Guidance on TB infection control

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Stop TB, WHO
Outline

• Objective and target audience
• Development of the document
• Questions for literature search
• Promotion of a package of interventions
• Discussion over the questions
• Your input
Content of the Framework

• Title
  – A national framework (Policy) to implement TB infection control interventions in resource-limited settings

• Objective
  – The framework will provide national level straightforward guidance on what to do in terms of TB infection control interventions.

• Target audience
  – The framework will offer national and sub-national policy makers (health system managers including TB, HIV, hospital services and occupational health) a package of interventions to implement to reduce transmission of TB in health care settings.
Process

- **A National Framework (policy) to Implement TB-IC Interventions in Resource-Limited Settings**
  - In accordance with principles of WHO Guidelines Review Committee (assessing and describing the evidence base).

- **Process includes:**
  - Developing key questions for consideration and systematic review
  - Conducting systematic literature review and grading to provide evidence base
  - Crafting TB IC recommendations based on evidence collected and rated with a standardized grading system.
  - Considering feasibility and cost in final recommendations.

- **Final document – anticipated in last quarter 2008**
Questions for literature search

• Questions informed by the October 2007 and 3Is meetings

• Quick literature search to understand if previous recommendations where evidence supported

• Developed in a matrix format together with the SARS group
Questions for literature search

- Literature search needed to inform the recommendations

- Strength of recommendations not necessarily linked to strength of evidence

- Some questions will require systematic review others will not.
## Package recommendations for TB infection control (in health care settings?)

### Administrative strategies

1. Establishing coordinating systems for planning and implementation at all levels
2. Conduct surveillance and assessment at all levels of the health system
3. Conduct comprehensive budgeting and planning (including ACSM, research, HR requirements and capacity building)
4. Develop strategies to promptly identify TB suspects (ICF and triage) and to reduce transmission in health care (cough etiquette & reduced hospital stay), congregate settings and communities
5. Conduct monitoring, evaluation and research

### Engineering and environmental control strategies

6. Natural Ventilation
7. Mechanical ventilation
8. UV lights
9. Health facility revitalization

### Personal protective equipment

10. Respirators
11. Masks
Questions (1)

• 1. Epidemiological: how much transmission happens in outpatient vs. inpatient and how much in TB ward vs. other wards

• 2. Impact of natural ventilation vs. mechanical vs. UV lights vs single occupancy on reduction of TB transmission.

• 3 Role of respirators in different settings (MDR units, TB wards, outpatient, etc).

• 4. What's the role for masks in different settings (HIV, MDR)
Questions (2)

• 5. Do triage and reduction of hospital stay have an impact on reduction of TB transmission?

• 6. Impact of individual interventions or set of interventions. There is some evidence that administrative +/- environmental measures reduce transmission of TB.

• 7. Is the hierarchy of administrative vs. environmental vs. personal protection evidence based?

• 8. How to grade the risk assessment? What are high risk settings in a high burden TB resource limited setting?

• 9. IC interventions in communities.
What is the outcome

- Decrease of TB incidence (both drug susceptible and drug resistance TB)

- Incidence must be specified as incidence of TB cases (new and recurrent) or TB infection measured with cutaneous test or gamma interferon essays.

- Decrease of incidence should be measured in patients (differentiated between HIV and non-HIV) and HCWs (differentiated between HIV and non-HIV).

- Surrogate outcomes:
  - decrease in incidence of measles and chicken pox.
  - SARS and influenza are not the right model
  - Air Change per Hour
### Question 1

<table>
<thead>
<tr>
<th>Question/intervention</th>
<th>outcome</th>
<th>settings</th>
<th>population</th>
</tr>
</thead>
</table>
| How much transmission happens in hospital settings and how much in the community | TB incidence | 1) any ward  
2) TB ward  
3) MDR ward  
4) outpatient  
5) household  
6) congregate settings | 1) Patients (HIV positive and all patients)  
2) HCWs (HIV positive and all HCWs)* |
## Question 2

<table>
<thead>
<tr>
<th>Questions/interventions</th>
<th>outcome</th>
<th>settings</th>
<th>population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Ventilation vs. no interventions</td>
<td>1) Reduction in TB incidence</td>
<td>1) any ward</td>
<td>1) Patients (HIV positive and all patients)</td>
</tr>
<tr>
<td>2) mechanical ventilation vs. no intervention</td>
<td>2) reduction in incidence of other airborne infections</td>
<td>2) TB ward</td>
<td>2) HCWs</td>
</tr>
<tr>
<td>3) natural or hybrid ventilation vs. mechanical</td>
<td>3) increase in ACH (not applicable for questions number 5 and 6).</td>
<td>3) MDR ward</td>
<td>(HIV positive and all patients)</td>
</tr>
<tr>
<td>4) single occupancy vs. ventilation or mechanical</td>
<td>4) cost</td>
<td>4) outpatient</td>
<td></td>
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<tr>
<td>5) UV lights vs. no intervention</td>
<td></td>
<td>5) congregate settings</td>
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<tr>
<td>6) UV lights vs. UV lights plus other interventions from the above list</td>
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</table>
**Question 3**

<table>
<thead>
<tr>
<th>Question/interventions</th>
<th>outcome</th>
<th>settings</th>
<th>population</th>
</tr>
</thead>
</table>
| Source control interventions (masks, tissues and cough hygiene) vs. no intervention | 1) Reduction in TB incidence  
2) reduction in incidence of other airborne infections | 1) any ward  
2) TB ward  
3) MDR ward  
4) outpatient | 1) Patients (HIV positive and all patients)  
2) HCWs (HIV positive and all patients) |

*Other outcomes to be considered include: knowledge use, tuberculin conversion, compliance, stigma and costs.*
### Question 4

<table>
<thead>
<tr>
<th>Question/interventions</th>
<th>outcome</th>
<th>settings</th>
<th>population</th>
<th>Special situations</th>
</tr>
</thead>
</table>
| Respirators vs. other source control interventions or no intervention | 1) Reduction in TB incidence  
2) reduction in incidence of other airborne infections | 1) any ward  
2) TB ward  
3) MDR ward  
4) outpatient | 2) HCWs (HIV positive and all patients) | Procedures involving aerosol vs. other procedures |
| Fit test vs. fit check and/or training | Proper use of the respirator | 1) any ward  
2) TB ward  
3) MDR ward  
4) outpatient | 2) HCWs (HIV positive and all patients) | |
### Question 5

<table>
<thead>
<tr>
<th>Question/interventions</th>
<th>outcome</th>
<th>settings</th>
<th>population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) triage with and without separation vs. no intervention</td>
<td>1) Reduction in TB incidence</td>
<td>For question 1) outpatient settings only</td>
<td>1) Patients (HIV positive and all patients)*</td>
</tr>
<tr>
<td>2) reduction of hospital stay vs. no intervention</td>
<td>2) reduction in incidence of other airborne infections</td>
<td>while for questions 2) settings to be considered are 1) any ward 2) TB ward 3) MDR ward</td>
<td>2) HCWs (HIV positive and all patients)</td>
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</table>
Question 6 and 7

- Impact of individual interventions or set of interventions.

- Is the hierarchy of administrative vs. environmental vs. personal protection evidence based?
Question 8

• How to grade the risk assessment? What are high risk settings in a high burden TB resource limited setting?

This may be linked to question 1). In a high TB burden country everything is high risk. Higher risk may well be represented by presence of HIV or MDR suspects/patients in a facility; or by patients hospitalized because of cat II or because of failure of cat I.
IC interventions in the communities

• Clear role of the communities in raising awareness for IC

• Lack of guidance on IC interventions in the community
Core Group members

• Is the title correct?
  – Policy on TB infection control in resource-limited settings

• Are the questions correct?
  – Are we missing something?
  – Are we reflecting TB/HIV
  – Is the outcome(s) the right one
  – Should we better prioritize the questions

• Concrete steps for crafting guidance on IC in the community and congregate settings?

• Questions will be shared with the panel group next week.