



Contact Investigation Case Study

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Introduction to TB Nurse Case Management Online

September 4th – September 25th, 2024

Online Course

LT Adrienne Villarreal, FNP-C has the following disclosures to make:

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





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Contact Investigation Case Study

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Objectives

- Discuss factors associated with prioritizing contacts identified in an investigation

Background

1. A local health department notified the TB and Hansen's Disease Branch of a concerning investigation involving a 15 year old patient with probable TB disease.
2. The patient had a family history of TB. Complicated family dynamics contributed to the patient being lost to f/u when he was previously identified as a contact.
3. Household contacts screened positive during first round testing.
 - a. Patient's mother was symptomatic.



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To Expand or Not to Expand?

1. The patient was a student at a large local high school.



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Patient Characteristics

Diagnostic	Result
Symptoms?	Cough, hemoptysis, loss of appetite, weight loss, night sweats
TST?	Positive
NAAT?	Positive for M. tb complex
Smears?	Sputum smear positive >10/field
CXR?	Abnormal with cavitation
Culture?	Positive for M. tb



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Contact Characteristics

- Congregate setting
- Crowded classrooms with 30 students per class on average
- Small, poorly ventilated rooms
- Not all classes assigned seats
- A/B days with 70 minute classes
- 2 semesters in infectious period
- Most classes in one wing



Investigation Results

Contact Category	Contacts Screened	Contacts Infected with TB	Contacts with TB Disease	Infected Contacts on Treatment	Disease on Treatment
Household	28	6	3	3	3
Social	4	0	0	0	0
High School - Students	219	21	0	18	0
High School - Staff	11	2	0	0	0
Total	262	29	3	21	3

Household/Social Contact infection rate = 19%

School Contact infection rate = 10%

Overall infection rate = 11%



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Limitations

- Medical risk factors of contacts not determined
- Investigation occurred in a high TB incidence area



Review

Significant exposure factors

- Physical proximity
- Duration of exposure
- Ventilation systems
- Immunosuppression, HIV, DM

Review



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- TB CI in Schools Toolkit: Steps 1-9
- Develop contact list, choose testing method, and determine testing dates
- Expanding the contact investigation
- Analyze and summarize results





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Thank you

LT Adrienne Villarreal