Towards universal access:
Urgent action to respond to TB and M/XDR-TB

2nd Meeting of the Global Laboratory Initiative
Veyrier-du-Lac, France, 15-16-October 2009
WHO & Fondation Mérieux
Aims of this presentation

- To review the global burden and state of control of TB, TB/HIV, MDR/XDR-TB
- To describe the impediments to progress of control efforts
- To make the point about the crucial importance of modern laboratories and rapid testing if we target universal access to care
Latest global TB estimates - 2007

Estimated number of cases

<table>
<thead>
<tr>
<th>All forms of TB</th>
<th>9.27 million (139 per 100,000)</th>
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<td>Greatest number of cases in Asia; greatest rates per capita in Africa</td>
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<th>Multidrug-resistant TB (MDR-TB)</th>
<th>511,000</th>
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<tr>
<td>Extensively drug-resistant TB (XDR-TB)</td>
<td>~50,000</td>
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<tr>
<td>HIV-associated TB</td>
<td>1.4 million (15%)</td>
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Estimated number of deaths

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~150,000
511,000
~30,000

HIV-associated TB

1.4 million (15%)
HIV prevalence among TB cases, 2007

Global estimate: about 1.4 million TB/HIV cases and 456,000 TB/HIV deaths a year

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MDR-TB % among new cases, 1994-2007

* Sub-national coverage in India, China, Russia, Indonesia.
Top 19 settings with MDR among new cases > 6% (1994-2007)

- Baku City, Azerbaijan
- Republic of Moldova
- Donetsk Oblast, Ukraine
- Tomsk Oblast, RF
- Tashkent, Uzbekistan
- Kazakhstan*
- Estonia
- Mary El Oblast, RF
- Ivanovo Oblast, RF*
- Latvia
- Liaoning Province, China
- Lithuania
- Armenia
- Orel Oblast, RF
- Henan Province, China
- Inner Mongolia Autonomous Region, China
- Heilongjiang Province, China
- Georgia
- Dominican Republic*

* Indicates survey data reported in an earlier phase of the project.
Trend of MDR-TB among new cases
Estonia, Latvia and...Tomsk, RF

Estonia

Latvia

Tomsk oblast, RF

TB notification rate

% MDR among new cases
Countries with at least one confirmed XDR-TB case, as of June 2009

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

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Treatment success on target (>85%), case detection stalling after years of expansion

Estimated case detection (%) of sputum smear + cases

Target 70%

- DOTS
- Whole Country

63% in 2007

Whole Country:

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DOTS:

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Africa: 47%; Europe 51%; East. Med: 60%

Europe: 70%, Africa: 75%, Americas: 75%

What would better laboratories and rapid testing take us to?
TB prevalence and mortality

On track for both in AMR, EMR and SEAR
On track for prevalence in WPR
Will not be reached in AFR and EUR
TB incidence rates stable or falling slowly after epidemic peaks in Africa and Europe

- Africa
- SE Asia
- World
- Europe
- W Pacific
- E Med
- America

35% TB

65% TB
What are the challenges in 2009?

1. DOTS not of high quality everywhere; only 63% of all estimated cases officially notified; delayed diagnosis

2. TB/HIV, especially in Africa; MDR-TB, especially in former USSR and China; XDR-TB everywhere and in Africa

3. Weak health systems and services compromising TB care; lack of bold policies on laboratory services, free access to care, drug quality, human resources, infection control, etc.

4. Not all practitioners, non-state and even governmental, working at high standard; weak links public-private

5. Communities often un-aware, un-involved, not mobilised

6. Research not yet delivering innovative tools, and operational research often outside of the interest of TB "controllers"
The direction today...

New challenges require the Stop TB Strategy

The Global Plan 2006-2015 defines direction and costs

2006-2015: $60 billion necessary to control TB in endemic countries

$11 billion necessary to develop new tools
MDR-TB: recent progress

Figure 4: MDR-TB cases treated by GLC-approved programmes (thousands)

2007: 3600 MDR-TB cases out of 30,000 notified were put on treatment under GLC standards = 1% of the estimated SS+ MDR-TB cases

In 2009, 14,000 projected

Major delay vs GP
Full implementation of Global Plan: 2015 MDG target reached but TB not eliminated by 2050

Projected incidence 100x bigger than elimination target in 2050

Elimination target: 1 / million / year by 2050
Deciding on key general health policies needed to control TB
Bottlenecks to scale-up M/XDR-TB prevention and management

- Major gaps in TB control
- Extremely weak M/XDR-TB management and care
- Health workforce crisis
- Inadequate laboratories
- Quality of anti-TB drugs not assured
- No restriction of anti-TB drug use
- Absent infection control
- Insufficient research
- Major financial gaps

From: *The Beijing "Call for Action" on TB Control and Patients Care, April 2009*
WHA62.15 Member States are urged to:

1. **Achieve universal access to diagnosis and treatment of M/XDR-TB**
   a) Develop a comprehensive framework for management and care of M/XDR-TB, including DOT, community-based and patient-centred care
   b) Strengthen health information and surveillance systems
   c) Aim to ensure removal of financial barriers for equitable access, and protect patient's rights
   d) Make available sufficiently trained and motivated staff
   e) **Strengthen laboratory systems and accelerate access to faster and quality-assured diagnostic tests**
   f) Engage all public and private care providers in managing TB and strengthen primary care
   g) Ensure infection control policies developed and implemented in every care facility
   h) Ensure un-interrupted supply of first- and second-line medicines which meet WHO PQ or strict national regulatory authority standards, and that FDC of proven bioavailability are prioritized
   i) Strengthen mechanisms to ensure that TB medicines are sold on prescription only by accredited providers
   j) Undertake effective advocacy, communication and social mobilization
   k) Establish national targets to accelerate access to treatment

2. **Enhance quality and coverage of DOTS in achieving targets to prevent MDR-TB**
3. **Use all possible financial mechanisms to fulfil commitments and fill funding gaps**
4. **Increase investments in operational research and R&D for new tools**
Control of M/XDR-TB requires more than just TB programmes' efforts. Policy changes are fundamental!

- Remove financial barriers (UHC)
- Establish a network of labs ensuring rapid molecular tests are available
- Ensure availability of quality drugs
- Regulate the use of all anti-TB drugs
- Introduce infection control
- Promote R&D
- Mobilize resources domestically and internationally
Diagnosing and treating MDR-TB in the un-reachable: the challenge

The "bush" - Swaziland

Favela "Rocinha", Brasil

Simply, the poorest...
THE
STOP TB
DEPARTMENT
WHO

12/3/2009

Stop TB Strategy (TBS)
L. Blanc, Coordinator

Care Delivery Innovation

M/XDR-TB Response

TB Operations & Coordination (TBC)
P. Nunn, Coordinator

Global Fund Collaboration

TBTEAM

Regional Collaboration

Green Light Committee Mechanism (GLC)

Stop TB Partnership Secretariat (TBP)
M. Espinal, Executive Secretary

Advocacy & Strategic Planning
Social Mobilisation & Partnering
Branding, Marketing & Communication
Global Drug Facility (GDF) & Green Light Committee (procurement)
TB Research Movement
TB REACH

TB Laboratory Strengthening (TBL)
K. Weyer, Coordinator

Global Laboratory Initiative (GLI)

Supranational Reference Laboratory Network (SRLN)

EXPAND-TB Project

TB Monitoring & Evaluation (TME)
K. Floyd, Coordinator

Surveillance & Monitoring
Epidemiology & Impact Assessment
Economics, Budgeting & Financing

6 Regional Offices, all with TB teams

WHO Offices, including TB-specific staff in 45 countries

STB Director's Office (STB/DO)
M. Raviglione, Director
D. Weil, Coordinator, Policy & Strategy
Policy, Planning, Research Coordination, Resource Mobilization & Communications

Administration & Finance Operations Team (AFO)
A. Vijay, Department & Partnership Resource Administrator

12/3/2009

03 December 2009
Need for new Diagnostics at each Level of the system

Reference Laboratory
surveillance

District Laboratory
- culture
- faster than culture
- rapid culture
- phage
- NAT

Peripheral Laboratory
- microscopy
- more sensitive than microscopy
- ELISA
- integrated NAT

Clinic / Health Post
- symptoms
- simpler than microscopy
- test strips

today

tomorrow
Potential impact of new diagnostics in SE Asia

- Led & NAAT at microscopy lab level
- Dipstick at point of care

Source: L. Abu Raddad et al., PNAS, 2009
WHO's functions in re-tooling

Two phases

1. **Norms, standards and policies - *From research and evidence into policy***
   - Expert committees, review of evidence inform STAG-TB discussion
   - STAG-TB recommends to WHO and policy is made, with guidelines
   - Dissemination to Member States, GF, UNITAID, World Bank...
   - Operational Research for adaptation and revision of policies

2. **Strategies, guidance towards implementation - *From policy to practice***
   - Guidelines for countries
   - Technical assistance, training for implementation
   - Support for resource mobilization
WHO's recently endorsed technology in diagnostics

- 2007: Liquid culture media
- 2007: Rapid speciation technology
- 2008: Line-probe assays
- Future processes:
  - 2009: LED microscopy
  - 2010: Other NAAT?
The example of the Line Probe Assays
From Research to Policy and Practice

1. Winter 2007-08: Evidence from literature and new study in SA
2. March 2008: WHO Expert Committee's review & recommendations
3. June 2008: STAG-TB recommends to WHO to promote LPAs
4. 1st July 2008: WHO announces a new policy recommending use of LPAs for all countries for rapid MDR-TB diagnosis
5. 1st July 2008: UNITAID announces US$ 26 million support

The New York Times
Officials Praise New Test for Drug-Resistant TB
By LAWRENCE K. ALTMAN
The way forward in laboratory strengthening – what will WHO do?

1. Support the Global Laboratory Initiative secretariat
2. Promote with ministries the need to strengthen labs
3. Support countries in their search for financing externally (UNITAID, WB, GF, bilaterals etc) or domestically
4. Coordinate with all partners to make GLI a success
5. Pursue endorsement of new technology, related policy making, and transfer of technology
6. Never stop promoting research into new diagnostics and the need for a point-of-care tool
7. Favour integrated technology and broad laboratory network development
Many thanks to all

To end this scourge is a mere question of civilization
(Jorge Sampaio, UN SE to Stop TB)