16</td>
<td>20</td>
<td>38</td>
<td>19</td>
<td>19</td>
<td>2.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>China, Macao SAR</td>
<td>5</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>18</td>
<td>11</td>
<td>13</td>
<td>9</td>
<td>2</td>
<td>6</td>
<td>0.9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cook Islands</td>
<td>1</td>
<td>1</td>
<td></td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>7</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>0.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fiji</td>
<td>156</td>
<td>212</td>
<td>1832</td>
<td>4</td>
<td>276</td>
<td>690</td>
<td>743</td>
<td>824</td>
<td>1386</td>
<td>5510</td>
<td>2.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kiribati</td>
<td>9</td>
<td>4</td>
<td>2</td>
<td>10</td>
<td>28</td>
<td>13</td>
<td>18</td>
<td>15</td>
<td>14</td>
<td>5</td>
<td>1.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lao People's Democratic Republic</td>
<td>782</td>
<td>585</td>
<td>514</td>
<td>442</td>
<td>2389</td>
<td>3325</td>
<td>2931</td>
<td>2621</td>
<td>1979</td>
<td>1909</td>
<td>2.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marshall Islands</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>0.7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Micronesia</td>
<td>80</td>
<td>36</td>
<td>29</td>
<td>27</td>
<td>553</td>
<td>520</td>
<td>371</td>
<td>238</td>
<td>84</td>
<td>63</td>
<td>1.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mongolia</td>
<td>1</td>
<td>1</td>
<td></td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1.2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Niue</td>
<td>6</td>
<td>6</td>
<td>4</td>
<td>1</td>
<td>25</td>
<td>8</td>
<td>15</td>
<td>10</td>
<td>12</td>
<td>10</td>
<td>0.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northern Mariana Islands</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>1.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Palau</td>
<td>36</td>
<td>15</td>
<td>3</td>
<td>48</td>
<td>326</td>
<td>324</td>
<td>196</td>
<td>103</td>
<td>65</td>
<td>9</td>
<td>1.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>4612</td>
<td>3313</td>
<td>2217</td>
<td>846</td>
<td>12913</td>
<td>17375</td>
<td>19101</td>
<td>17458</td>
<td>11794</td>
<td>7079</td>
<td>2.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Philippines</td>
<td>387</td>
<td>347</td>
<td>1716</td>
<td>50</td>
<td>1159</td>
<td>1760</td>
<td>1610</td>
<td>1695</td>
<td>1253</td>
<td>3400</td>
<td>1.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>23</td>
<td>11</td>
<td>39</td>
<td>1</td>
<td>28</td>
<td>31</td>
<td>88</td>
<td>121</td>
<td>91</td>
<td>144</td>
<td>3.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solomon Islands</td>
<td>10</td>
<td>5</td>
<td>5</td>
<td>10</td>
<td>27</td>
<td>41</td>
<td>21</td>
<td>19</td>
<td>13</td>
<td>11</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tonga</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuvalu</td>
<td>6</td>
<td>1</td>
<td>2</td>
<td>9</td>
<td>10</td>
<td>5</td>
<td>8</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>0.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vanuatu</td>
<td>2170</td>
<td>1891</td>
<td>4144</td>
<td>1070</td>
<td>5526</td>
<td>9785</td>
<td>10314</td>
<td>10621</td>
<td>6937</td>
<td>11170</td>
<td>2.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wallis and Futuna</td>
<td>32896</td>
<td>26189</td>
<td>33688</td>
<td>3828</td>
<td>99401</td>
<td>108791</td>
<td>119903</td>
<td>112114</td>
<td>102025</td>
<td>125374</td>
<td>2.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Western Pacific Region</td>
</tr>
</tbody>
</table>

**Notes:**
- The data includes rates per 100,000 population.
- The table provides a summary of tuberculosis cases by age and gender across various countries in the Western Pacific Region.
### Table 39. New smear-positive case notification rates by age and sex, DOTS and non-DOTS, 2007

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Samoa</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Australia</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>Brunei Darussalam</td>
<td>2</td>
<td>51</td>
</tr>
<tr>
<td>Cambodia</td>
<td>3</td>
<td>38</td>
</tr>
<tr>
<td>China, Hong Kong SAR</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td>China, Macao SAR</td>
<td>0</td>
<td>34</td>
</tr>
<tr>
<td>Cook Islands</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fiji</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>French Polynesia</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Guam</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Japan</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Kiribati</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lao People’s Democratic Republic</td>
<td>5</td>
<td>50</td>
</tr>
<tr>
<td>Marshall Islands</td>
<td>1</td>
<td>21</td>
</tr>
<tr>
<td>Micronesia</td>
<td>5</td>
<td>60</td>
</tr>
<tr>
<td>Mongolia</td>
<td>1</td>
<td>92</td>
</tr>
<tr>
<td>Nauru</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Caledonia</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>New Zealand</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Niue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northern Mariana Islands</td>
<td>1</td>
<td>39</td>
</tr>
<tr>
<td>Palau</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>3</td>
<td>28</td>
</tr>
<tr>
<td>Philippines</td>
<td>3</td>
<td>96</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>0</td>
<td>17</td>
</tr>
<tr>
<td>Samoa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Singapore</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Solomon Islands</td>
<td>5</td>
<td>29</td>
</tr>
<tr>
<td>Tokelau</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tonga</td>
<td>0</td>
<td>17</td>
</tr>
<tr>
<td>Tuvalu</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vanuatu</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>0</td>
<td>39</td>
</tr>
<tr>
<td>Wallis and Futuna</td>
<td>1</td>
<td>39</td>
</tr>
</tbody>
</table>

Rates are per 100,000 population of each age/sex group. Rates are calculated excluding those countries for which breakdown of notified cases or population by age and sex is missing. Data can be downloaded from www.who.int/tb
<table>
<thead>
<tr>
<th></th>
<th>Female</th>
<th></th>
<th>All</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBERCULOSIS CONTROL IN THE WESTERN PACIFIC: 2009 REPORT</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ANNEXES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>45–54</td>
<td>55–64</td>
<td>65+</td>
<td>0–14</td>
<td>15–24</td>
<td>25–34</td>
</tr>
<tr>
<td>American Samoa</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Australia</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Brunei Darussalam</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Cambodia</td>
<td>84</td>
<td>122</td>
<td>33</td>
<td>0</td>
<td>16</td>
<td>21</td>
</tr>
<tr>
<td>China</td>
<td>22</td>
<td>31</td>
<td>39</td>
<td>1</td>
<td>3</td>
<td>33</td>
</tr>
<tr>
<td>China, Hong Kong SAR</td>
<td>9</td>
<td>10</td>
<td>29</td>
<td>1</td>
<td>14</td>
<td>16</td>
</tr>
<tr>
<td>China, Macao SAR</td>
<td>17</td>
<td>14</td>
<td>29</td>
<td>3</td>
<td>29</td>
<td>24</td>
</tr>
<tr>
<td>Cook Islands</td>
<td>11</td>
<td>3</td>
<td>9</td>
<td>3</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>Fiji</td>
<td>0</td>
<td>36</td>
<td>26</td>
<td>1</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>French Polynesia</td>
<td>10</td>
<td>15</td>
<td>16</td>
<td>0</td>
<td>17</td>
<td>0</td>
</tr>
<tr>
<td>Georgia</td>
<td>2</td>
<td>2</td>
<td>12</td>
<td>0</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Japan</td>
<td>57</td>
<td>73</td>
<td>80</td>
<td>5</td>
<td>47</td>
<td>79</td>
</tr>
<tr>
<td>Lao People’s Democratic Republic</td>
<td>44</td>
<td>76</td>
<td>76</td>
<td>14</td>
<td>74</td>
<td>76</td>
</tr>
<tr>
<td>Malaysia</td>
<td>64</td>
<td>62</td>
<td>48</td>
<td>4</td>
<td>92</td>
<td>109</td>
</tr>
<tr>
<td>Marshall Islands</td>
<td>0</td>
<td>0</td>
<td>11</td>
<td>0</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Micronesia</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Marshall Islands</td>
<td>11</td>
<td>15</td>
<td>59</td>
<td>1</td>
<td>17</td>
<td>23</td>
</tr>
<tr>
<td>Marshall Islands</td>
<td>15</td>
<td>12</td>
<td>4</td>
<td>2</td>
<td>26</td>
<td>34</td>
</tr>
<tr>
<td>Marshall Islands</td>
<td>124</td>
<td>145</td>
<td>114</td>
<td>3</td>
<td>74</td>
<td>126</td>
</tr>
<tr>
<td>Marshall Islands</td>
<td>11</td>
<td>15</td>
<td>59</td>
<td>1</td>
<td>17</td>
<td>23</td>
</tr>
<tr>
<td>Marshall Islands</td>
<td>6</td>
<td>4</td>
<td>18</td>
<td>0</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Marshall Islands</td>
<td>62</td>
<td>51</td>
<td>68</td>
<td>5</td>
<td>27</td>
<td>51</td>
</tr>
<tr>
<td>Marshall Islands</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>23</td>
<td>15</td>
</tr>
<tr>
<td>Marshall Islands</td>
<td>74</td>
<td>21</td>
<td>57</td>
<td>2</td>
<td>19</td>
<td>31</td>
</tr>
<tr>
<td>Marshall Islands</td>
<td>50</td>
<td>86</td>
<td>159</td>
<td>0</td>
<td>31</td>
<td>66</td>
</tr>
<tr>
<td>Marshall Islands</td>
<td>27</td>
<td>34</td>
<td>41</td>
<td>1</td>
<td>34</td>
<td>40</td>
</tr>
<tr>
<td>Marshall Islands</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marshall Islands</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td><strong>Number reporting</strong></td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>36</td>
</tr>
<tr>
<td><strong>% reporting</strong></td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 40. Number of TB cases notified, 1980–2007

From 1995 on, number shown is all notified new and relapse cases (DOTS and non-DOTS). The table includes updated information; data shown here may differ from those published in previous reports. Data can be downloaded from www.who.int/tb/Table 40.
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>0</td>
<td>6</td>
<td>3</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>6</td>
<td>4</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>1057</td>
<td>1073</td>
<td>1145</td>
<td>899</td>
<td>1073</td>
<td>1043</td>
<td>980</td>
<td>1013</td>
<td>949</td>
<td>1059</td>
<td>1046</td>
<td>1159</td>
<td>1115</td>
<td></td>
</tr>
<tr>
<td>160</td>
<td>272</td>
<td>307</td>
<td>216</td>
<td>230</td>
<td>206</td>
<td>176</td>
<td>163</td>
<td>202</td>
<td>207</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15172</td>
<td>14603</td>
<td>14857</td>
<td>15629</td>
<td>16946</td>
<td>19266</td>
<td>18891</td>
<td>19170</td>
<td>24610</td>
<td>28216</td>
<td>30838</td>
<td>35535</td>
<td>34660</td>
<td>35601</td>
</tr>
<tr>
<td>363804</td>
<td>515764</td>
<td>504758</td>
<td>466394</td>
<td>445704</td>
<td>449518</td>
<td>454372</td>
<td>470221</td>
<td>462609</td>
<td>615868</td>
<td>790603</td>
<td>894428</td>
<td>940889</td>
<td>979502</td>
</tr>
<tr>
<td>6319</td>
<td>6212</td>
<td>6501</td>
<td>7072</td>
<td>7673</td>
<td>5605</td>
<td>6015</td>
<td>6788</td>
<td>6277</td>
<td>5914</td>
<td>5684</td>
<td>5660</td>
<td>5536</td>
<td>5363</td>
</tr>
<tr>
<td>402</td>
<td>570</td>
<td>575</td>
<td>465</td>
<td>449</td>
<td>465</td>
<td>388</td>
<td>371</td>
<td>309</td>
<td>355</td>
<td>374</td>
<td>342</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>225</td>
<td>203</td>
<td>200</td>
<td>171</td>
<td>166</td>
<td>192</td>
<td>144</td>
<td>183</td>
<td>148</td>
<td>185</td>
<td>134</td>
<td>132</td>
<td>114</td>
<td>94</td>
</tr>
<tr>
<td>89</td>
<td>86</td>
<td>91</td>
<td>105</td>
<td>93</td>
<td>62</td>
<td>62</td>
<td>64</td>
<td>50</td>
<td>60</td>
<td>63</td>
<td>69</td>
<td>64</td>
<td></td>
</tr>
<tr>
<td>94</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>44425</td>
<td>43078</td>
<td>42122</td>
<td>42190</td>
<td>44016</td>
<td>40800</td>
<td>39384</td>
<td>35489</td>
<td>32828</td>
<td>31638</td>
<td>29736</td>
<td>27926</td>
<td>25304</td>
<td>24779</td>
</tr>
<tr>
<td>253</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1135</td>
<td>830</td>
<td>1440</td>
<td>1923</td>
<td>2149</td>
<td>2420</td>
<td>2227</td>
<td>2418</td>
<td>2621</td>
<td>2748</td>
<td>3162</td>
<td>3777</td>
<td>3958</td>
<td>3905</td>
</tr>
<tr>
<td>11708</td>
<td>11778</td>
<td>12691</td>
<td>13539</td>
<td>14115</td>
<td>14908</td>
<td>15057</td>
<td>14830</td>
<td>14389</td>
<td>15671</td>
<td>14986</td>
<td>15342</td>
<td>16051</td>
<td>16129</td>
</tr>
<tr>
<td>59</td>
<td>49</td>
<td>41</td>
<td>34</td>
<td>34</td>
<td>36</td>
<td>51</td>
<td>60</td>
<td>117</td>
<td>111</td>
<td>138</td>
<td>158</td>
<td></td>
<td></td>
</tr>
<tr>
<td>173</td>
<td>172</td>
<td>126</td>
<td>107</td>
<td>123</td>
<td>91</td>
<td>104</td>
<td>127</td>
<td>99</td>
<td>118</td>
<td>98</td>
<td>104</td>
<td>137</td>
<td></td>
</tr>
<tr>
<td>1730</td>
<td>2780</td>
<td>4062</td>
<td>3592</td>
<td>2915</td>
<td>3348</td>
<td>3109</td>
<td>3526</td>
<td>3829</td>
<td>3918</td>
<td>4542</td>
<td>4601</td>
<td>5049</td>
<td>4654</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>97</td>
<td>87</td>
<td>104</td>
<td>88</td>
<td>90</td>
<td>78</td>
<td>34</td>
<td>61</td>
<td>65</td>
<td>38</td>
<td>61</td>
<td>41</td>
<td>40</td>
<td>47</td>
</tr>
<tr>
<td>352</td>
<td>391</td>
<td>352</td>
<td>321</td>
<td>365</td>
<td>447</td>
<td>344</td>
<td>377</td>
<td>329</td>
<td>386</td>
<td>371</td>
<td>332</td>
<td>344</td>
<td>274</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>440</td>
<td>480</td>
<td>371</td>
<td>391</td>
<td>460</td>
<td>270</td>
<td>340</td>
<td>370</td>
<td>370</td>
<td>330</td>
<td>370</td>
<td>360</td>
<td>360</td>
<td>320</td>
</tr>
<tr>
<td>41</td>
<td>19</td>
<td>5</td>
<td>15</td>
<td>32</td>
<td>11</td>
<td>9</td>
<td>5</td>
<td>10</td>
<td>12</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5335</td>
<td>8041</td>
<td>3195</td>
<td>7977</td>
<td>11291</td>
<td>13003</td>
<td>10520</td>
<td>12658</td>
<td>11197</td>
<td>12798</td>
<td>12743</td>
<td>12564</td>
<td>12620</td>
<td>15002</td>
</tr>
<tr>
<td>180044</td>
<td>119186</td>
<td>165453</td>
<td>195767</td>
<td>162368</td>
<td>145807</td>
<td>119914</td>
<td>107133</td>
<td>118408</td>
<td>132759</td>
<td>130530</td>
<td>137100</td>
<td>147329</td>
<td>140580</td>
</tr>
<tr>
<td>38155</td>
<td>42117</td>
<td>39315</td>
<td>33215</td>
<td>34661</td>
<td>32075</td>
<td>21782</td>
<td>37268</td>
<td>34967</td>
<td>33843</td>
<td>34389</td>
<td>38290</td>
<td>37861</td>
<td>37554</td>
</tr>
<tr>
<td>45</td>
<td>45</td>
<td>31</td>
<td>32</td>
<td>22</td>
<td>31</td>
<td>43</td>
<td>22</td>
<td>31</td>
<td>27</td>
<td>34</td>
<td>24</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>1677</td>
<td>1889</td>
<td>1951</td>
<td>1977</td>
<td>2120</td>
<td>1805</td>
<td>1728</td>
<td>1536</td>
<td>1516</td>
<td>1581</td>
<td>1414</td>
<td>1356</td>
<td>1313</td>
<td>1359</td>
</tr>
<tr>
<td>332</td>
<td>352</td>
<td>299</td>
<td>318</td>
<td>295</td>
<td>289</td>
<td>362</td>
<td>292</td>
<td>256</td>
<td>293</td>
<td>340</td>
<td>397</td>
<td>371</td>
<td>397</td>
</tr>
<tr>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>20</td>
<td>22</td>
<td>21</td>
<td>30</td>
<td>22</td>
<td>24</td>
<td>12</td>
<td>29</td>
<td>16</td>
<td>12</td>
<td>18</td>
<td>18</td>
<td>23</td>
</tr>
<tr>
<td>19</td>
<td>36</td>
<td>18</td>
<td>14</td>
<td>16</td>
<td>16</td>
<td>13</td>
<td>30</td>
<td>12</td>
<td>9</td>
<td>18</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>152</td>
<td>79</td>
<td>126</td>
<td>184</td>
<td>378</td>
<td>120</td>
<td>152</td>
<td>175</td>
<td>101</td>
<td>104</td>
<td>115</td>
<td>76</td>
<td>126</td>
<td>122</td>
</tr>
<tr>
<td>51763</td>
<td>55739</td>
<td>74711</td>
<td>77838</td>
<td>87468</td>
<td>88879</td>
<td>89792</td>
<td>90728</td>
<td>95044</td>
<td>92241</td>
<td>98173</td>
<td>94916</td>
<td>97363</td>
<td>97400</td>
</tr>
<tr>
<td>11</td>
<td>6</td>
<td>8</td>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>724290</td>
<td>824954</td>
<td>873425</td>
<td>870920</td>
<td>834599</td>
<td>820469</td>
<td>786285</td>
<td>805105</td>
<td>811482</td>
<td>790890</td>
<td>908800</td>
<td>1160130</td>
<td>1274124</td>
<td>1331512</td>
</tr>
<tr>
<td>33</td>
<td>29</td>
<td>31</td>
<td>31</td>
<td>30</td>
<td>32</td>
<td>34</td>
<td>35</td>
<td>35</td>
<td>36</td>
<td>32</td>
<td>36</td>
<td>35</td>
<td>34</td>
</tr>
<tr>
<td>92</td>
<td>61</td>
<td>66</td>
<td>86</td>
<td>83</td>
<td>89</td>
<td>94</td>
<td>97</td>
<td>97</td>
<td>100</td>
<td>89</td>
<td>100</td>
<td>97</td>
<td>94</td>
</tr>
</tbody>
</table>
### Table 41. Case notification rates, 1980–2007

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>American Samoa</strong></td>
<td>6</td>
<td>18</td>
<td>17</td>
<td>22</td>
<td>32</td>
<td>13</td>
<td>19</td>
<td>21</td>
<td>29</td>
<td>11</td>
<td>19</td>
<td>6</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td><strong>Australia</strong></td>
<td>10</td>
<td>12</td>
<td>10</td>
<td>9</td>
<td>11</td>
<td>17</td>
<td>12</td>
<td>17</td>
<td>21</td>
<td>6</td>
<td>6</td>
<td>5</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td><strong>Brunei Darussalam</strong></td>
<td>102</td>
<td>143</td>
<td>120</td>
<td>131</td>
<td>118</td>
<td>107</td>
<td>92</td>
<td>80</td>
<td>52</td>
<td>51</td>
<td>56</td>
<td>66</td>
<td>57</td>
<td></td>
</tr>
<tr>
<td><strong>Cambodia</strong></td>
<td>38</td>
<td>29</td>
<td>114</td>
<td>102</td>
<td>132</td>
<td>125</td>
<td>123</td>
<td>104</td>
<td>118</td>
<td>84</td>
<td>67</td>
<td>109</td>
<td>155</td>
<td>124</td>
</tr>
<tr>
<td><strong>China</strong></td>
<td>10</td>
<td>11</td>
<td>14</td>
<td>21</td>
<td>24</td>
<td>23</td>
<td>27</td>
<td>27</td>
<td>33</td>
<td>30</td>
<td>27</td>
<td>29</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>China, Hong Kong SAR</strong></td>
<td>160</td>
<td>150</td>
<td>144</td>
<td>137</td>
<td>145</td>
<td>133</td>
<td>135</td>
<td>131</td>
<td>126</td>
<td>119</td>
<td>114</td>
<td>109</td>
<td>111</td>
<td>109</td>
</tr>
<tr>
<td><strong>China, Macao SAR</strong></td>
<td>437</td>
<td>226</td>
<td>87</td>
<td>163</td>
<td>229</td>
<td>186</td>
<td>131</td>
<td>117</td>
<td>92</td>
<td>76</td>
<td>92</td>
<td>86</td>
<td>75</td>
<td>72</td>
</tr>
<tr>
<td><strong>Cook Islands</strong></td>
<td>45</td>
<td>11</td>
<td>68</td>
<td>85</td>
<td>17</td>
<td>45</td>
<td>17</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>33</td>
<td>28</td>
</tr>
<tr>
<td><strong>Fiji</strong></td>
<td>33</td>
<td>28</td>
<td>27</td>
<td>24</td>
<td>22</td>
<td>28</td>
<td>24</td>
<td>23</td>
<td>30</td>
<td>31</td>
<td>34</td>
<td>32</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td><strong>French Polynesia</strong></td>
<td>50</td>
<td>42</td>
<td>41</td>
<td>47</td>
<td>47</td>
<td>45</td>
<td>48</td>
<td>44</td>
<td>34</td>
<td>38</td>
<td>30</td>
<td>25</td>
<td>41</td>
<td>38</td>
</tr>
<tr>
<td><strong>Guam</strong></td>
<td>52</td>
<td>38</td>
<td>44</td>
<td>42</td>
<td>46</td>
<td>31</td>
<td>40</td>
<td>27</td>
<td>32</td>
<td>57</td>
<td>43</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Japan</strong></td>
<td>61</td>
<td>56</td>
<td>54</td>
<td>52</td>
<td>51</td>
<td>48</td>
<td>45</td>
<td>46</td>
<td>44</td>
<td>43</td>
<td>42</td>
<td>41</td>
<td>39</td>
<td></td>
</tr>
<tr>
<td><strong>Kiribati</strong></td>
<td>267</td>
<td>333</td>
<td>335</td>
<td>214</td>
<td>182</td>
<td>164</td>
<td>200</td>
<td>166</td>
<td>304</td>
<td>172</td>
<td>95</td>
<td>124</td>
<td>135</td>
<td>132</td>
</tr>
<tr>
<td><strong>Lao People's Democratic Republic</strong></td>
<td>246</td>
<td>145</td>
<td>141</td>
<td>191</td>
<td>121</td>
<td>42</td>
<td>93</td>
<td>190</td>
<td>75</td>
<td>45</td>
<td>46</td>
<td>23</td>
<td>47</td>
<td></td>
</tr>
<tr>
<td><strong>Malaysia</strong></td>
<td>82</td>
<td>78</td>
<td>83</td>
<td>78</td>
<td>69</td>
<td>67</td>
<td>67</td>
<td>67</td>
<td>64</td>
<td>61</td>
<td>65</td>
<td>59</td>
<td>60</td>
<td>63</td>
</tr>
<tr>
<td><strong>Marshall Islands</strong></td>
<td>20</td>
<td>22</td>
<td>36</td>
<td>43</td>
<td>33</td>
<td>39</td>
<td>92</td>
<td>76</td>
<td>25</td>
<td>15</td>
<td>54</td>
<td>105</td>
<td>122</td>
<td></td>
</tr>
<tr>
<td><strong>Micronesia</strong></td>
<td>86</td>
<td>91</td>
<td>90</td>
<td>77</td>
<td>68</td>
<td>109</td>
<td>84</td>
<td>72</td>
<td>381</td>
<td>354</td>
<td>110</td>
<td>104</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mongolia</strong></td>
<td>70</td>
<td>64</td>
<td>76</td>
<td>84</td>
<td>89</td>
<td>157</td>
<td>143</td>
<td>120</td>
<td>121</td>
<td>103</td>
<td>75</td>
<td>71</td>
<td>66</td>
<td></td>
</tr>
<tr>
<td><strong>Nauru</strong></td>
<td>0</td>
<td>26</td>
<td>104</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>96</td>
<td>70</td>
<td>91</td>
<td>0</td>
<td>77</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>New Caledonia</strong></td>
<td>76</td>
<td>88</td>
<td>81</td>
<td>114</td>
<td>94</td>
<td>67</td>
<td>62</td>
<td>46</td>
<td>68</td>
<td>76</td>
<td>84</td>
<td>80</td>
<td>78</td>
<td></td>
</tr>
<tr>
<td><strong>New Zealand</strong></td>
<td>15</td>
<td>14</td>
<td>14</td>
<td>13</td>
<td>13</td>
<td>11</td>
<td>10</td>
<td>9</td>
<td>9</td>
<td>9</td>
<td>10</td>
<td>9</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td><strong>Niue</strong></td>
<td>29</td>
<td>0</td>
<td>64</td>
<td>100</td>
<td>35</td>
<td>0</td>
<td>190</td>
<td>0</td>
<td>125</td>
<td>0</td>
<td>89</td>
<td>44</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Northern Mariana Islands</strong></td>
<td>139</td>
<td>355</td>
<td>308</td>
<td>214</td>
<td>213</td>
<td>49</td>
<td>157</td>
<td>70</td>
<td>68</td>
<td>64</td>
<td>135</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Palau</strong></td>
<td>139</td>
<td>80</td>
<td>134</td>
<td>108</td>
<td>150</td>
<td>191</td>
<td>94</td>
<td>269</td>
<td>118</td>
<td>21</td>
<td>39</td>
<td>25</td>
<td>155</td>
<td></td>
</tr>
<tr>
<td><strong>Papua New Guinea</strong></td>
<td>79</td>
<td>77</td>
<td>82</td>
<td>86</td>
<td>99</td>
<td>95</td>
<td>77</td>
<td>59</td>
<td>109</td>
<td>84</td>
<td>60</td>
<td>80</td>
<td>58</td>
<td></td>
</tr>
<tr>
<td><strong>Philippines</strong></td>
<td>234</td>
<td>217</td>
<td>221</td>
<td>206</td>
<td>213</td>
<td>278</td>
<td>272</td>
<td>267</td>
<td>304</td>
<td>304</td>
<td>327</td>
<td>335</td>
<td>327</td>
<td></td>
</tr>
<tr>
<td><strong>Republic of Korea</strong></td>
<td>236</td>
<td>255</td>
<td>257</td>
<td>230</td>
<td>212</td>
<td>214</td>
<td>215</td>
<td>210</td>
<td>177</td>
<td>165</td>
<td>149</td>
<td>134</td>
<td>110</td>
<td></td>
</tr>
<tr>
<td><strong>Samoa</strong></td>
<td>38</td>
<td>32</td>
<td>28</td>
<td>26</td>
<td>24</td>
<td>27</td>
<td>41</td>
<td>18</td>
<td>18</td>
<td>23</td>
<td>27</td>
<td>27</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td><strong>Singapore</strong></td>
<td>112</td>
<td>88</td>
<td>66</td>
<td>52</td>
<td>50</td>
<td>57</td>
<td>58</td>
<td>55</td>
<td>53</td>
<td>59</td>
<td>56</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Solomon Islands</strong></td>
<td>116</td>
<td>132</td>
<td>132</td>
<td>119</td>
<td>128</td>
<td>139</td>
<td>104</td>
<td>116</td>
<td>125</td>
<td>160</td>
<td>122</td>
<td>96</td>
<td>110</td>
<td></td>
</tr>
<tr>
<td><strong>Tokelau</strong></td>
<td>0</td>
<td>64</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>126</td>
<td>0</td>
<td>559</td>
<td>62</td>
<td>0</td>
<td>62</td>
<td>63</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Tuvalu</strong></td>
<td>66</td>
<td>51</td>
<td>47</td>
<td>53</td>
<td>58</td>
<td>53</td>
<td>38</td>
<td>26</td>
<td>15</td>
<td>38</td>
<td>24</td>
<td>21</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td><strong>Wallis and Futuna</strong></td>
<td>410</td>
<td>221</td>
<td>145</td>
<td>274</td>
<td>106</td>
<td>370</td>
<td>307</td>
<td>245</td>
<td>263</td>
<td>280</td>
<td>244</td>
<td>315</td>
<td>312</td>
<td></td>
</tr>
<tr>
<td><strong>Viet Nam</strong></td>
<td>152</td>
<td>77</td>
<td>141</td>
<td>156</td>
<td>146</td>
<td>94</td>
<td>97</td>
<td>65</td>
<td>83</td>
<td>99</td>
<td>110</td>
<td>147</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Western Pacific Region</strong></td>
<td>27</td>
<td>27</td>
<td>34</td>
<td>34</td>
<td>39</td>
<td>44</td>
<td>46</td>
<td>45</td>
<td>49</td>
<td>50</td>
<td>59</td>
<td>50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Rates are per 100,000 population. From 1995 on, number shown is notification rate of new and relapse cases. The table includes updated information; data shown here may differ from those published in previous reports. Data can be downloaded from www.who.int/tb.
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8</td>
<td>0</td>
<td>11</td>
<td>5</td>
<td>7</td>
<td>5</td>
<td>5</td>
<td>3</td>
<td>5</td>
<td>8</td>
<td>9</td>
<td>6</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>6</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>52</td>
<td>84</td>
<td>92</td>
<td>63</td>
<td>66</td>
<td>58</td>
<td>48</td>
<td>44</td>
<td>53</td>
<td>53</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>137</td>
<td>128</td>
<td>127</td>
<td>130</td>
<td>138</td>
<td>154</td>
<td>148</td>
<td>147</td>
<td>186</td>
<td>209</td>
<td>225</td>
<td>255</td>
<td>244</td>
<td>246</td>
</tr>
<tr>
<td></td>
<td>30</td>
<td>42</td>
<td>41</td>
<td>38</td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>37</td>
<td>36</td>
<td>47</td>
<td>61</td>
<td>68</td>
<td>71</td>
<td>74</td>
</tr>
<tr>
<td></td>
<td>104</td>
<td>100</td>
<td>103</td>
<td>111</td>
<td>118</td>
<td>85</td>
<td>90</td>
<td>101</td>
<td>92</td>
<td>86</td>
<td>81</td>
<td>80</td>
<td>78</td>
<td>74</td>
</tr>
<tr>
<td></td>
<td>98</td>
<td>136</td>
<td>136</td>
<td>108</td>
<td>102</td>
<td>104</td>
<td>85</td>
<td>80</td>
<td>66</td>
<td>75</td>
<td>78</td>
<td>71</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>22</td>
<td>11</td>
<td>6</td>
<td>11</td>
<td>0</td>
<td>18</td>
<td>6</td>
<td>13</td>
<td>7</td>
<td>0</td>
<td>7</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>36</td>
<td>26</td>
<td>26</td>
<td>22</td>
<td>21</td>
<td>24</td>
<td>18</td>
<td>23</td>
<td>18</td>
<td>13</td>
<td>16</td>
<td>14</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td></td>
<td>42</td>
<td>39</td>
<td>41</td>
<td>46</td>
<td>40</td>
<td>26</td>
<td>26</td>
<td>26</td>
<td>20</td>
<td>24</td>
<td>25</td>
<td>27</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td></td>
<td>66</td>
<td>34</td>
<td>33</td>
<td>33</td>
<td>35</td>
<td>32</td>
<td>31</td>
<td>28</td>
<td>26</td>
<td>25</td>
<td>23</td>
<td>21</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td></td>
<td>332</td>
<td>417</td>
<td>582</td>
<td>340</td>
<td>309</td>
<td>300</td>
<td>221</td>
<td>225</td>
<td>320</td>
<td>343</td>
<td>361</td>
<td>404</td>
<td>351</td>
<td></td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>18</td>
<td>30</td>
<td>39</td>
<td>43</td>
<td>47</td>
<td>43</td>
<td>45</td>
<td>49</td>
<td>50</td>
<td>57</td>
<td>67</td>
<td>69</td>
<td>67</td>
</tr>
<tr>
<td></td>
<td>58</td>
<td>57</td>
<td>60</td>
<td>62</td>
<td>64</td>
<td>66</td>
<td>65</td>
<td>62</td>
<td>59</td>
<td>63</td>
<td>59</td>
<td>60</td>
<td>61</td>
<td>61</td>
</tr>
<tr>
<td></td>
<td>115</td>
<td>95</td>
<td>79</td>
<td>65</td>
<td>106</td>
<td>95</td>
<td>110</td>
<td>211</td>
<td>196</td>
<td>238</td>
<td>267</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>163</td>
<td>160</td>
<td>117</td>
<td>99</td>
<td>114</td>
<td>85</td>
<td>97</td>
<td>118</td>
<td>91</td>
<td>108</td>
<td>89</td>
<td>94</td>
<td>123</td>
<td></td>
</tr>
<tr>
<td></td>
<td>73</td>
<td>116</td>
<td>169</td>
<td>148</td>
<td>119</td>
<td>136</td>
<td>126</td>
<td>142</td>
<td>153</td>
<td>155</td>
<td>178</td>
<td>178</td>
<td>194</td>
<td>177</td>
</tr>
<tr>
<td></td>
<td>41</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>51</td>
<td>45</td>
<td>53</td>
<td>44</td>
<td>44</td>
<td>37</td>
<td>44</td>
<td>28</td>
<td>29</td>
<td>17</td>
<td>26</td>
<td>20</td>
<td>20</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>11</td>
<td>9</td>
<td>10</td>
<td>12</td>
<td>9</td>
<td>10</td>
<td>8</td>
<td>10</td>
<td>9</td>
<td>8</td>
<td>8</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td></td>
<td>88</td>
<td>0</td>
<td>91</td>
<td>0</td>
<td>0</td>
<td>51</td>
<td>0</td>
<td>0</td>
<td>228</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>82</td>
<td>83</td>
<td>85</td>
<td>149</td>
<td>130</td>
<td>99</td>
<td>109</td>
<td>81</td>
<td>72</td>
<td>59</td>
<td>68</td>
<td>71</td>
<td>62</td>
<td>52</td>
</tr>
<tr>
<td></td>
<td>247</td>
<td>111</td>
<td>29</td>
<td>83</td>
<td>169</td>
<td>76</td>
<td>45</td>
<td>25</td>
<td>50</td>
<td>59</td>
<td>54</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>116</td>
<td>171</td>
<td>66</td>
<td>161</td>
<td>221</td>
<td>248</td>
<td>195</td>
<td>229</td>
<td>198</td>
<td>221</td>
<td>215</td>
<td>207</td>
<td>203</td>
<td>237</td>
</tr>
<tr>
<td></td>
<td>268</td>
<td>174</td>
<td>226</td>
<td>273</td>
<td>222</td>
<td>195</td>
<td>157</td>
<td>138</td>
<td>149</td>
<td>164</td>
<td>158</td>
<td>162</td>
<td>171</td>
<td>160</td>
</tr>
<tr>
<td></td>
<td>86</td>
<td>94</td>
<td>87</td>
<td>73</td>
<td>75</td>
<td>69</td>
<td>47</td>
<td>79</td>
<td>74</td>
<td>71</td>
<td>72</td>
<td>80</td>
<td>79</td>
<td>78</td>
</tr>
<tr>
<td></td>
<td>27</td>
<td>27</td>
<td>18</td>
<td>19</td>
<td>13</td>
<td>18</td>
<td>24</td>
<td>12</td>
<td>17</td>
<td>15</td>
<td>19</td>
<td>13</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>50</td>
<td>54</td>
<td>54</td>
<td>50</td>
<td>46</td>
<td>43</td>
<td>33</td>
<td>36</td>
<td>50</td>
<td>37</td>
<td>43</td>
<td>40</td>
<td>33</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td>94</td>
<td>97</td>
<td>80</td>
<td>83</td>
<td>75</td>
<td>71</td>
<td>73</td>
<td>68</td>
<td>58</td>
<td>65</td>
<td>74</td>
<td>84</td>
<td>77</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>135</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>24</td>
<td>21</td>
<td>23</td>
<td>21</td>
<td>31</td>
<td>22</td>
<td>24</td>
<td>12</td>
<td>29</td>
<td>16</td>
<td>12</td>
<td>18</td>
<td>18</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>195</td>
<td>367</td>
<td>179</td>
<td>138</td>
<td>157</td>
<td>156</td>
<td>126</td>
<td>290</td>
<td>115</td>
<td>86</td>
<td>171</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>90</td>
<td>46</td>
<td>72</td>
<td>103</td>
<td>98</td>
<td>65</td>
<td>80</td>
<td>90</td>
<td>51</td>
<td>51</td>
<td>55</td>
<td>35</td>
<td>37</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>72</td>
<td>76</td>
<td>100</td>
<td>103</td>
<td>114</td>
<td>114</td>
<td>114</td>
<td>113</td>
<td>117</td>
<td>112</td>
<td>117</td>
<td>112</td>
<td>113</td>
<td>111</td>
</tr>
<tr>
<td></td>
<td>77</td>
<td>42</td>
<td>55</td>
<td>96</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>46</td>
<td>51</td>
<td>54</td>
<td>53</td>
<td>50</td>
<td>49</td>
<td>47</td>
<td>47</td>
<td>47</td>
<td>57</td>
<td>67</td>
<td>73</td>
<td>75</td>
<td>77</td>
</tr>
</tbody>
</table>
### Table 42. New smear-positive cases notified, numbers and rates, 1990–2007

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>American Samoa</td>
<td>1</td>
<td>4</td>
<td>0</td>
<td>6</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Australia</td>
<td>557</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brunei Darussalam</td>
<td>68</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cambodia</td>
<td>11058</td>
<td>11101</td>
<td>12065</td>
<td>12686</td>
<td>13865</td>
<td>15744</td>
<td>14822</td>
<td>14361</td>
<td>17258</td>
<td>18923</td>
<td>18978</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>84898</td>
<td>104729</td>
<td>134488</td>
<td>203670</td>
<td>236021</td>
<td>202817</td>
<td>201775</td>
<td>204765</td>
<td>204591</td>
<td>194972</td>
<td>267414</td>
<td>384886</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>China, Hong Kong SAR</td>
<td>0</td>
<td>2429</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>China, Macao SAR</td>
<td>108</td>
<td>141</td>
<td>258</td>
<td>325</td>
<td>276</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cook Islands</td>
<td>0</td>
<td>1</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Fiji</td>
<td>84</td>
<td>75</td>
<td>75</td>
<td>61</td>
<td>62</td>
<td>68</td>
<td>69</td>
<td>66</td>
<td>74</td>
<td>65</td>
<td>62</td>
<td>73</td>
<td>74</td>
<td>78</td>
<td>62</td>
</tr>
<tr>
<td>French Polynesia</td>
<td></td>
<td>38</td>
<td>37</td>
<td>41</td>
<td>34</td>
<td>33</td>
<td>29</td>
<td>0</td>
<td>28</td>
<td>21</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guam</td>
<td>48</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td>17890</td>
<td>16770</td>
<td>14367</td>
<td>12867</td>
<td>13571</td>
<td>11935</td>
<td>12909</td>
<td>11853</td>
<td>11408</td>
<td>10807</td>
<td>10843</td>
<td>10471</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kiribati</td>
<td>99</td>
<td>184</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lao People's Democratic Republic</td>
<td>433</td>
<td>386</td>
<td>1234</td>
<td>1494</td>
<td>1704</td>
<td>1526</td>
<td>1563</td>
<td>1829</td>
<td>1866</td>
<td>2226</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Malaysia</td>
<td>6954</td>
<td>6861</td>
<td>6688</td>
<td>7271</td>
<td>7496</td>
<td>7802</td>
<td>8207</td>
<td>8156</td>
<td>8309</td>
<td>7958</td>
<td>7989</td>
<td>7843</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marshall Islands</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Micronesia</td>
<td>0</td>
<td>14</td>
<td>9</td>
<td>14</td>
<td>9</td>
<td>14</td>
<td>15</td>
<td>8</td>
<td>22</td>
<td>24</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mongolia</td>
<td>0</td>
<td>0</td>
<td>145</td>
<td>455</td>
<td>769</td>
<td>1171</td>
<td>1356</td>
<td>1513</td>
<td>1389</td>
<td>1631</td>
<td>1670</td>
<td>1541</td>
<td>1808</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nauru</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Caledonia</td>
<td>16</td>
<td>28</td>
<td>21</td>
<td>26</td>
<td>15</td>
<td>27</td>
<td>19</td>
<td>21</td>
<td>16</td>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Zealand</td>
<td>91</td>
<td>61</td>
<td>78</td>
<td>90</td>
<td>83</td>
<td>106</td>
<td>94</td>
<td>74</td>
<td>68</td>
<td>88</td>
<td>106</td>
<td>111</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Niue</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northern Marianas Islands</td>
<td>24</td>
<td>26</td>
<td>21</td>
<td>26</td>
<td>15</td>
<td>27</td>
<td>19</td>
<td>21</td>
<td>16</td>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Palau</td>
<td>8</td>
<td>11</td>
<td>9</td>
<td>4</td>
<td>7</td>
<td>20</td>
<td>9</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>1652</td>
<td>447</td>
<td>1195</td>
<td>2107</td>
<td>2140</td>
<td>1933</td>
<td>1351</td>
<td>1345</td>
<td>2130</td>
<td>1896</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Philippines</td>
<td>92279</td>
<td>87401</td>
<td>94768</td>
<td>86695</td>
<td>80163</td>
<td>69476</td>
<td>73373</td>
<td>67056</td>
<td>59341</td>
<td>65148</td>
<td>72670</td>
<td>78163</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>16630</td>
<td>13266</td>
<td>11754</td>
<td>11420</td>
<td>9957</td>
<td>10159</td>
<td>9555</td>
<td>8216</td>
<td>11805</td>
<td>11345</td>
<td>10976</td>
<td>11471</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samoa</td>
<td>21</td>
<td>18</td>
<td>16</td>
<td>9</td>
<td>14</td>
<td>17</td>
<td>17</td>
<td>13</td>
<td>11</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Singapore</td>
<td>513</td>
<td>861</td>
<td>455</td>
<td>519</td>
<td>436</td>
<td>482</td>
<td>465</td>
<td>248</td>
<td>357</td>
<td>549</td>
<td>583</td>
<td>501</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solomon Islands</td>
<td>155</td>
<td>114</td>
<td>109</td>
<td>90</td>
<td>113</td>
<td>140</td>
<td>111</td>
<td>129</td>
<td>173</td>
<td>138</td>
<td>139</td>
<td>152</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tokelau</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tonga</td>
<td>16</td>
<td>17</td>
<td>9</td>
<td>14</td>
<td>11</td>
<td>16</td>
<td>10</td>
<td>15</td>
<td>8</td>
<td>23</td>
<td>11</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuvalu</td>
<td>2</td>
<td>1</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vanuatu</td>
<td>62</td>
<td>30</td>
<td>50</td>
<td>66</td>
<td>38</td>
<td>43</td>
<td>63</td>
<td>57</td>
<td>38</td>
<td>40</td>
<td>59</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viet Nam</td>
<td>37550</td>
<td>48911</td>
<td>50016</td>
<td>54889</td>
<td>53805</td>
<td>53169</td>
<td>54238</td>
<td>56688</td>
<td>55937</td>
<td>58394</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wallis and Futuna</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Western Pacific Region</td>
<td>84</td>
<td>76</td>
<td>81</td>
<td>222813</td>
<td>241737</td>
<td>314271</td>
<td>388142</td>
<td>416954</td>
<td>379698</td>
<td>383613</td>
<td>376109</td>
<td>371806</td>
<td>372528</td>
<td>453812</td>
<td>379566</td>
</tr>
</tbody>
</table>

Rates are per 100,000 population. The table includes updated information; data shown here may differ from those published in previous reports. Data can be downloaded from [www.who.int/tb](http://www.who.int/tb).
### Rate (per 100,000 population)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>3</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>241</td>
<td>269</td>
<td>281</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>101</td>
<td>128</td>
<td>136</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21,001</td>
<td>19,294</td>
<td>19,421</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>472,719</td>
<td>468,291</td>
<td>465,877</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1,561</td>
<td>1,537</td>
<td>1,501</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>136</td>
<td>144</td>
<td>138</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>63</td>
<td>73</td>
<td>52</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>24</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>21</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10,931</td>
<td>10,159</td>
<td>9,433</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>124</td>
<td>129</td>
<td>103</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2,886</td>
<td>3,041</td>
<td>3,080</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8,446</td>
<td>9,414</td>
<td>9,578</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>48</td>
<td>45</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>41</td>
<td>47</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1,868</td>
<td>2,129</td>
<td>1,856</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>54</td>
<td>53</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>83</td>
<td>97</td>
<td>81</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>15</td>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1,805</td>
<td>1,946</td>
<td>2,087</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>81,647</td>
<td>85,740</td>
<td>86,566</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11,638</td>
<td>11,513</td>
<td>10,927</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>552</td>
<td>537</td>
<td>504</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>169</td>
<td>124</td>
<td>142</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>14</td>
<td>14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>4</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>42</td>
<td>41</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>53,492</td>
<td>56,437</td>
<td>54,457</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Tuberculosis Control in the Western Pacific : 2009 Report | 87 | Annexes |
### Table 43. Notified prevalence of resistance to specific drugs among new TB cases tested for resistance

<table>
<thead>
<tr>
<th>Country and Area</th>
<th>Sub-national</th>
<th>Year</th>
<th>Method</th>
<th>Patients tested</th>
<th>Susceptible %</th>
<th>Any resistance %</th>
<th>Any H %</th>
<th>Any R %</th>
<th>Any E %</th>
<th>Any S %</th>
<th>Mono %</th>
<th>Mono H %</th>
<th>Mono R %</th>
<th>Mono S %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Countrywide</td>
<td>2005</td>
<td>Surveillance combined only</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cambodia</td>
<td>Countrywide</td>
<td>2001</td>
<td>Survey</td>
<td>638</td>
<td>572</td>
<td>89.7</td>
<td>10.3</td>
<td>41</td>
<td>6.4</td>
<td>4</td>
<td>0.6</td>
<td>1</td>
<td>0.2</td>
<td>32</td>
</tr>
<tr>
<td>China</td>
<td>Beijing</td>
<td>2004</td>
<td>Survey</td>
<td>1043</td>
<td>856</td>
<td>82.1</td>
<td>187</td>
<td>17.9</td>
<td>91</td>
<td>8.7</td>
<td>44</td>
<td>4.2</td>
<td>43</td>
<td>4.1</td>
</tr>
<tr>
<td>China</td>
<td>Henan</td>
<td>2001</td>
<td>Survey</td>
<td>1222</td>
<td>858</td>
<td>70.2</td>
<td>29.8</td>
<td>208</td>
<td>17.0</td>
<td>117</td>
<td>9.6</td>
<td>53</td>
<td>4.3</td>
<td>271</td>
</tr>
<tr>
<td>China</td>
<td>Heilongjiang</td>
<td>2004</td>
<td>Survey</td>
<td>1574</td>
<td>1005</td>
<td>63.9</td>
<td>36.1</td>
<td>266</td>
<td>16.9</td>
<td>167</td>
<td>10.6</td>
<td>93</td>
<td>5.9</td>
<td>383</td>
</tr>
<tr>
<td>China</td>
<td>Shanghai</td>
<td>2004</td>
<td>Survey</td>
<td>764</td>
<td>646</td>
<td>84.6</td>
<td>118</td>
<td>15.4</td>
<td>89</td>
<td>11.7</td>
<td>37</td>
<td>4.8</td>
<td>23</td>
<td>3.0</td>
</tr>
<tr>
<td>China</td>
<td>Inner Mongolia</td>
<td>2001</td>
<td>Survey</td>
<td>876</td>
<td>524</td>
<td>65.0</td>
<td>313</td>
<td>35.7</td>
<td>164</td>
<td>20.3</td>
<td>84</td>
<td>9.6</td>
<td>72</td>
<td>8.9</td>
</tr>
<tr>
<td>Fiji</td>
<td>Countrywide</td>
<td>2006</td>
<td>Surveillance combined only</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Guam</td>
<td>Countrywide</td>
<td>2002</td>
<td>Survey combined only</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>Hong Kong</td>
<td>2005</td>
<td>Surveillance</td>
<td>3271</td>
<td>2809</td>
<td>88.9</td>
<td>11.1</td>
<td>164</td>
<td>5.0</td>
<td>36</td>
<td>1.1</td>
<td>27</td>
<td>0.8</td>
<td>274</td>
</tr>
<tr>
<td>Japan</td>
<td>Countrywide</td>
<td>2002</td>
<td>Surveillance</td>
<td>2705</td>
<td>2472</td>
<td>91.4</td>
<td>8.6</td>
<td>77</td>
<td>2.8</td>
<td>28</td>
<td>1.0</td>
<td>23</td>
<td>0.9</td>
<td>188</td>
</tr>
<tr>
<td>Macao (China)</td>
<td>Macao</td>
<td>2005</td>
<td>Survey</td>
<td>265</td>
<td>223</td>
<td>84.2</td>
<td>15.8</td>
<td>28</td>
<td>10.6</td>
<td>7</td>
<td>2.6</td>
<td>4</td>
<td>1.5</td>
<td>27</td>
</tr>
<tr>
<td>New Caledonia</td>
<td>Countrywide</td>
<td>2005</td>
<td>Survey combined only</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>New Zealand</td>
<td>Countrywide</td>
<td>2006</td>
<td>Surveillance</td>
<td>250</td>
<td>224</td>
<td>89.6</td>
<td>10.4</td>
<td>17</td>
<td>6.8</td>
<td>1</td>
<td>0.4</td>
<td>1</td>
<td>0.4</td>
<td>18</td>
</tr>
<tr>
<td>Northern Mariana Islands</td>
<td>2006</td>
<td>Survey</td>
<td>18</td>
<td>4</td>
<td>22.2</td>
<td>4</td>
<td>22.2</td>
<td>3</td>
<td>16.7</td>
<td>2</td>
<td>11.1</td>
<td>0</td>
<td>0.0</td>
<td>2</td>
</tr>
<tr>
<td>Philippines</td>
<td>Countrywide</td>
<td>2004</td>
<td>Survey</td>
<td>965</td>
<td>767</td>
<td>79.5</td>
<td>20.5</td>
<td>130</td>
<td>13.5</td>
<td>44</td>
<td>4.6</td>
<td>41</td>
<td>4.2</td>
<td>115</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>Countrywide</td>
<td>2004</td>
<td>Survey</td>
<td>2636</td>
<td>2315</td>
<td>87.8</td>
<td>12.2</td>
<td>261</td>
<td>9.9</td>
<td>98</td>
<td>3.7</td>
<td>27</td>
<td>2.7</td>
<td>70</td>
</tr>
<tr>
<td>Singapore</td>
<td>Countrywide</td>
<td>2005</td>
<td>Surveillance</td>
<td>895</td>
<td>837</td>
<td>93.5</td>
<td>6.5</td>
<td>30</td>
<td>3.4</td>
<td>5</td>
<td>0.6</td>
<td>7</td>
<td>0.8</td>
<td>35</td>
</tr>
<tr>
<td>Solomon Islands</td>
<td>Countrywide</td>
<td>2004</td>
<td>Survey combined only</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Vanuatu</td>
<td>Countrywide</td>
<td>2006</td>
<td>Surveillance</td>
<td>29</td>
<td>28</td>
<td>96.6</td>
<td>1</td>
<td>3.4</td>
<td>1</td>
<td>3.4</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>Countrywide</td>
<td>2006</td>
<td>Survey</td>
<td>1619</td>
<td>1122</td>
<td>69.3</td>
<td>30.7</td>
<td>310</td>
<td>19.1</td>
<td>53</td>
<td>3.3</td>
<td>42</td>
<td>2.6</td>
<td>375</td>
</tr>
</tbody>
</table>

H = isoniazid; R = rifampicin; E = ethambutol; S = streptomycin; Mono = mono-resistant to; HR = resistant only to H and R; HRE = resistant to H, R and E; HRS = resistant to H, R and S; HRES = resistant to H, R, E, and S; Poly = resistant to more than one drug other than MDR; HE = resistant to H and E; HS = resistant to H and S; HES = resistant to H, E, and S; RE = resistant to R and E; RS = resistant to R and S; RES = resistant to R, E, and S; ES = resistant to E and S.
<table>
<thead>
<tr>
<th>Monoresistant (Mono)</th>
<th>MDR</th>
<th>HR</th>
<th>HRE</th>
<th>HRS</th>
<th>Poly</th>
<th>RE</th>
<th>RS</th>
<th>RES</th>
<th>ES</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Cambodia</td>
<td>0.14</td>
<td>0.53</td>
<td>0.24</td>
<td>0.23</td>
<td>0.15</td>
<td>0.15</td>
<td>0.15</td>
<td>0.30</td>
<td>0.27</td>
<td>0.00</td>
</tr>
<tr>
<td>Beijing</td>
<td>0.10</td>
<td>0.13</td>
<td>0.10</td>
<td>0.15</td>
<td>0.05</td>
<td>0.05</td>
<td>0.05</td>
<td>0.03</td>
<td>0.04</td>
<td>0.00</td>
</tr>
<tr>
<td>Henan</td>
<td>0.32</td>
<td>0.24</td>
<td>0.11</td>
<td>0.72</td>
<td>0.24</td>
<td>0.15</td>
<td>0.15</td>
<td>0.40</td>
<td>0.22</td>
<td>0.00</td>
</tr>
<tr>
<td>Heilongjiang</td>
<td>0.00</td>
<td>0.26</td>
<td>0.34</td>
<td>0.30</td>
<td>0.39</td>
<td>0.79</td>
<td>0.07</td>
<td>0.05</td>
<td>0.01</td>
<td>0.00</td>
</tr>
<tr>
<td>Hong Kong (China)</td>
<td>0.05</td>
<td>0.06</td>
<td>0.90</td>
<td>0.71</td>
<td>0.29</td>
<td>0.16</td>
<td>0.09</td>
<td>0.05</td>
<td>0.01</td>
<td>0.00</td>
</tr>
<tr>
<td>Japan</td>
<td>0.00</td>
<td>0.13</td>
<td>4.49</td>
<td>6.23</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>3.11</td>
<td>3.11</td>
<td>0.00</td>
</tr>
<tr>
<td>Macao (China)</td>
<td>0.00</td>
<td>0.00</td>
<td>5.86</td>
<td>11.11</td>
<td>2.00</td>
<td>1.11</td>
<td>1.00</td>
<td>10.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>New Caledonia</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>New Zealand</td>
<td>0.00</td>
<td>1.56</td>
<td>2.21</td>
<td>2.21</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>1.56</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Northern Mariana Islands</td>
<td>0.01</td>
<td>0.60</td>
<td>5.93</td>
<td>4.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>5.93</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Philippines</td>
<td>0.00</td>
<td>0.26</td>
<td>1.00</td>
<td>2.27</td>
<td>1.00</td>
<td>0.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Singapore</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Solomon Islands</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Vanuatu</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>0.00</td>
<td>0.00</td>
<td>1.20</td>
<td>1.24</td>
<td>1.50</td>
<td>1.50</td>
<td>1.50</td>
<td>1.50</td>
<td>1.50</td>
<td>1.50</td>
</tr>
</tbody>
</table>
### Table 44. Notified prevalence of resistance to specific drugs among previously treated TB cases tested for resistance

<table>
<thead>
<tr>
<th>Country and Area</th>
<th>Sub-national</th>
<th>Year</th>
<th>Method</th>
<th>Patients tested</th>
<th>Susceptible %</th>
<th>Any resistance %</th>
<th>Any H %</th>
<th>Any R %</th>
<th>Any E %</th>
<th>Any S %</th>
<th>Mono %</th>
<th>Mono H %</th>
<th>Mono R %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Countrywide</td>
<td>2005</td>
<td>Surveillance combined only</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cambodia</td>
<td>Countrywide</td>
<td>2001</td>
<td>Survey</td>
<td>96</td>
<td>79</td>
<td>82.3</td>
<td>17.7</td>
<td>16</td>
<td>16.7</td>
<td>3</td>
<td>3.1</td>
<td>7</td>
<td>7.3</td>
</tr>
<tr>
<td>China</td>
<td>Beijing</td>
<td>2004</td>
<td>Survey</td>
<td>154</td>
<td>100</td>
<td>64.9</td>
<td>35.1</td>
<td>28</td>
<td>24.7</td>
<td>3</td>
<td>14.9</td>
<td>14</td>
<td>9.1</td>
</tr>
<tr>
<td>China</td>
<td>Henan</td>
<td>2001</td>
<td>Survey</td>
<td>265</td>
<td>104</td>
<td>39.2</td>
<td>60.8</td>
<td>125</td>
<td>47.2</td>
<td>113</td>
<td>42.6</td>
<td>48</td>
<td>10.1</td>
</tr>
<tr>
<td>China</td>
<td>Henanjiang</td>
<td>2004</td>
<td>Survey</td>
<td>421</td>
<td>137</td>
<td>32.5</td>
<td>67.9</td>
<td>202</td>
<td>48.0</td>
<td>170</td>
<td>40.4</td>
<td>103</td>
<td>24.5</td>
</tr>
<tr>
<td>China</td>
<td>Shanghai</td>
<td>2004</td>
<td>Survey</td>
<td>200</td>
<td>145</td>
<td>72.5</td>
<td>27.5</td>
<td>43</td>
<td>21.5</td>
<td>36</td>
<td>15.0</td>
<td>20.0</td>
<td>10.0</td>
</tr>
<tr>
<td>China</td>
<td>Inner Mongolia</td>
<td>2001</td>
<td>Survey</td>
<td>386</td>
<td>92</td>
<td>29.9</td>
<td>252</td>
<td>218</td>
<td>56.5</td>
<td>175</td>
<td>45.3</td>
<td>123</td>
<td>31.8</td>
</tr>
<tr>
<td>Fiji</td>
<td>Countrywide</td>
<td>2006</td>
<td>Surveillance combined only</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Guam</td>
<td>Countrywide</td>
<td>2002</td>
<td>Survey</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Hong Kong (China)</td>
<td>Hong Kong</td>
<td>2005</td>
<td>Surveillance</td>
<td>163</td>
<td>125</td>
<td>76.7</td>
<td>38</td>
<td>23.3</td>
<td>28</td>
<td>17.2</td>
<td>16</td>
<td>9.8</td>
<td>9.5</td>
</tr>
<tr>
<td>Japan</td>
<td>Countrywide</td>
<td>2002</td>
<td>Surveillance</td>
<td>417</td>
<td>312</td>
<td>74.8</td>
<td>105</td>
<td>25.2</td>
<td>79</td>
<td>18.9</td>
<td>46</td>
<td>11.0</td>
<td>35</td>
</tr>
<tr>
<td>Macao (China)</td>
<td>Macao</td>
<td>2005</td>
<td>Surveillance</td>
<td>19</td>
<td>14</td>
<td>73.7</td>
<td>5</td>
<td>26.3</td>
<td>4</td>
<td>21.1</td>
<td>3</td>
<td>15.8</td>
<td>1</td>
</tr>
<tr>
<td>New Caledonia</td>
<td>Countrywide</td>
<td>2005</td>
<td>Survey</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>New Zealand</td>
<td>Countrywide</td>
<td>2006</td>
<td>Surveillance combined only</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Northern Mariana Islands</td>
<td>Countrywide</td>
<td>2006</td>
<td>Surveillance new only</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Philippines</td>
<td>Countrywide</td>
<td>2004</td>
<td>Survey</td>
<td>129</td>
<td>81</td>
<td>62.8</td>
<td>48</td>
<td>37.2</td>
<td>40</td>
<td>31.0</td>
<td>33</td>
<td>25.6</td>
<td>12</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>Countrywide</td>
<td>2004</td>
<td>Survey</td>
<td>278</td>
<td>201</td>
<td>72.3</td>
<td>77</td>
<td>27.7</td>
<td>67</td>
<td>24.1</td>
<td>47</td>
<td>16.9</td>
<td>9.7</td>
</tr>
<tr>
<td>Singapore</td>
<td>Countrywide</td>
<td>2005</td>
<td>Surveillance</td>
<td>105</td>
<td>94</td>
<td>89.5</td>
<td>11</td>
<td>10.5</td>
<td>4</td>
<td>3.8</td>
<td>3</td>
<td>2.9</td>
<td>1</td>
</tr>
<tr>
<td>Solomon Islands</td>
<td>Countrywide</td>
<td>2004</td>
<td>Survey</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Vanuatu</td>
<td>Countrywide</td>
<td>2006</td>
<td>Surveillance new only</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>Countrywide</td>
<td>2006</td>
<td>Survey</td>
<td>207</td>
<td>85</td>
<td>41.1</td>
<td>122</td>
<td>58.9</td>
<td>90</td>
<td>43.5</td>
<td>44</td>
<td>21.3</td>
<td>30</td>
</tr>
</tbody>
</table>

H = isoniazid; R = rifampicin; E = ethambutol; S = streptomycin; Mono = mono-resistant to; HR = resistant only to H and R; HRE = resistant to H, R and E; HR = resistant to H and R; HS = resistant to H and S; HRE = resistant to H, R, E, and S; Poly = resistant to more than one drug other than MDR; HE = resistant to H and E; HS = resistant to H and S; HES = resistant to H, E, and S; RE = resistant to R and E; RS = resistant to R and S; RES = resistant to R, E, and S; ES = resistant to E and S.
<p>| Country | Mono | E | S | MDR | % | HR | % | HRE | % | HRS | % | Poly | % | HE | % | NS | % | HES | % | RE | % | RS | % | RES | % | ES | % |
|--------|-----|---|---|-----|---|----|---|------|---|------|---|------|---|----|---|----|---|------|---|----|---|----|---|----|---|---|
| Australia | 0 | 0.0 | 1 | 1.0 | 3 | 3.1 | 1 | 1.0 | 0 | 0.0 | 2 | 2.1 | 0 | 0.0 | 4 | 4.2 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Cambodia | 0 | 0.0 | 8 | 5.2 | 18 | 11.7 | 6 | 3.9 | 2 | 1.3 | 7 | 4.5 | 3 | 1.9 | 19 | 12.3 | 3 | 1.9 | 8 | 5.2 | 2 | 1.3 | 1 | 0.6 | 0 | 0.0 | 3 | 1.9 |
| Beijing | 4 | 1.5 | 15 | 5.7 | 97 | 36.6 | 20 | 7.5 | 2 | 0.8 | 41 | 15.5 | 34 | 12.8 | 26 | 9.8 | 0 | 0.0 | 13 | 4.9 | 4 | 1.5 | 2 | 0.8 | 5 | 1.9 | 1 | 0.4 | 1 | 0.4 |
| Henan | 0 | 0.0 | 40 | 9.5 | 128 | 30.4 | 25 | 5.9 | 58 | 13.8 | 6 | 1.4 | 39 | 9.3 | 55 | 13.1 | 3 | 0.7 | 32 | 7.6 | 2 | 0.5 | 1 | 0.2 | 17 | 4.0 | 0 | 0.0 | 0 | 0.0 |
| Heilongjiang | 1 | 0.5 | 5 | 2.5 | 25 | 12.5 | 6 | 3.0 | 10 | 5.0 | 2 | 1.0 | 7 | 3.5 | 11 | 5.5 | 0 | 0.0 | 7 | 3.5 | 0 | 0.0 | 0 | 0.0 | 2 | 1.0 | 1 | 0.5 | 1 | 0.5 |
| Inner Mongolia | 0 | 0.0 | 13 | 4.2 | 142 | 36.8 | 34 | 11.0 | 48 | 15.6 | 6 | 1.9 | 41 | 13.3 | 35 | 11.4 | 2 | 0.6 | 17 | 5.5 | 3 | 1.0 | 1 | 0.3 | 9 | 2.9 | 2 | 0.6 | 1 | 0.3 |
| Fiji | 1 | 0.6 | 6 | 3.7 | 13 | 8.0 | 3 | 1.8 | 0 | 0.0 | 4 | 2.5 | 6 | 3.7 | 10 | 6.1 | 0 | 0.0 | 8 | 4.9 | 0 | 0.0 | 1 | 0.6 | 0 | 0.0 | 1 | 0.6 |
| Guam | 1 | 0.2 | 20 | 4.8 | 41 | 9.8 | 6 | 1.4 | 6 | 1.4 | 10 | 2.4 | 19 | 4.6 | 15 | 3.6 | 3 | 0.7 | 6 | 1.4 | 3 | 0.7 | 1 | 0.2 | 0 | 0.0 | 2 | 0.5 |
| Hong Kong (China) | 0 | 0.0 | 1 | 5.3 | 3 | 15.0 | 1 | 5.3 | 0 | 0.0 | 1 | 5.3 | 1 | 5.3 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Macao (China) | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| New Caledonia | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| New Zealand | 0 | 0.0 | 2 | 1.6 | 27 | 20.9 | 7 | 5.4 | 4 | 3.1 | 8 | 6.2 | 8 | 6.2 | 4 | 3.1 | 0 | 0.0 | 3 | 2.3 | 0 | 0.0 | 0 | 0.0 | 1 | 0.8 | 0 | 0.0 |
| Northern Mariana Islands | 0 | 0.0 | 2 | 0.7 | 39 | 14.0 | 14 | 5.0 | 16 | 5.6 | 4 | 1.4 | 5 | 1.8 | 1 | 5.2 | 0 | 0.0 | 4 | 1.4 | 3 | 1.1 | 1 | 0.4 | 0 | 0.0 | 1 | 0.4 |
| Philippines | 0 | 0.0 | 5 | 4.8 | 1 | 1.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 1.0 | 0 | 1.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Republic of Korea | 0 | 0.0 | 5 | 4.8 | 1 | 1.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 1.0 | 0 | 1.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Singapore | 0 | 0.0 | 5 | 4.8 | 1 | 1.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 1.0 | 0 | 1.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Solomon Islands | 0 | 0.0 | 5 | 4.8 | 1 | 1.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 1.0 | 0 | 1.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Vanuatu | 0 | 0.0 | 5 | 4.8 | 1 | 1.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 1 | 1.0 | 0 | 1.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| Viet Nam | 2 | 1.0 | 26 | 12.6 | 40 | 19.3 | 5 | 2.4 | 0 | 0.0 | 15 | 7.2 | 20 | 9.7 | 44 | 21.3 | 0 | 0.0 | 34 | 16.4 | 8 | 3.9 | 0 | 0.0 | 2 | 1.0 | 0 | 0.0 | 0 | 0.0 |</p>
<table>
<thead>
<tr>
<th>Country and Area</th>
<th>Sub-national</th>
<th>Year</th>
<th>Method</th>
<th>Patients tested</th>
<th>Susceptible %</th>
<th>Any resistance %</th>
<th>Any H %</th>
<th>Any R %</th>
<th>Any E %</th>
<th>Any S %</th>
<th>Mono H %</th>
<th>Mono R %</th>
<th>Mono E %</th>
<th>Mono S %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Countrywide</td>
<td>2005</td>
<td>Surveillance</td>
<td>808</td>
<td>726</td>
<td>89.9</td>
<td>82.1</td>
<td>10.1</td>
<td>7.1</td>
<td>8.8</td>
<td>14.1</td>
<td>1.7</td>
<td>7.9</td>
<td>43.9</td>
</tr>
<tr>
<td>Cambodia</td>
<td>Countrywide</td>
<td>2001</td>
<td>Survey</td>
<td>734</td>
<td>651</td>
<td>88.7</td>
<td>83.3</td>
<td>11.3</td>
<td>57.8</td>
<td>7.8</td>
<td>10.1</td>
<td>1.0</td>
<td>1.1</td>
<td>30.6</td>
</tr>
<tr>
<td>China</td>
<td>Beijing</td>
<td>2004</td>
<td>Survey</td>
<td>1197</td>
<td>956</td>
<td>79.9</td>
<td>241.0</td>
<td>20.1</td>
<td>129.0</td>
<td>10.8</td>
<td>67.9</td>
<td>56.7</td>
<td>57.6</td>
<td>4.8</td>
</tr>
<tr>
<td>China</td>
<td>Henan</td>
<td>2001</td>
<td>Survey</td>
<td>1407</td>
<td>962</td>
<td>64.7</td>
<td>528.0</td>
<td>35.5</td>
<td>333.0</td>
<td>22.4</td>
<td>230.0</td>
<td>15.5</td>
<td>101.0</td>
<td>6.8</td>
</tr>
<tr>
<td>China</td>
<td>Heilongjiang</td>
<td>2004</td>
<td>Survey</td>
<td>1995</td>
<td>1142</td>
<td>57.2</td>
<td>853.0</td>
<td>42.8</td>
<td>470.0</td>
<td>23.6</td>
<td>337.0</td>
<td>16.9</td>
<td>222.0</td>
<td>9.8</td>
</tr>
<tr>
<td>China</td>
<td>Shanghai</td>
<td>2004</td>
<td>Survey</td>
<td>964</td>
<td>791</td>
<td>82.1</td>
<td>173.0</td>
<td>17.9</td>
<td>128.0</td>
<td>13.3</td>
<td>67.0</td>
<td>7.0</td>
<td>43.1</td>
<td>4.5</td>
</tr>
<tr>
<td>China</td>
<td>Inner Mongolia</td>
<td>2001</td>
<td>Survey</td>
<td>1262</td>
<td>697</td>
<td>55.2</td>
<td>565.0</td>
<td>44.8</td>
<td>382.0</td>
<td>30.3</td>
<td>259.0</td>
<td>20.5</td>
<td>193.0</td>
<td>15.3</td>
</tr>
<tr>
<td>Fiji</td>
<td>Countrywide</td>
<td>2006</td>
<td>Surveillance</td>
<td>38</td>
<td>38</td>
<td>100.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Guam</td>
<td>Countrywide</td>
<td>2002</td>
<td>Survey</td>
<td>47</td>
<td>45</td>
<td>95.7</td>
<td>2.0</td>
<td>4.3</td>
<td>4.8</td>
<td>2.1</td>
<td>2.1</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Hong Kong (China)</td>
<td>Hong Kong</td>
<td>2005</td>
<td>Surveillance</td>
<td>4350</td>
<td>3873</td>
<td>89.0</td>
<td>477.0</td>
<td>11.0</td>
<td>228.0</td>
<td>5.2</td>
<td>57.1</td>
<td>1.3</td>
<td>36.0</td>
<td>0.8</td>
</tr>
<tr>
<td>Japan</td>
<td>Countrywide</td>
<td>2002</td>
<td>Surveillance</td>
<td>3122</td>
<td>2704</td>
<td>89.2</td>
<td>338.0</td>
<td>10.8</td>
<td>156.0</td>
<td>5.0</td>
<td>74.0</td>
<td>2.4</td>
<td>58.0</td>
<td>1.9</td>
</tr>
<tr>
<td>Macao (China)</td>
<td>Macao</td>
<td>2005</td>
<td>Surveillance</td>
<td>284</td>
<td>237</td>
<td>83.5</td>
<td>47.0</td>
<td>16.5</td>
<td>32.0</td>
<td>11.3</td>
<td>30.5</td>
<td>5.8</td>
<td>1.0</td>
<td>30.6</td>
</tr>
<tr>
<td>New Caledonia</td>
<td>Countrywide</td>
<td>2005</td>
<td>Survey</td>
<td>5</td>
<td>4</td>
<td>80.0</td>
<td>1.0</td>
<td>20.0</td>
<td>1.0</td>
<td>20.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>New Zealand</td>
<td>Countrywide</td>
<td>2006</td>
<td>Surveillance</td>
<td>266</td>
<td>239</td>
<td>89.8</td>
<td>27.0</td>
<td>10.2</td>
<td>18.0</td>
<td>6.6</td>
<td>1.0</td>
<td>4.1</td>
<td>1.0</td>
<td>4.1</td>
</tr>
<tr>
<td>Northern Mariana Islands</td>
<td>Countrywide</td>
<td>2006</td>
<td>Surveillance</td>
<td>new only</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
</tr>
<tr>
<td>Philippines</td>
<td>Countrywide</td>
<td>2004</td>
<td>Survey</td>
<td>1094</td>
<td>848</td>
<td>77.5</td>
<td>246.0</td>
<td>22.5</td>
<td>170.0</td>
<td>15.5</td>
<td>77.0</td>
<td>7.0</td>
<td>53.0</td>
<td>4.8</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>Countrywide</td>
<td>2004</td>
<td>Survey</td>
<td>2914</td>
<td>2516</td>
<td>86.3</td>
<td>398.0</td>
<td>13.7</td>
<td>328.0</td>
<td>11.3</td>
<td>145.0</td>
<td>5.0</td>
<td>97.0</td>
<td>3.3</td>
</tr>
<tr>
<td>Singapore</td>
<td>Countrywide</td>
<td>2005</td>
<td>Surveillance</td>
<td>1000</td>
<td>931</td>
<td>93.1</td>
<td>69.0</td>
<td>6.9</td>
<td>34.0</td>
<td>3.4</td>
<td>8.0</td>
<td>8.0</td>
<td>8.0</td>
<td>42.0</td>
</tr>
<tr>
<td>Solomon Islands</td>
<td>Countrywide</td>
<td>2004</td>
<td>Survey</td>
<td>84</td>
<td>84</td>
<td>100.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Vanuatu</td>
<td>Countrywide</td>
<td>2006</td>
<td>Surveillance</td>
<td>new only</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
<td>.</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>Countrywide</td>
<td>2006</td>
<td>Survey</td>
<td>1826</td>
<td>1207</td>
<td>66.1</td>
<td>619.0</td>
<td>33.9</td>
<td>400.0</td>
<td>21.9</td>
<td>97.0</td>
<td>53.0</td>
<td>72.0</td>
<td>3.9</td>
</tr>
</tbody>
</table>

H = isoniazid; R = rifampicin; E = ethambutol; S = streptomycin. Mono = mono-resistant to: HR = resistant only to H and R; HRE = resistant to H, R and E; HRS = resistant to H, R and S; HRES = resistant to H, R, E, and S; Poly = resistant to more than one drug other than MDR; HE = resistant to H and E; HS = resistant to H and S; HES = resistant to H, E, and S; RE = resistant to R and E; RS = resistant to R and S; RES = resistant to R, E, and S; ES = resistant to E and S.
<table>
<thead>
<tr>
<th>Country</th>
<th>E</th>
<th>S</th>
<th>MDR</th>
<th>RR</th>
<th>HRE</th>
<th>HRS</th>
<th>Poly</th>
<th>HE</th>
<th>HS</th>
<th>HES</th>
<th>RE</th>
<th>RS</th>
<th>RES</th>
<th>ES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cambodia</td>
<td>0</td>
<td>0</td>
<td>0.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beijing</td>
<td>14</td>
<td>1.2</td>
<td>61</td>
<td>5.1</td>
<td>42</td>
<td>3.5</td>
<td>21</td>
<td>1.8</td>
<td>3</td>
<td>0.3</td>
<td>12</td>
<td>1.0</td>
<td>6</td>
<td>0.5</td>
</tr>
<tr>
<td>Henan</td>
<td>3</td>
<td>0.2</td>
<td>282</td>
<td>14.1</td>
<td>241</td>
<td>12.1</td>
<td>49</td>
<td>2.5</td>
<td>121</td>
<td>6.1</td>
<td>10</td>
<td>0.5</td>
<td>61</td>
<td>3.1</td>
</tr>
<tr>
<td>Heilongjiang</td>
<td>1</td>
<td>0.1</td>
<td>31</td>
<td>3.2</td>
<td>55</td>
<td>5.7</td>
<td>13</td>
<td>1.3</td>
<td>27</td>
<td>2.8</td>
<td>3</td>
<td>0.3</td>
<td>12</td>
<td>1.2</td>
</tr>
<tr>
<td>Shanghai</td>
<td>5</td>
<td>0.4</td>
<td>103</td>
<td>9.2</td>
<td>203</td>
<td>16.1</td>
<td>47</td>
<td>4.2</td>
<td>77</td>
<td>6.9</td>
<td>10</td>
<td>0.9</td>
<td>54</td>
<td>4.8</td>
</tr>
<tr>
<td>Fiji</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Guam</td>
<td>2</td>
<td>0.0</td>
<td>230</td>
<td>5.3</td>
<td>41</td>
<td>0.9</td>
<td>8</td>
<td>0.2</td>
<td>3</td>
<td>0.1</td>
<td>13</td>
<td>0.3</td>
<td>17</td>
<td>0.4</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>3</td>
<td>0.1</td>
<td>164</td>
<td>5.3</td>
<td>60</td>
<td>1.9</td>
<td>8</td>
<td>0.3</td>
<td>9</td>
<td>0.3</td>
<td>13</td>
<td>0.4</td>
<td>30</td>
<td>1.0</td>
</tr>
<tr>
<td>Japan</td>
<td>0</td>
<td>0.0</td>
<td>14</td>
<td>4.9</td>
<td>9</td>
<td>3.2</td>
<td>1</td>
<td>0.4</td>
<td>0</td>
<td>0.0</td>
<td>4</td>
<td>1.4</td>
<td>4</td>
<td>1.4</td>
</tr>
<tr>
<td>Macao (China)</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>New Caledonia</td>
<td>0</td>
<td>0.0</td>
<td>9</td>
<td>3.4</td>
<td>1</td>
<td>0.4</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>New Zealand</td>
<td>1</td>
<td>0.1</td>
<td>62</td>
<td>5.7</td>
<td>66</td>
<td>6.0</td>
<td>17</td>
<td>1.6</td>
<td>9</td>
<td>0.8</td>
<td>13</td>
<td>1.2</td>
<td>27</td>
<td>2.5</td>
</tr>
<tr>
<td>Philippines</td>
<td>7</td>
<td>0.2</td>
<td>28</td>
<td>1.0</td>
<td>110</td>
<td>3.8</td>
<td>38</td>
<td>1.3</td>
<td>49</td>
<td>1.7</td>
<td>8</td>
<td>0.3</td>
<td>15</td>
<td>0.5</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>2</td>
<td>0.2</td>
<td>28</td>
<td>2.8</td>
<td>3</td>
<td>0.3</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Singapore</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Solomon Islands</td>
<td>1</td>
<td>0.1</td>
<td>175</td>
<td>10.7</td>
<td>84</td>
<td>4.6</td>
<td>5</td>
<td>0.3</td>
<td>0</td>
<td>0.0</td>
<td>35</td>
<td>1.9</td>
<td>44</td>
<td>2.4</td>
</tr>
<tr>
<td>Vanuatu</td>
<td>2</td>
<td>0.2</td>
<td>28</td>
<td>2.8</td>
<td>3</td>
<td>0.3</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
<td>0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

**Note:** The table above contains information on tuberculosis control in the Western Pacific as of 2009.
Table 46. Notified prevalence of extensively drug resistant TB (XDR-TB) among MDR-TB, 2002—2007

<table>
<thead>
<tr>
<th>Country and Area</th>
<th>Source</th>
<th>Year</th>
<th>Method</th>
<th>MDR tested for XDR</th>
<th>FLQ</th>
<th>%FLQ</th>
<th>lower 95%CI</th>
<th>upper 95%CI</th>
<th>XDR</th>
<th>%XDR</th>
<th>lower 95%CI</th>
<th>upper 95%CI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Representative survey or surveillance data</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Australia</td>
<td>Global Project, SRLs Australia</td>
<td>2002-2005</td>
<td>surveillance</td>
<td>43</td>
<td>43</td>
<td>4</td>
<td>9.3</td>
<td>1</td>
<td>2.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hong Kong (China)</td>
<td>Global Project, SRL Hong Kong</td>
<td>2005</td>
<td>surveillance</td>
<td>41</td>
<td>41</td>
<td>12</td>
<td>29.3</td>
<td>6</td>
<td>14.6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td>Global Project, SRL Japan</td>
<td>2002</td>
<td>sentinel</td>
<td>60</td>
<td>55</td>
<td>21</td>
<td>38.2</td>
<td>17</td>
<td>30.9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Macao (China)</td>
<td>Global Project</td>
<td>2005</td>
<td>surveillance</td>
<td>9</td>
<td>9</td>
<td>1</td>
<td>11.1</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Zealand</td>
<td>Global Project</td>
<td>2005</td>
<td>surveillance</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>50</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>Global Project</td>
<td>2004</td>
<td>survey</td>
<td>110</td>
<td>110</td>
<td>13</td>
<td>11.8</td>
<td>0.1</td>
<td>19.3</td>
<td>2</td>
<td>1.8</td>
<td>0</td>
</tr>
<tr>
<td>Singapore</td>
<td>Global Project</td>
<td>2002-2005</td>
<td>surveillance</td>
<td>14</td>
<td>14</td>
<td>1</td>
<td>7.1</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Risk groups and MDR-TB treatment programmes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Philippines</td>
<td>Global Project GLC programme</td>
<td>2005-2006</td>
<td>Confirmed MDR for Tx</td>
<td>293</td>
<td>149</td>
<td>50.9</td>
<td>45</td>
<td>56.7</td>
<td>10</td>
<td>3.4</td>
<td>1.6</td>
<td>6.2</td>
</tr>
</tbody>
</table>

FLQ = resistant to fluoroquinolone; CI = confidence interval; SRL = Supranational Reference Laboratory; Tx = treatment; GLC: Green Light Committee
This report can also be downloaded at:
http://stoptb.wpro.who.int/