Tuberculosis Prevalence Survey, Nigeria
Background

- Nigeria ranks 5th among the 22 high TB burden countries of the world
- Second highest TB burden in Africa
- 2007 estimated annual incidence of 311/100,000
  - 131/100,000 smear positive
- Estimated annual prevalence 521/100,000
  - 137/100,000 smear positive
- DOTS coverage 91%
- Case detection 30% (23% NTP 2008)
Justification and Rationale

- TB burden based on WHO estimates
- Estimates of incidence and prevalence based on routine surveillance, which is not reliable
- No previous systematic surveys conducted to measure TB disease burden
- Need to understand public health needs and monitor trends (MDGs)
Main Objective

• To determine the prevalence of bacteriologically-confirmed tuberculosis in the general population of Nigeria aged 15 years and above
Specific Objectives

• To determine the prevalence of smear positive pulmonary TB among the eligible population

• To determine the prevalence of symptoms suggestive of TB among eligible population

• To determine the prevalence of chest radiological abnormalities among the eligible population

• To determine the health-seeking behaviour of individuals with symptoms suggestive of TB
Main Bottle necks in survey preparations

1. Readiness of culture laboratories
   1. Currently NMIR, Zaria TC, Zankli & Calabar laboratories have capacity for culture (they will be used for DRS)
   2. Zonal Laboratories??
      1. 3 maybe ready in 1st quarter 2010

2. Coordinating local experts
   1. Limited experience in TB prevalence survey
Main Bottle necks cont.

- Taking care of various contending interest from different experts (especially on variables either to be included or excluded in the study)
- Agreement of logistics plan for the survey
Main Bottle necks cont.

I. Procurement issues
   I. Mobile x-ray
   II. Cool chain equipments

II. Ownership of survey by FG (in order to mobilization of State Govs and other relevant government institutions - NPC, National bureau for statistics, Thoracic Society on Nigeria, etc)
Main bottle necks cont.

- Lack of clear line of funding
  - Global Fund (R5 TB grant)
    - Funding secured in R5 phase 2 TB grant
  - Federal Government?
    - Not clear
  - USAID/PEPFAR
    - Will support with logistics during data collection
  - State Governments?,
    - Some cost especially for the enumerators?
    - Logistics support and security?
    - LGA/ Communities?
Way forward

1. Start preparation for the survey
   1. Request and finalize plan for TA with Task Force
   2. Finalize protocol and SOPS before end 2009
   3. Agree on time frame for survey

2. Coordinating Committee to embark on intensive advocacy and resource mobilization
   1. Government at all levels (FG, States, LG & Communities)
   2. Partners

3. Address the issue of culture laboratories

4. Conclude all procurements
Main role of Task Force

- Coordinate TA especially at international level for all stages of the survey
- High level advocacy to political leaders at country level
- Continue to mobilize funding
- Where possible coordinate procurements from reputable companies e.g. mobile x-rays, laboratory reagents, etc
Study Organization

- Logistics WG
- Laboratory WG
- Technical Committee
- Admin / finance WG
- Epi/Stats WG
- Survey Coordinator
- Central
  - Lab
  - CXR
  - Data Manager
  - Logistics
- Field teams
  - Team Leaders
Steering committee

• High level individuals
• Responsibilities include:
  – Final approval of the protocol, SOPs, work plan and result of survey
  – Coordinate approval by the ethical bodies
  – Advocacy to Government and partners for resource mobilization at all levels
Technical Committee

• Headed by the PI and comprises of the heads of the Workgroups and other experts
  – Logistics
  – Laboratory
  – Epidemiology/Biostatistics/Data Management

• Roles and responsibilities
  – Report to Steering Committee,
  – Overall responsibility for organizing the survey
  – Final responsibility for protocol, SOPs, training, pilot-testing, logistics, report writing, scientific manuscripts and dissemination of study findings, etc.
Study Coordinator

• Roles and responsibilities (in close consultation with PI)
  – Reports to Technical Committee
  – Contributes to preparation SOPs/Field Manual
  – Plan Fieldwork
  – Responsible for arranging survey materials
  – Arrange training and pilot-testing
  – Supervise data management
  – Prepare monitoring reports
  – Report problems with survey
Central Laboratory

• Roles and responsibilities
  – Reports to survey coordinator
  – Responsible for ensuring good quality sputum specimens, smear microscopy and culture
  – Responsible for maintaining quality assurance (internally and externally monitored)
  – Responsible for adhering to survey protocol (including accurate reporting of results)
Central Chest X-ray

• Roles and responsibilities
  – Reports to survey coordinator
  – Conduct validation of field x-ray readings
  – Responsible for storing x-rays collected for entire survey
Central Data Manager

• Roles and responsibilities
  – Reports to survey coordinator
  – Lead the data management unit
  – Coordinate all steps in data management
  – Prepare information systems to capture data
  – Check validated data files for systematic errors (cleaning)
  – Ensure proper storage of all data
  – Report any problems encountered in data management
Central Logistics

- Roles and responsibilities
  - Reports to survey coordinator
  - Responsible for procurement of necessary equipment and supplies
  - Responsible for orchestrating all logistics between the central and field teams
  - Reports any problems encountered in logistics
Field Team Leaders

• Roles and responsibilities
  – Pre-assessment of clusters
  – Lead field team
  – Logistics and organization of fieldwork
  – Coordinate day-to-day fieldwork
  – Communicate with local authorities re: fieldwork
  – Responsible for field work completion
  – Report any survey problems with survey implementation
Field Team Composition

- **12 Core Members:**
  - 1 Team Leader
  - 2 Receptionists/Logistic managers/Clerks
  - 3 Census and Interviewers
  - 1 Radiographer
  - 1 Medical officer
  - 1 Laboratory Medical Scientist
  - 3 Drivers (who also function as assistants, etc)

- **+1 Local Translator/community member as needed**
Field Operations

• Pilot survey(s)
  – Questionnaire
    • Convenience sample
  – Field pilot study (entire survey)
    • 2 clusters not chosen in sample population

• . . .
Training Needs

Minimum training requirements will be:

1. Laboratory personnel (SOP)
2. Medical Officer (x-ray reading)
3. Data clerks (Data management)
4. Radiographers
5. Survey team members (entire survey protocol)
Technical Assistance Required

• Pre-survey
  – Survey design
  – Tool development and testing

• Survey period
  – Field operations
  – Data collection

• Post survey
  – Data analysis
  – Report writing
Update so far

• **Protocol development**
  – Setting up of TC
  – Draft being finalised (after 3 main meetings of the TC)
  – SOPs development in progress

• **Procurements**
  – Mobile x-ray (3 available but addition 6 required)
  – Generators (6 available)
  – Computers (7 lab tops with printers)
Update on TA

• TA
  – WHO
    • WHO HQs
    • WHO regions with experience (EMRO)
  – CDC
    • Nigeria
    • Atlanta
  – KNCV
Key pending issues

- Finalization of the protocol, SOPs, training guides and field manual
- Ethical clearance
- Procurements of additional mobile x-rays (4 additional)
- Getting all the zonal laboratories functioning (3 at least)
- Getting documented commitment from all stakeholders for the survey
## Budget summary

<table>
<thead>
<tr>
<th>Cost summary</th>
<th>USD</th>
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<tbody>
<tr>
<td>Pre survey cost</td>
<td>745,000</td>
</tr>
<tr>
<td>Field survey cost</td>
<td>895,800</td>
</tr>
<tr>
<td>Post survey cost</td>
<td>84,750</td>
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<tr>
<td>TA</td>
<td>200,000</td>
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<tr>
<td>Misc</td>
<td>100,000</td>
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<tr>
<td><strong>Estimated total cost of survey</strong></td>
<td><strong>2,025,550</strong></td>
</tr>
<tr>
<td>Expenditure to date</td>
<td>386,470</td>
</tr>
<tr>
<td><strong>Less expenditure to date</strong></td>
<td><strong>1,639,080</strong></td>
</tr>
</tbody>
</table>
Possible sources of financing budget

1. Government
   - Advocacy for commitment at all levels
   - Logistics support at community levels
   - Security

2. Global Fund

3. Partners
   - TA
   - USG partners – additional mobile x-rays, logistics support and personnel.
<table>
<thead>
<tr>
<th>Activity</th>
<th>Period of implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finalization of Protocol and SOPs</td>
<td>November 2009</td>
</tr>
<tr>
<td>Seeking Ethical clearance</td>
<td>December 2009</td>
</tr>
<tr>
<td>Enumeration/pre-survey advocacy</td>
<td>January 2010</td>
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<tr>
<td>Finalize procurements</td>
<td>January 2010</td>
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<tr>
<td>Pilot survey</td>
<td>February 2010</td>
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<tr>
<td>Final review of tools and SOPs</td>
<td>March 2010</td>
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<tr>
<td>Field data collection</td>
<td>April – July 2010</td>
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<tr>
<td>Data sorting</td>
<td>August 2010</td>
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<tr>
<td>Data analysis</td>
<td>August - October</td>
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<tr>
<td>Report writing</td>
<td>October/November 2010</td>
</tr>
<tr>
<td>Dissemination of results</td>
<td>December 2010</td>
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</tbody>
</table>