



Source Case Investigations

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A Deeper Dive into TB Nurse Case Management

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Objectives

- Explain what a source case investigation is
- Identify when to initiate a source case investigation
- Outline the steps of conducting a source case investigation



What is a Source Case Investigation?

- A **source case** is a person with active TB disease who is responsible for transmitting *M. tuberculosis* to another person or persons.
- The purpose of a source case investigation are to determine
 - Who transmitted *M. tuberculosis* to a child or to a group of persons who have been recently infected with *M. tuberculosis*
 - Whether the source case is still infectious
 - Whether the source case was reported to the health department
 - Whether any other persons were infected by the source case
 - The drug susceptibility test results and genotyping results of the source case who transmitted TB to a child



When Should a Source Case Investigation be Conducted?

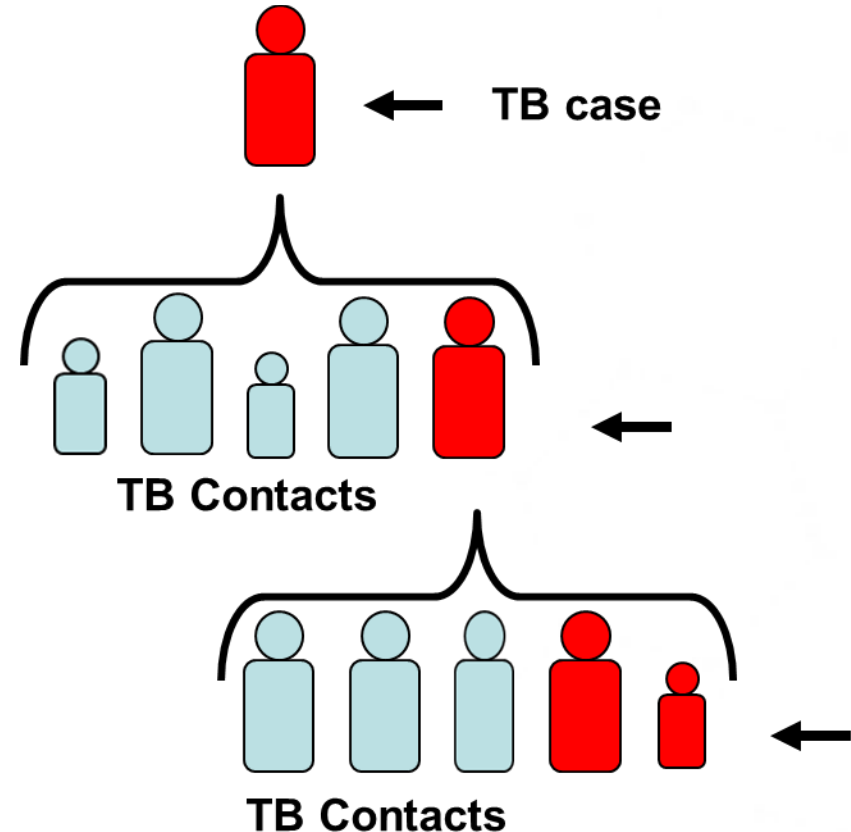
- A source case investigation could be considered in the following situations:
 - A child 5 years of age or younger has been diagnosed with TB disease
 - An infant 2 years of age or younger has been diagnosed with LTBI
 - Healthcare settings where serial TB testing indicates recent *M. tuberculosis* infection in a healthcare worker
 - Correctional facilities (e.g., jails, prisons) where TB testing indicates an increase in *M. tuberculosis* infection among inmates or staff



How Are Source Case Investigations Conducted?

- A source case investigation moves in the opposite direction of a contact investigation, but the same principles and investigative skills apply.

Every TB case began as a TB contact



Who Should Be Identified In A Pediatric Source Case Investigation?

- Household contacts of:
 - A child 5 years of age or younger has been diagnosed with TB disease
 - An infant 2 years of age or younger has been diagnosed with LTBI
- Many questions need to be asked
 - Who has the child been around most?
 - Anyone showing symptoms?
 - Recent travel?



Breakout!!!!



Scenario

- Mother presents to ER with 2-year-old female and states that daughter has had cough for 6 weeks and has been running fever and has loss of appetite for 3 days. Once admitted, a TST is placed and CXR proves to be abnormal and c/w TB. TST later reads 15mm and patient is diagnosed with active pulmonary TB disease.

It's time to initiate the source case investigation!

Where do we start?

The mom



What Questions Should Be Asked?

- Who lives in the home?
- Is anyone symptomatic?
- Country of origin/recent immigration/recent travel?
- Daycares, relatives, community groups, etc.?



Background

- While interviewing the mother you find out that she and her husband live at home with the daughter and 9-year-old son. The mother is a stay-at-home mom, and the family entered the country 4 months ago, stating that they immigrated from Philippines. When asked if anyone in the family had symptoms, the mother stated that the father had been experiencing night sweats for the past 2 weeks.

Who should be evaluated?



The Results

- Mother: T-Spot (-), CXR Normal, asymptomatic
- Father: T-Spot (+), CXR Normal, sputum smear x3 and PCR negative
- Son: T-Spot (-), asymptomatic, CXR Normal



Plot Twist

- During a DOT the mother states that her mother-in-law has been admitted to a hospital in the Philippines. Her initial CXR at the hospital shows a RUL cavitory lesion, her sputum is 3+ smear positive, and PCR is MTB positive.

Is the mother-in-law the source case?



THANK YOU



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