Strengthening national notification systems of TB cases
An overview of progress

Babis Sismanidis
(GTB/TME)
Surveillance of TB cases and deaths

strong systems to understand the epidemic, target action and track progress

solid line = TB cases
dashed line = TB deaths

Who (risk factors),
where (subnational)
Priority topics identified during the last TF meeting

1. National TB epidemiological reviews
   - Surveillance checklist of standards and benchmarks
2. Transitioning from paper to electronic
3. TB inventory studies
4. Regional and national analysis workshops
National TB epidemiological reviews
+ TB surveillance checklist
What are national TB epidemiological reviews?

- Standardised terms of reference (since early 2013)
  - V 2.0 under review

- Four objectives, with suggested analytical tasks per objective:
  1. Quality & coverage of the TB surveillance and VR systems (surveillance checklist)
  2. Level of, and trends in, TB burden
  3. Within-country analysis: who is affected (“key” populations), which areas (subnational analyses)
  4. Investment framework to address gaps in surveillance and M&E
What are they used for?
Identify and address gaps in surveillance and M&E

Assessment of TB surveillance
Analysis of TB and other data

Results

Programme review, M&E plan
National strategic plan
Investment plan for surveillance and M&E to address gaps
Domestic and international resource allocation
Global progress, epidemiological reviews

69 countries* so far

* 23 countries have conducted a repeat assessment.
* 17 reviews planned for 2018
Capacity building
35 local and international consultants/NTP staff

Training workshops and “shadowing”

- April 2016, Crete, Greece: 12 new consultants
- Throughout 2017, West Africa (WARN-TB workplan): 9 NTP staff
- May 2018, Geneva, Switzerland (GF workshop): 6 new consultants
- September 2018, Kigali, Rwanda: 10-20 new consultants focusing on African and francophone epidemiologists

- Implementation document and training material are available (English & French)
# TB surveillance checklist

## Standards & associated benchmarks

<table>
<thead>
<tr>
<th>GROUPING</th>
<th>STANDARDS</th>
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<tbody>
<tr>
<td><strong>CORE</strong></td>
<td><strong>Data quality</strong></td>
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<tr>
<td></td>
<td><strong>B1.1</strong> Case definitions are consistent with WHO guidelines</td>
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<td><strong>B1.2</strong> TB surveillance system is designed to capture a minimum set of variables for all reported TB cases</td>
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<td><strong>B1.3</strong> All scheduled periodic data submissions, e.g. electronic data files or quarterly paper reports, have been received and processed at the national level</td>
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<td><strong>B1.4</strong> Data in quarterly reports (or equivalent) are accurate, complete and internally consistent <em>(For paper-based systems only)</em></td>
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<td><strong>B1.5</strong> Data in national database are accurate, complete, internally consistent and free of duplicates <em>(For electronic case-based or patient-based systems only)</em></td>
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<td><strong>B1.6</strong> TB surveillance data are externally consistent</td>
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<td><strong>B1.7</strong> Number of reported TB cases is internally consistent (within country)</td>
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<td><strong>System coverage</strong></td>
<td><strong>B1.8</strong> All diagnosed cases of TB are reported</td>
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<td><strong>B1.9</strong> Population has good access to health care</td>
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<td><strong>Vital registration</strong></td>
<td><strong>B1.10 Vital registration system has high national coverage and quality</strong></td>
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<td><strong>SUPPLEMENTARY</strong></td>
<td><strong>Special sub populations</strong></td>
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<td><strong>B2.1</strong> Surveillance data provide a direct measure of drug resistant TB in new cases</td>
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<td><strong>B2.2</strong> Surveillance data provide a direct measure of the prevalence of HIV infection in TB cases</td>
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<td><strong>B2.3</strong> Surveillance data for children reported with TB (defined as ages 0-14)</td>
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## Results, TB surveillance checklist

**24/30 high TB burden countries (+3 planned in 2018)**

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<thead>
<tr>
<th>ISO3</th>
<th>Country</th>
<th>Data quality</th>
<th>Data coverage</th>
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Results, TB surveillance checklist

Global progress, total number of standards met (out of 13)
Results, TB surveillance checklist
Global progress, number of data quality standards met (out of 7)
Countries with repeat epidemiological reviews monitoring progress in strengthening TB surveillance

“Worse”/“no change” primarily due to transition from paper to electronic, 2013 RR framework, standards outside NTP control, self-assessment
Most common recommendations

• Transition from paper to electronic case-based surveillance
  – Compile and safeguard sub-national data from previous years (e.g. quarterly reporting forms)

• Measure and address under-reporting of TB cases

• Strengthen national vital registration system

• Build capacity to analyse and use TB data
Transitioning from paper to electronic surveillance for TB
Global status*

progress with national electronic, case-based, TB surveillance

* Based on global data collection, regional workshops and national epidemiological reviews
Type of surveillance system, by WHO region

- Paper
- Transition from paper to electronic
- Web-based electronic system (aggregate data)
- Case-based (MDR-TB patients)
- Case-based (All TB patients)

Prioritization for regional data analysis and use workshops
• Collaboration of governments, international agencies, donors, academia

• Improve availability and use of quality data, build capacity, track progress towards SDGs

• 11 time-limited working group (2016-2017)
  - Routine health facility data, facility and household surveys, community data, LMIS, measuring quality of care, CRVS, data analytics and use, digital health & interoperability, health workforce accounts, health financing

• Global and country-level deliverables for each working group
Example global deliverables

DHIS 2 Health Apps
Based on international standards

Data standards for facility systems based on recommended service delivery and programme guidelines.

Standards for measurement
- Indicators and metadata
- Data quality

Cross-cutting
Best practice dashboards, analyses

Programme specific modules
- Indicators and data elements

Health Data Collaborative

Analysis and use of health facility data
Guidance for tuberculosis programme managers

Core health facility indicators
Working document, February 2016

Analysis and use of health facility data

Resource package:
Guidance for countries wanting to strengthen their MFL
WHO TB platform developed to compile, safeguard, visualize aggregated subnational TB data
With: University of Oslo, Health Data Collaborative, Global Fund

1. Standardized data entry forms
   • 2006 and 2013 RR frameworks

2. Dashboards


3. Filters to review data across different admin levels
   • Comparisons (e.g. by province, by district)

4. In-built GIS mapping capacity
Subnational data currently stored on https://tbhistoric.org

Demo account, Benin data
user name: Demo2017 password: Ben!n2017
Country implementation of DHIS2 TB module

With: University of Oslo, Health Data Collaborative, WHO HIV TB Malaria HIS, Global Fund

1. Pre-implementation phase (TA from WHO)
2. Implementation phase of the WHO DHIS2 TB module
3. Training / Workshop
4. Post-implementation phase

<table>
<thead>
<tr>
<th>Country</th>
<th>Status</th>
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<td>Bangladesh</td>
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WHO TB case-based module
With: University of Oslo, Health Data Collaborative, Global Fund
https://who.dhis2.net/

Pilot planned in Lao PDR
National TB inventory studies
Global progress, national TB inventory studies

Pakistan
Viet Nam
Indonesia
Studies currently ongoing

- Denmark
- Finland
- Portugal
- Slovenia
- China
- South Africa
Planning to start

Mongolia
Croatia
Philippines
National TB inventory study, Indonesia (2016-2017)

- Largest of its kind (≈ 21,000 TB cases)
- Good quality (very high participation)
- Measure of TB under-reporting
- Estimate of TB under-diagnosis
- Clear policy/programmatic implications
TB inventory studies: from periodic study to national roll-out and routine implementation

prerequisites, results and lessons learnt

• Development and use of unique IDs (deterministic matching)
• Exhaustive and up-to-date mapping of all health facilities (master facility list)

• Successful models of engagement with different types of health facilities
• Record linkage exercises
  – De-duplication of NTP databases
  – Matching with other sources of TB cases
• More robust national/subnational estimates of TB incidence
Mandatory notification
from legal framework to implementation

• Country examples to be shared:
  – Indonesia,
  – Myanmar,
  – Pakistan (pilot)
Conclusion

1. National TB epidemiological reviews
   - Great progress with implementation and capacity building
   - Some progress with strengthening surveillance systems
   - *Future focus*: revision of ToRs, continued support to countries to accelerate progress

2. Electronic TB surveillance
   - Standard DHIS2 modules (aggregate and case-based) and reference material are now available
   - Strong and successful collaboration with HDC, UoO, GF established
   - Great country interest for DHIS2 modules
   - *Future focus*: in-country implementation

3. National TB inventory studies
   - Feasibility and importance of results has been demonstrated
     (Indonesia, Pakistan and Viet Nam)
   - *Future focus*: roll-out and routine implementation of key activities
Acknowledgements

- Laura Anderson
- Hazim Timimi
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- Knut Staring
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NTPs of many countries