Alamty May 2010

Multi-Drug Resistant tuberculosis: update on epidemic and response

2010 Global report on drug resistance surveillance and response
## The global burden of TB in 2008

<table>
<thead>
<tr>
<th>Category</th>
<th>Estimated number of cases</th>
<th>Reported number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>All forms of TB</td>
<td>9.4 million (range 8.9–9.9 million)</td>
<td>5.7 million (~61%)</td>
</tr>
<tr>
<td>HIV-associated TB</td>
<td>1.4 million (15%) (1.3–1.6 million)</td>
<td></td>
</tr>
<tr>
<td>Multidrug-resistant TB (MDR-TB)</td>
<td>440,000 (0.39–0.51 million)</td>
<td>30,000</td>
</tr>
</tbody>
</table>
Incidence rates falling globally after peak in 2004, but only at \(<1\% / \text{year}\)
1995-2008: 15 years of progress through DOTS/Stop TB Strategy

- 36 million patients cured in 1995-2008
- About 6 million deaths averted counterfactual 1995 care standards
- Case fatality rate halved from 7.6% to 4%
- Cure rate at its highest ever (87% in 2007-8)
- But….MDR-TB and XDR-TB are threatening these achievements
**Definitions**

**MDR TB** = Strains resistant to at least INH and RIF (most important 1st-line drugs)

**XDR TB** = MDR TB strains with additional resistance to any fluoroquinolone and any of the 3 injectable second-line drugs (amikacin, kanamycin, capreomycin)
M/XDR-TB 2010 global report on surveillance and response

440,000 MDR-TB cases estimated to have emerged in 2008 (3.6% of all incident TB cases globally)

150,000 MDR-TB cases estimated to have died in 2008

Data available from 114 out of 193 countries (59%)
• 42 countries have continuous surveillance systems
• 72 countries rely on periodic surveys

Data not available from 79 countries (41% of all countries)
% MDR-TB among new TB cases, 1994-2009

Australia, Democratic Republic of the Congo, Fiji, Guam, New Caledonia, Solomon Islands and Qatar reported data on combined new and previously treated cases.

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Estimated absolute number of MDR-TB cases, 2009

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Trends of MDR-TB cases in selected settings

Orel Oblast, Russian Federation

Tomsk Oblast, Russian Federation

New MDR-TB cases

Year

Cases notified


0 10 20 30 40 50

New MDR-TB cases

Year

Cases notified


0 20 40 60 80 100
Trends of MDR-TB cases in selected settings

**Estonia**

**Latvia**

**New MDR-TB cases**

Cases notified

Year


100 80 60 40 20 0

150 100 50 0

Cases notified

Year


0 50 100 150 200
Trends of MDR-TB cases in selected settings

China, Hong Kong SAR

New MDR-TB cases

United States of America

Combined MDR-TB cases
Countries that had reported at least one XDR-TB case by end March 2010

Argentina  Canada  India  Lithuania  Peru  Slovenia  United Kingdom
Armenia  China  Iran (Islamic Rep. of)  Mexico  Philippines  South Africa  United States of America
Australia  Colombia  Ireland  Mozambique  Poland  Swaziland  Uzbekistan
Azerbaijan  Czech Republic  Israel  Myanmar  Portugal  Sweden  Viet Nam
Bangladesh  Ecuador  Italy  Namibia  Qatar  Tajikistan  Brazil  Georgia  Latvia  Oman  Russian Federation  United Arab Emirates
Botswana  France  Kenya  Netherlands  Republic of Moldova  Thailand  Burkina Faso  Germany  Lesotho  Republic of Korea  Ukraine
Belgium  Estonia  Japan  Nepal  Romania  Vietnam

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100,000 treatments are estimated to be approved in 2010 by GLC, about 80,000 treatments have been approved as of April 2010.
Most of the funding required is in the European Region, followed by Asia. In Asia the funding is mainly required in China and India.
In addition to proper basic control:

1. Remove financial barriers (UHC)
2. Ensure well trained and sufficient human resources
3. Establish a network of labs where rapid tests are also available
4. Ensure availability of quality drugs
5. Regulate the use of all anti-TB drugs
6. Introduce infection control
7. Establish proper surveillance
8. Promote Research & Development
9. Mobilize resources domestically and internationally
"MDR-TB scale-up"

Revisiting the Global Architecture

The Workshop
Background

- Only a tiny proportion of MDR-TB cases is properly treated
  - In 2008, countries notified 29,000 (7.2%) patients out of 440,000 estimated incident cases
  - About 10,000 new patients were enrolled under WHO/GLC standards in 2009
  - 68% increase of enrolment from the previous year
  - Cumulative number of treated patients under GLC mechanism is around 30,000 since 2000

- MDR-TB incidence is likely rising in the former Soviet Union and probably also in some parts of Asia and Africa.

- HIV is multiplying cases with a high mortality (and that therefore remain undetected)

- MDR-TB rates can be reduced with existing tools

- But the national and international response to MDR-TB is weak

- Although properly managed patients are increasing, the overall effect is far too small
MDR-TB Scale-up Workshop
(Geneva, February 2010)

Objectives

1. Objectives and Strategy for scale-up of MDR-TB management (what is required for countries to scale-up and main barriers to scale-up)

2. Architecture (what international support model is required and what does this imply for changes to the existing support model)

3. Next steps (for a new effective support model fully functional by the end of 2010)
What are the barriers to scale-up now - 2015?

Country level
- Political commitment
- Funds
- M&E
  - Diagnosis, incl.
    - Lab services
    - Appropriate diagnostic tools
    - Trained personnel
    - Resistance surveillance
  - Drugs, incl.
    - Forecasting
    - Registration
    - QA
    - Procurement
    - In-country distribution
  - Delivery of care, incl.
    - Infrastruct and resources
      - Inpatient
      - Community
    - Trained personnel
    - Infection control

Global level
- Advocacy
  - Normative guidance
- Funding support
  - Technical assistance: “advice, recommendations, short missions”
  - Technical “accompaniment”: medium- to long-term on-the-ground support
- Global coordination
- Poor coordination of global players
- Drug procurement capacity (some countries)
- Use of unknown quality drugs
- Delivery capacity scale-up: HR constraints
  - Community
- Practices and capacity of hospitals and private providers unknown
- Diagnostic capacity scale-up
- Better diagnostics
- Some countries
- Some countries

Do we agree with this? How would we modify it to improve it?

Weak push-pull mechanisms & structure at interface

Effective global drug market: quality, cost, speed

Ineffective global drug market and support for other tools
Objective 1. Main barriers to scale-up

- **Country level:**
  1) weak political commitment (incl. advocacy),
  2) low funding,
  3) poor national coordination and management (+ HR constraints in some countries),
  4) poor involvement of hospitals and private providers.

- **International level:**
  5) insufficient coordination of global players,
  6) weak supply mechanism for drugs and other tools

- **Country - international interaction:**
  7) weak pull-push mechanisms and structures
Objective 2. Proposed new model for international support

Proposed model: overview

Cooperation of global / regional players

- **Political commitment**
  - Get countries to commit to acting on MDR-TB (and TB)
  - Adapt approach to country-specificities:
    - Political analysis
    - Action planning

- **Normative guidance**
  - Provide guidance countries need and want:
    - Clear, consistent "menu" of management regimens (by price, complexity)

- **MDR-TB scale-up support**
  - Coordinate support to countries that are scaling up:
    - TA and “technical accompaniment”
    - Across dx, drugs, and care delivery

- **Tool supply + procur.**
  - Create reliable global supply of quality drugs and other tools
  - Offer procurement service to countries that need / want

- **M+E**
  - Assess country performance
  - Publish results
  - Suggest how to improve performance

Country-Supra-country “pull-push” mechanism

- **Country-level coordination**
  - Country plan
  - Management
  - Integrate with TB program
  - Coordination

- **“Menu” of management regimens**
  - Country chooses from menu of treatment regimens (all meeting quality requirements)

- **Requests for support**
  - Country asks for
    - Scale-up support
    - Tool procurement support

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Aims of the new model under development

- A more effective “pull-push” mechanism to allow a richer debate between countries and international organisations ("wants" & "needs")

- Increase country political commitment –including country-specific political analysis and action planning; expanded country ownership and accountability

- Harmonize M&E and technical support, towards more support and "rating" performance on MDR-TB scale-up
Objective 3. Next Steps towards a new effective support model by the end of 2010

3 Task Forces established:

1) MDR-TB scale-up support function (Paul Nunn and Agnes Gebhard)

2) Tool supply and procurement function (Thomas Moore and Myriam Henkens)

3) New mechanisms and tools for reviewing, evaluating, monitoring and supporting MDR-TB control scale-up (Ernesto Jaramillo and Salmaan Keshavjee)
Task Forces are working on different elements and will be harmonized

A wide consultation with countries and partners is in the plan later this year to get inputs on the new architecture