Latent Tuberculosis Infection (LTBI)

What You Need To Know

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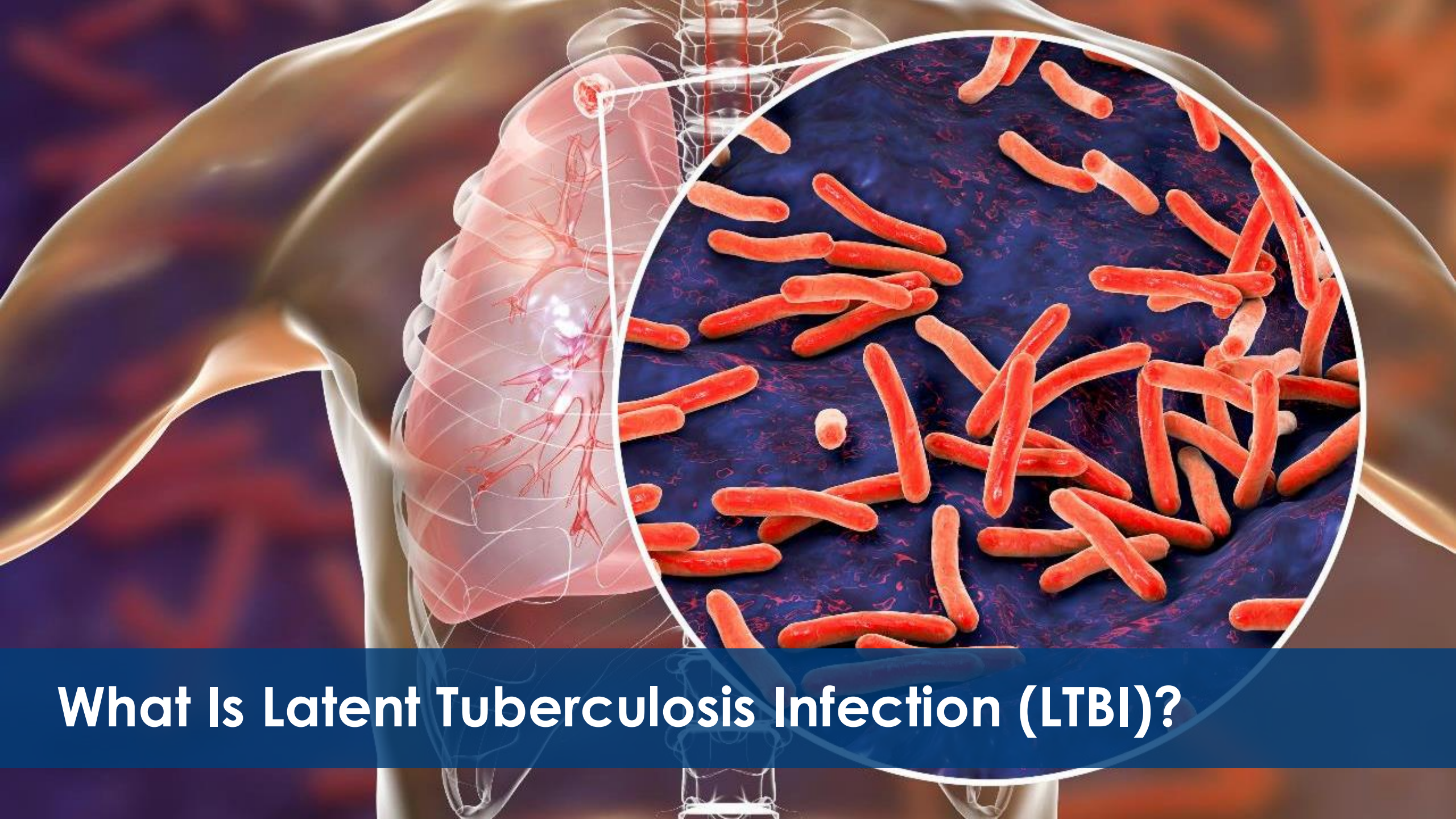
Agenda

- What Is Latent Tuberculosis Infection (LTBI)?
- The Role of LTBI in Active Tuberculosis Disease
- LTBI Epidemiology
- Treatment Regimens
- Wisconsin Surveillance Documentation (WEDSS)



What Is Latent Tuberculosis Infection (LTBI)?

LTBI Versus TB Disease

Person with LTBI (Infected)	Person with TB Disease (Infectious)
Has a small amount of TB bacteria in the body that are alive, but inactive.	Has a large amount of active TB bacteria in the body.
Cannot spread TB bacteria to others.	May spread TB bacteria to others.
Does not feel sick, but may become sick if the bacteria become active in the body.	May feel sick and may have symptoms such as a cough, fever, weight loss.

LTBI Versus TB Disease

Person with LTBI (Infected)	Person with TB Disease (Infectious)
Usually has a TB skin test or TB blood test reaction indicating TB infection.	Usually has a TB skin test or TB blood test reaction indicating TB infection.
Radiograph is typically normal.	Radiograph may be abnormal.
Sputum smears and cultures are negative.	Sputum smears and cultures may be positive.

LTBI Versus TB Disease

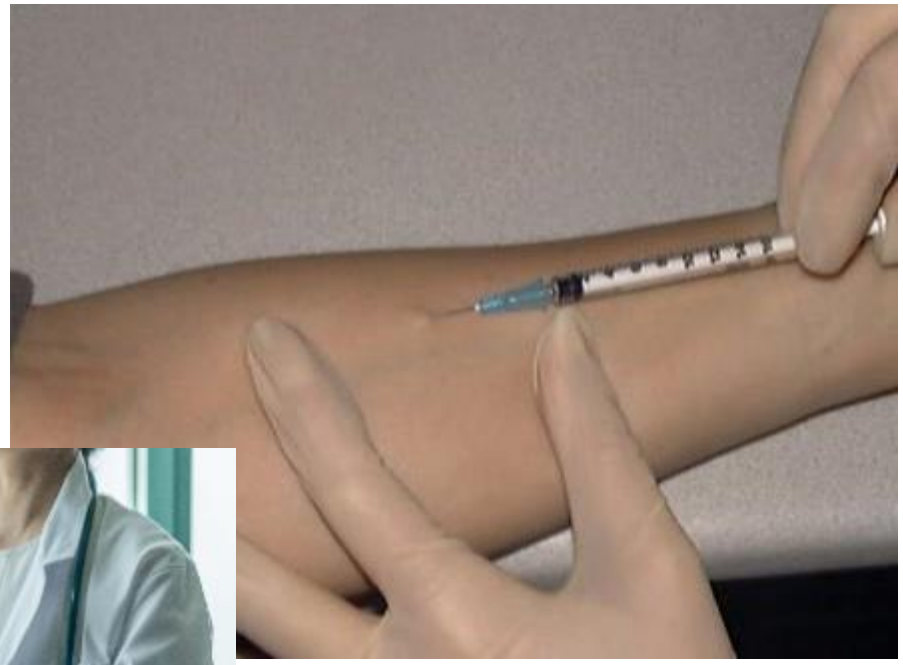
Person with LTBI (Infected)	Person with TB Disease (Infectious)
Encourage treatment for LTBI to prevent TB disease.	Needs treatment for TB disease.
Does not require respiratory isolation.	May require respiratory isolation.

LTBI Versus TB Disease

Person with LTBI (Infected)	Person with TB Disease (Infectious)
Category II communicable disease.	Category I communicable disease.
Report within 72 hours to patient's local health department.	Report within 24 hours to patient's local health department.

How Do People Get Latent TB Infection?

How is Latent TB Infection Detected?



Case Definition for LTBI: Laboratory Criteria

Immunologic:

- Positive interferon gamma release assay (IGRA) blood test or
- Positive tuberculin skin test (TST)

Microbiologic:

- Culture negative for *M. tuberculosis* complex (if specimen collected)

Case Definition for LTBI: Clinical Criteria

No signs or symptoms consistent with TB disease **and**

Chest imaging without abnormalities consistent with TB disease.

If chest imaging is abnormal and could be consistent with TB disease, then TB disease must be clinically ruled out.

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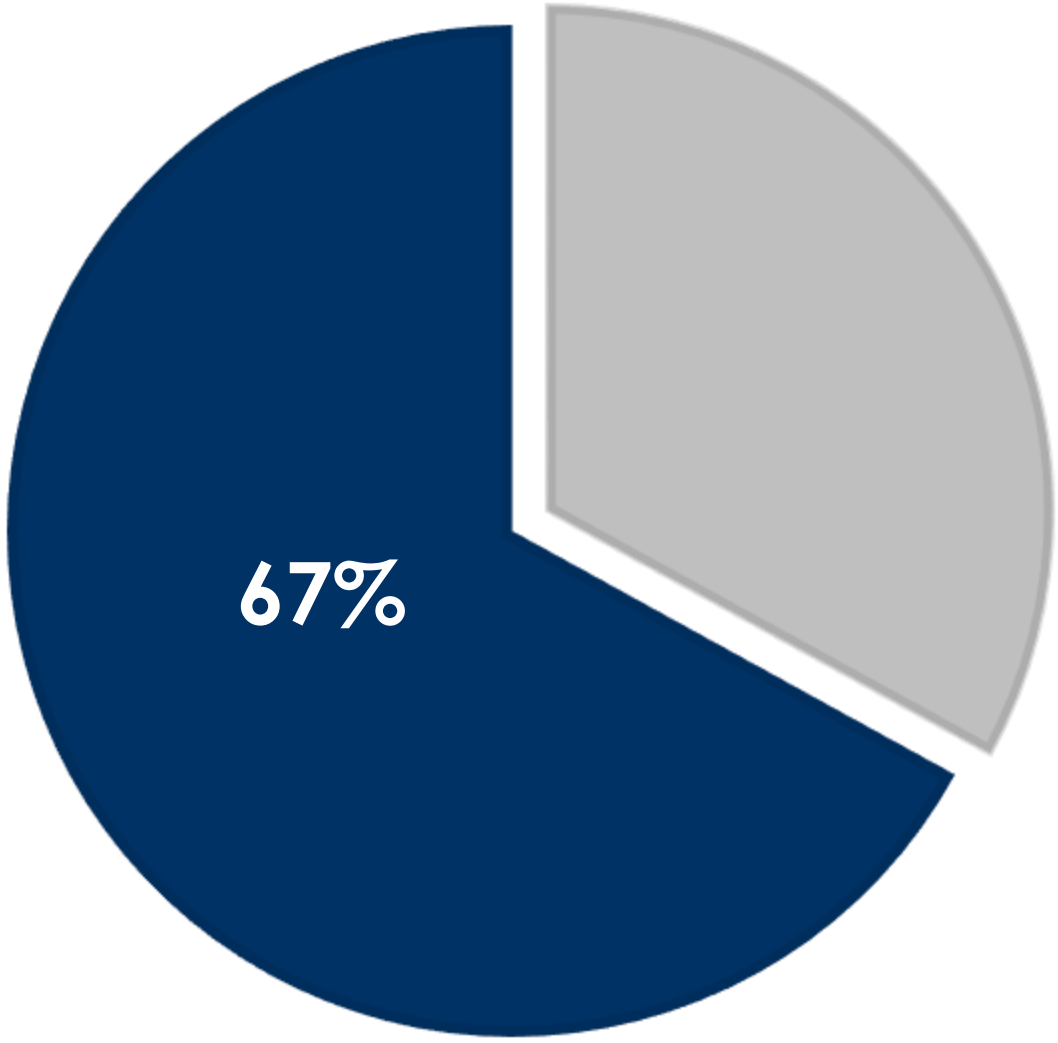
New LTBI Client: Now What?

Ask about risk:

- Were they **exposed** to someone with known infectious TB and/or part of an ongoing contact investigation?
- Are they an immigrant or refugee from a **TB endemic country?**
- Are they part of a **locally identified high-risk group?** (for example: African Americans from Milwaukee-Chicago corridor?)

Non-U.S. Born People with TB, 2009-2023

Non-U.S. born rate*
13.1



*Rates per 100,000 population calculated using U.S. Census Bureau American Community Survey population estimates

Why Risk Matters: Test Interpretation

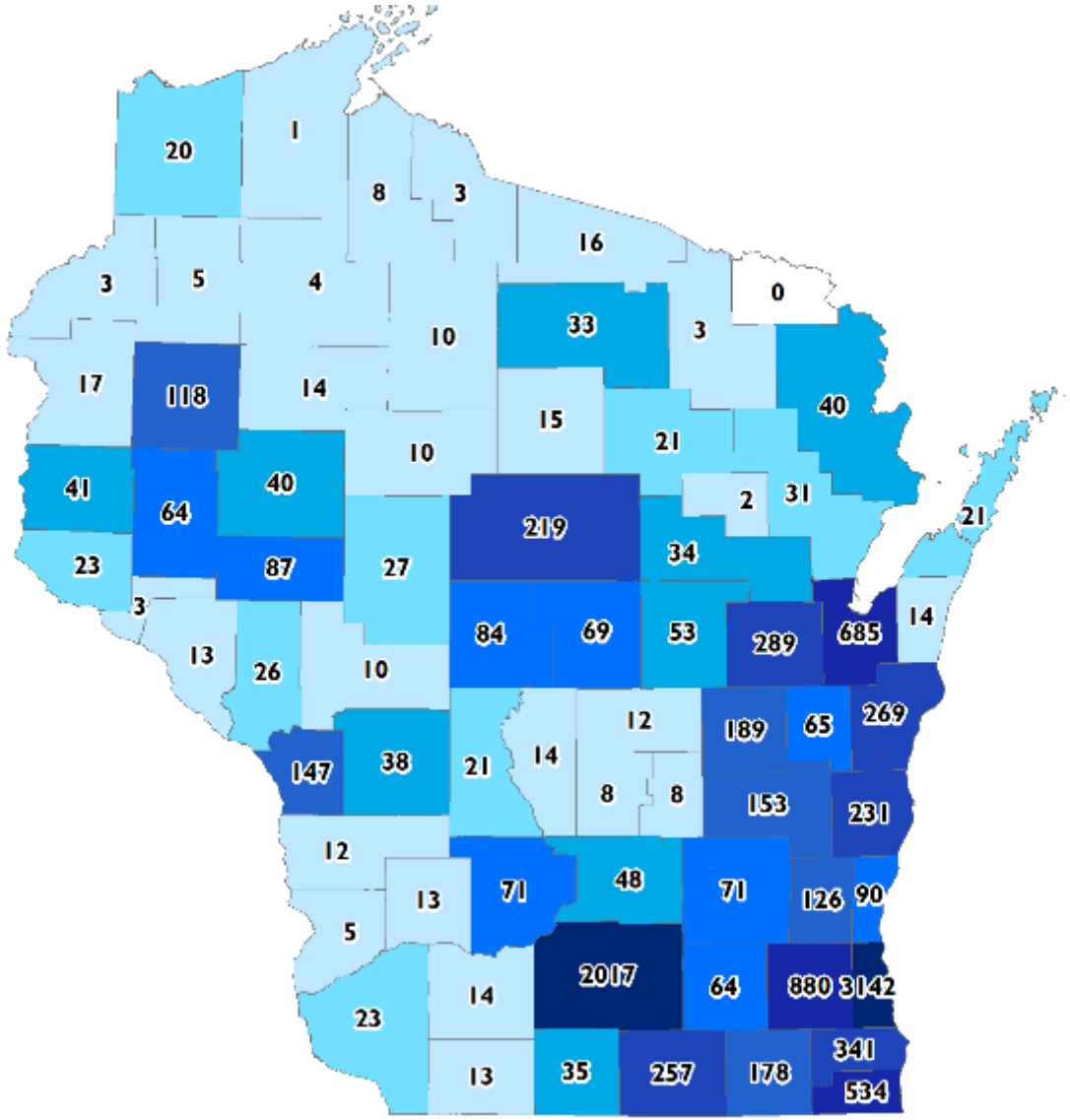
TB antigen values between **0.36 and 1.11 IU/mL** were found to represent a "borderline" range.

Results in this range may be considered a transient positive result with **a high likelihood of reversion** to negative upon retesting.

Dorman et al, 2013.


WHY
SHOULD
I CARE?

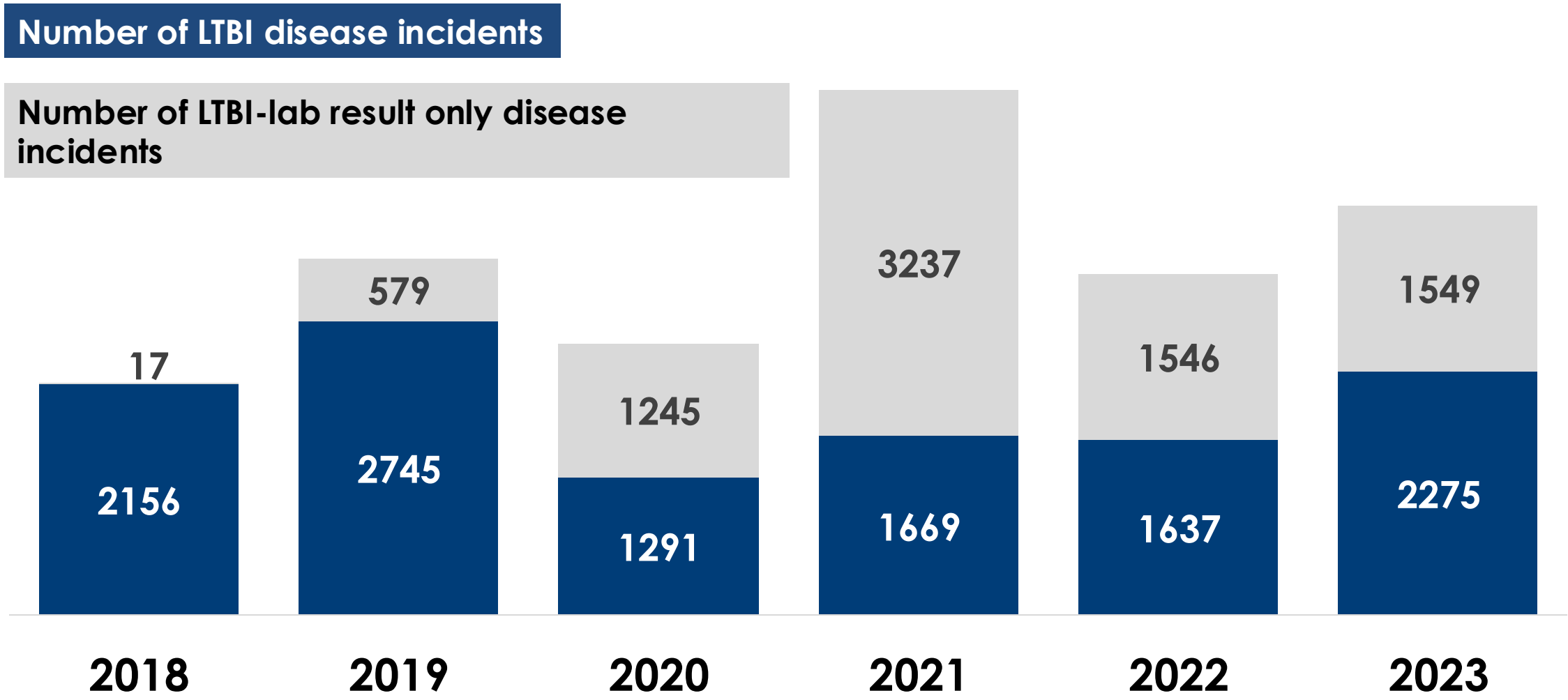
All But One Wisconsin County Has Had an LTBI Report (2018–2023)



Latent TB Infection Epidemiology

- Reportable in Wisconsin since 2018.
- Two types of LTBI records used for statewide surveillance:
  - LTBI disease incidents.
  - LTBI-Lab only disease incidents.
- CDC is encouraging states to prepare to report LTBI in efforts to inform national prevention strategies.

Latent TB Infection Epidemiology

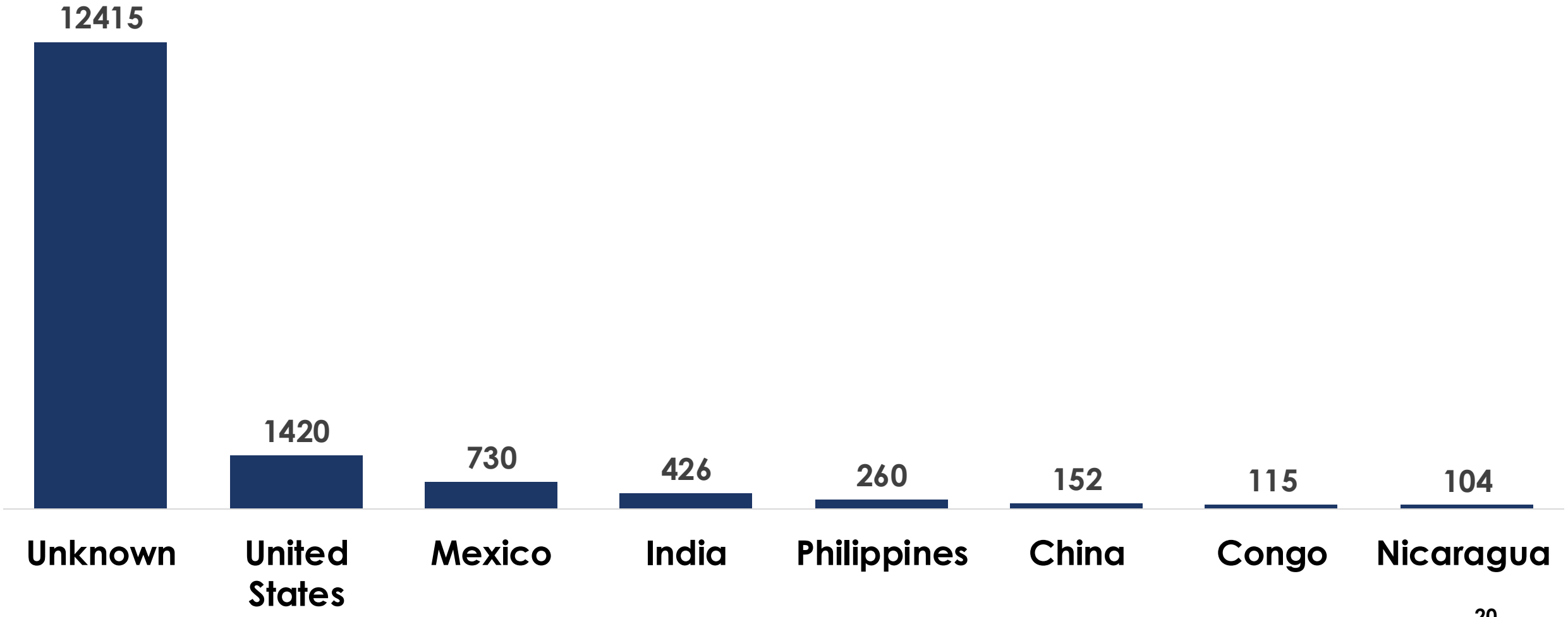


Latent TB Infection Epidemiology, 2018-2023

- Average total number of confirmed or suspect LTBI and LTBI-only reports: **3,324 records** (range 2173, 4906)
- LTBI-Lab only makes up **over 40%** of those records
- Of LTBI records:
  - 54% were female
  - 17% were Hispanic/Latino
  - 14% were aged 65-100
  - <1% were five or younger

Latent TB Infection Epidemiology

Number of LTBI records by Country of Birth (2018-2023)



Treatment for LTBI is Highly Encouraged because it:

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- Reduces the risk of developing TB disease by 90%.
- Is better tolerated than treatment for active TB.
- Protects against transmission.
- Helps make TB elimination possible.

Treatment Regimens

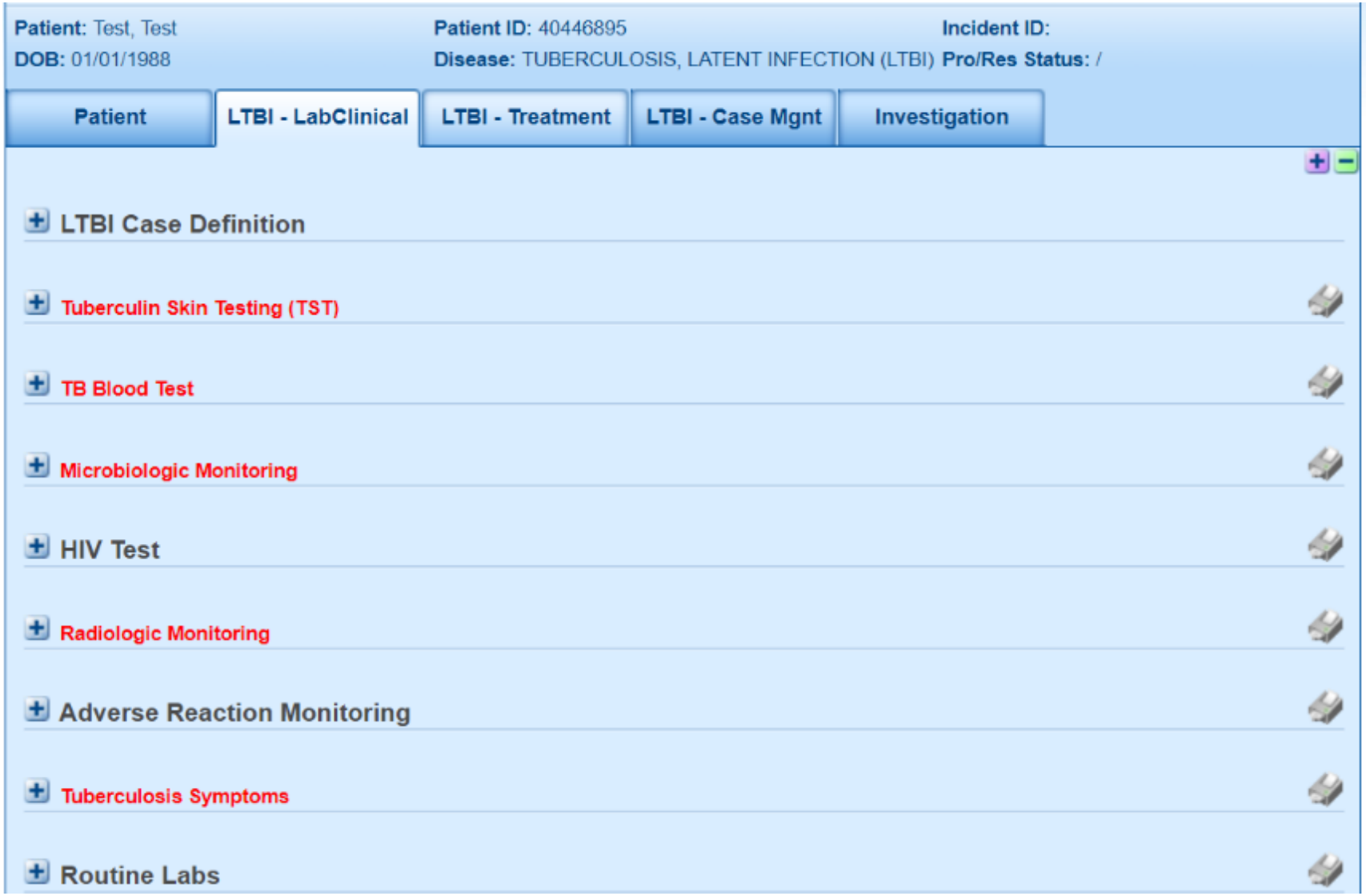
	DRUG	DURATION	FREQUENCY	TOTAL DOSES	DOSE AND AGE GROUP
Preferred	ISONIAZID[†] AND RIFAPENTINE[††] (3HP) 	3 months	Once weekly	12	**Adults and children aged ≥12 yrs** INH: 15 mg/kg rounded up to the nearest 50 or 100 mg; 900 mg maximum RPT: 10–14.0 kg; 300 mg 14.1–25.0 kg; 450 mg 25.1–32.0 kg; 600 mg 32.1–49.9 kg; 750 mg ≥50.0 kg; 900 mg maximum
					Children aged 2–11 yrs INH[†]: 25 mg/kg; 900 mg maximum RPT[††]: See above
	RIFAMPIN[§] (4R) 	4 months	Daily	120	**Adults:** 10 mg/kg; 600 mg maximum
					Children: 15–20 mg/kg[‡]; 600 mg maximum
	ISONIAZID[†] AND RIFAMPIN[§] (3HR) 	3 months	Daily	90	**Adults** INH[†]: 5 mg/kg; 300 mg maximum RIF[§]: 10 mg/kg; 600 mg maximum
					Children INH[†]: 10-20 mg/kg*; 300 mg maximum RIF[§]: 15-20 mg/kg; 600 mg maximum
Alternative	ISONIAZID[†] (6H/9H)	6 months	Daily	180	**Adults** Daily: 5 mg/kg; 300 mg maximum Twice weekly: 15 mg/kg; 900 mg maximum
			Twice weekly[¶]	52	
		9 months	Daily	270	**Children** Daily: 10-20 mg/kg*; 300 mg maximum Twice weekly: 20–40 mg/kg*; 900 mg maximum
			Twice weekly[¶]	76	

Barriers to Treatment for LTBI

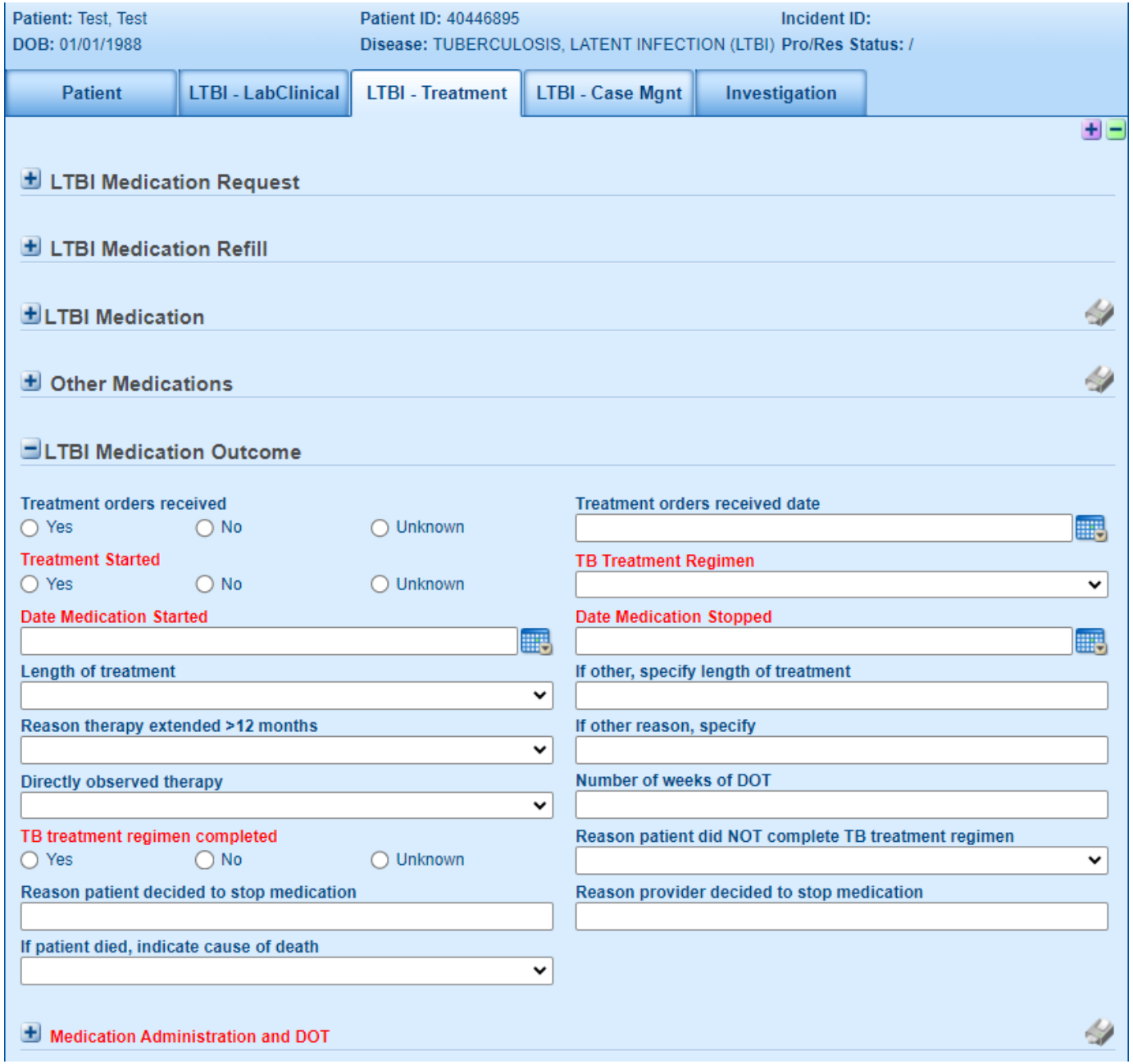
Tools to Address Barriers and Improve Adherence to Treatment

- Use motivational interviewing.
- Leverage the client's reasons for wanting treatment.
- Educate client about the benefits of treating LTBI.
- Provide DOT .
- Case management.
- Use dispensary.
- Incentives and enablers.

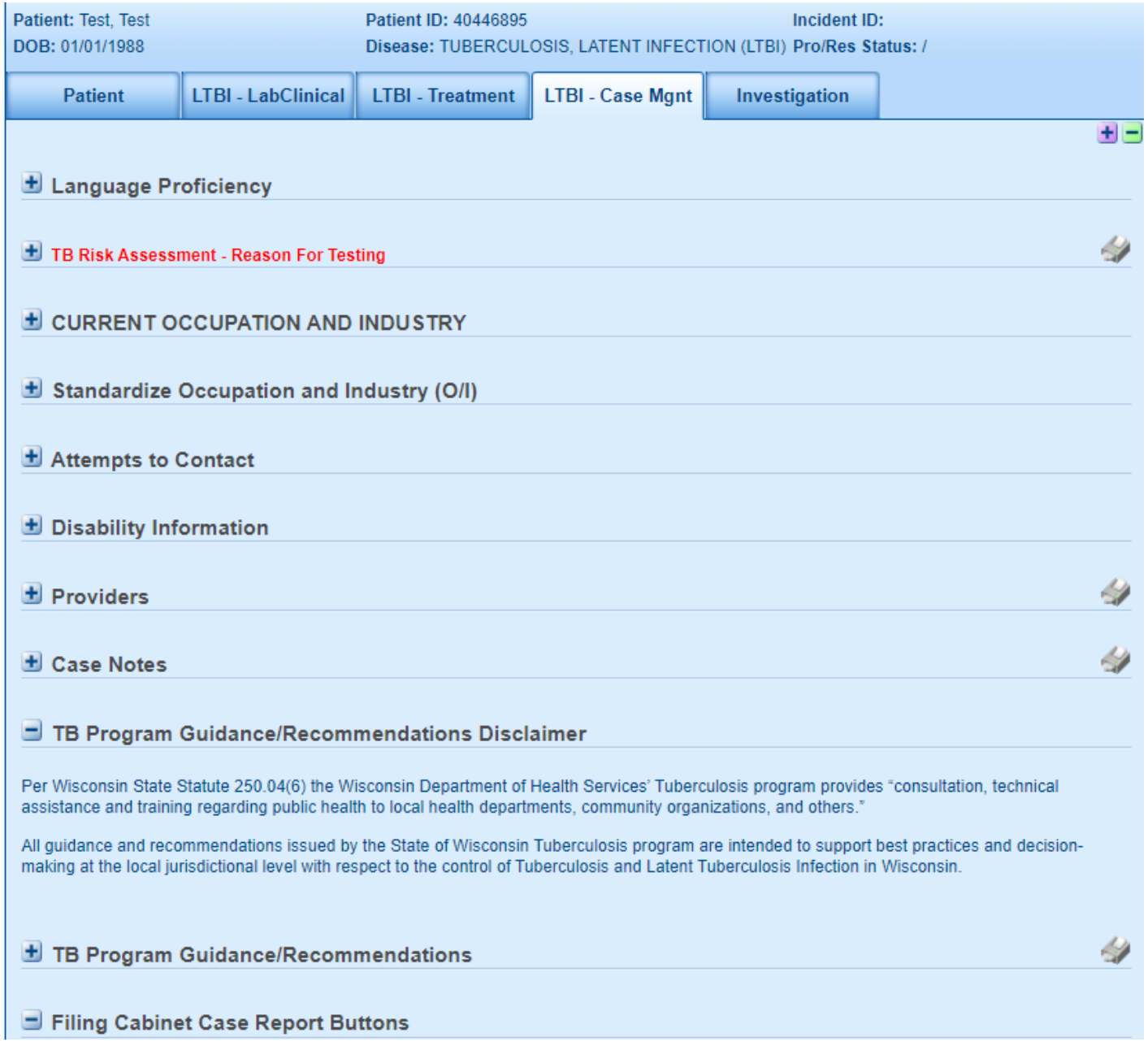
Documenting in WEDSS



Sections in **RED** should be addressed to meet surveillance definition.



LTBI treatment **regimen** and **start and stop dates** should also be documented.



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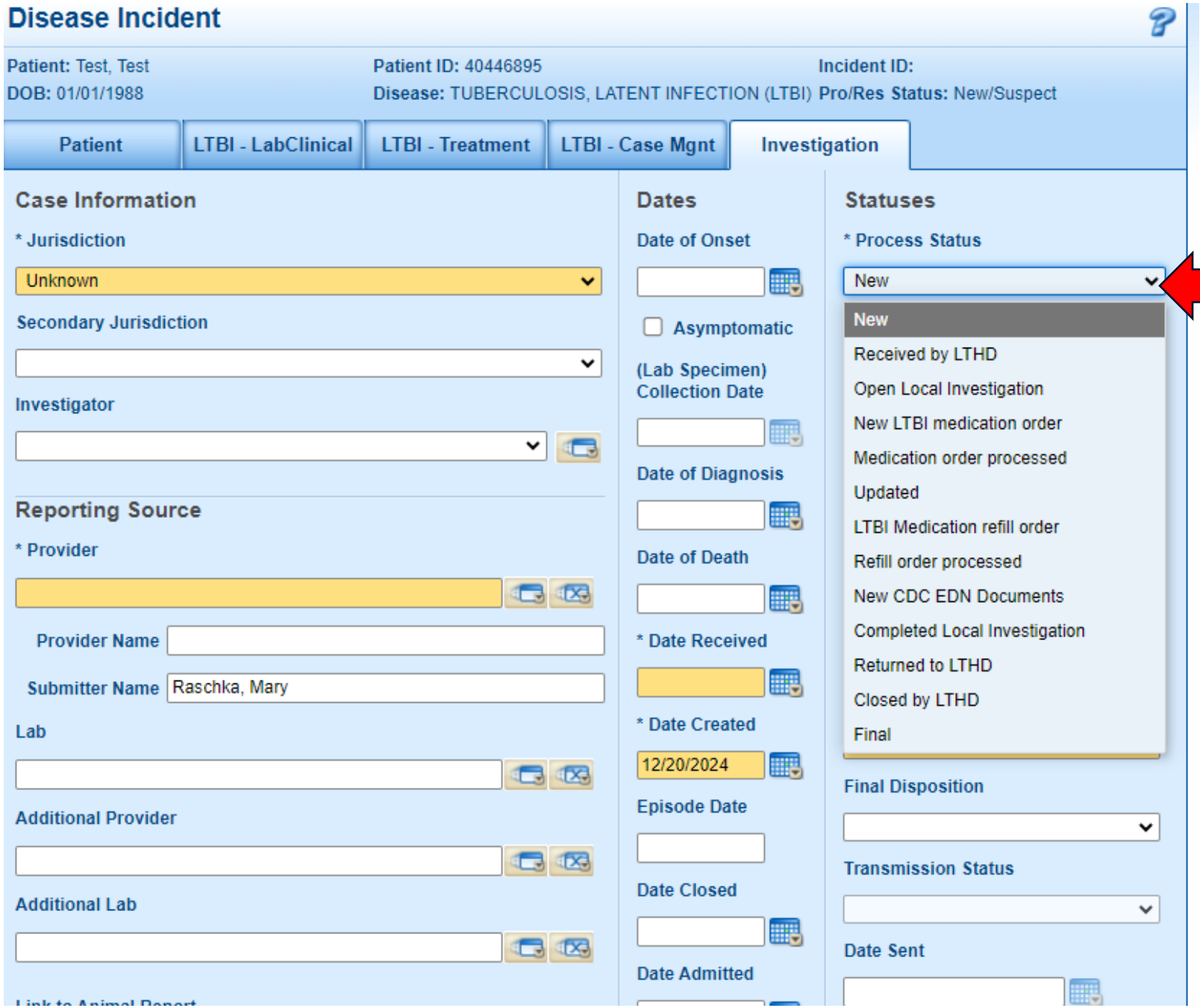
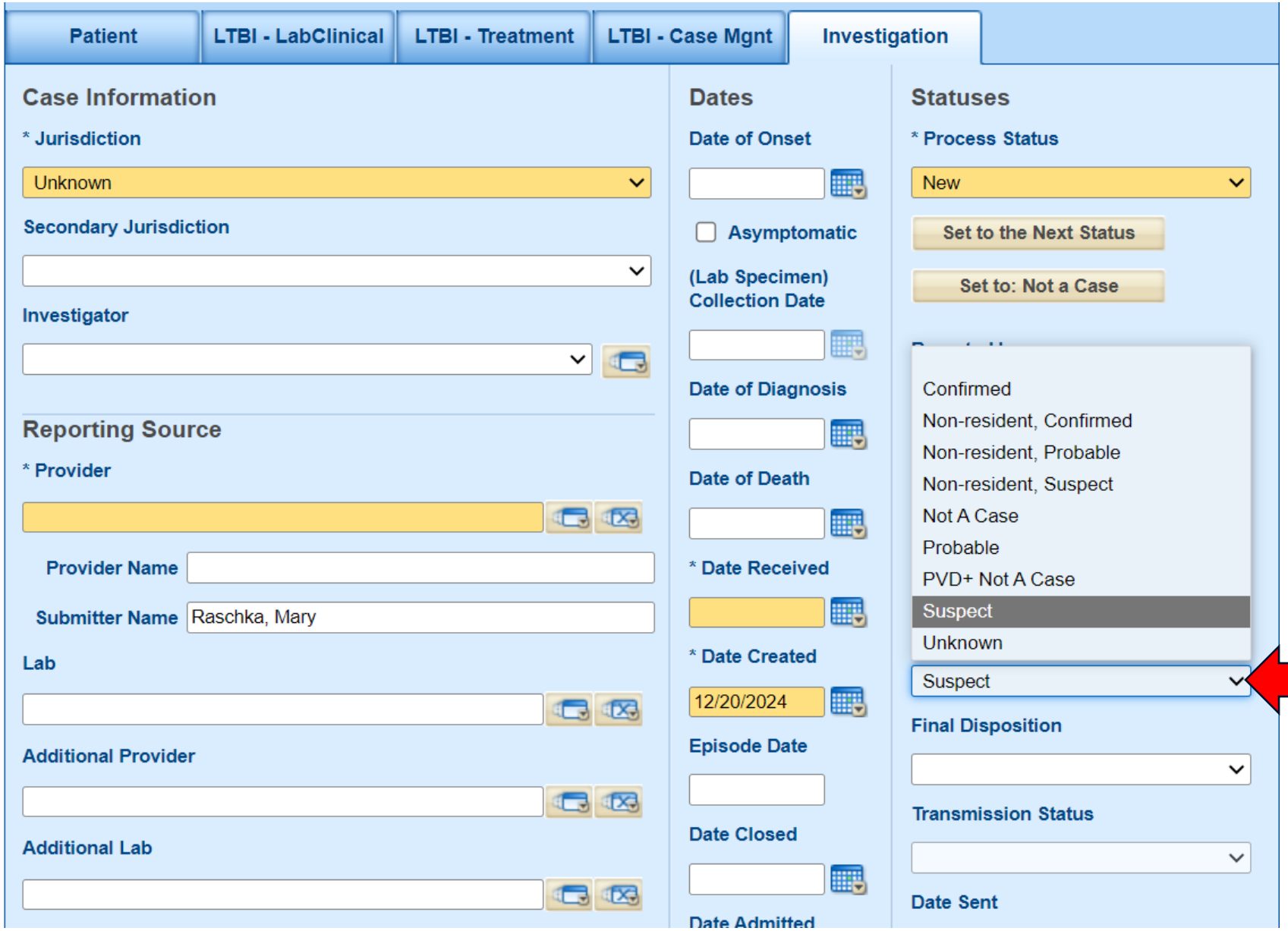
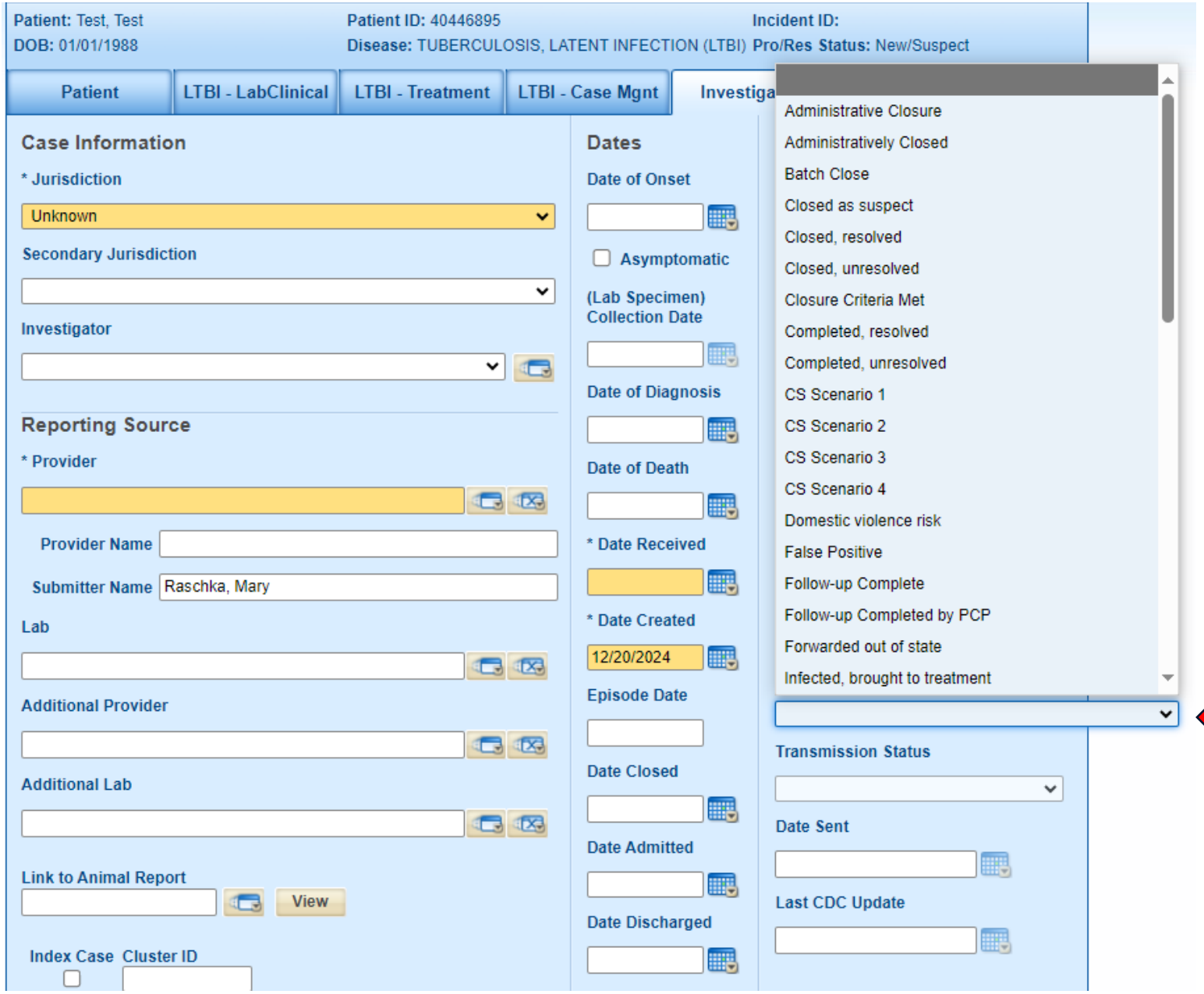


Choose the appropriate **process status**.

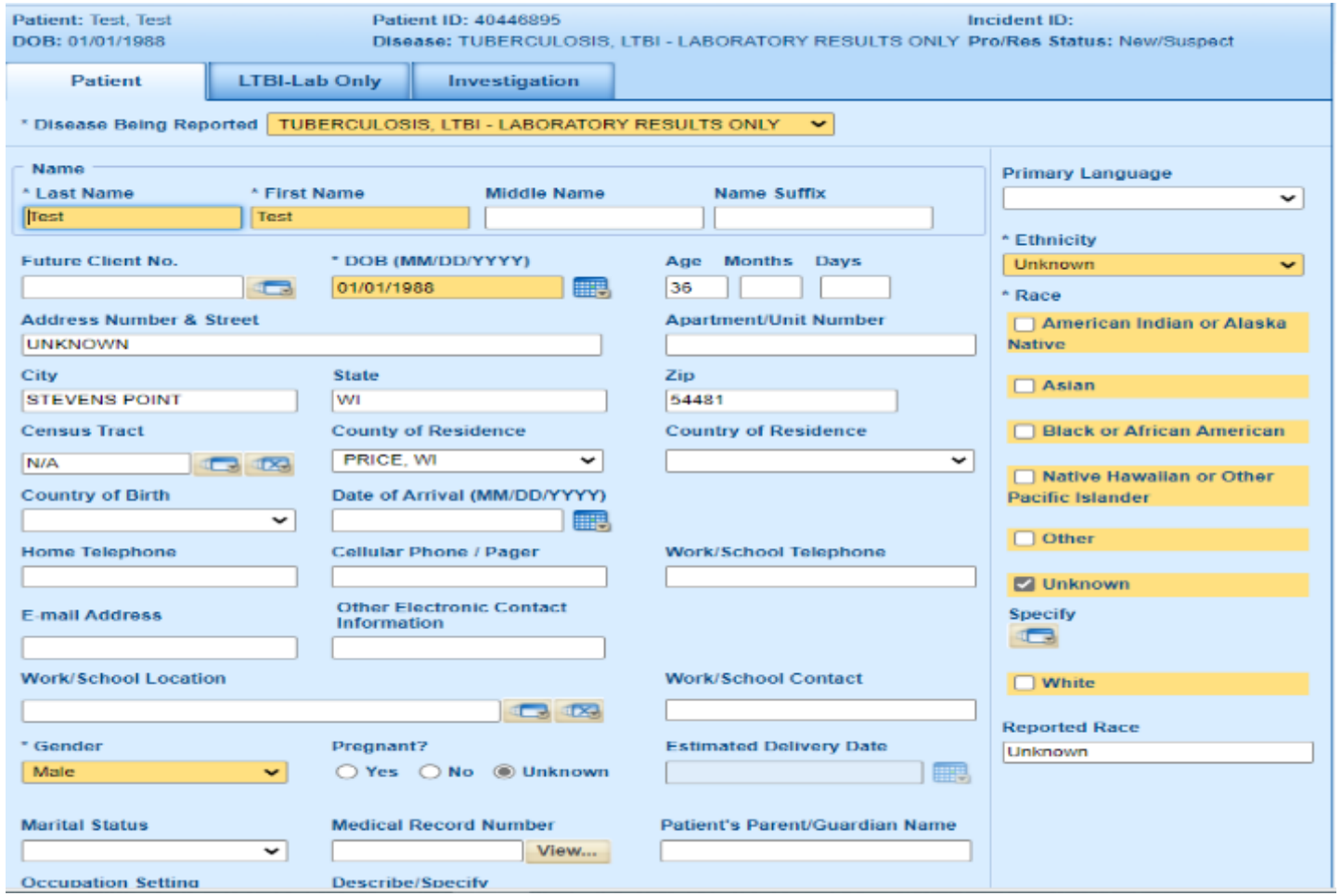


Choose the appropriate **Resolution Status**, based on EpiNet LTBI surveillance definition.



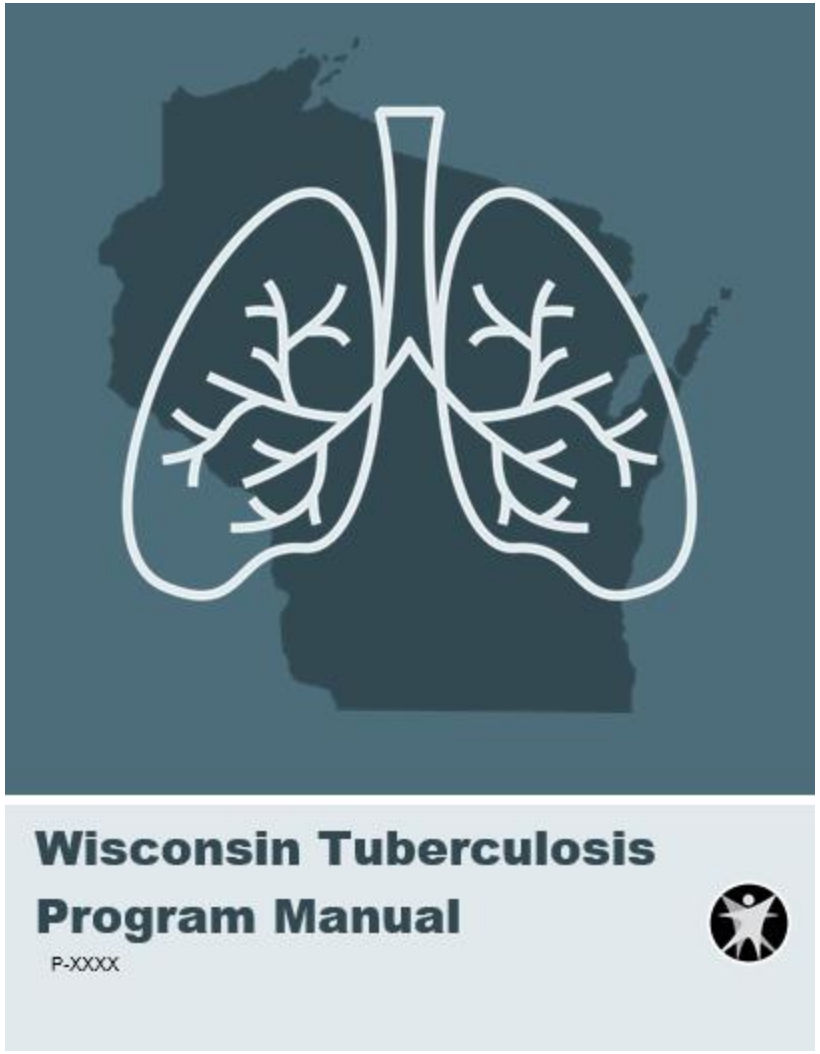
Choose the **Final Disposition** field, using "Infected, brought to treatment" if treated for LTBI.

DON'T FORGET LTBI LAB-RESULTS ONLY RECORDS!



DHS encourages follow up for all LTBI reports.

We Have a Manual!



Guidance for handling Latent Tuberculosis Infection cases is included in our **NEW Wisconsin Tuberculosis Program Manual!**

- Chapter 7- Diagnosis of Latent Tuberculosis Infection
- Chapter 8- Treatment of Latent Tuberculosis Infection

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TB Program Contact Information

Please, call or email us with questions!

Main TB Phone Line: 608-261-6319

Fax: 608-266-0049

TB Program Email:
DHSWITBProgram@dhs.wisconsin.gov

Website:
www.dhs.wisconsin.gov/tb/index.htm

Questions?

Thank you!

Let’s Practice!

Louise works as a CNA and was given a QuantiFERON test prior to employment. The qualitative result is positive, and the TB1-Nil result is 0.70. TB2-NIL result is 0.34. Both controls (Mitogen and NIL) are within normal limits. She does not have symptoms or risk factors.

What is the correct action in this scenario?

A. Refer Louise for chest imaging.
B. Offer Louise treatment for LTBI.
C. Retest Louise in 3–6 months.
D. Collect 3 sputum specimens.

Miguel has recently come to the United States from Mexico. He received a TST as part of his immigration exam, which was read at 12mm and reported as positive. He does not have any symptoms.

What is the correct action in this scenario?

A. Offer Miguel LTBI treatment.
B. Collect sputum.
C. Tell Miguel to follow up with his doctor.
D. Refer Miguel for chest imaging.

You refer Miguel for a chest x-ray, which is normal. What is the correct action at this point?

A. Offer LTBI treatment to Miguel.
B. Do nothing.
C. Collect sputum.
D. Tell Miguel he is ok and doesn't need to do anything further.

Gail went on an African safari for her honeymoon earlier this year and has not been feeling well recently. Her doctor orders a QuantiFERON test, which is positive with a TB1-Nil value of 1.24 and a TB2-NIL value of 1.56. Both controls (Mitogen and NIL) are within normal limits. She then receives a chest x-ray which shows some patchy consolidation.

What is the correct action in this scenario?

A. Offer Gail LTBI treatment.
B. Collect sputum specimens.
C. Convert the record to a TB disease incident and contact Gail to arrange for directly observed therapy for her TB.
D. Do nothing.

An LTBI Lab-Results only record is found during your jurisdiction review. What should you do?

What is the correct action for an LTBI Lab-Results Only record in WEDSS?

A. Convert the record to a disease incident.
B. Ignore it.
C. Contact the client to determine why they were test and if they have risk factors.
D. Call the WI TB Program and let them handle it.

TB Program Contact Information

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