TB Infection control, the Botswana experience

E Hulela; T Madidimalo; M Rankowa; R T Ncube
Birchwood Hotel 15/03/2011
Presentation outline

- Introduction
- Historical context of TBIC
- Scale up of TBIC in Botswana
- Challenges & concerns
- Way forward
Democratic mid-income nation in Southern Africa

- Pop. of 1.8 million (2001 Census)
- HIV prevalence 17.5% (BIAS III 2008)
  - TB/HIV co-infection rate 68% (BNTP 2008 Annual report)
- TB notification
  - 505/100,000 pop (2009 ETR)
Historical context of TBIC

- TB isolation wards in past
  - Patients admitted for extended periods
- Abolished in 90s with ambulatory DOT
  - Laxity in institutional TBIC
- As HIV epidemic matured
  - Dramatic surge in TB notification
Emergence of XDR/TB in 2006 across border
  - Global awakening of TBIC including Botswana
  - Botswana notified 3 cases of XDR/TB in 2007
  - MDR TB accounted for 2.5% of new smear +ve cases in 2008
    - TBIC became a pressing priority in TB control efforts
TBIC scale up in Botswana

- Capacity development
  - TBIC a separate module in revised national training curriculum on TB case management
    - Rolled out through TOTs in 2007
  - Didactic courses on TBIC through local (PEPFAR) & international (KNCV) partners (2008/2009)
  - Harvard course on engineering methods of airborne infection control (2008)
    - BOTUSA Advisor & Government Architect
Aggressive national drive towards accreditation of health facilities
  - Infection control strengthening a key requirement
- Several TBIC assessments done as early as 2004 to inform TBIC strengthening
TBIC scale up in Botswana

- Strengthened district Mentoring Supportive Supervision
  - Checklist in use (2009)
    - TBIC a critical component
  - Between 2009 & 2010
    - Notable improvement in key TBIC variables assessed

<table>
<thead>
<tr>
<th>Section G. TB INFECTION CONTROL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Administrative Control Policies</strong></td>
</tr>
<tr>
<td>Are administrative control policies posted in the facility?</td>
</tr>
<tr>
<td>Do the administrative control policies cover the following key areas of TB infection control:</td>
</tr>
<tr>
<td>- Use of masks (N95, surgical)</td>
</tr>
<tr>
<td>- Patient placement (i.e. airflow, single rooms/cohorts, bed spacing)</td>
</tr>
<tr>
<td>- Ventilation systems</td>
</tr>
<tr>
<td>- Tuberculosis Screening</td>
</tr>
<tr>
<td><strong>TB Waiting Area</strong></td>
</tr>
<tr>
<td>Is there a designated waiting area for TB patients?</td>
</tr>
<tr>
<td>Is it separated from other patients?</td>
</tr>
<tr>
<td>Is the waiting area well ventilated?</td>
</tr>
<tr>
<td>Is health education being offered to patients in the TB waiting area? (e.g. cough hygiene)</td>
</tr>
<tr>
<td><strong>Examination Rooms</strong></td>
</tr>
<tr>
<td>Is the exam room well ventilated? Describe ventilation system:</td>
</tr>
<tr>
<td><strong>Sputum Collection</strong></td>
</tr>
<tr>
<td>Is sputum collected in a well ventilated area?</td>
</tr>
<tr>
<td>Are patients provided education on how to properly collect sputum?</td>
</tr>
</tbody>
</table>
TBIC scale up in Botswana

- **Administrative controls**
  - Decentralize MDR TB care to 5 sites enhanced TBIC
  - TBIC incorporated in 6\textsuperscript{th} edition BNTP manual & strengthened in current 7\textsuperscript{th} edition
  - TB IC specific policy guidelines developed (2009)
  - TBIC committees at 2\textdegree & 3\textdegree levels of care
  - Strengthened feedback loop with NTRL
    - Immediate alert of any confirmed MDR TB result
  - TB screening checklist in prisons at incarceration
    - Marked ↓ in TB incidence (2002/8 BOTUSA assessments reports)
TBIC scale up in Botswana

- Environmental controls
  - Renovation of 3 MDR TB isolation facilities with partner support (PEPFAR, GFATM & World Bank)
- Personal protection
  - Availability of N95 masks in all districts
Challenges & concerns in TBIC

- Administrative controls
  - TBIC committees non existent at 1° (clinic) level of care
  - IC Plans limited/non-existent in most facilities
  - Congested waiting areas, limited triaging of TB suspects both at OPD & inpatients
  - No routine TB surveillance among HCW
  - No periodic screening of incarcerated inmates
Challenges & concerns in TBIC

- Environmental controls
  - Lack of purpose built health facilities especially ARV sites (No consideration given to airborne IC)
  - Lack of IC expertise in building & construction department of GOB
- Personal protection
  - Frequent stock out of N95 masks
Way forward

- 5 yr TB IC implementation plan being finalized
- Mobilize resources thru GF to procure GeneXpert
  - Prompt Diagnosis of MDR TB
- Scaling up CTBC to 50%
  - To minimize outpatients visits
- Recruit TB IC Officers national level (ACHAP supported)
- Establishment of TB/HIV district committees to strengthen TB/HIV collab. including TBIC
  - Regional TB/HIV Coordinators in place (World Bank
Acknowledgements

- BNTP staff
- Department of HIV Prevention & care
  - Dr Avalos
- Partners
  - Dr R Makombe (BOTUSA)
  - Gaseenelwe (WHO NPO-TB)
  - Mary Kestler (U-Penn)
  - Dr Jensen (TBIC Assessment report)
Thank you