Rapid Implementation of the Xpert MTB/RIF diagnostic test

Jeroen van Gorkom
Deputy Director Technical Services
PMU / TB CARE I

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Tuberculosis Coalition for Technical Assistance
Overview

- Strategy & Overview
- Experiences & challenges
- Next Steps
Our approach

- **2011**
  - Early phase
    - Development of implementation plan

- **2012**
  - Intermediate phase
    - Preparation Phase
    - Training of Trainers
  - Advanced phase
    - Implementation
    - Routine use
  - Completed
    - Impact evaluation
    - Roll-out
Rapid implementation in Indonesia and Nigeria with TB CAP

Expected Outcomes
- Rapid implementation
- Generic toolbox
- Impact evaluation & lessons-learned
Country projects

Year 1
Development of 1st version generic material
Technical assistance for Xpert implementation in Indonesia & Nigeria

Year 2
Two regional workshops (early- & advanced implementing countries)
Impact evaluation & lessons-learned documentation

Year 3
Development of global training/implementation material by GLI
Support activities - 1

1) National workshop with NTP & stakeholders
   - Develop & agree on implementation strategy
   - Activity plan & responsibilities
   - Determine national Xpert-advisory group (process lead)

2) In-country preparation phase
   - Site assessments & selection
   - Develop registers, request forms, SOPs
   - Revision of clinical guidelines & diagnostic algorithm
Support activities - 2

3) Training-of-trainers (NRL staffs trained by external consultants)
   - Using generic material (toolbox)
   - Adjustment of material to national requirements

4) Site-specific implementation
   - Training of laboratory & clinical staffs by NRL
   - UPS, generator, airco etc.
   - Installation of devices by local trainers or Cepheid
   - Cartridge supply management

5) Routine-use
   - Supervised & monitored by NRL staffs
## Xpert status in countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Xpert in country</th>
<th>APA2 Planned</th>
<th>Operational</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cambodia</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Kazakhstan</td>
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<td>4</td>
<td>-</td>
</tr>
<tr>
<td>Uzbekistan</td>
<td></td>
<td>Discussion</td>
<td></td>
</tr>
<tr>
<td>Djibouti</td>
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<td>1</td>
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<tr>
<td>Dom. Republic</td>
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<td>1</td>
<td>-</td>
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<tr>
<td>Indonesia</td>
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<td>0</td>
<td>5</td>
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<tr>
<td>Kenya</td>
<td>3</td>
<td>0</td>
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<tr>
<td>Mozambique</td>
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<td>-</td>
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<tr>
<td>Nigeria</td>
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<td>5</td>
<td>8</td>
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<td>Vietnam</td>
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<td>10</td>
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<td>Zambia</td>
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<td>2</td>
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<tr>
<td>Zimbabwe</td>
<td>0</td>
<td>1</td>
<td>-</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>37</strong></td>
<td><strong>25</strong></td>
<td><strong>18</strong></td>
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</table>
## Progress in countries

<table>
<thead>
<tr>
<th></th>
<th>MDR TB suspects</th>
<th>HIV+ TB suspects</th>
<th>Others/Unknown</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td>Nigeria</td>
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<td>37</td>
<td>92</td>
<td>129</td>
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<tr>
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<td>20</td>
<td>0</td>
<td>121</td>
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<td>Kenya</td>
<td>432</td>
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<td>39</td>
<td>531</td>
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<tr>
<td>Cambodia</td>
<td>104</td>
<td>15</td>
<td>38</td>
<td>157</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>727</strong></td>
<td><strong>95</strong></td>
<td><strong>116</strong></td>
<td><strong>938</strong></td>
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</tbody>
</table>
Nigeria

Achievements
- Smooth start
- High commitment
- More partners bringing Xpert – need for coordination

Challenges
- Technical problems (electricity interruption, dust)
- Recording or ERROR events and types
Challenges

- Development & agreement with partners on country-specific strategy
  - Budget availability & sustainability
  - Integration into a National TB Lab Strategic Plan
  - Partner coordination (CDC, TB CARE, MSF, TB REACH..)
  - Private sector involvement

- Significant technical support during implementation phase
  - Computer/software usage
  - Troubleshooting (e.g. interpretation of error results)
  - Cepheid local service provider

- Integration of Xpert in clinical practice
  - Development of a diagnostic algorithm (vietnam, Kazakhstan..)
  - Training for clinical staff
  - Availability and linking of treatment capacity

- Monitoring of quality under routine use
Next steps

- Enhance country-specific support by
  - Regional workshops (early- and advanced implementers)
  - Strengthen technical assistance for
    - Strategic planning (incl. Nat. TB Lab Strategic Plan)
      - Forecasting & budgeting cartridges, SLDs
    - Technical improvement & troubleshooting of Xpert machines
    - Lessons learned document on early implementation (Dec)

- Develop standardized approaches
  - Quality assurance (e.g. GLI panel application)
  - Internationally standardized training material (GLI)
  - Common monitoring & evaluation system and data-sharing
  - Impact evaluation (case-detection, treatment delay)
Acknowledgements

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Thank you