Strengthening Drug Resistant Tuberculosis Diagnosis Capacity in Mozambique: A long road to success

Mozambique’s Tuberculosis (TB) Epidemic
- Leading cause of adult morbidity and mortality
- Ranks 16 among the 22 high TB burden countries
- 43,200 new cases notified in 2011
- 4,252 retreatment cases notified in 2011
- 27,000 deaths/year
- TB case detection rate – 47%
- Estimates of multidrug resistant (MDR) TB burden (2011):
  - New cases – 3.5%
  - Retreatment cases – 12%

Inadequate National Laboratories
- Only 1 MDR-TB diagnostic laboratory exists in the country.
- Lab had outdated equipment.
- Lab was unsafe for staff and residents.

Government and Donors Respond
- USAID-funded Tuberculosis Control Assistance Program (TB CAP) and the follow-on project, TB CARE I, partnered with the National TB Program (NTP).
- From 2006 – 2011, TB CAP and TB CARE I supported the NTP in conducting the following interventions:
  - Refurbished and equipped labs to meet biosafety standards
  - Gave staff biosafety manuals
  - Gave staff standard operating procedures for TB diagnosis
  - Trained and mentored staff in TB diagnosis
  - Sent 6 staff abroad for specialized diagnostic training
  - Implemented specimen referral system

Safer Labs + Stronger Staff = Improved Outcomes
- Laboratories meet biosafety standards.
- Motivated staff have access to modern technology.
- Sample testing results are of better quality.
- Laboratory data is available for decision making.
- Laboratory performance indicators improved (see table).
  - Total number of patients with a positive TB test who were then tested for drug susceptibility improved by 3.3%.
  - Total number of MDR-TB cases identified improved by 1.8%.

Conclusion
- Inadequate number of specimens referred to the national reference laboratory may be the main obstacle to early diagnosis of drug-resistant TB in Mozambique.
- Equipping laboratories and training staff effectively improved laboratory performance and the quality of testing results. If maintained and expanded, these interventions may help to increase referrals to the national reference laboratory and early diagnosis of TB and MDR-TB.

Drug Resistant Patterns at the National TB Reference Lab

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total No. of Patients Who Were Tested for TB</td>
<td>10,080</td>
<td>7,975</td>
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<tr>
<td>No. (%) of Patients with a Positive TB Test Who Were then Tested for Drug Susceptibility</td>
<td>365</td>
<td>552</td>
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<tr>
<td>No. (%) of Patients with Susceptible TB</td>
<td>268</td>
<td>132</td>
</tr>
<tr>
<td>No. (%) of Patients with Mono-resistant TB</td>
<td>66</td>
<td>45</td>
</tr>
<tr>
<td>No. (%) of Patients with Poly-resistant TB</td>
<td>31</td>
<td>7</td>
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<tr>
<td>No. (%) of Patients with MDR-TB</td>
<td>97</td>
<td>221</td>
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