Global TB control: 
Current status with particular attention to TB among women and children

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Stop TB Symposium
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Overview

1. The burden of disease caused by TB and progress towards 2015 targets

2. Progress in implementing and financing TB care and control
   - Comparisons with targets in Stop TB Partnership's Global Plan 2011–2015

3. TB in women and children
   - What global notification and survey data tell us
1. Burden of disease and progress towards 2015 targets
Major progress in measuring and estimating disease burden

April 2009 – June 2010
December 2010 – July 2011

96 country consultations in 2 years
17 African countries plus India and China in past year
Direct measurements of mortality
national vital registration (90 countries) + mortality surveys (India)

91 countries, 46% estimated global TB deaths,
Up from 89 countries with 8% global TB deaths in 2010
China and India for the first time in 2011
Prevalence surveys
major global momentum

Intensive efforts at global and national level to design, finance, implement, analyse, report since early 2008

Global focus countries (GFC) selected by WHO Global Task Force on TB Impact Measurement

Number of surveys


Cambodia Malaysia Indonesia Eritrea Thailand Philippines Bangladesh Myanmar Cambodia Ghana Kenya Zambia

Pakistan Lao PDR Tanzania Uganda Nigeria South Africa Indonesia

Myanmar Bangladesh Viet Nam

China

Lao PDR

Ethiopia

Rwanda

The Gambia

Mozambique

Viet Nam

Thailand

Malawi

Philippines

Nepal

Malawi

Viet Nam

Thailand

Eritrea

Indonesia

Malaysia

Cambodia

Ghana

Kenya

Zambia

Asia - GFC  Africa - GFC  Other
TB cases and deaths, 1990–2010

**Incidence**
- Peak at 9.0 in 2005
- 8.8 in 2010
- 1.0–1.2 million (12–14%) TB cases among people living with HIV in 2010

**Mortality**
- Peak at 1.8 in 2003
- 1.4 in 2010
- HIV-negative mortality

**Absolute Numbers**

<table>
<thead>
<tr>
<th>Year</th>
<th>Incidence</th>
<th>Mortality</th>
</tr>
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<tbody>
<tr>
<td>1990</td>
<td></td>
<td></td>
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<tr>
<td>2000</td>
<td></td>
<td></td>
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<tr>
<td>2010</td>
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</table>
Most TB cases in Asia and Africa

- South-East Asia: 40%
- Africa: 26%
- Western Pacific: 19%
- E. Mediterranean: 7%
- Europe: 5%
- Americas: 5%

37% in India + China
26% in India
Most TB deaths in Asia and Africa

- SE Asia: 47%
- Africa: 24%
- Western Pacific: 12%
- E. Mediterranean: 9%
- Europe: 6%
- Americas: 2%

35% in India + China
30% in India
Incidence, prevalence and mortality rates: **global estimates**

- **Incidence**: Peak in 2002, falling 1.3% per year.

- **Prevalence**: 40% decline since 1990.

- **Mortality**: 40% decline since 1990.
Dramatic reductions in TB cases and deaths in China, 1990–2010

Incidence and notifications

- Incidence falling 3.4%/year
- Halved in 20 years

Prevalence

Mortality

- Cut almost 80%
2. Progress in implementing and financing TB care and control
Global notifications (black) in context of estimated incidence (green)
Case notifications by region, 1990–2010

Incidence in green
Notifications in black

Africa

2010 CDR: 56–64%

Americas

2010 CDR: 75–85%

E. Mediterranean

2010 CDR: 56–71%

Europe

2010 CDR: 67–76%

SE Asia

2010 CDR: 57–65%

W. Pacific

2010 CDR: 73–86%
Treatment success 87% globally

...but Europe lagging behind

Global, new sm+

WHO Regions, new sm+
Notifications of MDR-TB increasing

BUT only ~ 1 in 6 (16%) of estimated cases of MDR-TB among reported TB patients diagnosed and treated in 2010

Notified cases of MDR-TB
Global Plan target ~270,000 in 2015

MDR-TB cases treated and estimated numbers not treated for MDR-TB, among notified TB patients, 2010

Number of patients (thousands)
Proportion of TB patients tested for MDR-TB remains low

New cases

Global plan target for 2015 = 20%

Previously treated

Global plan target for 2015 = 100%
HIV testing for TB patients expanding

Although more needed to reach 100% targets in Global Plan

Several countries with very high testing rates in 2010

Rwanda: 98%
Kenya: 91%
Tanzania: 90%
Malawi: 88%
Mozambique: 88%
CPT and ART for HIV-positive TB patients

More needed to reach 100% targets in Global Plan

Higher rates possible

CPT >90% in 2010
Burkina Faso, Burundi, India, Kenya, Lesotho, Malawi, Mali, Mozambique, Myanmar, Namibia, Rwanda, Swaziland, Tanzania, Uganda

ART > 80% in 2010
Brazil, Myanmar, Russia

ART > 50% in 2010
India, Thailand, S. Africa
Funding for TB control increasing

97 countries, 92% global notifications

- Grants, excl. GF
- Global Fund
- Government

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Government</th>
<th>Global Fund</th>
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<tbody>
<tr>
<td>2006</td>
<td>3.5</td>
<td>2.0</td>
<td>1.5</td>
</tr>
<tr>
<td>2007</td>
<td>3.8</td>
<td>2.2</td>
<td>1.6</td>
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<tr>
<td>2008</td>
<td>4.1</td>
<td>2.4</td>
<td>1.7</td>
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<tr>
<td>2009</td>
<td>4.3</td>
<td>2.6</td>
<td>1.7</td>
</tr>
<tr>
<td>2010</td>
<td>4.4</td>
<td>2.8</td>
<td>1.6</td>
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<tr>
<td>2011</td>
<td>4.5</td>
<td>2.8</td>
<td>1.7</td>
</tr>
<tr>
<td>2012</td>
<td>4.6</td>
<td>2.9</td>
<td>1.7</td>
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BRICS mostly domestic funding, other HBCs ~50% is donor funding

BRICS
96% domestic financing

Other 17 high-burden countries
49% donor financing
Underfunding persists

Funding gaps vs. Global Plan

Funding gaps vs Global Plan, excl. MDR-TB

Funding gaps reported by countries
Scaling up treatment of MDR-TB to reach Global Plan targets

funding required by country group

Funding required for MDR-TB, Global Plan to Stop TB, 2011–2015
3. TB in women and children – what do global surveillance data and surveys tell us?
Notifications disaggregated by sex:
available data, 2010

~50% sm-/EP notifications not disaggregated by sex
~28% not disaggregated overall
Notifications among women, countries reporting cases disaggregated by sex, 2010

~38% cases notified globally are among women

Variation by region – higher percentage of cases among women in Africa and EMR
Cases among women in prevalence surveys in Asia

% of prevalent cases among women

- **sm+**
- **smear or culture positive**

<table>
<thead>
<tr>
<th>Country</th>
<th>Year</th>
<th>Prevalence (%)</th>
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<tbody>
<tr>
<td>China</td>
<td>1990</td>
<td>35</td>
</tr>
<tr>
<td>Korea</td>
<td>1990</td>
<td>35</td>
</tr>
<tr>
<td>Korea</td>
<td>1995</td>
<td>30</td>
</tr>
<tr>
<td>Philippines</td>
<td>1997</td>
<td>25</td>
</tr>
<tr>
<td>Cambodia</td>
<td>2002</td>
<td>40</td>
</tr>
<tr>
<td>Philippines</td>
<td>2007</td>
<td>45</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>2007</td>
<td>35</td>
</tr>
<tr>
<td>Myanmar</td>
<td>2009</td>
<td>20</td>
</tr>
<tr>
<td>China</td>
<td>2010</td>
<td>30</td>
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</tbody>
</table>
Surveys also suggest cases among women are more likely to be notified.
~45% sm-/EP notifications not age disaggregated

~85% notified cases among children are sm-/EP cases

~60% notified cases among children can be identified from routine reporting
Notifications among children, countries reporting age-disaggregated data, 2010

Estimated at least 6% of global notifications are among children

BUT: high levels of under-reporting of cases thought to exist e.g. due to lack of linkages between NTPs and paediatricians
Estimates of TB burden among women and children

- Estimated 3.2 million (range 3.0–3.5 million) new cases among women in 2010
- Estimated ~10% of cases are among children
- Estimated ~320,000 deaths among HIV-negative women in 2010 and ~0.5 million deaths among women including HIV-associated TB
Next steps for better assessment of TB among women and children

1. Reporting of notification data disaggregated by age and sex from all countries
   - Case or patient-based electronic recording and reporting

2. Prevalence surveys in Africa

3. Studies to quantify "under-reporting" of cases among children and actions to reduce under-reporting (and over-diagnosis)
Acknowledgements

Core Report Team

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>400 people

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