

Tuberculosis in West Virginia

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June 12, 2025

2025 Infectious Disease and Immunization Summit

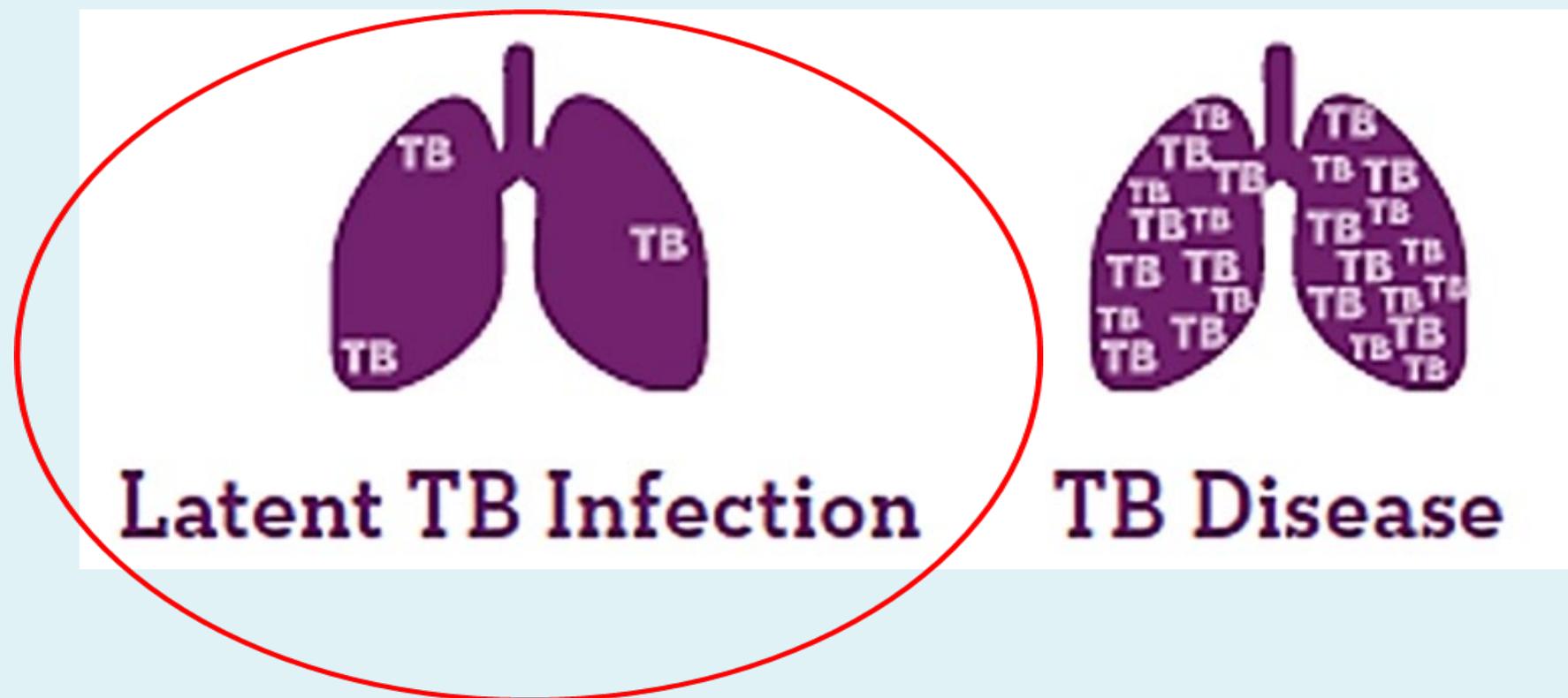


- Verbalize the difference between active tuberculosis (TB) disease and latent TB infection (LTBI).
- Know and understand the reporting requirements for reporting TB in West Virginia and be able to report on time according to the requirements.
- Verbalize the process for the Local Health Department (LHD) to follow up on positive TB test results and reports and know where to look for the appropriate resources.

LTBI vs. Active TB Disease

Person with LTBI	Person with Active TB Disease (Infectious)
Has a small amount of TB bacteria in his/her body that are alive, but inactive	Has a large amount of active TB bacteria in his/her body that are actively replicating
Cannot spread TB bacteria to others	May spread TB bacteria to others depending on the location of the TB disease
Does not feel sick, but may become sick if the bacteria become active in his/her body	May feel sick and may have symptoms such as a cough, fever, and/or weight loss
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 if it is Pulmonary TB
Should consider treatment for LTBI to prevent TB disease	Needs treatment for TB disease
Does not require respiratory isolation	May require respiratory isolation depending on the location

LTBI is the presence of *Mycobacterium tuberculosis* (M. tb) bacteria in the body without signs and symptoms or radiographic or bacteriologic evidence of TB disease.



The immune system is usually able to stop the multiplication of bacilli. Persons with LTBI are not infectious and do not spread the organisms to others. Granulomas may persist or may break down to produce TB disease.

- Mantoux Tuberculin Skin Test (TST)
- Interferon Gamma Release Assay (IGRA)
 - QuantiFERON-TB Gold Plus (QFT-Plus®)
 - T-Spot.TB®
- All these tests are detecting antibodies to M. tb, not the bacteria themselves
- These tests do not exclude LTBI or TB disease
- Decisions about medical/public health management should include other info/data, and not rely only on TST/IGRA results

- IGRA is the preferred method of testing for:
 - Groups of people who have poor rates of returning to have TST read
 - Persons who have received the Bacille Calmette-Guérin (BCG) vaccine
 - Persons with a history of bladder cancer
- TST is the preferred method of testing for:
 - Children under the age of five

Screening for TB Infection is recommended for:

- People born in or who frequently travel to countries where TB disease is common
- People who currently or used to live in large group settings (i.e., homeless shelters, prisons, or jails)
- Healthcare workers and others who work in places at high risk for TB transmission (i.e., hospitals, homeless shelters, correctional facilities, nursing homes, or residential homes for those with HIV)
- After contact with a person with infectious TB disease
- People with weakened immune systems

Testing Low Risk

People who are at low risk for TB generally should not be tested, since a positive result is less likely to be accurate. That said, some places—especially healthcare facilities—may still require testing.

Testing people at low risk increases the number of false positive test results and can divert resources away from preventing TB among those most likely to develop it.

Retesting is sometimes recommended for low-risk persons if retesting is not contraindicated.

When Not To Retest

Retesting is contraindicated if:

- There is known exposure to an active case of TB
- The person is symptomatic
- On medication or getting ready to start medication that will weaken the immune system
- The person has a history of positive TB screening tests
- The person is HIV positive
- The person is under two years of age

Persons more likely to progress from LTBI to TB disease include:

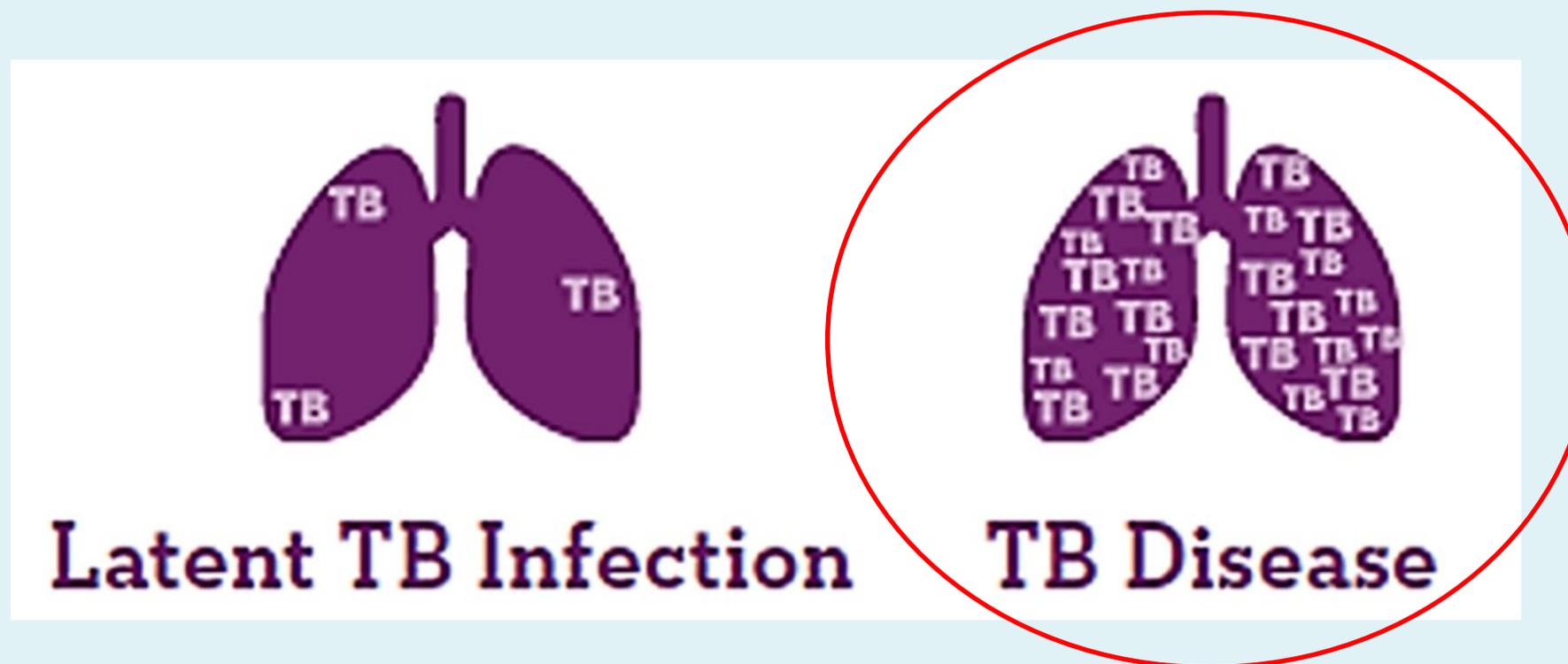
- HIV-infected persons
- People recently infected with M. tb (within the last two years)
- Those with a history of prior, untreated TB or fibrotic lesions on chest radiograph
- Children >5 years of age with a positive TB screening test
- Underweight or malnourished persons
- Substance abusers (such as smoking, alcohol abusers, or injection drug use)
- Those receiving immunosuppressive medications

Risk of Developing TB Disease (cont'd)

Persons more likely to progress from LTBI to TB disease include:

- Silicosis
- Diabetes mellitus
- Chronic renal failure or on hemodialysis
- Solid organ transplantation (e.g., heart, kidney)
- Carcinoma of the head or neck
- Gastrectomy or jejunioileal bypass
- Elderly

Active TB disease is the presence of *M. tb* bacteria in the body WITH signs and symptoms or radiographic or bacteriologic evidence of TB disease.



The immune system has been unable to stop the multiplication of bacilli, and they are active replicating in the body.

Persons with active TB disease ARE infectious and DO spread the organisms to others. Granulomas keeping the bacteria in check has begun to break down.

Diagnosing Active TB Disease

- Physical Examination
- Medical History
- Radiographic evidence of TB
- TB screening test
- Smear
- PCR
- Culture

Healthcare Providers/Facilities

Report to the LHD in the patient's county of residence:

- Suspected or confirmed active TB disease (pulmonary or extrapulmonary) within 24 hours by telephone, and follow up with a written report
- LTBI within one week

Laboratories

Report to the LHD in the patient's county of residence:

- Culture of M. tb, including drug susceptibilities, by telephone within 24 hours, and follow up with a written copy of the lab report from any site
 - All M. tb isolates shall be submitted to the West Virginia Office of Laboratory Services (WV OLS)
 - Labs identifying AFB on a smear from a patient shall culture and identify the AFB or refer these to another laboratory for those purposes
- M. tb infection by Interferon Gamma Release Assay (IGRA) within one week

Report of Confirmed/Suspected Active TB Disease



West Virginia Department of Health – WV TB Elimination Program (WV TBEP) Report of Confirmed or Suspected Active Tuberculosis Disease



Demographic Information

Name: _____ Phone #: _____ Date of Birth: _____ Age: _____
Address: _____ City: _____ Zip: _____ County: _____
State: _____ Country you live in at diagnosis: _____ Lives within city limits(Y/N/U): _____
Current Sex(M/F/U): _____ Sex at Birth(M/F/U): _____ Pregnant(Y/N/U/n/a): _____
Ethnicity: Hispanic or Latino _____ Not Hispanic or Latino _____ Unknown _____
Race: American/Alaskan Native _____ Asian _____ Black or African American _____
Native Hawaiian/Pacific Islander _____ White _____ Refused to answer _____
Not asked _____ Unknown _____ Other _____ (specify) _____

Administrative Information

Date Reported to County: _____ Date Reported to State: _____ TB State Case #: _____
Case already counted by another reporting area (Y/N/U) _____ Country of verified case _____

Initial Evaluation

Country of Birth: _____ Date arrived in U.S. (Month/Year): _____
Eligible for U.S. citizenship or nationality at birth (Y/N/U) _____
If the patient is <15 years old, country of birth for biological parents (specify):
Mother _____ Father _____
Country of usual residence: _____ If not the U.S. has case been in U.S. for >90days(Y/N/U) _____
Status at diagnosis: Alive _____ Dead _____ If dead, Date of Death _____ Was TB the cause(Y/N/U) _____
Initial Reason for evaluation for TB: Contact investigation _____ TB symptoms _____ Screening _____
Unknown _____ Other(specify) _____
Ever worked as - Correctional Facility Employee / Healthcare worker / Migrant or seasonal worker
No _____ Yes _____ If yes which one? _____ Unknown _____
Occupation: _____ Industry: _____

Report of Confirmed/Suspected Active TB Disease (cont'd)

- TB-34 Individual TB Reporting Form
- Answer all questions
- Call and report to the LHD and then follow up with the form



Latent Tuberculosis Infection

1. PATIENT DEMOGRAPHICS

Name (last, first): _____
 Address: _____
 City/State/Zip: _____
 Birth date: __ / __ / ____ Age: ____
 Country of Birth: U.S. Born Other - List country of birth _____
If born outside the U.S., provide year he/she came to U.S. _____

Gender: Male Female Unk
 Ethnicity: Not Hispanic or Latino
 Hispanic or Latino Unk
 Race: White Black/Afr. Amer.
 Asian Am. Ind/AK Native
 Native HI/Other PI
 Other Unk

2. REPORTING INFORMATION

Local Health Department (Jurisdiction): _____
 Investigator : _____ Investigator phone: _____
 Earliest date reported to LHD: __ / __ / ____
 Earliest date reported to State: __ / __ / ____
 Reporting facility: _____

Case Classification:
 Confirmed Suspect
 Not a case

3. PATIENT HISTORY

History of Active TB? : No Yes
If yes, Year of previous TB diagnosis : _____
 RVCT case# for previous TB case: _____
 Previous active TB treatment status: Complete
 Incomplete
 No previous treatment
 Unknown

Ever Diagnosed with Latent TB Infection? : No Yes
If yes, Year of previous LTBI diagnosis : _____
 Previous LTBI treatment status: Complete
 Incomplete
 No previous treatment
 Unknown

Ever lived outside of the U.S. for more than 2 months? No Yes
If yes, list ALL countries the patient has lived in for longer than 2 months : _____

4. CLINICAL

LTBI Reporting Form (cont'd)

- TB-101 LTBI Reporting Form
- Answer all questions
- Submit the form to the LHD

Steps for Follow-Up on Positive TB Test

- Determine reason for testing and complete risk assessment*
- If not contraindicated, draw T-SPOT
- If the patient has a contraindication for T-SPOT, obtain a current (w/in three months) chest x-ray (CXR)
 - Contact Sarah Miller to schedule a CXR or
 - Obtain the CXR report if done at an outside facility
- Complete Diagnostic Clinic Form (TB-80) and send to Sarah Miller to schedule a clinic appointment with a doctor
- Prior to an appointment with a doctor, provide a current medication list for the patient and any other pertinent records (e.g., lab work, radiologic studies, etc.)

*If assessment reveals symptoms of active TB, collect sputum and call the TB unit

Steps for Follow-Up After Diagnostic Clinic

- Verbal orders will be given by Dr. Elliott during the clinic (written orders will be sent after)
- Draw lab work as ordered
 - CBC, CMP, Hepatic panel, T-SPOT/QFT are sent to Quest
 - Hepatitis B & C and HIV are sent to WV OLS
- Place an order for medication if needed
 - Contact Lisa Casto regarding medication orders
- Administer medication per the Protocol for Treatment of TB
- Submit copies of baseline and monthly lab work to the TB Program
- Draw the final hepatic panel about one week after the last dose of medication
- Contact the TB Program for a discharge order and a completion of treatment letter
- Documents everything in West Virginia Electronic Disease Surveillance System

Follow-Up of an Active TB Case

- If you receive a call/report of a suspected or confirmed case of active TB disease, obtain any available medical records, including:
 - History and Physical
 - Radiologic studies
 - Current medication list & doses of TB meds if started
 - Patient location and isolation (i.e., inpatient/outpatient, home)
 - Laboratory studies (i.e., bloodwork, AFB)
- Call the West Virginia TB Elimination Program to report a case and get guidance
- Complete Individual TB Reporting Form (TB-34) and send to the West Virginia TB Elimination Program
- Complete Diagnostic Clinic Form (TB-80) to schedule a visit with the doctor and fax to Sarah Miller

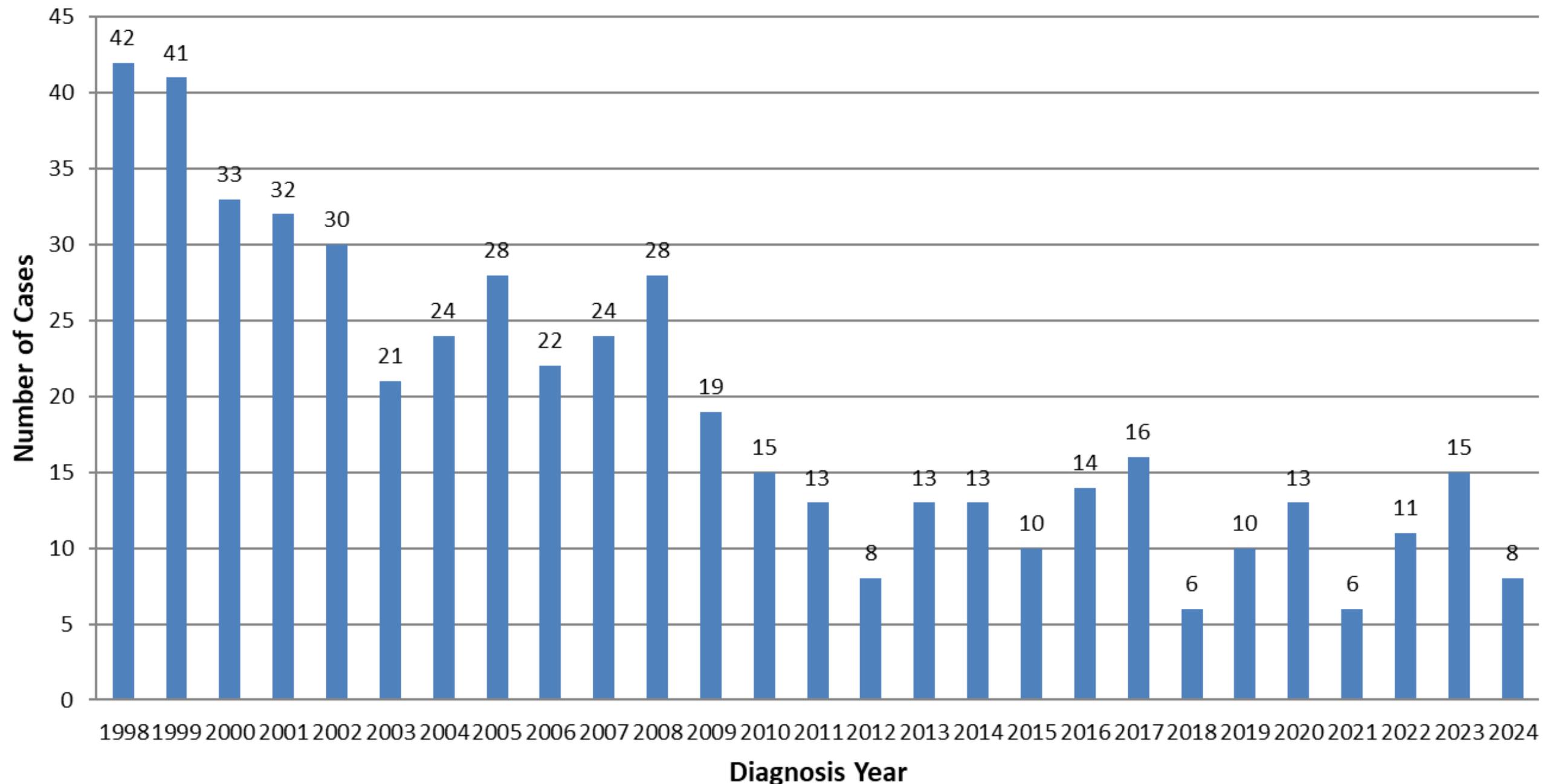
Some Reminders

- DO NOT perform a T-SPOT for anyone referred for TB follow-up by a dermatologist, rheumatologist, or gastroenterologist
- Sputum is collected for active cases every two weeks until they are culture negative, then monthly till negative for two months
- Submission of the Diagnostic Clinic Form (TB-80) triggers patient scheduling with the doctor. If the patient is active, you still must send one in every month
- If the patient is not interested in considering treatment for LTBI, there is no need for additional follow-up and scheduling for the clinic
- Refer to the Standard of Care Documents for LTBI and active TB disease for step-by-step instructions
- Please make sure that consents are signed prior to starting treatment

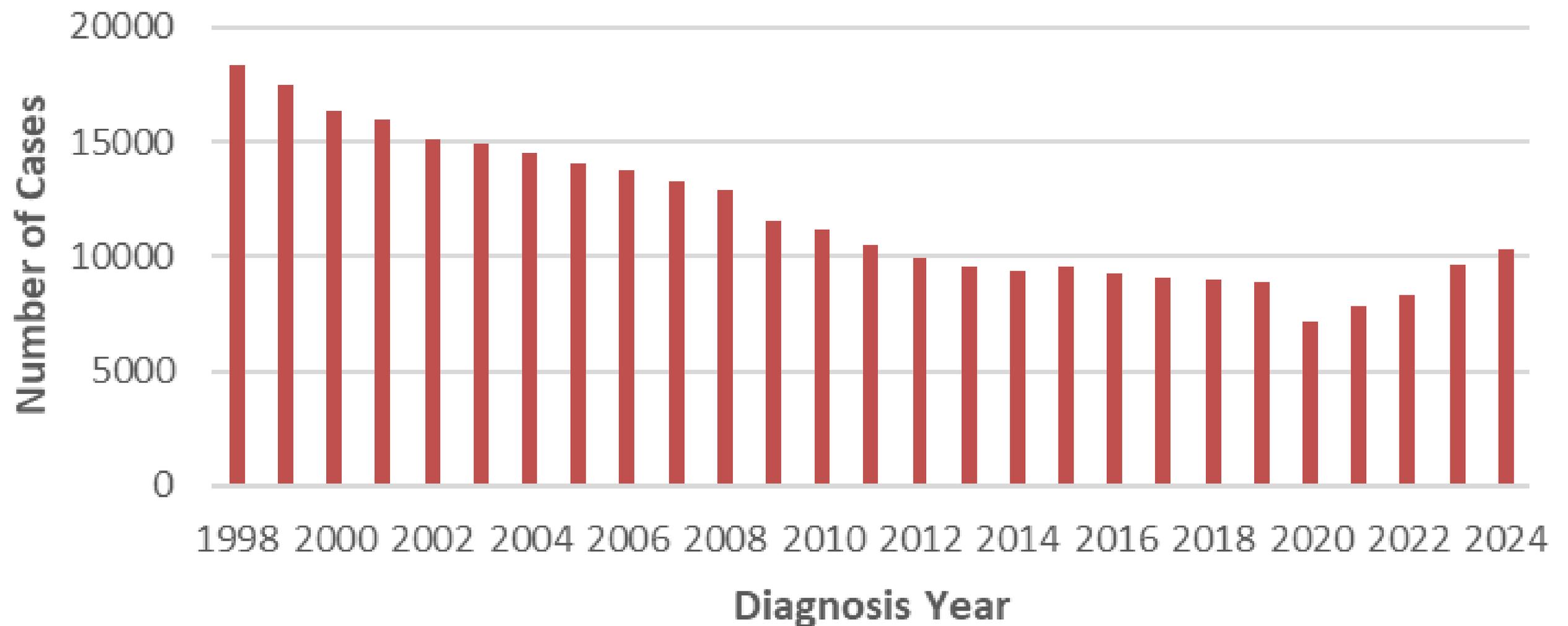
West Virginia TB Disease Data 2024		United States TB Disease Data 2024	
Number of Cases	Incidence Rate per 100,000	Number of Cases	Incidence Rate per 100,000
8	0.45 per 100,000	10,347	3.12 per 100,00

Cases of Active TB in West Virginia (WV)

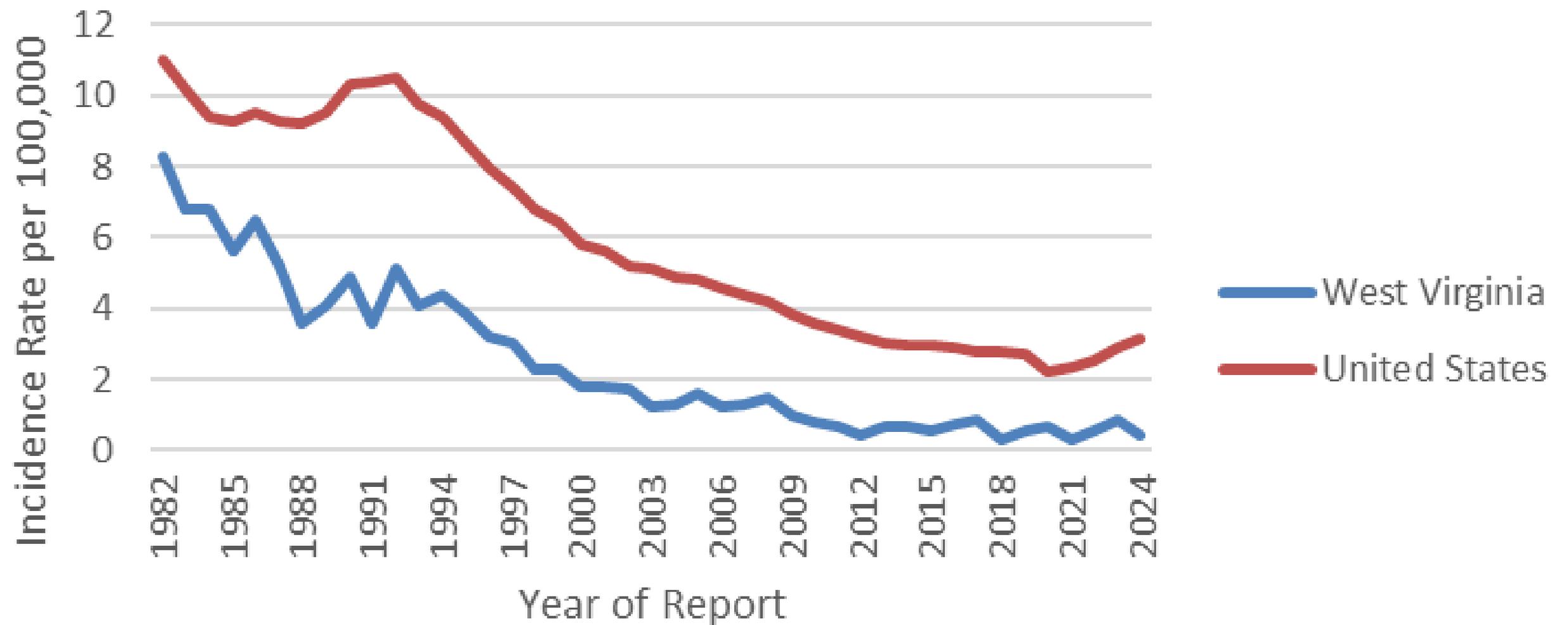
Newly Diagnosed Active TB Cases in WV by Year of Diagnosis 1998-2024



Newly Diagnosed Active TB Cases in the United States by Year of Diagnosis 1998-2024



TB Incidence Rates in West Virginia and the United States 1982-2024



West Virginia TB Elimination Program – Who to Contact



- West Virginia TB Elimination Program Main Line:
 - Phone (304) 558-3669
 - Fax (304) 558-1825
- Stephanie McLemore, RN – nursing consults
Director of the West Virginia TB Elimination Program
Stephanie.D.McLemore@wv.gov
- Sarah Miller, R.T. – scheduling clinics and x-rays
Radiologic Technologist for the West Virginia TB Elimination Program
Sarah.E.Miller@wv.gov
- Jon McCants – TB data and numbers
Data Specialist for the West Virginia TB Elimination Program
Jon.P.Mccants@wv.gov
- Lisa Casto – medication orders, invoices and dictation
HHR Associate for the West Virginia TB Elimination Program
Lisa.D.Casto@wv.gov

- West Virginia TB Elimination Program Website:
 - oeps.wv.gov/tuberculosis/Pages/default.aspx
 - oeps.wv.gov/tuberculosis/pages/tb_lhd.aspx
- Global TB Institute at Rutgers University:
 - globaltb.njms.rutgers.edu/
- Centers for Disease Control and Prevention (CDC) website:
 - cdc.gov/tb/default.htm

Contact Information



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Bureau for Public Health

Office of Epidemiology and Prevention Services

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