Strengthen the systemic capacity to stop the spread of MDR-TB in Henan, China

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Outline

* Context
  - Epidemic of TB
  - MDR-TB and DOTS
* Problem tree analysis for high MDR-TB prevalence
* Solution: strengthen the systemic capacity to stop the spread of MDR-TB
* Action plan for policy issues
* Conclusions
Epidemic of TB

- TB has been resurging.
- A global emergency (1993)
- Prevalent cases: 13.7 million;
- MDR-TB: 0.5 million (2007)
- XDR-TB: 55 countries and territories
- Ministerial Meeting on M/XDR-TB
TB in China and in Henan

- **China:**
  - One of 20 countries with a high TB burden worldwide.
  - Incidence rate of TB in China was 98/100,000 (2007)

- **Henan:**
  - About 10% of TB cases are in Henan.
  - MDR-TB incident cases: about 1000.
## MDR-TB rate and DOTS in Henan

<table>
<thead>
<tr>
<th>Year</th>
<th>MDR-TB (%)</th>
<th>Initial MDR-TB (%)</th>
<th>DOTS coverage rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>23.3</td>
<td>10.8</td>
<td>36</td>
</tr>
<tr>
<td>2001</td>
<td>12.9</td>
<td>7.8</td>
<td>89%</td>
</tr>
<tr>
<td>2007</td>
<td>7.2</td>
<td>4.8</td>
<td>100%</td>
</tr>
</tbody>
</table>

Note: Since 2003 the DOTS coverage rate has been reaching 100%
MDR-TB rate comparison with global level

- MDR-TB
  - Global: 5%
  - Henan: 7%

- INITIAL MDR-TB
  - Global: 3%
  - Henan: 4%
Dynamics of MDR-TB

- Infectious Transmissions
- Incidence
- Improper Treatment
- Died
- Cured
- TB
- Late or low detection
- Improper treatment (MDR-TB)

DOTS
Root cause of the problem

Low or late detection of MDR-TB

- Low capacity of laboratory: space, equipment, skilled technician, reagents
- Doctor lacks related knowledge; Not enough doctors
- Patients can’t afford the test fee
Root cause of the problem

MDR-TB
Improper treatment

- No isolation ward
- Doctor lacks related knowledge
- No second-line anti-TB drugs available
- Patients can’t afford
- Patients can’t tolerate the side effects
- Treatment compliance of patients is poor
Solution

- Strengthen the systemic capacity to stop the spread of MDR-TB
  - Performance capacity
  - Personal capacity
  - Workload capacity
  - Facility capacity
  - Supervisory capacity
Model for capacity building

- Inputs to build capacity
  - Equipments, second-line anti-TB drugs, reagents
  - Training
  - Increase healthcare workers
  - Build isolation ward, provide room for lab
  - Regulation of incentives and sanctions; reporting and monitoring system.
  - Network; guideline for MDR-TB

- Performance capacity
  - Requires...

- Personal capacity (Skills)
  - Requires...

- Workload capacity
  - Requires...

- Facility capacity
  - Requires...

- Supervisory capacity (Staff and facilities)
  - Requires...

- Structure capacity
  - System capacity
  - Requires...

Detection & Treatment

- Inputs to build capacity
- Performance capacity
- Personal capacity (Skills)
- Workload capacity
- Facility capacity
- Supervisory capacity (Staff and facilities)
- Structure capacity
- System capacity

- Requires...

- Inputs to build capacity
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- Requires...

- Inputs to build capacity
- Performance capacity
- Personal capacity (Skills)
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- Supervisory capacity (Staff and facilities)
- Structure capacity
- System capacity

- Requires...
Causes and solutions

1. No space, equipment or reagents for lab
2. No isolated ward
3. No second-line anti-TB drugs

4. Patient can’t afford
5. No skilled technician
6. Dr lack related knowledge

7. Poor treatment compliance of patients

Provide

Anti-TB institutions
Health department
Charity
Health department
Clinic doctor

Free

Financial support

Train

Inpatient or Directly observed treatment
Stakeholders analysis

A. Health Department
B. Expert committee
C. Anti-TB institutions
D. Healthcare workers
E. Communities
F. Patients

Diagram:
- Power: High, Low
- Interest: High, Low
- Stakeholders: A, B, C, D, E, F

A. Health Department
B. Expert committee
C. Anti-TB institutions
D. Healthcare workers
E. Communities
F. Patients
Action plan for policy issue

* Submit the policy brief to the health department and ask for approval
* Publish research
* Share results with the anti-TB institutions
* Give presentation to expert committee
* Workshop for healthcare workers
* Link the media to patients & communities
Conclusion

- MDR-TB is threatening the public health
- It will effectively reduce MDR-TB prevalence in Henan to increasing the budget on strengthening systemic capacity for detection and treatment.
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