TB in Cambodia and Active Case Finding among Irregular Migrants

June 4, 2013

WHO Cambodia Office

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Acknowledgement

• Mr Brett Dickson, International Organization for Migration (IOM) Cambodia for the data on their active case finding project
OVERVIEW OF TB IN CAMBODIA
High Burden of TB

• Cambodia is one of the 22 TB high burden countries
  – Prevalence rate: 817/100,000 (No.1)
  – Mortality rate: 63/100,000 (No.1)

WHO, 2012
Global Tuberculosis Report 2012

BOX 2.7

Reducing the burden of TB disease: a success story from Cambodia

FIGURE B2.7.2

Estimated TB prevalence (all forms) in Cambodia, 1990–2011

Case Detection in 2012

• Total number of TB case detection: 40,258
  – New smear positives PTB: 14,838
  – New smear negative PTB: 8,509
  – New EPTB: 15,290
  – Children: 6,929 cases diagnosed and treated

• MDR-TB: 134 cases enrolled for Cat IV treatment
NSP Goals for 2011-2015

• Ensure equity and universal access to quality TB services

• Maintain a high cure rate (>85%)

• Reduce the prevalence of TB and death due to tuberculosis by 50% by 2015 relative to the 1990 figures
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• Reduce the prevalence of TB and death due to tuberculosis by 50% by 2015 relative to the 1990 figures
Thai-Cambodia Cross-Border Migration

• Thailand: largest destination in the Greater Mekong sub-region
  – Mainly low-skilled migrant workers and families
  – Undocumented: 180,000 (estimated)

• The majority via illegal channels
  – Some enter legally but over-stay on their visas
IOM TB REACH PROJECT IN POIPET
Poipet and Cross-border Migration

- In Ochrov OD, Banteay Meanchey Province
- Main route of cross-border migration
- Main border checkpoint for deported Cambodians
Thailand

Estimated **180,000** undocumented Cambodian migrant workers in Thailand

Cambodia

Irregular Migrants

Thai Border Immigration Centre

Cambodian Border Immigration Centre

Irregular Migrants
Estimated **180,000** undocumented Cambodian migrant workers in Thailand

Thai Border Immigration Centre

Cambodian Border Immigration Centre

Irregular Migrants

Return to families and communities
**TB risk factors:**

- *Detention history (crowded conditions)*
- *Low socioeconomic status*
## TB in Banteay Meanchey

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<td>Population (2008 Census)</td>
<td>13,686,227</td>
<td>701,784 (5.1%)</td>
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<td>TB Case Notification (2012)</td>
<td>40,258</td>
<td>2,904 (7.2%)</td>
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<td>Treatment outcome of new Smear (+) cases (2012)</td>
<td>Total 15,885</td>
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WHO, 2012
MoH Cambodia, 2012
## TB in Banteay Meanchey

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WHO, 2012
MoH Cambodia, 2012
Thailand

Cambodia

150 to 200 migrants deported daily

TB risk factors:
• Detention history (crowded conditions)
• Low socioeconomic status

Irregular Migrants

Provincial Immigration Centres

Immigration Detention Centre (Bangkok)

Thai Border Immigration Centre

Cambodian Border Immigration Centre

Irregular Migrants

Return to families and communities
Thailand

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IOM-TB REACH Intervention

Referral Hospital

Cambodia

Irregular Migrants

Return to families and communities

*Annual figures: 98,000 Cambodian Irregular migrants deported through Cambodian Border Immigration Centre

- Estimated 180,000 undocumented Cambodian migrant workers in Thailand
IOM Active Case Finding Activities

ACF Project Goal:

- Targeting irregular migrants returned through deportation channel
- Increase case detection and establish earlier treatment through the use of GeneXpert
Migrant Screening Process

Group A: Migrants in Detention more than 1 month

- Detailed symptom screening using Diagnostic Ticket A
- Chest X-ray
- Cough more than 2 weeks and/or Abnormal CXR Active TB
- Gene Xpert

Group B: Migrants in Detention less than 1 month

- Pre-symptom screened
- Detailed symptom screening using Diagnostic Ticket B
- Chest X-ray
- Only Abnormal CXR Active TB
- Gene Xpert

Arrival point at Immigration Centre

Screening point at Referral Hospital

Food incentives provided
Thailand

- Immigrant Detention Centre (Bangkok)
- Provincial Immigration Centres

Cambodia

- Referral Hospital

IOM-TB REACH Intervention

- Irregular Migrants
- Return to families and communities

Irregular Migrants

Thai Border Immigration Centre

Cambodian Border Immigration Centre
Irregular Migrants

Immigration Detention Centre (Bangkok)

Thai Border Immigration Centre

Cambodian Border Immigration Centre

Irregular Migrants

Referral Hospital

IOM-TB REACH Intervention

Irregular Migrants

Return to families and communities

Community Outreach
Number of migrants screened and referred from 1 Feb 2012 – 30 Jan, 2013
Demographics of migrants referred to the hospital for screening
February 2012 until Jan 2013 (n = 6,680)

- Screening more Females 30 up to 60 years due to community outreach adaption
Overview of % TB cases detected among migrant group

<table>
<thead>
<tr>
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<th>Group A (&gt;1 month)</th>
<th>Group B (&lt;1 month)</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Screened (1)</td>
<td>1662</td>
<td>5018</td>
<td>6680</td>
</tr>
<tr>
<td>Presumed TB cases (2)</td>
<td>21% (350)</td>
<td>20% (1038)</td>
<td>20% (1,388)</td>
</tr>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>%=(2)/(1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TB cases detected by Xpert (3)</td>
<td>8% (26/333)</td>
<td>10% (101/990)</td>
<td>9.5% (127/1,323)</td>
</tr>
<tr>
<td>%=(3)/(2) tested</td>
<td></td>
<td></td>
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Based on screening data from Feb 2012 until Jan 2013
Estimated Prevalence Rate = 1,150/100,000
Age and sex of migrants detected with MTB GeneXpert result, February 2012 until Jan 2013 (n = 126)
Challenges

1. Sputum Collection

- Poor quality specimen
  - Reduced sensitivity

- Number of samples
  - Testing twice increases sensitivity but doubles cost
  - Need migrant to stay overnight
Challenges (cont’d)

2. Sample processing capacity
   • Only one 4-module for testing all migrant TB suspects → increased to two

3. Technical skills of staff
   • **Gene Xpert:** not following correct instructions (error rate 3-4%)
   • **X-ray:** limited skills
Challenges (cont’d)

4. Migrant population

• Losing TB cases due to need to return to Thailand (6%)

• Socio-economic factors that undermine treatment outcomes
  – poverty, unemployment, debt, food security

• Majority deported at night
Summary and Conclusions

- Actively screening migrants upon return via immigration is an opportunity for early TB detection and treatment initiation
• Rapid turnaround time of GeneXpert is appropriate for highly mobile cross-border migrants
• A good multi-sector model building the capacity of government agencies
Thank You

Special appreciation to IOM, TB REACH Secretariat, Stop TB Partnership & Canadian International Development Agency CIDA for Financial & Technical Support
Prevalence Survey: Cambodia 2011

Identified as TB suspects by symptoms

Without TB symptoms, but identified as TB suspects by X-ray

S+ S- C+

S- C+

S+

S+

16% 14% 30% 54% 16% 70%
## Characteristics of TB cases

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<tr>
<th>Characteristics</th>
<th>Number</th>
<th>Percent</th>
</tr>
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<tbody>
<tr>
<td>HIV positive</td>
<td>2</td>
<td>1.7</td>
</tr>
<tr>
<td>Cough &gt;2 weeks only</td>
<td>1</td>
<td>0.9</td>
</tr>
<tr>
<td>Abnormal CXR</td>
<td>112</td>
<td>97.4</td>
</tr>
</tbody>
</table>

### Duration of cough

<table>
<thead>
<tr>
<th>Duration of cough</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>No cough</td>
<td>13</td>
<td>11.3</td>
</tr>
<tr>
<td>&lt;1 wk</td>
<td>21</td>
<td>18.3</td>
</tr>
<tr>
<td>1-2 wks</td>
<td>24</td>
<td>20.9</td>
</tr>
<tr>
<td>&gt;2 wks</td>
<td>54</td>
<td>47.0</td>
</tr>
</tbody>
</table>

### Total TB cases*

| Total TB cases*   | 115    | 100     |

* Data from 4 quarters only
Distribution of Bact+ TB cases Notified in Ochrov (Poipet) OD

---|---|---|---|---
SS+ Notified by Routine | SS+/B+ Notified by Project
0 | 8 | 34 | 25 | 32
55 | 55 | 44 | 25 | 39

Number of SS+ Bact+ TB Cases Notified
Source of Irregular Migrants