WHO's work on TB care and control, with particular attention to M&E: an overview

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TB surveillance and surveys
Training workshop for consultants
Overview

1. WHO corporate structure and core functions

2. Stop TB Department (STB) structure and main areas of work

3. TB Monitoring and Evaluation in STB
   - Global monitoring of the TB epidemic and progress in TB care and control
   - Drug resistance surveillance
   - WHO Global Task Force on TB Impact Measurement
1. WHO corporate structure and core functions
WHO: Organizational structure

9 "clusters" under DG, headed by ADGs

Family and community health

General management

Health Action in Crisis

Health security and environment

Partnerships, country focus and UN reform

NCDs and mental health

Information, evidence and research

HIV/AIDS, TB, Malaria and NTDs

Health systems and services

Four departments including Stop TB Department (STB), headed by Directors

NTDs – neglected tropical diseases
NCDs – non-communicable diseases

DG – Director-General
ADG – Assistant Director-General
Core functions
as defined by Director-General

1. Development of policy, norms and standards
2. Technical support to member states
3. Monitoring and evaluation
4. Research and knowledge management
5. Fostering Partnerships
2. Stop TB Department structure and core functions
Global strategy and plan underpin WHO and Stop TB Partnership's efforts in TB care and control.
2015 targets for global TB control

- Halt and reverse incidence (MDG 6, Target 6.c)

- Halve prevalence and mortality rates compared with baseline of 1990
3a) Global monitoring of the TB epidemic and progress in TB care and control
15 annual WHO reports on global TB control in 14 years (1997 – 2010)

based on data reported by ~200 countries with ~99% global population and TB cases

1997: First report: epidemiology and surveillance

2002: Added financing and strategy for 22 high-burden countries (HBCs)

2003: Financing and strategy (all countries)

July 2009: Online data collection introduced
Dec 2009: 2009 short update report in transition to earlier reporting of data and report publication
The global burden of TB in 2009

- **All forms of TB**
  - Estimated number of cases: 9.4 million (range: 8.9–9.9 million)
  - Estimated number of deaths: 1.3 million* (range: 1.2–1.5 million)
- **HIV-associated TB**
  - Estimated number of cases: 1.1 million (12%) (range: 1.0–1.2 million)
  - Estimated number of deaths: 380,000 (range: 320,000–450,000)

*excluding deaths among HIV+ people
Incidence, prevalence and mortality: global estimates

Incidence
- Rate per 100,000 population
- Peak in 2004

Prevalence
- 2015 target

Mortality
- 2015 target

shaded area = uncertainty band
Incidence rates, 2009

Highest rates in Africa, linked to high rates of HIV infection

~80% of HIV+ TB cases in Africa
Global notifications (black) in context of estimated incidence (blue)

shaded area = uncertainty band
Treatment success 86% globally

...Europe lagging behind
HIV testing for TB patients expanding

More needed to reach 100% targets in Global Plan

Several countries show very high testing rates achievable

- Rwanda: 97%
- Kenya: 88%
- Tanzania: 88%
- Malawi: 86%
- Mozambique: 84%
MDR-TB treatment expanding

BUT only reaching ~12% of TB patients who have MDR-TB

Numbers treated for MDR-TB
Global Plan target ~270,000 in 2015

- GLC
- non-GLC

Numbers treated as % total estimated cases of MDR-TB among all notified cases of TB, 2010

Especially low in two regions with largest number of cases
Funding for TB control increasing

US$ billions (constant US$)

- Other
- Global Fund
- Grants (excluding Global Fund)
- Government, general health-care services
- Government, NTP budget
Funding 2010–2011 vs. funding needs in the Global Plan, 2011–2015
3b) Global monitoring of drug resistance
Global Project on anti-TB drug resistance surveillance

- Global Project launched
- SRLN launched

- 1st ed. DRS guidelines
- 2nd ed. DRS guidelines
- 3rd ed. DRS guidelines
- 4th ed. DRS guidelines

- 1st global DRS report
- 2nd global DRS report
- 3rd global DRS report
- 4th global DRS report

- M/XDR-TB report

- 1994
- 1997
- 2000
- 2003 2004
- 2008 2009
- 2010
440,000 MDR-TB cases (390,000-510,000) estimated globally

~ 45% in China + India
~ 55% in China + India + Russian Federation
Drug resistance, 2011: available data

*In green:* routine surveillance (n=48); *In orange,* surveys (n=72)

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**Nationwide surveillance**

**Subnational surveillance**

**Nationwide survey, after 2000**

**Subnational or old national survey (before 2000)**

**No data**

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Trend data from 68 countries
3c) WHO Global Task Force on TB Impact Measurement
Task Force mandate (2006**–2015)

- To produce robust, rigorous, widely-endorsed assessment of whether 2015 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

**Established in 2006 with increasing scrutiny and profile of estimates of TB disease burden and assessment of progress towards 2015 targets, alongside strong interest and willingness to contribute among multiple technical and financial partners and countries**
3 strategic areas of work defined December 2007**

1. **Strengthening surveillance** of cases and deaths in all countries
   - ultimate goal – direct measurement of cases and deaths from notification and vital registration data

2. **National TB prevalence surveys** in ≥ 21 global focus countries

3. **Periodic review and revision of methods** used to translate surveillance and survey data into estimates of disease burden

**At second meeting of full Task Force; three TF subgroups also formed**
Task Force progress to date
General – across 3 areas of work

- **Policy paper** published 2009
- **WHO/Global Fund** joint "TB impact measurement" team
- **Many partners** engaged at international and national level
- **Funding** from USAID, Japan, Global Fund, Dutch government, TB CARE
1. Review/update of methods

■ 18-month review by subgroup, mid 2008–end 2009

■ Updated methods developed and agreed by subgroup, endorsed by full Task Force in March 2010
  ■ Updated parameter estimates based on literature reviews
  ■ Simplifications
    ■ e.g. case fatality rates estimated for 4 not 12 categories of cases
  ■ Incorporation of uncertainty in all estimates
  ■ Much fuller use of mortality data from vital registration systems

■ Updated methods applied in
  ■ Short update to 2009 WHO global TB control report (December 2009)
  ■ 2010 WHO report on global TB control
  ■ TB component of Global Burden of Disease study
2. Strengthening surveillance

Task Force framework (September 2008)

DATA QUALITY

- Completeness
- No duplications, no misclassifications
- Internal and external consistency

IMPROVE surveillance system

TRENDS

Do surveillance data reflect trends in TB incidence and mortality?

- Analyse time-changes in notifications and recorded deaths alongside changes in case-finding, case definitions, HIV prevalence and other determinants of changes in TB incidence and TB mortality

EVALUATE trends and impact of TB control

ARE ALL TB CASES AND DEATHS CAPTURED IN SURVEILLANCE DATA?

- "Onion" model
- Inventory studies
- Capture re-capture studies
- Prevalence surveys
- Innovative operational research

UPDATE estimates of TB incidence and mortality

If appropriate, CERTIFY TB surveillance data as direct measure of TB incidence and mortality

TB notifications ≈ TB incidence
TB deaths in VR system ≈ TB mortality
Progress in applying Task Force framework since April 2009
~90 countries in 6 regional workshops + several country missions

**last 2 regional workshops based on joint WHO/GF approach to assessing surveillance systems and data, developed in 2010**
3. Prevalence surveys

Countries where TB prevalence surveys are recommended**

21 global focus countries

36 additional countries that met basic criteria

**At second meeting of Task Force, Dec 2007**

12/21 global focus countries in Africa

Major collaborative effort
January 2010–February 2011

50 authors

15 agencies/
universities/research institutes and NTPs

Out in print May 2011
Prevalence surveys
major global momentum

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

21 Global Focus countries identified by Task Force

Asia
Africa
Non Global Focus country
3 October 2010

Ethiopia Launched
National TB Prevalence Survey
(first Sub-Saharan Africa TB disease prevalence survey in 50 years)
Task Force: Next steps and priorities for 2011
Disease prevalence surveys

Priorities in 2011

1. Widespread dissemination of "Lime Book"

2. Completion or start of surveys in global focus countries, with esp. emphasis on Africa
   - AFRICA: Ethiopia, Nigeria, Rwanda, Ghana, Tanzania, Kenya, South Africa
   - ASIA: Pakistan, Cambodia

3. Analysis + dissemination of results, lessons learned
   - Myanmar, China, Ethiopia, Cambodia

4. Asia-Africa and Africa-Africa collaboration
   - Training courses in Cambodia
   - Assistance by Asian survey coordinators to Africa
   - Assistance from Ethiopia to other African countries
Surveillance: 4 priorities for 2011

1. Electronic recording and reporting
   - Completeness
   - No duplications, no misclassifications
   - Internal and external consistency

2. Guide on "Inventory" or "Capture-TB" studies
   - Analyse time-changes in notifications and recorded deaths alongside changes in case-finding, case definitions, HIV prevalence and other determinants of changes in TB incidence and TB mortality
   - "Onion" model
   - Inventory studies
   - Capture re-capture studies
   - Prevalence surveys
   - Innovative operational research

3. Standards/benchmarks
   - TB notifications ≈ TB incidence
   - TB deaths in VR system ≈ TB mortality

4. "Institutionalize" use of framework/tools + related strengthening of surveillance via GF grants
   - If appropriate, CERTIFY TB surveillance data as direct measure of TB incidence and mortality
For further details

www.who.int/tb/advisory_bodies/impact_measurement_taskforce

2010 WHO global TB control report


Handbook on TB prevalence surveys, in print May 2011

2010 report on MDR/XDR surveillance and response