61ST ANNUAL

Denver TB Course

(Hybrid Event)

APRIL 2-4, 2025

National Jewish Health®

Contact Investigations

April 4th, 2025

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Public Health Institute at Denver Health

PUBLIC HEALTH INSTITUTE AT DENVER HEALTH™

No Conflicts of Interest

Objectives

Be able to describe:

- When and how to begin a TB contact investigation
- When to expand a contact investigation
- Considerations when communicating with partners, community, media

What this is not:

- Interviewing skills course

Patient #1: “Steven,” 26 M

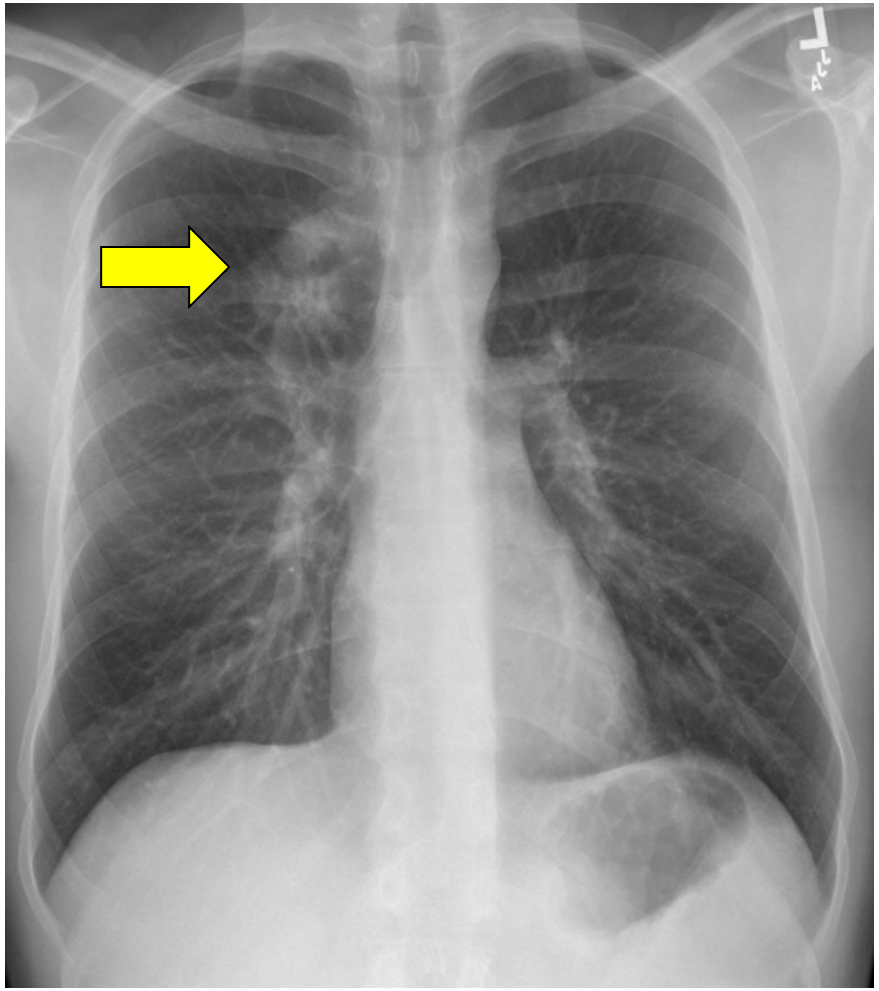
HPI: Intermittent cough for a month, productive for 1 week.

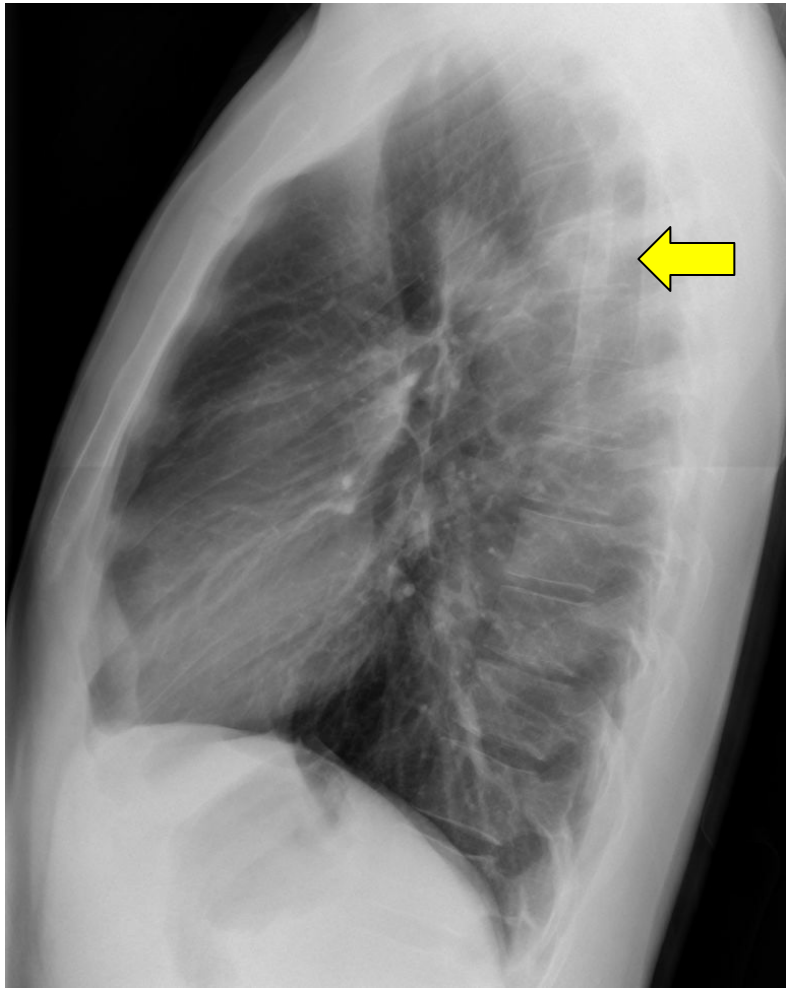
- *No night sweats, weight loss or hemoptysis.*

PMH: None

Social Hx: U.S. born, no international travel; lives with a roommate

Work Hx: worked in a TB clinic in CO; currently working in an HIV clinic





Referred to TB Clinic – sputum for AFB and QFT pending

Sensitivity of TB diagnostic tests

- Sputum AFB smears - ~ **50%** positive in pulmonary TB

- Nucleic Acid Amplification Tests (NAAT)
  - **~ 98%** sensitive if AFB **smear-positive**
  - **~ 60%** sensitive if AFB **smear-negative**

- Interferon-gamma Release Assays (IGRAs) - **85-90%** positive in active TB

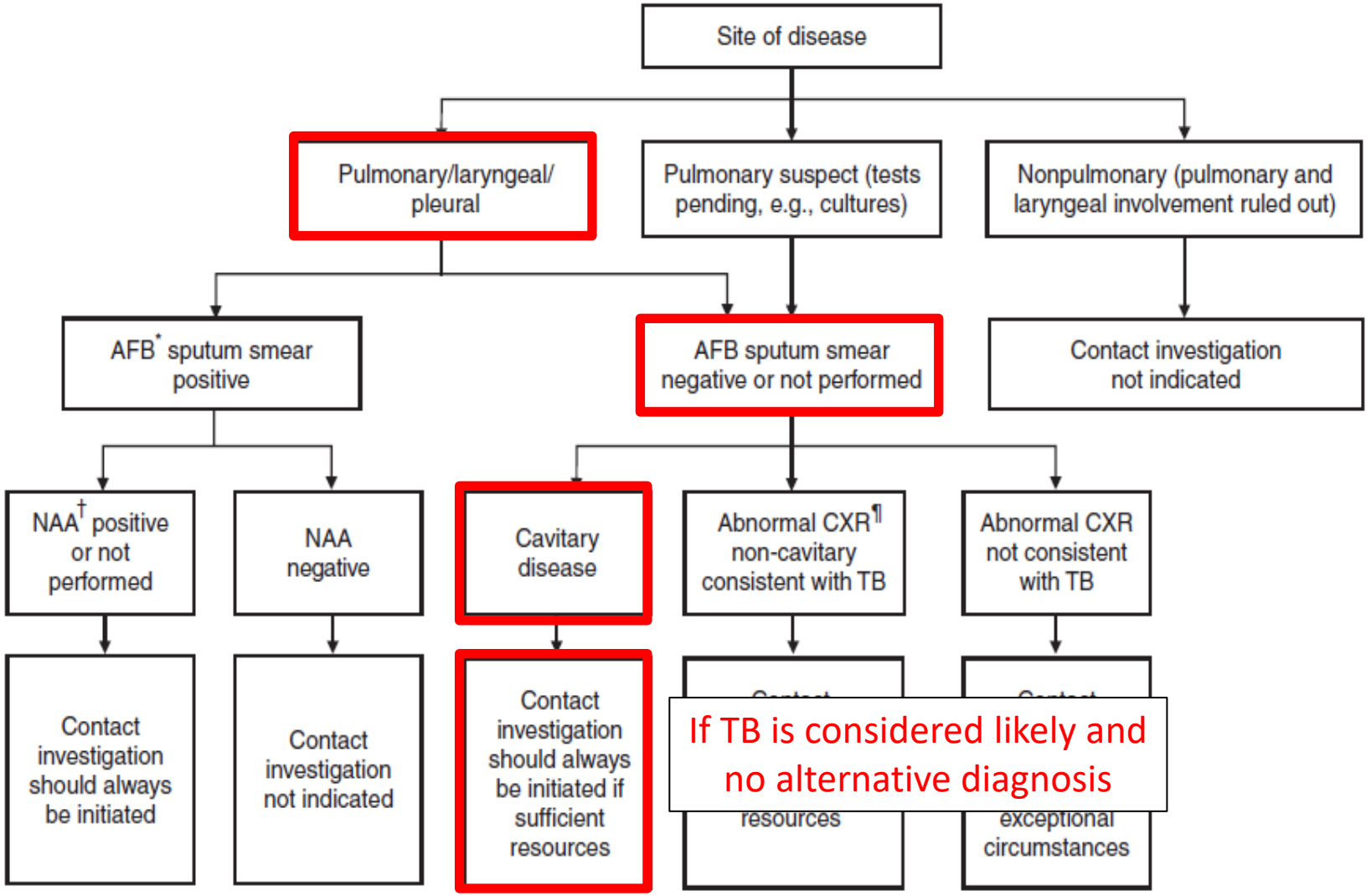
Join by Web **PollEv.com /professionaleducationnationaljewishhealth910**

Join by Text Send **professionaleducationnationaljewishhealth910** to **22333**

PCP is concerned: "What should I tell my staff and patients about getting tested for TB?"

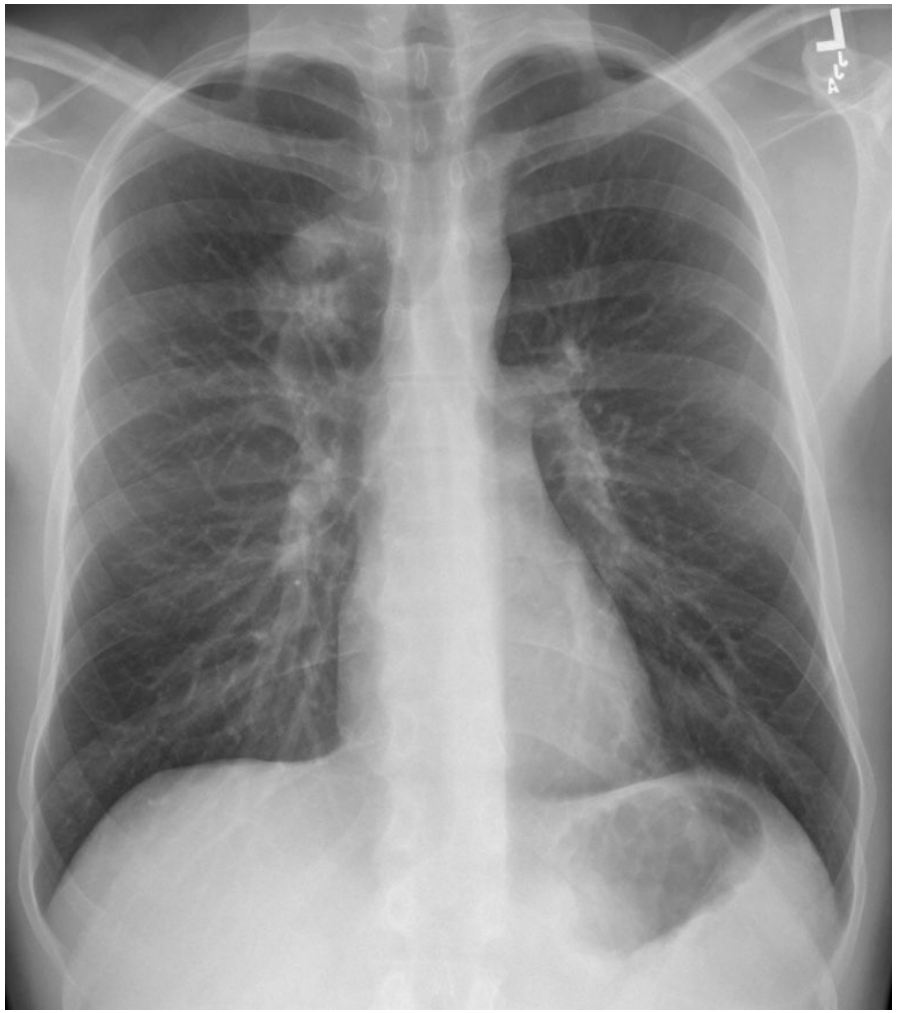
Get the information and contact staff and patients	(A)	0%
Start an investigation if AFB smear positive	(B)	0%
Start if the Quantiferon is positive regardless of other tests	(C)	0%
Hold off on an investigation unless TB is confirmed (PCR or culture)	(D)	0%

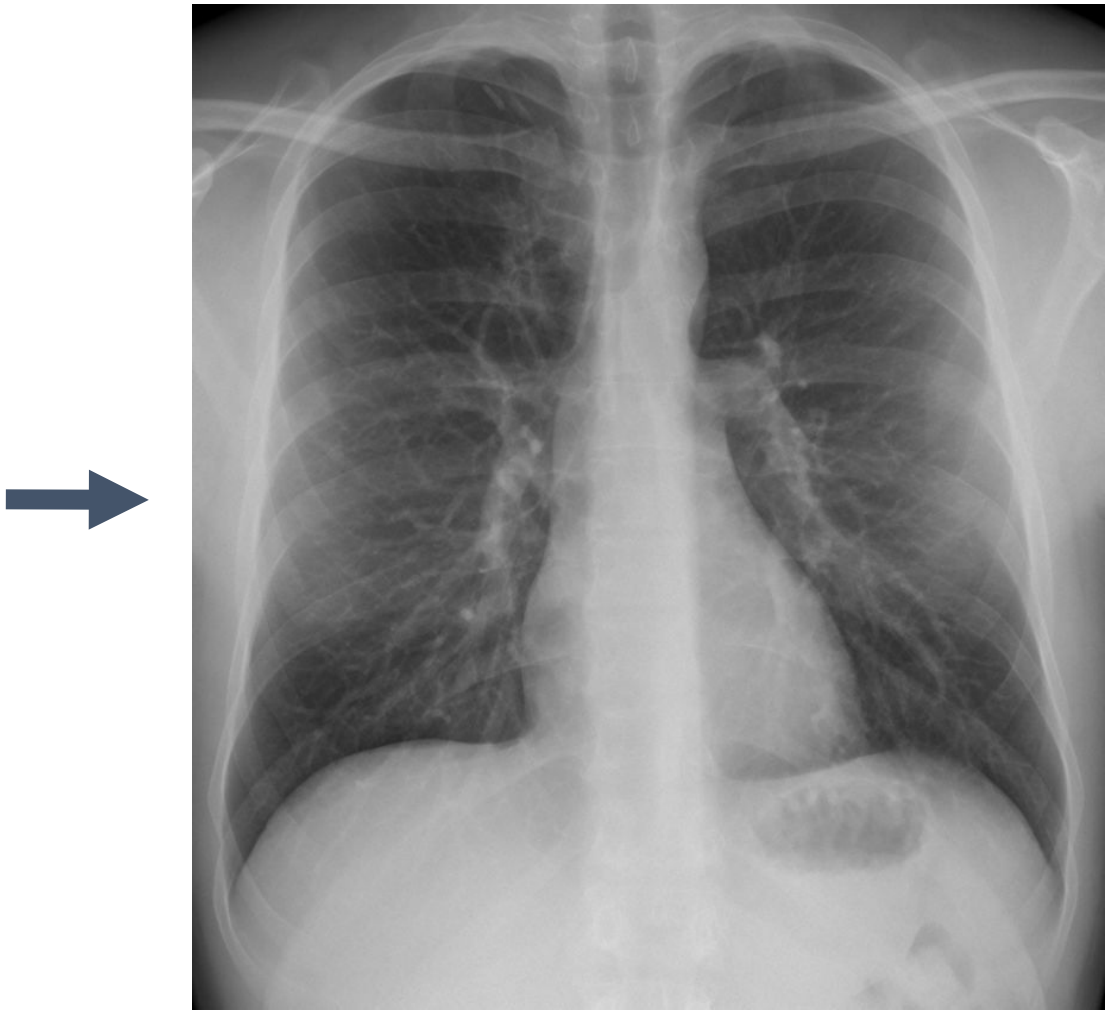
When to Initiate a TB Contact Investigation



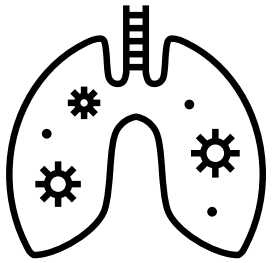
NTCA and CDC Guidelines MMWR 2005;54(No. RR-15)

After 2 weeks of antibiotics…

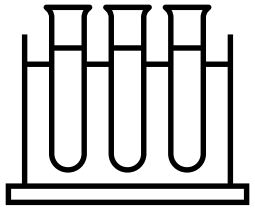




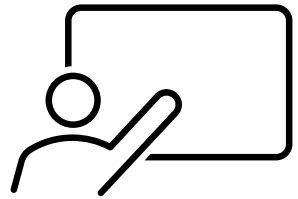
Goals of a contact investigation



Identify and treat people with active TB (~ 1% of contacts)



Diagnose and treat latent TB infection (LTBI)



Educate individuals and communities about TB

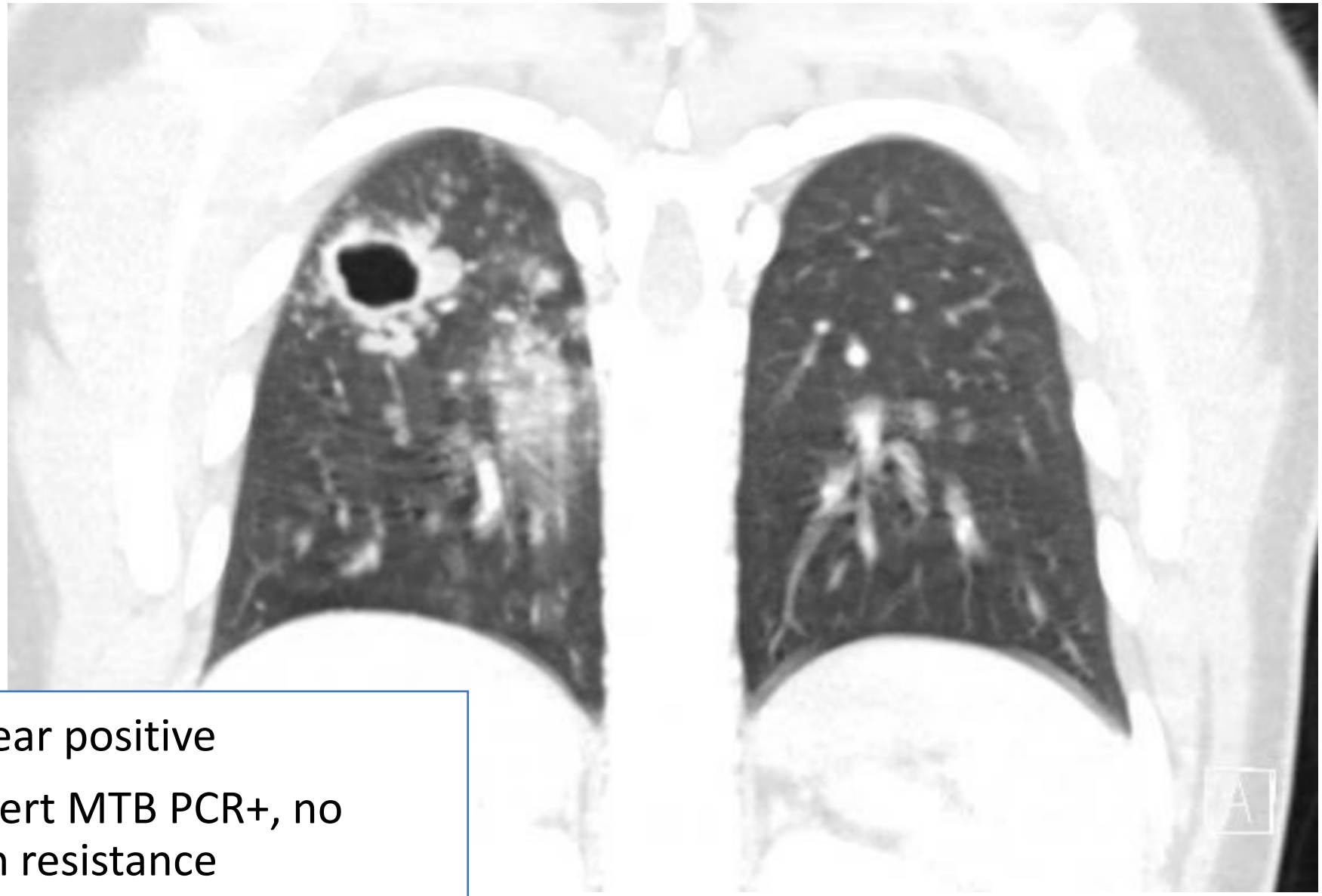
Patient #2: “Oscar,” 16 M

HPI: Intermittent cough for a month, hemoptysis for 1 week.

PMH: None

Social Hx: Recent immigrant from South America; lives with family, attends high school full-time

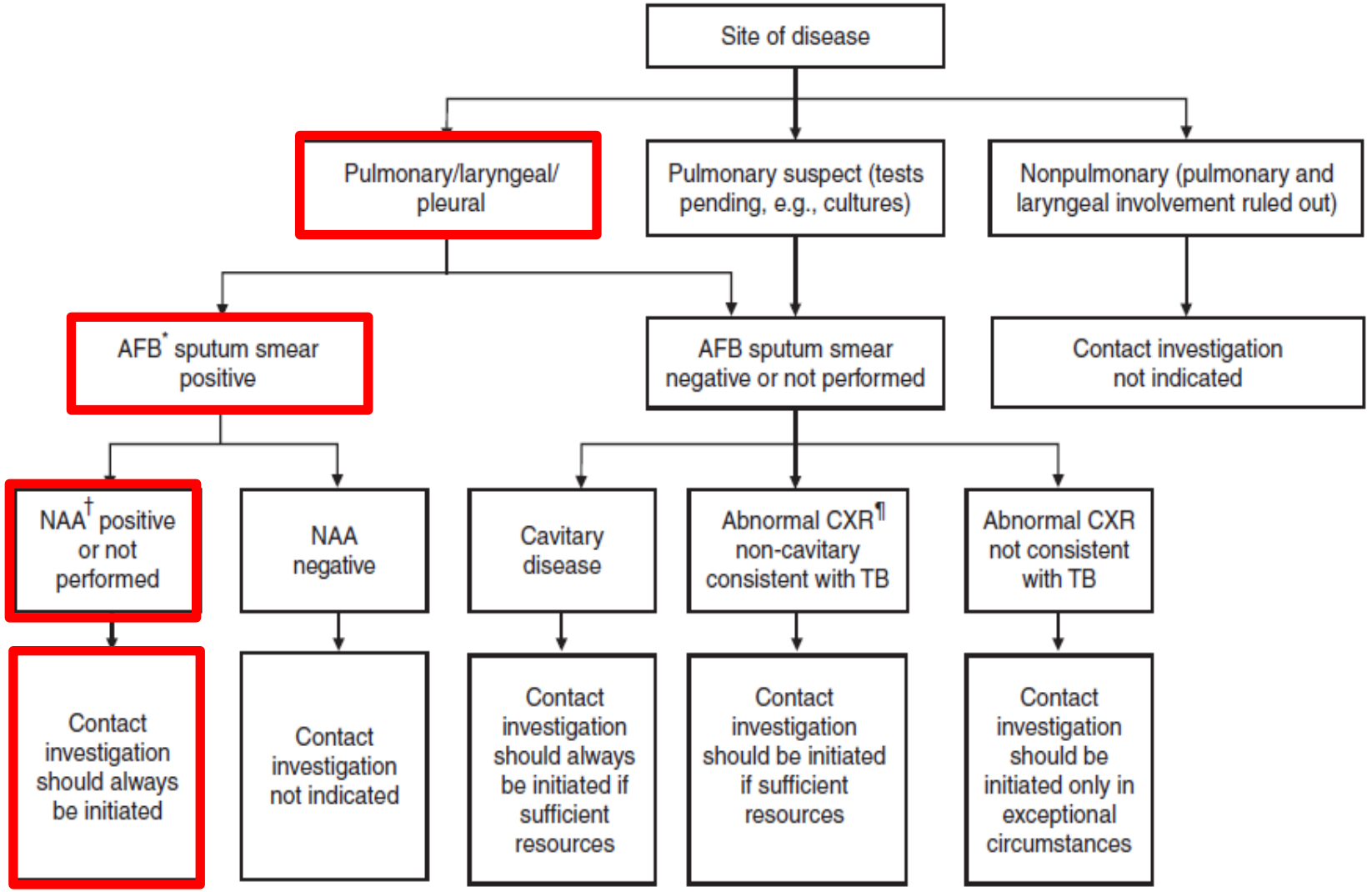
Patient #2: “Oscar,” 16 M



AFB smear positive

GeneXpert MTB PCR+, no rifampin resistance

When to Initiate a TB Contact Investigation



NTCA and CDC Guidelines MMWR 2005;54(No. RR-15)

Small group questions

1. **Who, when and where would you start interviewing?**

2. **How do you define contact?**
   - Beginning and end of the infectious period
   - Types and duration of exposure

Who, when, and where do you interview?

- Interview the **patient or a proxy** as soon as possible
  - Interviewing minors

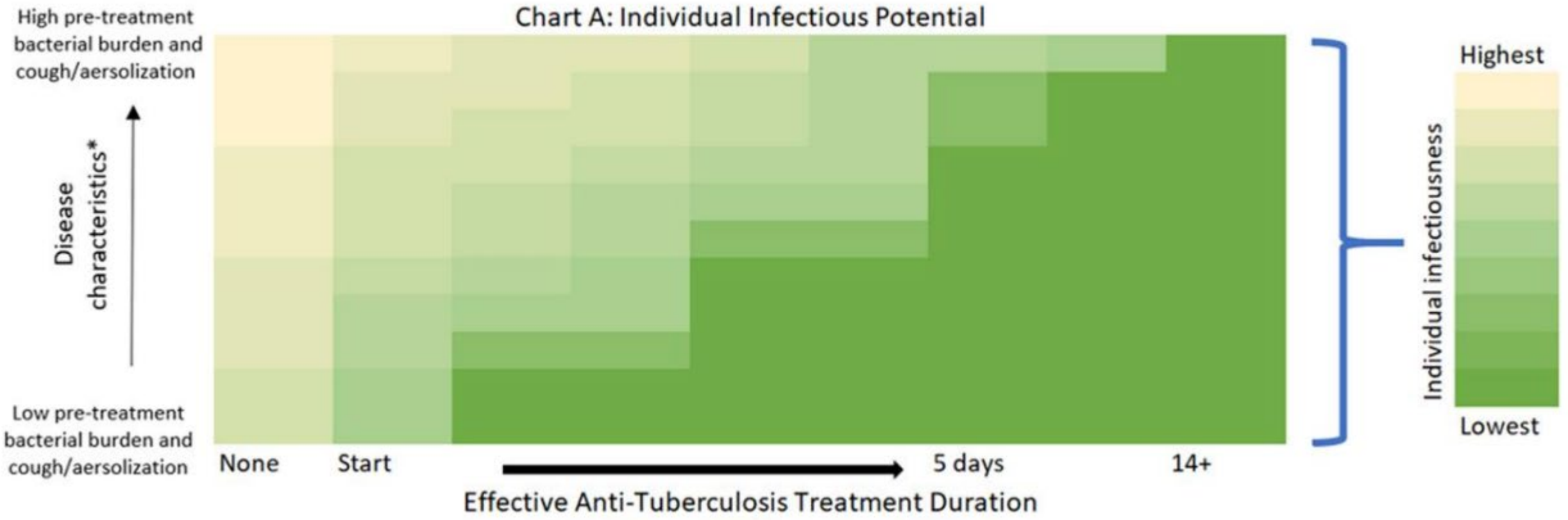
- Always do at least two interviews (**one or more in the home**)
  - 1st interview often involves TB education and establishing rapport
  - Explain the purpose of contact investigations
  - Assure them that you will not be revealing their identity or discussing their treatment without their permission

Defining the infectious period

TB Symptoms	AFB Smear (+)	Cavitary CXR	Estimated Infectious Period
Yes	Yes/No	Yes/No	**3 months before symptom** onset or first positive finding for TB (e.g., abnl CXR) whichever is longer
No	Yes	Yes	**3 months before the first positive finding**
No	No	No	**1 month before the date TB was suspected**

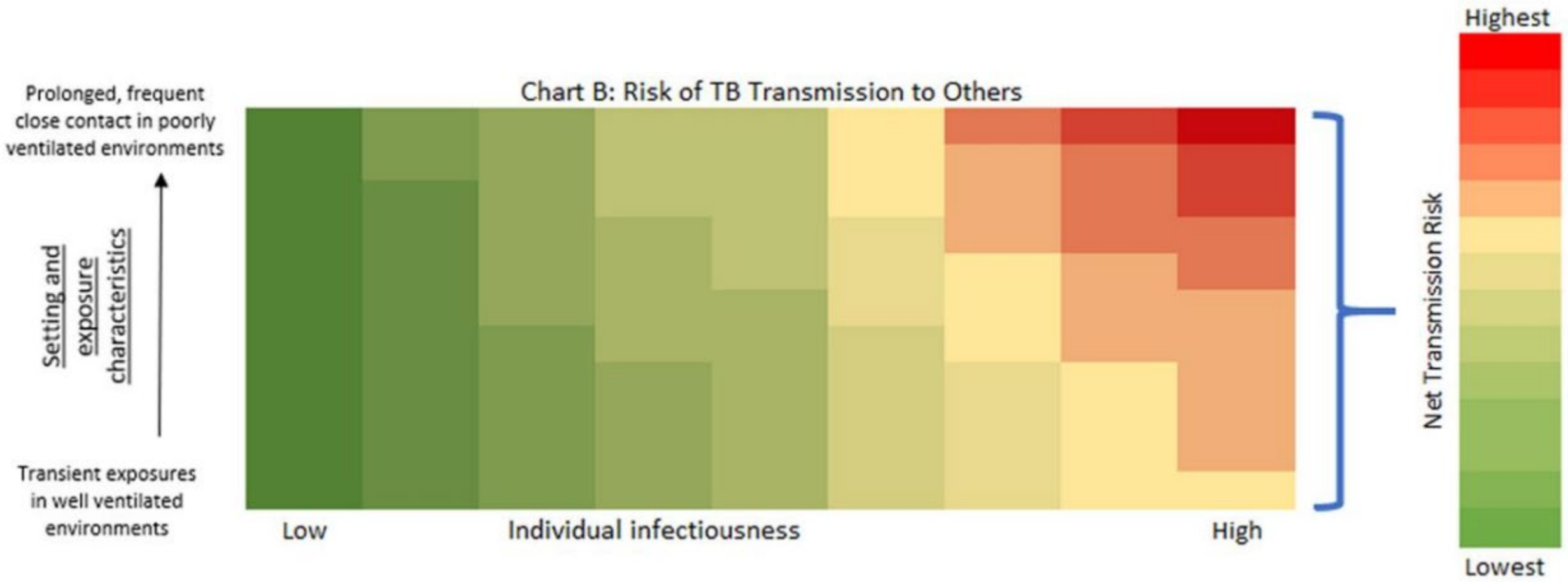
MMWR 2005; 54 (RR-15): 1-37

End of infectious period



NTCA 2024

Type and duration of exposure



NTCA 2024

Building your contact list

- Name
- Age
- Locating information
- Where was the exposure (ex. home, school)
- Exposure timing, type, and duration (average continual, calculate total)
- Medical risk factors

Risk for infection, progression, and TB severity

Risk for infection
Total duration

Type(s) of exposure
• Household, work, school, etc.
• Unique high-risk situations
  • Caregiver
  • Invasive procedures
  • Transplant recipient

Timing relative to symptoms, smear positivity

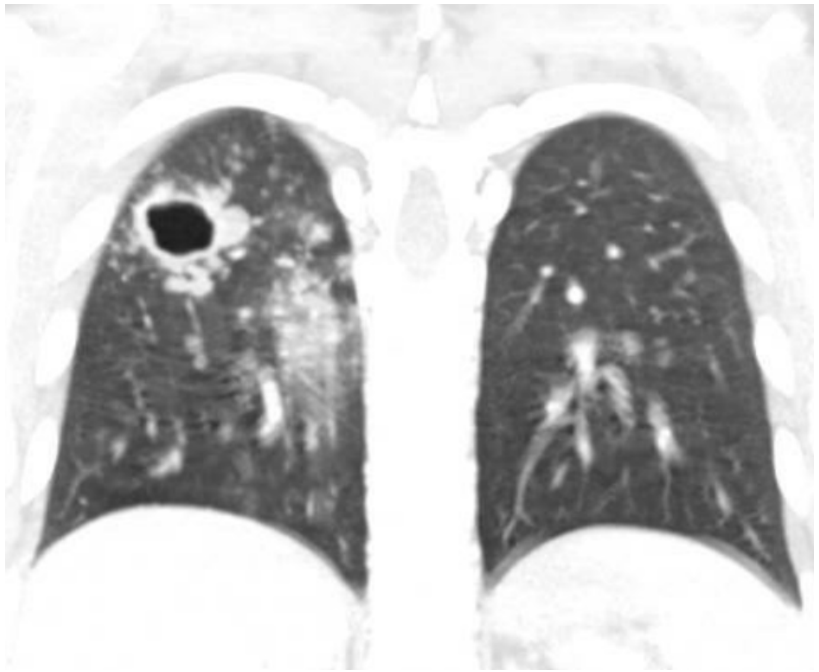
Risk for progression or severe disease
Age <5 yo
HIV
Anti-TNF-alpha medication
Post-transplant
Cancer treatment
Structural lung disease, eg silicosis

Prioritizing contacts by duration

	Hours per week	Continuous Hours	Total Hours
Priority 1	≥ 15	≥ 10	≥ 180
Priority 2	5-14	8-9	90-179
Priority 3	< 5	< 8	< 90

Adapted from Reichler, et al. JAMA 2002;287:991-5.

Patient #2: “Oscar,” 16 M



AFB smear positive

GeneXpert MTB PCR+, no rifampin resistance

- Diagnosed in the fall
- Home: mom, dad, brother (20) and brother (4)
- Shared his class schedule
- Involved in band/choir

Small group questions

1. What is your communications strategy?
   - Who do you contact at school
   - What information do you share
   - What questions do you have for them

2. What is your testing strategy?
   - Whom to test
   - When
   - What type of TB test

What is your communication strategy?

- The school needs to be notified (Principal)
  - Need their help to identify students and faculty who were exposed
  - Stress importance of maintaining confidentiality
- Meet with school administration to plan communication
  - Superintendent, school nurse or medical consultant, media relations, and any other administrators
- Site visit to assess ventilation and plan testing

What information would you share?

- Be transparent; share the facts
  - Remember patient privacy is a priority
- Consider internal and external audiences
  - Timing is crucial and communication may be slightly different
- Meet with the staff as a group to notify them and address their concerns
  - You need them as advocates
  - Students / parents will go to them with questions, and they need the tools to know how to respond

What information would you share?

- Contact students / family and staff who need to be tested directly first
  - Once you start, it needs to happen quickly (1 day)
- Plan to notify all families by the next day
  - Word spreads quickly
  - Let people know they will be contacted directly if they or their child need to be tested
  - Consider a back-up if people are calling or asking the school if their child was exposed (i.e. make sure the school has a list of who needs testing but don’t advertise it)

What information would you share?

- Mass notifications can be sent many ways.
  - Phone and email can be effective in delivering urgent information; mail is slower.
- Prepare FAQs and consider using a 24/7 phone line for common questions
  - Helps prevent school and TB staff being overwhelmed with questions (hindering their ability to conduct the investigation)
- Consider townhalls for people to ask questions directly
  - Some will be upset no matter what you do
- **Local knowledge is key**
  - Be guided by those who know their school/community best

Sample Messaging Tools

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Tuberculosis (TB) Fact Sheet

What is TB?

Tuberculosis, also referred to as TB, is a disease that usually affects the lungs but sometimes other parts of the body. TB is spread through the air from one person to another. Getting infected with TB typically requires many hours of contact with a person who is sick from TB.

How Does TB Spread?

TB is spread through the air from one person to another. It is not spread by touching surfaces like doorknobs, sharing food or drinks, or shaking hands. Important facts to know:

- Most people who are exposed to TB do not get infected.

Phone script for calling parents and guardians

"Hello, may I speak with _____. Are you the parent or guardian for _____. My name is _____ calling for the TB Clinic at Denver Health.

We are working with _____ High School and the _____ School District to share important information with you. We diagnosed a person with tuberculosis who spent time at _____ High School this fall. Some students and staff were exposed to them before they were diagnosed. There is not any ongoing risk for TB exposure at the school known at this time. Students are safe to attend school and activities as usual.

Your student is someone who was exposed. We want to inform you about this situation and discuss testing your child for tuberculosis.

We need for you to sign a consent form to have your child tested next week. (Work with the school on how they manage consent forms for other situations)

Pros/cons of notifying the media

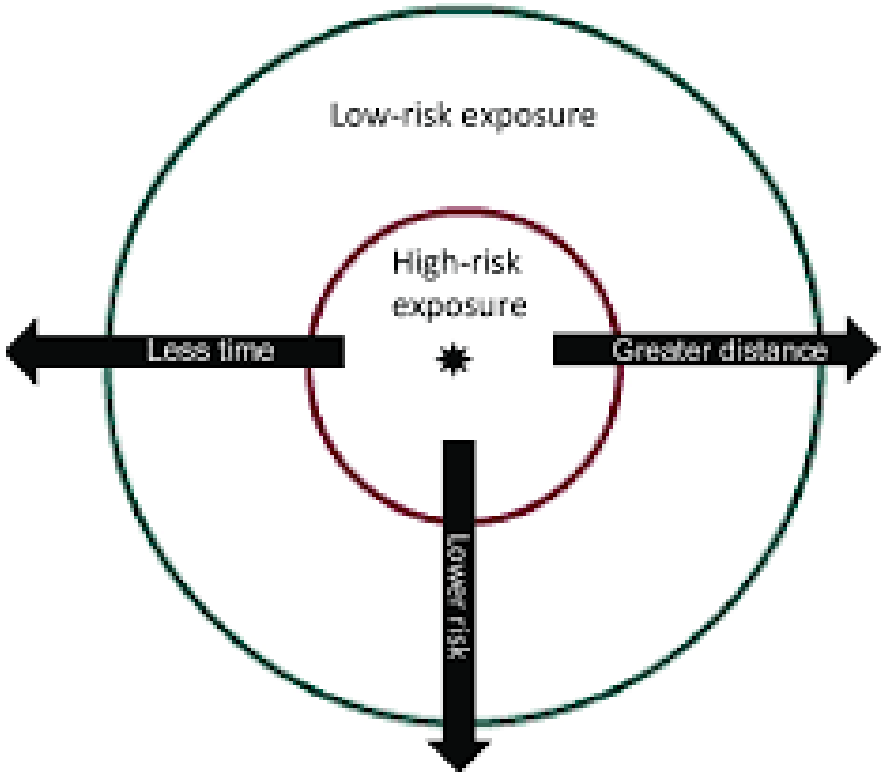
Pros

- Give accurate information and provide education
- Raise awareness about TB
- Demonstrate the role of public health
- Reach people who need testing

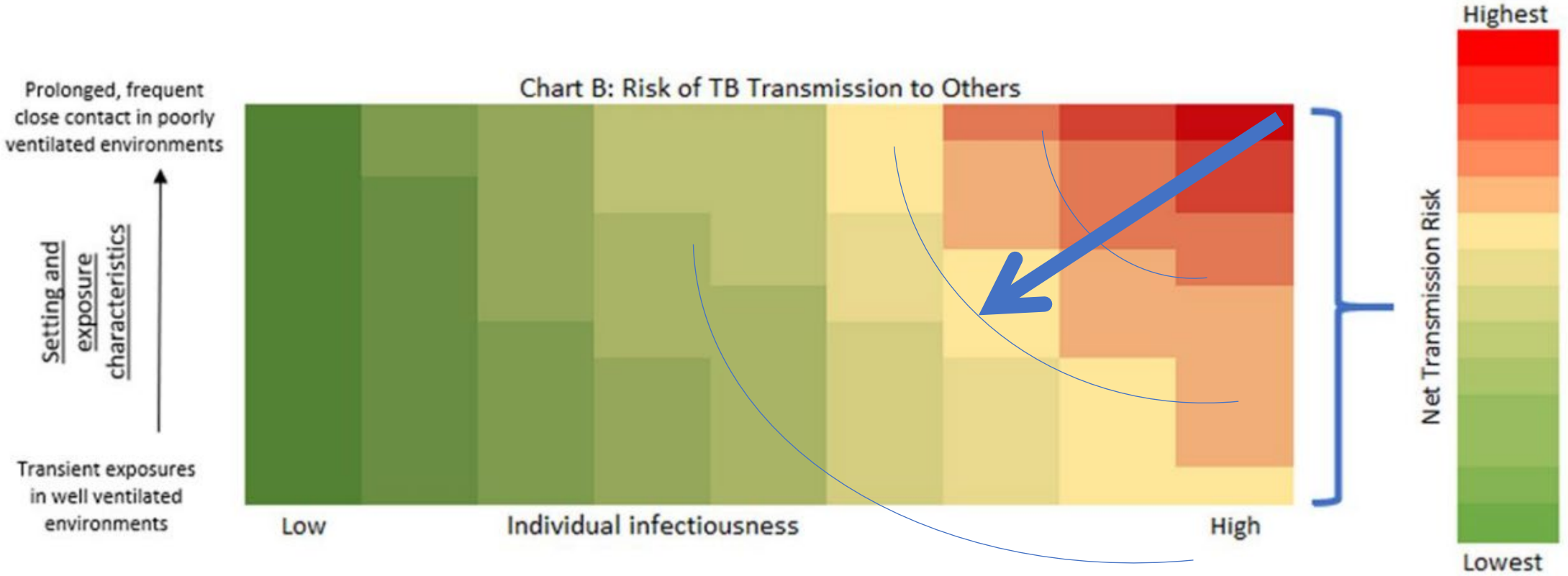
Cons

- May increase general anxiety
- Some may seek testing who don’t need it
- Risk of disclosing confidential information
- You can’t control how it gets reported

What is your testing strategy?



What is your testing strategy?



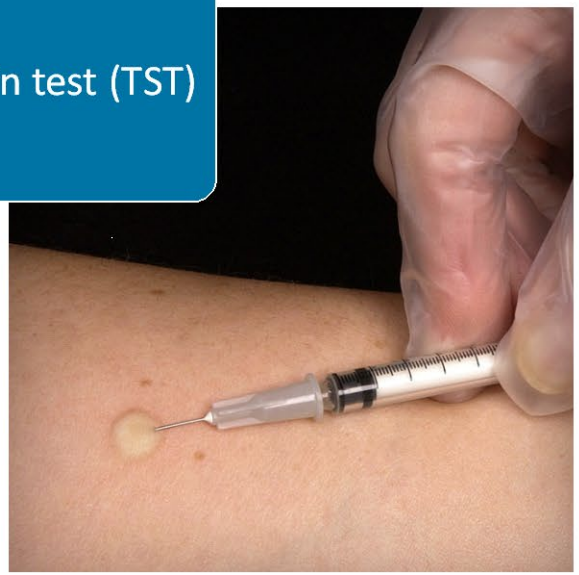
NTCA 2024

What TB test would you use?

IGRAs:

T-SPOT.TB (T-SPOT) and QuantiFERON-TB Gold Plus (QFT)

Tuberculin skin test (TST)



Important logistical considerations

Oscar: more information

Mycobacterium tuberculosis complex

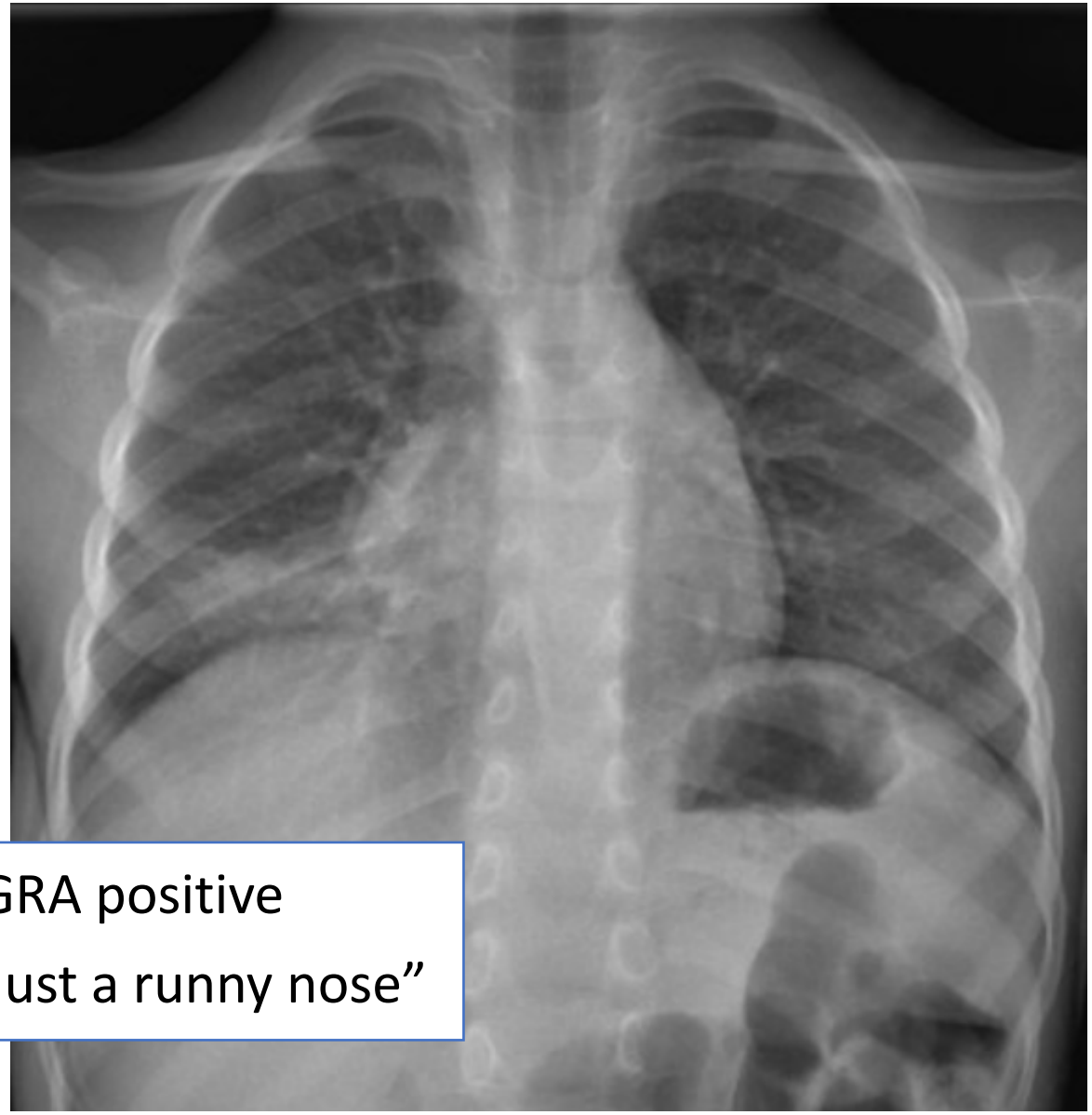
Ethambutol	Susceptible
Isoniazid	Resistant (C)
Pyrazinamide	Susceptible
Rifampin	Susceptible
Streptomycin	Susceptible (C)

Oscar: more information

1. How does this affect your strategy for the contact investigation?

2. What if this were rifampin-resistant TB?

Oscar: 4yo sibling



IGRA positive

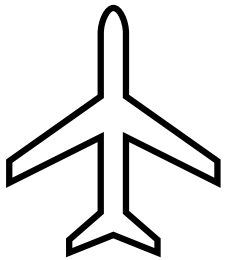
“Just a runny nose”

Oscar: 4yo sibling

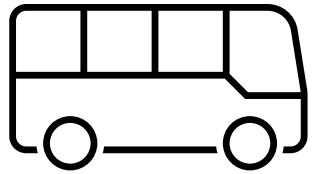
1. Is a separate contact investigation needed?

2. What information needs to be shared with the preschool?

What if Oscar traveled by plane or bus?

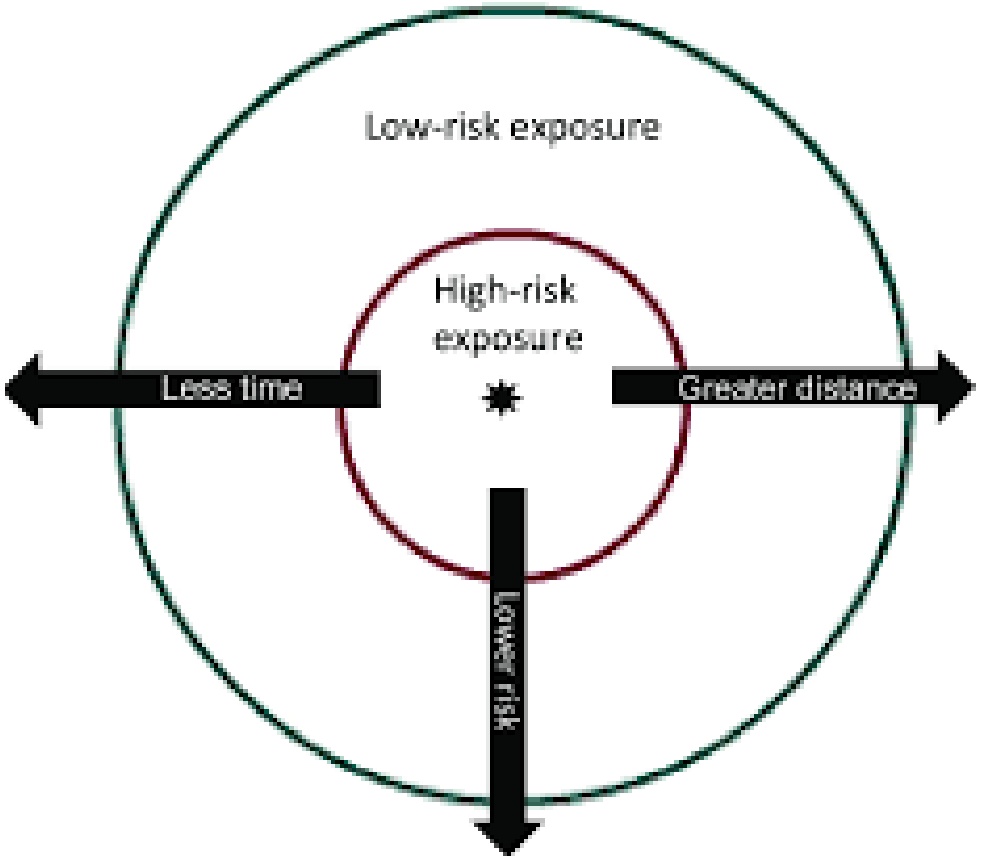


Notify CDC with the flight details. They get the passenger list and locating information



Do not routinely keep passenger manifest; driver may be the only identifiable person

When to expand your investigation?



When to expand your investigation?

Identified for testing	173
Total tested in first round	165
Total tested in second round	136
Active TB	0
TB infection	5
Definite conversions	0

When to expand your investigation?

1. **Is there evidence of transmission?**
   - an unexpectedly high rate of infection or
   - infection in contacts age < 5 y/o
   - active TB in high priority contacts
   - converters between baseline and follow-up testing

2. **Are high and medium priority contacts completing an evaluation and initiating treatment?**

When to expand your investigation?

Background rate of TB infection in U.S.

Non-U.S. born persons

IGRA (+) 15.9% (13.5–18.7)

TST (+) 20.5%; 16.1–25.8)

U.S. born

IGRA (+) 2.8% (2.0–3.8)

TST (+) 1.5%; 0.9–2.6).

PLOS ONE | DOI:10.1371/journal.pone.0140881 November 4, 2015

Lessons learned

- Schools have other priorities (e.g., ACT)
- Obtain a comprehensive consent for TB evaluation up front
- Explore options for local CXRs
- Parents need to be present for CXR and LTBI treatment visits (at least the first one)
- Local knowledge is key

Further resource

https://www.cdc.gov/tb/education/skillscourse/default.htm

Developed by CDC with the TB Centers of Excellence (COE)

- Curry International TB Center
- Heartland National TB Center
- The Global TB Institute at Rutgers
- Southeastern National TB Center

Multi-day facilitator guide to training that can be used as a self-study

We Are TB

Dedicated To:
Nora Rodrigeuz

In 2015 the first Tuberculosis communications training was held in Denver, CO with six survivors. When Nora Rodriguez walked in, she did not know why she was there or how this experience would change her life. Nora thought she would learn more about the disease and meet some fellow fighters who had experienced TB. What she didn't know was that she would become a resonating voice for *we are TB* and her legacy would help raise awareness and drive change in the advocacy efforts in years to follow.

Nora was still undergoing treatment for MDR-TB when she started advocating on behalf of *we are TB*. Though she had lost most of her energy, much of her hearing, and even her balance at times, she was committed to play a part and share her story so that the U.S. could once again know about Tuberculosis, the people it affects, and the help the community needs to defeat it. Following the communications training in 2015, Nora visited Washington, D.C. to speak to her representatives, an annual event that has taken place every year since. Nora also kicked off the 2016 National TB Controller's Conference with her gentle presence while receiving the TB Advocacy Award.

In 2016, much too soon, and just weeks shy of her final treatment, Nora, the core of we are TB, passed away tragically from complications of TB. Her legacy lives on through her two beautiful daughters, her family and friends, her community, and her *we are TB* family.

we are TB

Questions?


we can only do bits and pieces .... skulls, chest, pelvis, metatarsals. For the bigger picture you need to see the public health guys!
Hospital X-Ray Department
Monaim