Roll-out of Xpert MTB/RIF

5th GLI Meeting
April 16th 2013, Annecy, France

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KNCV Tuberculosisfoundation
The Netherlands
Implementation of Xpert MTB/RIF in routine diagnostic services

- Indonesia
- Vietnam
- Kazakhstan
- Kenya
- Ethiopia
- Mozambique
- Zimbabwe
- Nigeria
- Kyrgyzstan
- Tajikistan
- Uzbekistan
- Djibouti
- Cambodia
- Indonesia
- Botswana

Procurement & technical assistance
Technical assistance
GeneXpert instruments (March 2013)

- Instruments in use for routine diagnostic services
- Instruments planned

Number of instruments

- Zimbabwe: Status 09/2012
- Zambia
- Vietnam
- Nigeria
- Mozambique
- Kenya
- Kazakhstan
- Indonesia
- Ethiopia
- Djibouti
- Cambodia

Progress:
- 62% (58)
- 38% (36)

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Xpert MTB/RIF Use & Outcomes

Detection of RR TB in previously treated patients & other MDR TB suspects
Detection of TB in new TB suspects (HIV+TB)

<table>
<thead>
<tr>
<th>Country</th>
<th>Tests</th>
<th>Months</th>
<th>TB Cases</th>
<th>RR-TB Cases</th>
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<td>Nigeria</td>
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<td>101</td>
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<td>Kazakhstan</td>
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<td>Indonesia</td>
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<td>77</td>
<td>189</td>
<td>555</td>
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</tbody>
</table>

Reason for testing:
- Detection of RR TB in previously treated patients & other MDR TB suspects
- Detection of TB in new TB suspects (HIV+TB)
Strategic Approaches for Xpert MTB/RIF Implementation

- The critical pathway -
Critical pathway to Xpert implementation
Critical pathway to Xpert implementation

NTP establishes National Xpert Working Group (NWG)

NWG develops draft Xpert strategy

Site assessments

Finalize Xpert Strategy

Preparation

Training & Installation

Monitoring & Evaluation

Scale-up Strategy
Xpert MTB/RIF Implementation in Kazakhstan
Developing the National Strategy

**Epidemiology & SWOT Analysis**
- 4 GeneXpert instruments with full cartridge supply
- % MDR TB - new cases 30%
- % MDR TB - retreatment cases 51%
- Coverage C/DST high
- Case detection 87%
- Selected regions lower coverage
- Access to culture diagnosis in prisons limited

**Objectives**
- To reduce time to MDR TB diagnosis & treatment (4 sites)
- To increase MDR TB case detection (1 site)
  - Increase access in prisons (4 sites)
Developing a National Strategy

Phased implementation: Eligible suspects

1st priority
- Retreatment cases
- Close MDR TB contacts
- (Ex-)prisoners
- PLHIV suspected of TB

2nd priority
- New TB cases

3rd priority
- All presumptive TB cases

Evaluation

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Xpert MTB/RIF Use

- Strengthen link with prisons
- No. samples/months approx. 50% of machine capacity with increasing tendency

2640 tests
3 sites: Kokchetav, Almaty City, Oskemen
Treatment Initiation

Proportion of Xpert RIF resistant cases started on Cat IV

- Oskemen: 70.3%
- Kokchetav: 97.3%

Time: August-mid December
Time to treatment

Average days btw. sputum collection & start of Cat IV treatment (Xpert RIF res. cases)

Oskemen

- August: 34.8 days
- September: 10.4 days
- October: 13.2 days
- November: 11.4 days

Kokchetav

- August: 8.6 days
- September: 9.8 days
- October: 9.6 days
- November: 8.5 days

Average time from sputum collection to result release: 1 - 1.5 days
Xpert MTB/RIF Implementation in Nigeria
Background Information

Responsible for public health
- Federal government
- State governments (61)
- Local governments (>700)
- 162 million population

Epidemiology
- TB incidence 190,000
- Case detection 45%
- MDR TB (NC) 3.1%
- MDR TB (RTC) 10%
Background Information

Objectives for Xpert use
- To increase the Rif-resistant TB case detection
- To increase TB case detection among PLWHIV
The Implementation Plan

Phase 1
(7 months 2011)

Phase 2
(2012)

Phase 3
(2013/4)

Number of GeneXperts

- TB CARE I
- Dod
- TB REACH
- CCR Aids Relief
- Agbami’s partners
- Apin Harvard
- IHVN
- CCRN
- FHI360
- GF

9
30
61
GeneXpert Locations

- GeneXpert TB CARE I
- GeneXpert other
- C/DST lab
- Future C/DST lab
- MDR TB treatment Centres (8)

→ Strengthen linkages for sample/patient referral
→ Partner coordination
→ Coordination of state/local government
→ Scaling up treatment capacity
Take home messages

- **Xpert implementation is more than buying the machine**
  - There are >37 critical activities

- **A programmatic approach is essential**

- **Leadership of NTP is key: National Working Group**

- **A National Xpert Strategy is crucial**
  - integrated in National TB Lab Strategy & Program Strategy
  - There is no one-size-fits-all solution for an Xpert strategy

- **M&E essential to show impact & develop policy**
The Team

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National TB Programms
National TB Reference Labs
TB CARE I country teams

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www.tbcare1.org
Annex:

TB CARE I
Roadmap for Xpert MTB/RIF Implementation
-The critical pathway-
Phases of Xpert Implementation

- Introduction
- Strategic Planning
- Site Assessment
- Finalization of Plans
- Preparation
- Training & Installation
- Routine Monitoring & Supervision
- Evaluation

(time)
PERT Model: Instructions

Conduct training-of-trainers

Conduct site specific training

Install GeneXpert instruments

sequential activities

parallel activities

time
Phases of Xpert Implementation

**Phase 1: Introduction**

Expected outcome: National planning & coordination body established

- Talk with the NTP/MoH
- Mapping of NTP/partner activities
- Convene stakeholders meeting
- Set-up Xpert TWG
- Meeting of the Xpert WG
Phases of Xpert Implementation

Phase 2: Strategic Planning

Expected outcome: Draft National Xpert strategic plan is developed

- Provide background information on Xpert
- Review epidemiology situation
- Perform SWOT Analysis of diagnostic/treatment situation
- Determine objectives of Xpert
- Prioritized list of eligible suspect groups
- Draft diagnostic algorithm
- Pre-select potential sites
- Develop M&E framework
Phases of Xpert Implementation

Phase 3: Site Assessment

Expected outcome: All required information for finalization of the strategic plan and the annual activity plan are collected

- Collect estimated number of suspects/site
- Assess requirements for lab renovation
- Assess HR requirements
- Assess treatment capacity
Phases of Xpert Implementation

**Phase 4: Finalization of Strategic Plan**

Expected outcome: National Xpert strategic plan finalized

- Select final sites for Xpert placement
- Finalize diagnostic algorithm & suspect selection
- Finalize M&E Plan
- Develop annual activity plan
- Develop budget

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Phases of Xpert Implementation

**Phase 5: Preparation**

Expected outcome: Lab renovations completed, documents and lab support systems (maintenance, supervision etc) developed

- Establish a waste management system
- Establish an Xpert maintenance system
- Establish a cartridge supply system
- Revise registers & request forms
- Develop clinical protocols
- Develop SOPs
- Conduct lab renovations
- Establish a supervision system
- Finalize procurement
Phases of Xpert Implementation

Phase 6: Training & Installation

- Conduct training-of-trainers
- Conduct site specific training
- Install GeneXpert instruments

Expected outcome: Routine use started
Phases of Xpert Implementation

Phase 7: Routine Monitoring & Supervision

Expected outcome: Quality of Xpert use ensured

Conduct monitoring & supervision visits & collect data routinely

Phase 8: Evaluation

Evaluate the quality and impact of Xpert use

Expected outcome: Collected evidence & experience informed national policy and practice

Determine perspectives for the future role of Xpert in country: Final national guideline
2nd Round: Scale-up phase

- Introduction
- Strategic Planning
- Site Assessment
- Finalization of Plans
- Preparation
- Training & Installation
- Routine Monitoring & Supervision
- Evaluation

Time