Contact Investigations in Correctional Settings
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TB in Corrections: Best Practices for TB Prevention and Care
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Lana Jones, MPH has the following disclosures to make:

• No conflict of interests
• No relevant financial relationships with any commercial companies pertaining to this educational activity
Objectives

• Define a TB contact investigation
• Determine when and how to initiate a contact investigation
• Describe roles of regional and local health departments and correctional facilities in managing a contact investigation
• “Right of Entry”

What is a TB contact investigation?

Contact investigations are a very good way to find people with TB infection and TB disease. In a contact investigation, people who were exposed to someone who has infectious TB disease (contacts) are identified and evaluated for TB infection and TB disease. Contacts are at high risk for infection with M. tuberculosis. (CDC, Self-Study Modules on Tuberculosis)
How does this apply to correctional facilities?

• The identification of a case of TB disease in a correctional facility calls for a rapid response due to the potential for widespread TB transmission.
• A prompt response can prevent a TB outbreak or contain an outbreak that has already begun.
• “Most jails and prisons were constructed to maximize public safety, not to minimize the transmission of disease or to efficiently deliver health care.”  

Planning and Initiating

Contact investigations can be very complicated, and may require outside technical assistance or collaboration with other departments or facilities. Like all major projects, coming up with a plan should be the first step.
Getting Started

The contact investigation plan includes:

- Assessment of need and scope of the investigation
  - Meet with stakeholders/interested parties
- Management of staff and resident notification
- Capacity for contact testing
  - May include one or two rounds of testing
- Expansion of investigation

Major factors determining the direction of the contact investigation:

- Infectiousness of index patient
- Duration and intensity of exposure
- Susceptibility of the individual contact
Factors to Consider When Planning a Contact Investigation

- Index patient’s degree of infectiousness
- Groups of contacts with the greatest degree of exposure
  - Proximity and length of exposure to TB patient
- Vulnerability and susceptibility of individual contacts
- Ventilation and air flow
- Infection control practices
  - Masks, isolation areas, transportation

Index Patient Degree of Infectiousness

- Anatomical Site of Disease
  - Pulmonary, laryngeal or pleural
- Sputum Bacteriology
  - Positive smear, NAAT or culture
- Radiographic Findings
  - Lung cavitation
Determining the Infectious Period

- Three months before the onset of first symptom
- Focuses investigation on contacts most likely to be at risk of infection
- Index patient (or associate) might be aware of protracted illness (in extreme cases >1 year)

Assigning Priorities to Contacts

- Based on infectiousness of the index patient, susceptibility and vulnerability of contacts, and duration and intensity of exposure
- These classifications are approximations and should be re-evaluated during the contact investigation as findings are analyzed
Assigning Priorities to Contacts

- **Age:** after infection, disease is more likely to occur in younger children
  - Age <5: high priority; window prophylaxis; more prone to severe forms of disease
- **Immune status**
  - HIV infection: TB progresses from infection to disease more frequently and rapidly than any other known risk factor; greater likelihood of disseminated disease
  - Contacts receiving >15 mg of prednisone or equivalent for at least 4 weeks; multiple cancer chemotherapy agents; tumor necrosis-alpha antagonists
  - Other medical risk factors: underweight for height; silicosis; diabetes mellitus; gastrectomy; jejunoileal bypass surgery

<table>
<thead>
<tr>
<th>Space Size</th>
<th>Example</th>
<th>High Priority</th>
<th>Medium Priority</th>
<th>Low Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Small</td>
<td>Car, small office, 150 sq/ft</td>
<td>≥ 8 hours</td>
<td>4 to 8 hours</td>
<td>&lt; 4 hours</td>
</tr>
<tr>
<td>Small/Medium</td>
<td>Classroom, conference space</td>
<td>≥ 24 hours</td>
<td>12 to 24 hours</td>
<td>&lt; 12 hours</td>
</tr>
<tr>
<td>Medium/Large</td>
<td>Cafeteria, small church</td>
<td>≥ 50 hours</td>
<td>25 to 50 hours</td>
<td>&lt; 25 hours</td>
</tr>
<tr>
<td>Large</td>
<td>Gymnasium, auditorium</td>
<td>≥ 100 hours</td>
<td>50 to 100 hours</td>
<td>&lt; 50 hours</td>
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</tbody>
</table>

DSHS recommendations for cumulative time needed to assign priority based on environmental exposure
Ventilation and Air Flow

- Air volume, exhaust rate and circulation predict the likelihood of transmission in an enclosed space
- Proximity of contact to index patient
- An environmental assessment may be necessary

Evaluation of Contacts

- Evaluation should also include information gathering:
  - Information on previous TB infection or disease, treatment, TST/IGRA results
  - Current symptoms of illness
  - Medical conditions or risk factors making TB more likely
  - Psychiatric illness and substance abuse disorders
  - Socio-demographic factors, including country of birth

- This may require medical record review prior to evaluation
Evaluation of Patient

• Conduct TST/IGRA testing
  • Refer for CXR if documented prior positive results
• Educate the person on TB

• If IGRA positive or TST ≥ 5 mm, evaluate with CXR and a symptom screen
  • If symptomatic, contact should provide sputum specimens

![Image](Tuberculin_Skin_Test.jpg)

<table>
<thead>
<tr>
<th>Last Name</th>
<th>First Name</th>
<th>DOB</th>
<th>Staff/Resident</th>
<th>Priority Group</th>
<th>Date IGRA Drawn</th>
<th>IGRA Result</th>
<th>CXR Recommended</th>
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</thead>
<tbody>
<tr>
<td>Jones</td>
<td>Lana</td>
<td></td>
<td>Resident</td>
<td>High</td>
<td>10/16/2015</td>
<td>POS</td>
<td>Y</td>
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<tr>
<td>Ruiz</td>
<td>Raiza</td>
<td></td>
<td>Staff</td>
<td>Medium</td>
<td>10/20/2015</td>
<td>NEG</td>
<td>N</td>
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<tr>
<td>Robichaux</td>
<td>Shelly</td>
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<td>High</td>
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<td>NEG</td>
<td>N</td>
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<tr>
<td>Castillo</td>
<td>Daniel</td>
<td></td>
<td>Resident</td>
<td>Medium</td>
<td>10/18/2015</td>
<td>IND</td>
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<tr>
<td>May</td>
<td>Johna</td>
<td></td>
<td>Staff</td>
<td>Medium</td>
<td>10/20/2015</td>
<td>POS</td>
<td>Y</td>
</tr>
</tbody>
</table>

Tracking and Organizing Contacts
Expanding a Contact Investigation

- Assess the infection rate of each group of contacts
- Determine which direction to expand
- Mass testing will confuse results
- If still seeing infection/conversions in lower-priority contacts, consider that there may be more than one active case in your facility

Roles and Responsibilities

Contact investigations are complicated and time consuming, and must be directed by properly trained personnel.
Capacity and Resources

Depending on the facility health care resources:

- The health department may do the entire contact investigation, or
- Some steps of the investigation may be performed by facility health care staff with the health department’s supervision

A great example of collaboration: a correctional facility may evaluate the inmates and staff who were exposed, while a health department evaluates contacts outside the facility

Mass TB testing of a facility is not recommended

Health Department Responsibilities

- Aid facilities in planning, implementing and evaluating a contact investigation
- Ensure that a complete contact investigation is performed
- Report contact investigations to the state in a timely and appropriate manner
Facility Responsibilities

- Facilities have an obligation to protect residents and employees from health hazards
- Physician attending a case of suspected or active TB must promptly notify the local/regional health department
  - Do not wait for culture confirmation to begin an investigation
- Must fully cooperate and collaborate with the health department in the contact investigation

Right of Entry

The DSHS Commissioner, an employee of DSHS or a health authority has the right of entry to any correctional or detention facility for an investigation or inspection. A person commits an offense if the person knowingly refuses or attempts to refuse entry under Section 81.064 or Section 81.065. For more information on the state legal authority to conduct contact investigations, refer to the Communicable Disease Prevention and Control Act Texas Health and Safety Code Chapter 81.
Thank you!

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