Overview of Contact Identification (CI) Guidelines

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Has the following disclosures to make:

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

Overview of Contact Identification (CI) Guidelines

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Objective

- Describe initiation of contact identification
- Links to document:
  - https://www.cdc.gov/mmwr/pdf/rr/rr5415.pdf (.pdf)
  - https://www.cdc.gov/mmwr/preview/mmwrhtml/rr5415a1.htm (.htm)

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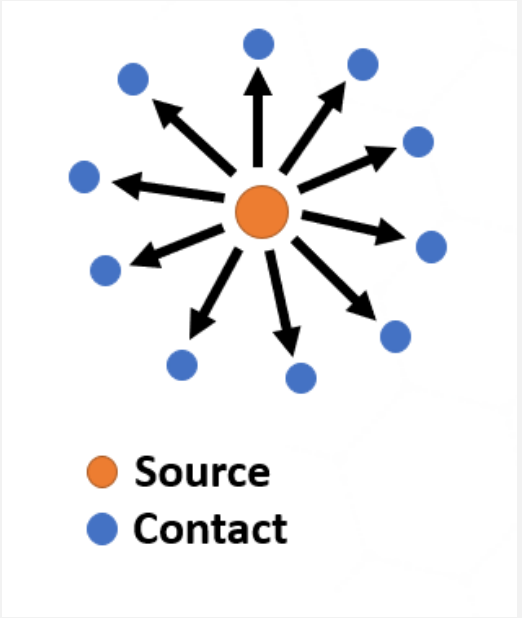
Content Objectives

- Interviewing of the patient with TB disease for contacts
- Prioritizing contacts
- Data management and community communication
- Confidentiality
- Special settings and source-case identifications

Why we perform contact identification

Importance of Contact Identification

- Allows for
  - The stop of transmission
  - Identify the source case
  - Identify contacts
  - Prevent future cases of TB
  - Evaluate and treat recently exposed person
- Nationally, on average:
  - 20-30% of household contacts have TB infection and 1% of contacts have TB disease[1]



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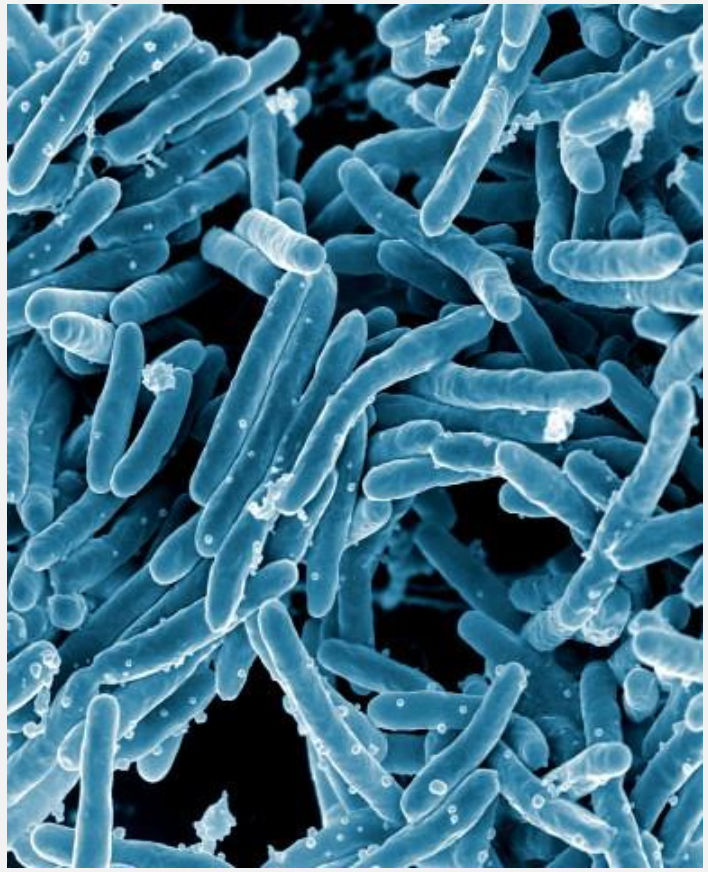
1. US Department of Health and Human Services, Centers for Disease Control and Prevention (2014). *Contact Investigations for Tuberculosis, Module 8, p. 4*

Example

- 21 y.o. contact to a patient with TB disease. Tested positive on QFT when initially evaluated and did not follow-up with requests from the health department.
- One year later (22 y.o.), patient is diagnosed with TB
  - Patient had 1 y.o. child at home requiring window prophylaxis
  - Patient babysat a 3 y.o. who also required window prophylaxis
  - Patient was enrolled in school at the time, requiring testing of school contacts
  - Patient had occasional side effects to treatment and became pregnant during the course of treatment.

What is Contact Identification?

- A systematic process to:
  - Identify persons (contacts) exposed to someone with infectious TB disease
    - Household members
    - Friends
    - Co-workers
    - Others
  - Assess contacts for infection with *M. tuberculosis*
  - Provide appropriate treatment for contact with latent TB or TB disease.



Methodology

- Based upon epidemiologic and scientific studies
- Has not been researched through randomized control trial
- These guidelines are not “one size fits all”

So, you're going to begin contact identification? I admire your tenacity.

Decision to begin

- General issues
  - Competing demands
    - Limited resources
    - Limited staff
  - Prioritization of cases
    - Which cases are the most and least likely to transmit germs?
    - Which cases have highest priority contacts?
    - Which cases are the highest profile?

Decision to begin

- TB transmission factors
  - Anatomical site of disease
  - Sputum bacteriology
  - Radiographic findings
  - Behaviors that increase aerosolization of respiratory secretions
  - Age
  - HIV status
  - Administration of effective treatment

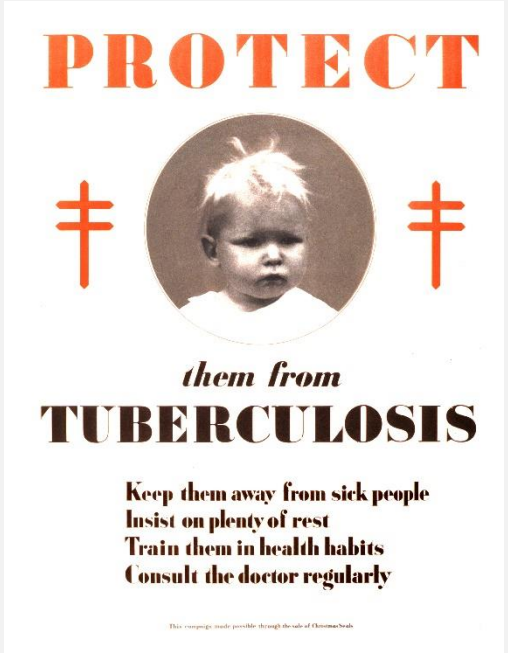
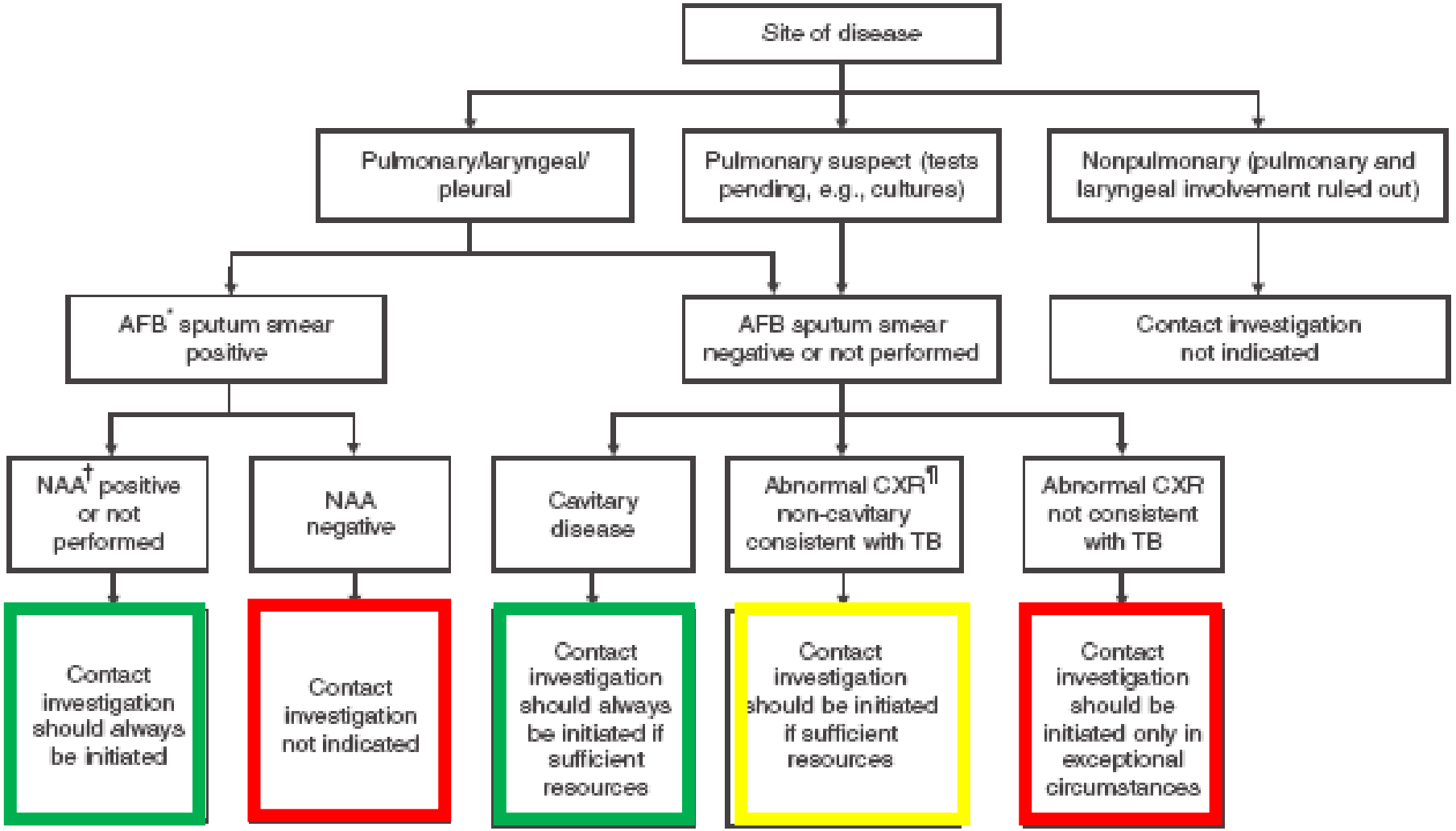


FIGURE 1. Decision to initiate a tuberculosis (TB) contact investigation



* Acid-fast bacilli.
† Nucleic acid assay.
§ According to CDC guidelines.
¶ Chest radiograph.

Interviewing patients

- Health Department's responsibility
  - Clearly state written policies and procedures
    - Improves efficiency and uniformity
- Establish trust and consistent rapport with patient
- Interviews should be in primary language of patient
  - Or language of proxy, if applicable
- Utilize standard documents or forms for data collection

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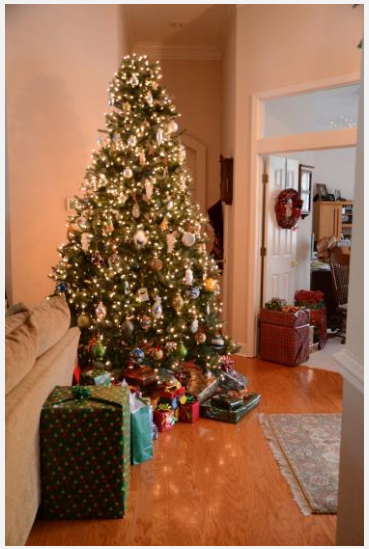
Excerpt from Contact Identification worksheet

Enter name(s) of spouse, boy/girlfriend(s), partner(s), if at risk of exposure and not household members.
Setting 1 2 3 4 >6 hr/wk Y N
Setting 1 2 3 4 >6 hr/wk Y N
How many children do you have who do not live at home? **Enter names if at risk of exposure.**
Setting 1 2 3 4 >6 hr/wk Y N
Setting 1 2 3 4 >6 hr/wk Y N
How many people lived in the house during the past six months who do not live with you now? _____ Enter names below, of people who no longer live in the home:
Setting 1 2 3 4 >6 hr/wk Y N
Setting 1 2 3 4 >6 hr/wk Y N
Setting 1 2 3 4 >6 hr/wk Y N
How many people visited your home and stayed overnight during the past 6 months? _____ (This could have been for holidays, birthdays, special events, etc.) **Enter names below:**
Setting 1 2 3 4 >6 hr/wk Y N
Setting 1 2 3 4 >6 hr/wk Y N
Setting 1 2 3 4 >6 hr/wk Y N
Setting 1 2 3 4 >6 hr/wk Y N

https://www.dshs.texas.gov/tuberculosis-tb/texas-dshs-tb-program-tb-forms-resources

Interviewing patients



- Pre-interview be aware of:
  - Preferred language of patient
  - Living situation
  - Substance abuse, mental illness or other illnesses
  - Need for respirator
  - **Calendar of events**
- In-person interview should be performed within one business day for symptomatic patients and within 3 business days for others

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Infectious period

- Establish infectious period at first visit
  - Recommended to be 3 months before the **earliest indication of disease**
  - Infectious period closes when:
    - At least 3 consecutive sputum smears are negative for acid-fast bacilli (AFB)
    - Patient has received 2 weeks of adequate treatment for TB if sputum smears are AFB+ OR has received at least 1 week of adequate treatment for TB if sputum smears are all AFB- from beginning
    - **Patient has clinical improvement of signs and symptoms of TB**
  - Closure of infectious period important for release from isolation and 2nd round testing of household contacts

Example of an infectious period worksheet

https://www.dshs.texas.gov/sites/default/files/IDCU/disease/tb/forms/PDFS/TB-425.pdf

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TUBERCULOSIS INFECTIOUS PERIOD CALCULATION SHEET

This calculation sheet is designed to estimate the time a client with suspected or confirmed tuberculosis (TB) disease is capable of transmitting TB to others. Identifying the infectious period establishes a point in time to focus contact investigation efforts including evaluating exposed persons at risk of progressing to TB infection or disease.

Patient's name: _____ **Date of birth:** _____

Completed by: _____ **Title:** _____

Phone #: _____ **Date completed:** _____

Table 1. Estimating the Date of Symptom Onset

Symptom	Yes	No	Duration	Onset Date
Cough				
Cough with blood				
Weight loss				
Night sweats				
Chest pain				
Loss of appetite				
Fever				
Chills				
Other (i.e., shortness of breath & fatigue)				

Table 2. Estimating the Beginning of the Infectious Period

A. Criteria			B. Estimated Start of Infectious Period *Select any of the following based on criteria met by client in Column A*	C. Infectious Period Start Date *Select earliest date of symptom onset listed in Table 1*
TB Symptoms	Acid Fast Bacilli (AFB) Sputum Smear Positive	Cavitary CXR		
Yes ___	Yes ___	Yes ___	Three (3) months before symptom onset or first positive finding consistent with TB disease (e.g. abnormal chest radiograph) whichever is longer.	
Yes ___	Yes ___	No ___		
Yes ___	No ___	No ___		
No ___	Yes ___	Yes ___	Three (3) months before first positive finding consistent with TB	
No ___	No ___	No ___	Four (4) weeks before date of suspected diagnosis	

Source: Adapted from MMWR. 2005; 54 (No. RR-15)

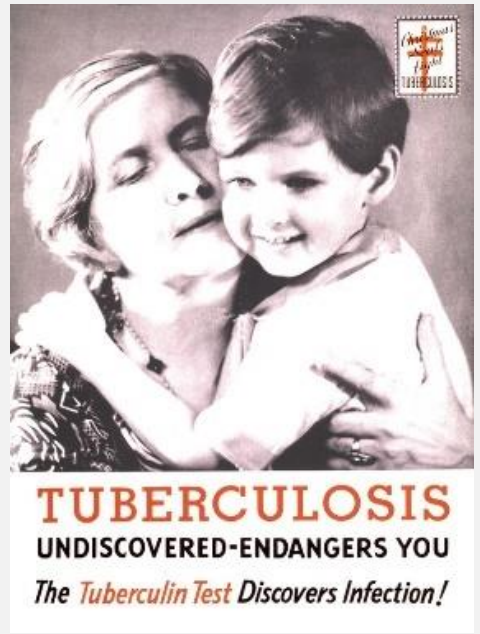
So, what are you going to do with all these contacts?

Prioritizing contacts

- Establish a break-in-contact for each contact
  - Break-in-contact is when the contact is no longer being exposed to the TB germ
- Likelihood of infection depends upon:
  - **Intensity** (how many germs to which contact exposed)
  - **Frequency** (how often exposure occurred)
  - **Duration** (how long was exposure at each time period)
  - **Risk factors** (does the patient have age or medical-related risk factors that make them greater risk for disease)

Age and medical risk factors

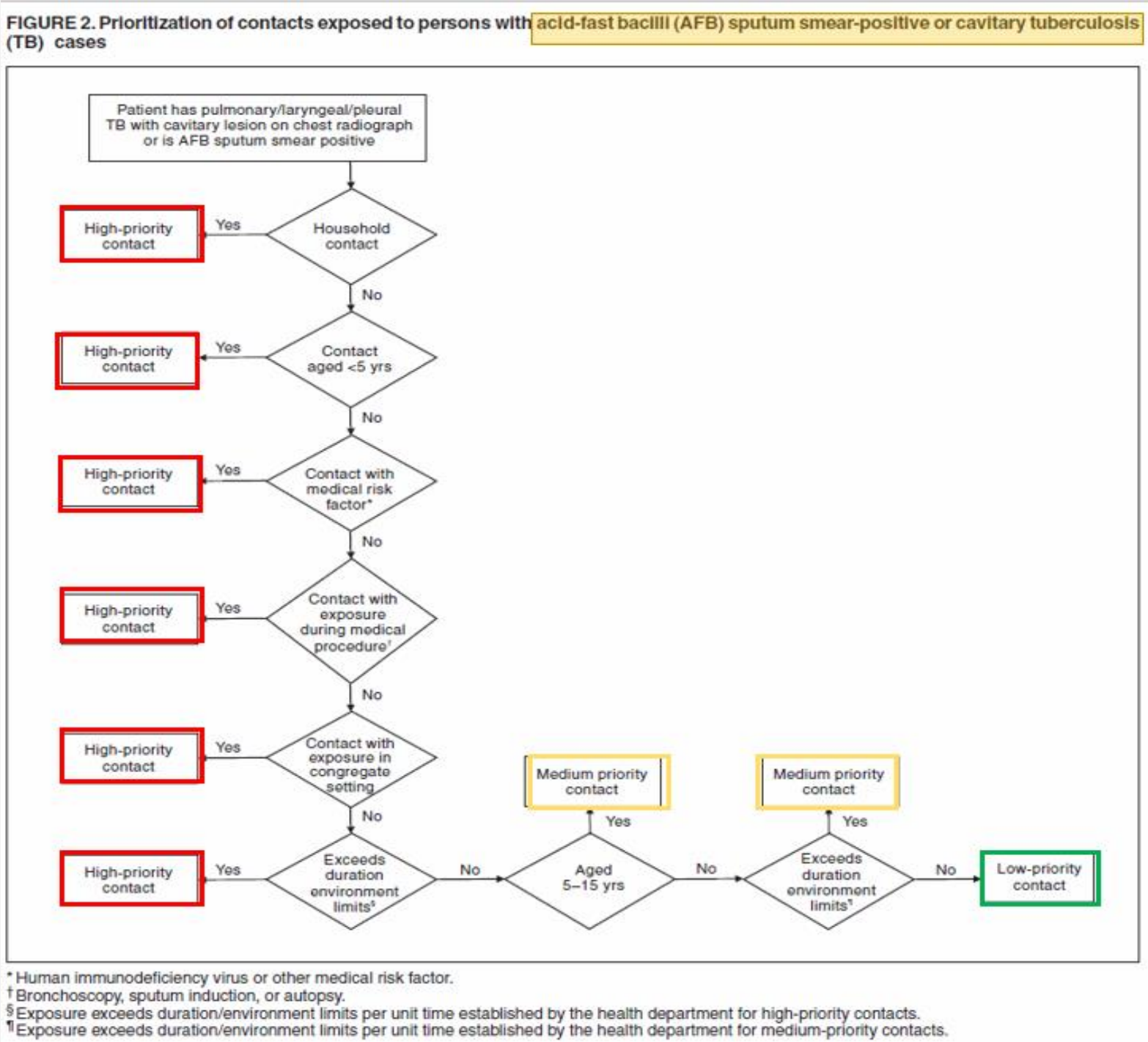
- These risk factors increase a contact's possibility of rapidly developing TB disease if infected with TB germ
  - Age <5 years old; <2 years old even more at risk
    - Incubation period is shorter
  - Medical and medication usage issues
    - HIV positive (disease will progress more rapidly)
    - Long-term corticosteroid use (>15 mg daily for >4 weeks)
      - Inhaled corticosteroids don't count
    - Anti-rejection medications for organ transplants
    - Cancer chemotherapy agents
    - Tumor necrosis factor alpha antagonists



Algorithm for contacts to patients with **smear+ or cavitary TB**.

Note the following:

- Number of high-priority contacts
- Health Department sets the environmental limits.

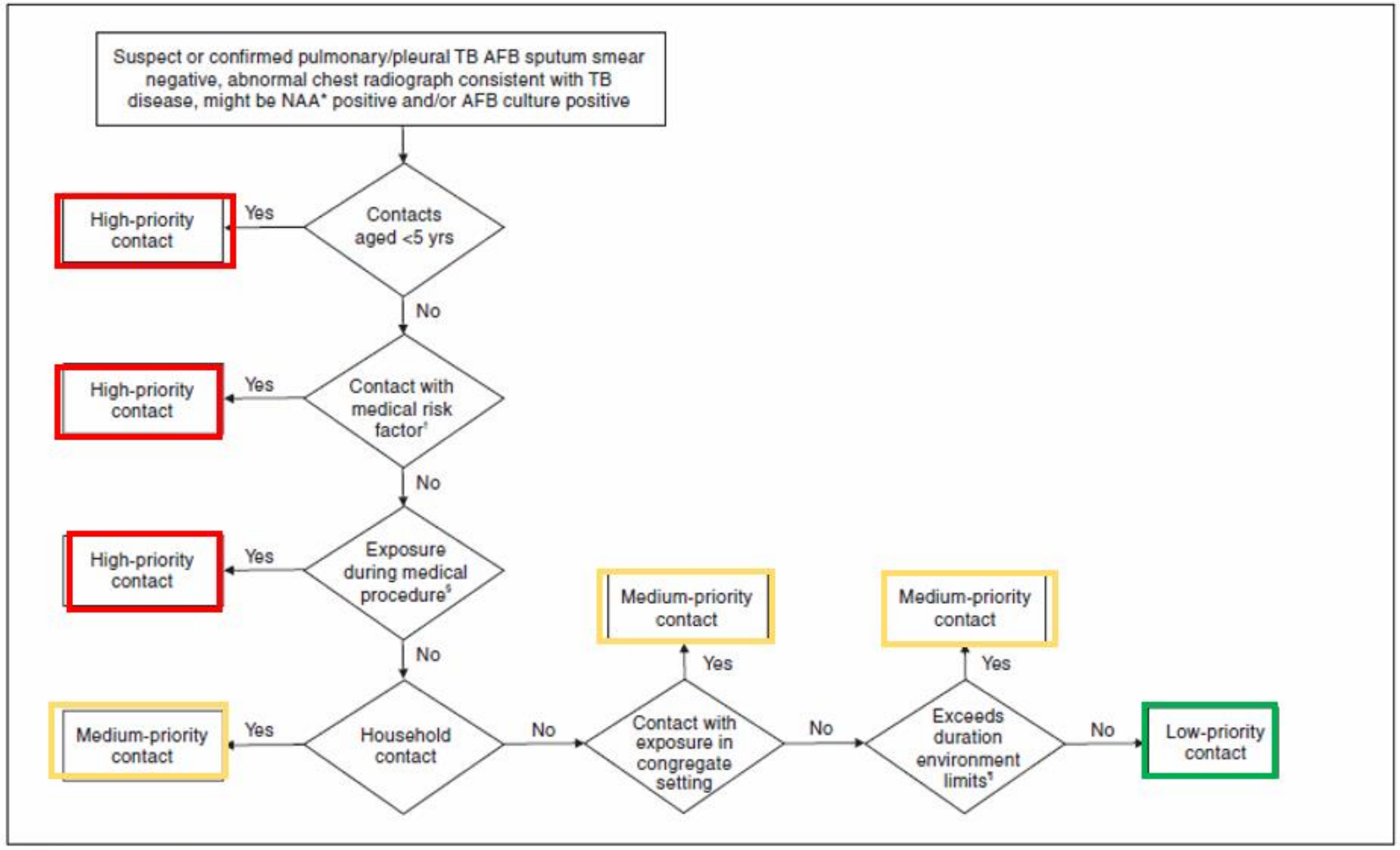


Algorithm for contacts to patients with **smear- TB**.

Note the following:

- Decreasing number of high-priority contacts
- Health Department continues to set the environmental limits.

FIGURE 3. Priority assignments for contacts exposed to persons with acid-fast bacilli (AFB) sputum smear-negative tuberculosis (TB) cases

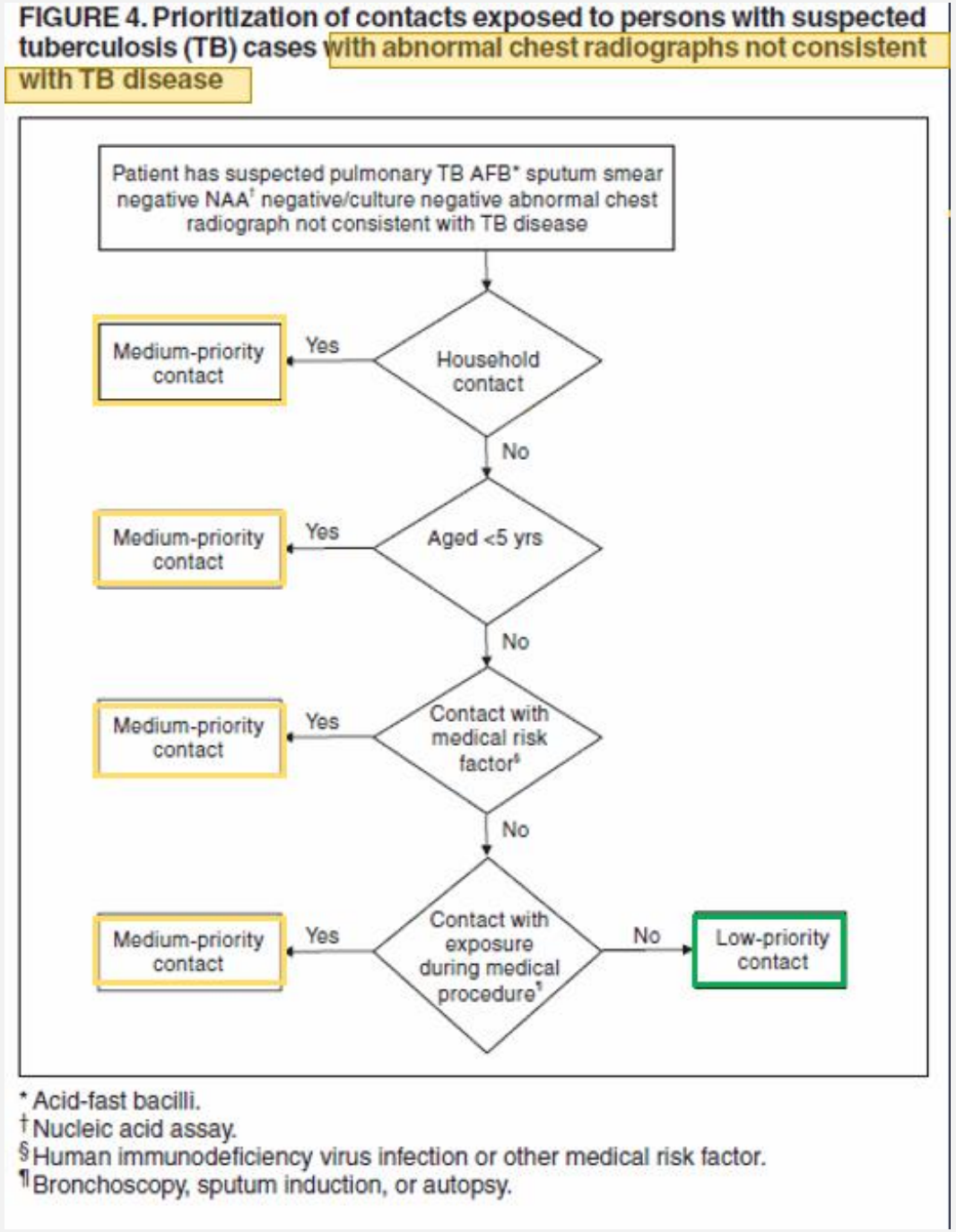


* Nucleic acid assay.
† Human immunodeficiency virus or other medical risk factor.
§ Bronchoscopy, sputum induction, or autopsy.
¶ Exposure exceeds duration/environment limits per unit time established by local TB control program for medium-priority contacts.

Algorithm for contacts to patients with **possible TB** with chest X-ray **not consistent with TB disease**.

Note the following:

- No high-priority contacts
- No environmental limits set.
- You may be performing a very limited contact identification with these patients.



A note about Window Prophylaxis

- Window prophylaxis is treating a patient without evidence of TB infection like they have TB infection
- We do this for those with high risk for conversion to TB disease and a short incubation period that include:
  - Children <5 years old
  - Patients who are HIV+
  - Patients on immunosuppressive medications (discussed earlier)
- Patient will receive medications until 2nd round testing performed 8-10 weeks after last exposure to TB.

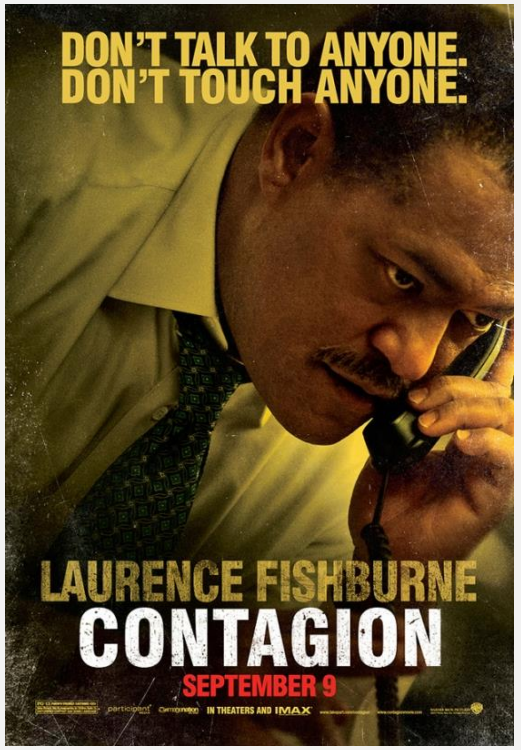
So, how do you manage your data and communicate with the community?

Communications

- Internal
  - When new patient needs contact identification, meet with team to establish plan
  - Establish communication methods with the team
    - Secure e-mail
    - Shared drive with data collection
    - Case manager point of contact
  - Create line-list of each contact and break-in-contact (last day of TB exposure)
  - Identify triggers to expand communication
    - Day care contacts
    - Medical facility contacts
    - Congregate setting contacts
    - High profile contacts

Communications

- External
  - **Have a plan established** for communicating a TB contact identification is happening in a designated area
    - Local elected officials
    - Local response groups (if applicable)
    - Local medical facilities
  - Determine who needs to be involved with external communication outside these groups
  - **Develop a template for communication**
  - Ensure all the team is aware of external communication before it occurs



Communications

- Large-scale Media
  - **<u>Get your public information officer involved immediately</u>**
  - Meet with team to establish the facts about the case and the contacts that are currently being identified and tested
  - Use press statements that do not give the following to the public:
    - Gender
    - Age
    - Employment
  - Guide inquiries back to the health department and have team established to field calls

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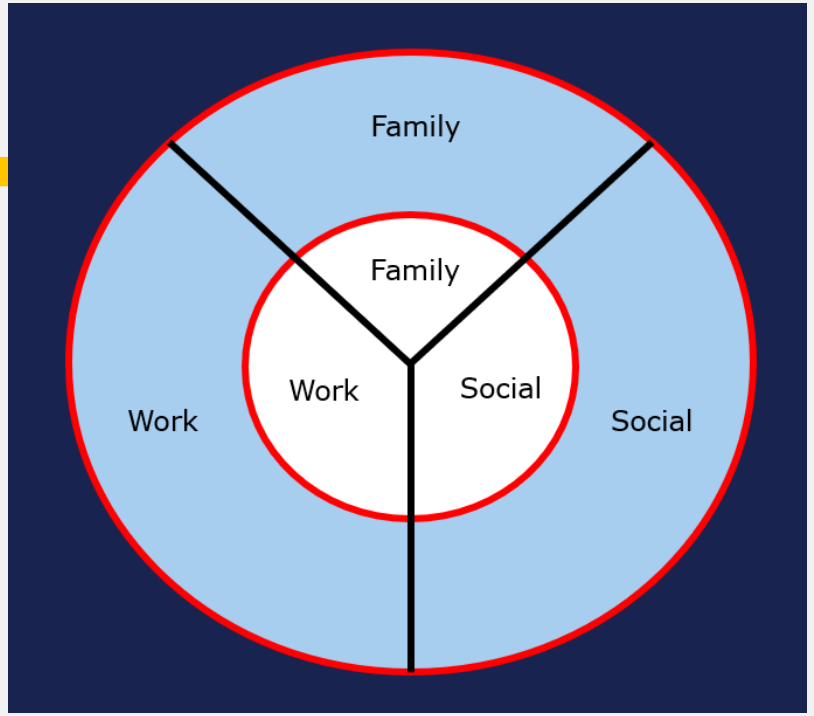
Data management



- Keep things organized
  - Excel or Access database
  - Secured documents
  - Standardized forms for data collection
    - Saves you from reinterviewing contacts
  - Address/Interjurisdictional Notifications
- Analyze data to determine if expansion of contact identification is needed
  - If so, where? (Social, Household, Work)
  - Keep data for required length of time per your records retention department

So you want to know about confidentiality? I'd tell you about it, but it's a secret

Confidentiality

- All private health information (PHI) collected must be kept safe
  - Physical security
    - Locking up charts, accessing files
  - Administrative security
    - Ensuring staff have been authorized to see information

- Keep information about patient with TB from others
- Keep information about others from others
  - Even if people ask about index case, you mustn't confirm
- Determine HIPAA documents required to sign

You may remember me from such movies as: “Source Case Identification: The Only Way Forward is Backwards”

Source-Case Identification

- Trying to figure out who gave someone TB
- Used for the following:
  - A child 5 years or younger who has been diagnosed with TB disease
  - An infant 2 years or younger who has been diagnosed with TB infection
  - A healthcare setting where TB testing indicates recent infection in a healthcare worker
  - In correctional facilities where TB testing indicates increased TB infection among inmates or staff

Source-Case Identification

- Interview those around the patient with TB disease about symptomatic people in the following locations:
  - Home or extended family visits
  - School
  - Daycare
  - Car pools and buses
  - Play groups
  - Recreational activities
  - Places of recent travel

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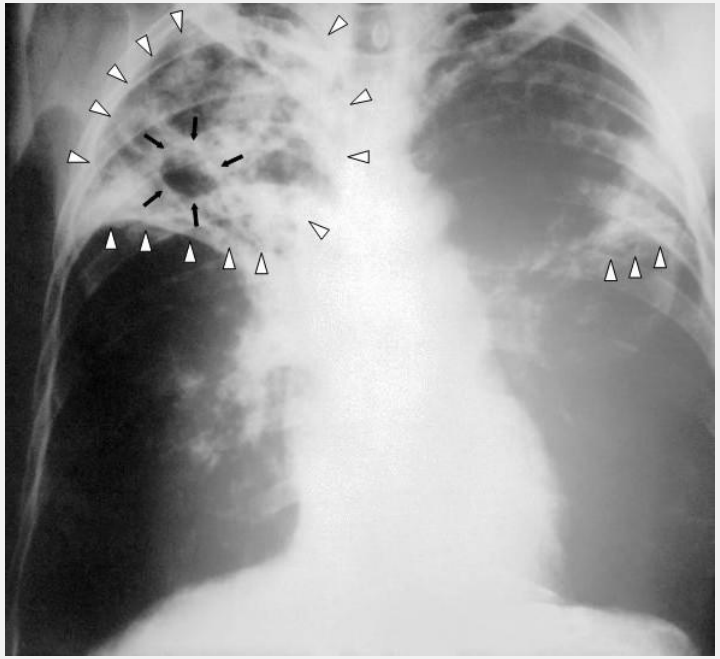
Source-Case Identification

- Focus is on those who are symptomatic
  - Obtain chest X-ray
  - Obtain sputum specimens
  - Obtain IGRA/TST
- Determine if specimens from current case and possible source case can be genotyped and matched
- Consider using susceptibilities of known source cases to guide treatment of current case



Special settings challenges

Schools

- Children/minors involved
- Get school officials involved
- Anticipate parental concerns and information sessions
- Evaluate the student/teacher/staff member movements throughout the day
- Gather parental consents and attempt onsite testing
- Anticipate work to find contacts if 2nd round is during the summer

Homeless Shelters

- Population may have more underlying issues to include mental health, drug, or alcohol issues
- Population may be very mobile and not available for 2nd round testing
- Check for HIV
- Check for history of incarceration that increases risk for TB exposure
- Work with facility administration

Correctional Facilities

- Expect a large number of contacts
- Work with facility to determine the patient's movement within the facility and amongst other correctional facilities
- Obtain results from TB testing upon intake
- Consider many of the contacts to be high priority due to poor ventilation and crowded space
- Anticipate patients moving when on treatment

Thank you!

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