WHO Global Task Force on TB Impact Measurement
An overview

Katherine Floyd (WHO/GTB/TME)

3rd meeting of the TB estimates subgroup
Glion-sur-Montreux, 31March –2 April 2015
Overview

1. Broad context
   - WHO core functions
   - Millennium Development Goal (MDG) framework, 2000–2015
   - 2015 global TB targets and global TB monitoring by WHO

2. Global Task Force on TB Impact Measurement
   - Mandate, membership, brief history
   - Progress to date, 3 strategic areas of work

3. Reporting on MDG and TB targets set for 2015, and role of this meeting
1. Broad context
WHO core functions
mandated and endorsed by 194 Member States

1. Providing leadership on matters critical to health and engaging in partnerships where joint action is needed

2. Shaping the research agenda and stimulating the generation, translation and dissemination of valuable knowledge

3. Setting norms and standards and promoting and monitoring their implementation

4. Articulating ethical and evidence-based policy options

5. Providing technical support, catalysing change and building institutional capacity

6. Monitoring the health situation and assessing health trends

http://www.who.int/about/role/en/
MDG framework, 2000–2015
8 goals and related targets

1. Eradicate extreme poverty and hunger
2. Achieve universal primary education
3. Promote gender equality and empower women
4. Reduce child mortality
5. Improve maternal and child health
6. Combat HIV/AIDS, malaria and other diseases
7. Ensure environmental stability
8. Global partnership for development

http://www.un.org/millenniumgoals/
2015 global TB targets

- MDG 6, Target 6c: Halt and reverse TB incidence
- Four other MDG indicators for TB:
  - prevalence, mortality, case detection, treatment success

- Halve prevalence and mortality rates compared with baseline of 1990
Global TB monitoring by WHO
19 annual reports in 18 years (1997–2014)

Data reported by ~200 countries, >99% global population and TB cases

1997: epidemiology, surveillance

2002: + financing, strategy

2011: + R&D
TB cases and deaths, 1990–2013

absolute numbers

- **Incident cases**: 9.0 million in 2013
- **Deaths**: 1.5 million in 2013

Graphs:
- All cases: Peak >9 in early 2000s
- HIV-positive cases: 1.1m
- HIV-negative: Peaked early 2000s at 2.1m
- HIV-positive:
Most TB cases in Asia and Africa

- South-East Asia: 38%
- Africa: 29%
- Western Pacific: 18%
- E. Mediterranean: 8%
- Europe: 4%
- Americas: 3%

35% in India + China
24% in India
80% in 22 high-burden countries
Global incidence, prevalence and mortality rates vs 2015 targets

- **Incidence**: Falling 1.5% per year (2000-2013)
- **Prevalence**: 41% decline since 1990
- **Mortality**: 45% decline since 1990

**MDG achieved/on track**

**Not on track**

**Target within reach**
2a. Global Task Force on TB Impact Measurement

mandate, membership, brief history
To produce robust, rigorous, widely-endorsed assessment of whether 2015 global TB targets are achieved at global level, regional and country levels

To regularly report on progress towards impact targets in years leading up to 2015

To strengthen national capacity in monitoring and evaluation of TB control
Membership

NTPs of many countries

WHO/GTB/TME:
Laura Anderson, Katherine Floyd, Philippe Glaziou, Irwin Law, Ikushi Onozaki, Babis Sismanidis, Hazim Timimi, Matteo Zignol

Chair: Jaap Broekmans
Brief history of Task Force work

1. Strengthening surveillance, with ultimate goal of direct measurement from notification and vital registration

2. National TB prevalence surveys in 22 global focus countries

3. Periodic review/update of methods, last June 08-Mar 10

Methods review

June 2006
Dec 2007
Sep 2008
March 2010
May 2012
May 2013

3 strategic areas of work defined

Intensified collaboration, Global Fund and Centers for Disease Control (CDC)
2b. Progress to date

strengthening surveillance

Ultimate goal is direct measurement of incidence and mortality using surveillance (notification and VR) data
TB cases and deaths based on surveillance data, the UK example

Source: Public Health England
Countries where TB mortality and incidence are directly measured

Mortality
(vital registration data)
124 countries VR data
2 countries survey data

Incidence
(from notification data)
1. Under-reporting of detected cases
2. Under-diagnosis

+++ quality/completeness of reported notification data
TB surveillance checklist

- 10 standards and associated benchmarks to assess if surveillance data are good enough to measure incidence + mortality
  - 9 standards for notification data (for incidence)
    - Case definitions; system designed to capture minimum set of variables required; completeness of reporting of cases vis-à-vis scheduled data submissions; accuracy and completeness of reported data (separate standards for paper-based and electronic systems); internal consistency; external consistency; under-reporting; under-diagnosis.
  - 1 standard for mortality
    - Quality and completeness of VR data

- 3 supplementary standards and associated benchmarks for TB/HIV, MDR-TB and childhood TB
TB surveillance checklist

- After 2 years of development including piloting in 11 countries, completed with accompanying user guide January 2013

- Now being rolled out as basis for identifying surveillance strengths and gaps and development of "M&E investment plan"
  - 28 countries to date, now being systematically used in
    - epi component of national TB programme reviews
    - "epi stage" of Global Fund concept note development
Inventory studies completed and planned
2b. Progress to date

national TB prevalence surveys
22 global focus countries

**Asia**: Bangladesh, Cambodia, China, Indonesia, Myanmar, Pakistan, Philippines, Thailand, Viet Nam

**Africa**: Ethiopia, Ghana, Kenya, Malawi, Mali, Mozambique, Nigeria, Rwanda, Sierra Leone, South Africa, Tanzania, Uganda, Zambia
# National TB prevalence surveys

**27 surveys between 2009 and 2015/16**

- **20/22 global focus countries** (not Mali or Sierra Leone)
  - + 7 more: Lao PDR, Gambia, Sudan, Zimbabwe, Mongolia, Nepal, DPR Korea

### Completed (15*)
- *since Task Force subgroup active*

### Field operations completed, analysis ongoing (2)

### Field operations ongoing (3)

### Planned (8)

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*Completed (15*) since Task Force subgroup active*
How did burden estimates change?

(Selected examples)

Gambia, 2012
Ethiopia, 2010
Viet Nam, 2007
Rwanda, 2012
Myanmar, 2009
Pakistan, 2011
China, 2010
Philippines, 2007
Nigeria, 2012
Lao PDR, 2011

Generally consistent estimates before/after, but more precise after surveys

Coming soon: Ghana, Indonesia, Malawi, Sudan, Zambia, Zimbabwe
Trends measured in repeat surveys

Bacteriologically-confirmed

Rate per 100 000 (log scale)


Republic of Korea

Cambodia

Philippines

China

+ in 2015/2016: Viet Nam, Myanmar, Philippines
2b. Progress to date

Methods to estimate TB disease burden
Country consultations, 2009–2015
Following 18-month expert review + updating of methods

96 countries covered in total
>10 more than once, esp. linked to prevalence surveys and specific requests
Developments 2012–2014

1. Childhood TB disease burden
   - Global TB report 2012 – first estimates published
   - Global consultation, September 2013
   - Updated estimates, 2013 and 2014 global reports

2. TB/HIV mortality, country level
   - Systematic review of case fatality ratios, HIV+ TB, 2013 (TB MAC)
   - Country specific estimates of TB deaths among HIV-positive people, since 2013 global TB report

3. Two methods to estimate mortality tried, discontinued
   - Ecological statistical model, 2012: countries without VR data
   - Bayesian model 2011–2013: estimate CFRs, countries without VR data
3. Reporting on MDG targets and role of this meeting
MDG reporting

1. UN Statistical Division, final MDG report  July 2015
   - MDG regional groupings
   - For TB: short "storyline" based on 2014 global TB report, based on the five TB indicators in the MDG framework

2. WHO report, from MDGs to SDGs, September 2015
   - Focus on health-related MDGs, global and regional progress
   - Two-page profiles for major topics e.g. TB, HIV, MCH, malaria
   - To be launched during UN General Assembly

3. WHO, global TB report 2015 and/or special report/supplement
   - Global, regional, country-specific
Top priority for WHO Global TB Programme in early 2015

Global consultation on methods to be used for producing estimates of TB disease burden for assessment of whether 2015 targets are achieved
Continued agenda post-2015…

1. Post-2015 development framework of Sustainable Development Goals
   ▪ Due to be finalized and endorsed at UN general assembly, September 2015
   ▪ Targets for 2030

2. Likely to include two TB indicators and related targets under a health goal, based on post-2015 global TB strategy – the End TB Strategy
   ▪ TB mortality: 90% reduction by 2030, vs 2015
   ▪ TB incidence: 80% reduction by 2030, vs 2015

WHO's new End TB Strategy. Lancet 2015 (published online 24 March)