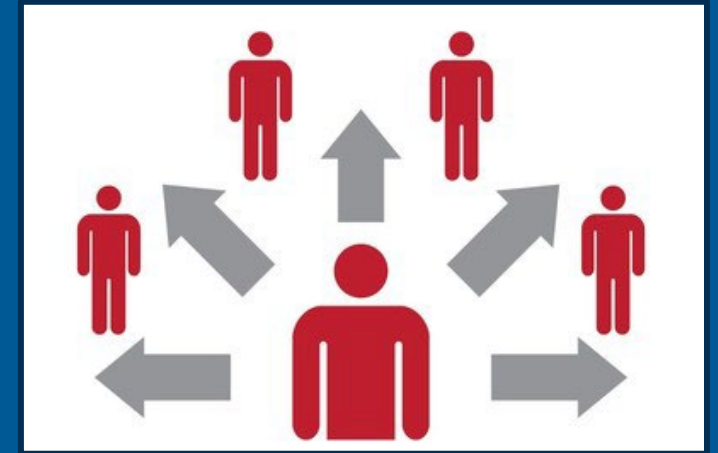


Massachusetts Department  
of Public Health



# Tuberculosis Contact Investigations

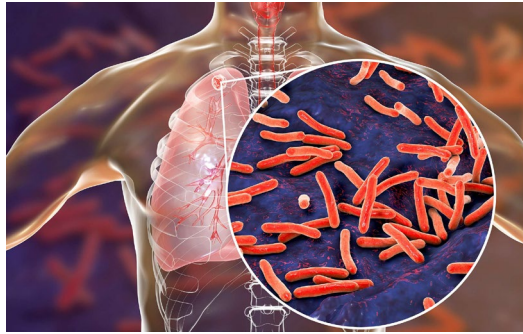
May 12, 2026

Division of Global Populations and Infectious Disease Prevention  
Bureau of Infectious Disease and Laboratory Sciences

# Agenda Today: TB Contact Investigations in MA

- **TB Overview**

- TB 101
- TB Data
- Roles in TB Case and Contact Investigation



- **Contact Investigations for Local Health**

- Who is a Contact?
  - Household Contacts
  - Extended Contact Investigations (Concentric Circles)
- Tips for Eliciting Contacts (Patient Interviewing)
- Overview of Contact Follow-Up

- **TB Screening for Contacts**

- Contact Testing Timeline
- IGRA vs TST

- **Follow-up for Contacts with Positive Test Results**

- Referral to clinics/treatment

- **Testing Resources & Survey**

- Language Line
- DPH Direct Services Team (CHW)
- Testing at Quest Diagnostics
- State-supplied PPD (Tubersol)
- Spring 2026 TB Survey
- Additional Training Resources

# MA 2025 Year in Review

- In 2025, we cared for **252 Massachusetts residents affected by TB disease and their families**. This included:
  - 174 people with pulmonary or mixed pulmonary and extrapulmonary TB
  - 14 children from birth to 19 years of age
  - 19 individuals experiencing homelessness
  - 1 individual with multi-drug resistant (MDR) TB
- This does not capture the number of all cases reported that were not determined to be TB, the number of TB contacts screened, newly arrived individuals with Class B designations linked to care, or vulnerable individuals with latent TB infection supported.

# MA Tuberculosis Data

- **MAVEN**

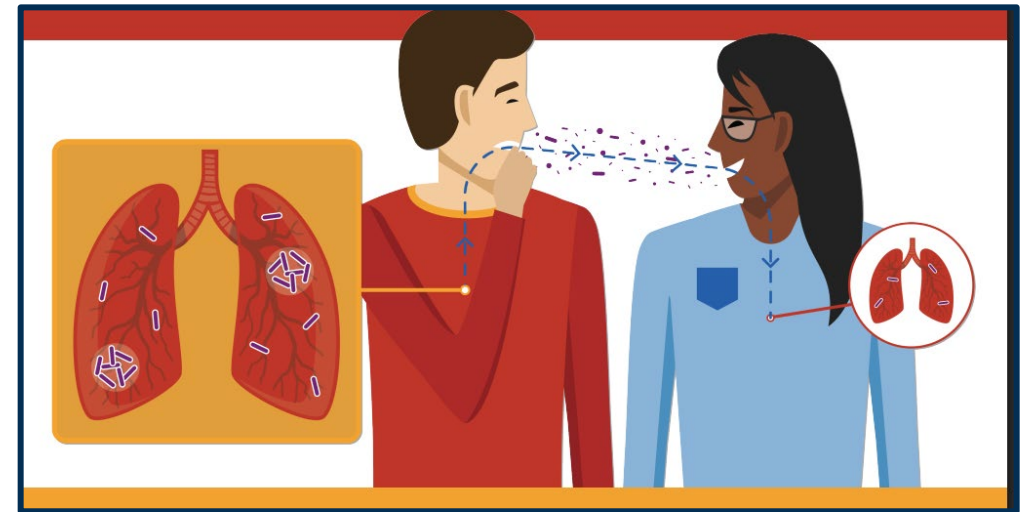
- Most current TB data
- Different reports depending on what you need
  - TB Disease: DGP - Event Information Extract by Disease
    - Good to use for data analyses
  - Linelist of "current" TB Disease case investigations: DGP - LBOH Active Caseload

- **Publicly available data**

- Published annually around World TB Day March 24th
- <https://www.mass.gov/lists/tuberculosis-data-and-statistics>

# Tuberculosis (TB) 101

- TB is an infectious disease caused by *Mycobacterium tuberculosis*
- Spread person to person through the air
- Once infected, that person has **TB infection**
- A subset of those people develop **TB disease** either in lungs (pulmonary) or not (extrapulmonary)



Source: [https://www.cdc.gov/tb/media/Stop\\_TB\\_poster\\_English.pdf](https://www.cdc.gov/tb/media/Stop_TB_poster_English.pdf)

# Key Concepts: Stages of Tuberculosis

## TB Infection (Latent TB/LTBI)

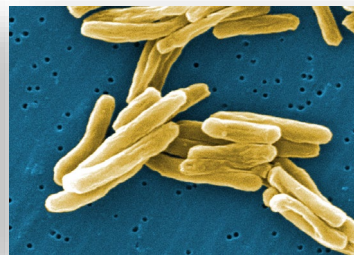
- Diagnosed by:
  - Positive IGRA/PPD
  - CXR negative for TB
  - Asymptomatic
- **MAVEN Classification**
  - **TB Infection Suspected/Confirmed**
- Patient is **NOT infectious**
- Treatments available
  - Optional but highly recommended
- Patient will NOT appear in the **TB Suspect/Case Notification Not Acknowledged** workflow



## TB Disease

- Diagnosed by (dependent on site):
  - Positive NAAT and/or Culture for MTB
  - Abnormal Radiology (CXR, CT)
  - Symptoms (varied depending on site of disease)
- **MAVEN Classification:**
  - **TB Disease Suspected/Confirmed**
- Patient is **POTENTIALLY infectious**
  - Depending on site of disease and clinical presentation
  - Pulmonary vs. extrapulmonary (outside lungs)
- Treatments available
  - Mandatory if risk to public health
- Patient WILL appear in the **TB Suspect/Case Notification Not Acknowledged** workflow

**NAAT** = Nucleic Acid Amplification Test  
**Cx** = Culture  
**CXR** = Chest X-Ray



# Stages of Tuberculosis: MAVEN Event Variables

## TB Infection (Latent TB/LTBI)

Disease state \*

TB Infection

Disease classification status \*

Confirmed

## TB Disease

Disease state \*

TB Disease

Immediate Event Notification Sent Date/Time

Sent on 04/05/2024 04:42 PM EDT

Disease classification status \*

Confirmed

# Contact Investigations 101

- State and local health departments have legal responsibility to:
  - Investigate TB cases and contacts reported in their jurisdiction
  - Evaluate effectiveness of TB investigations
- Although the health department maintains legal responsibility, some steps may be delegated or shared.
  - Health care settings, worksite settings, schools and universities
  - Congregate facilities: corrections, shelters, etc.

# The Team Approach

## State TB Team:

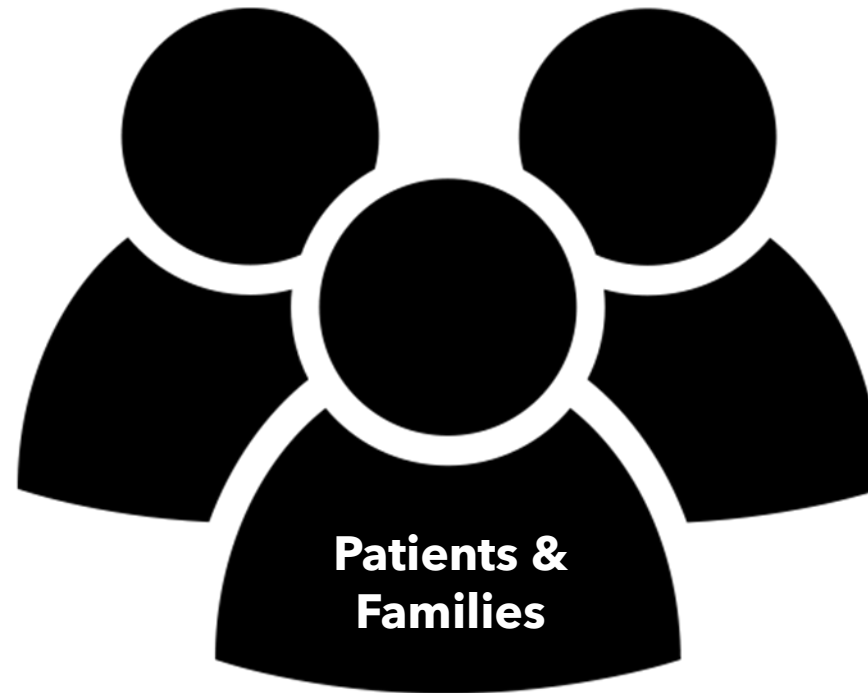
Epidemiologists

Public Health Nurses

Direct Services

Coordinators/  
Direct Services

Community Health  
Workers



TB prevention is built on a collaborative approach, and program models may differ by jurisdiction.

## Local TB Team:

Public Health Nurses

Health Agents

Epidemiologists

Community Health  
Workers

# Local Health Responsibilities

- Case investigation and follow up
  - Conducts interviews with the person diagnosed with TB
  - Contact identification
- Contact follow up
  - Facilitates screening (testing) for identified contacts
  - Provides results to contacts
  - Refers contacts to clinic as needed
  - Follows contacts until evaluation is complete
- Data management along side DPH staff
  - Requesting and attaching records, providers/clinics, treatment completion dates, etc. for TB disease cases and/or high priority LTBI

# State Health Department Role

## State Team includes DPH Nurse, Epidemiologist, and Direct Care Services.

- Contact information can be found in town's Communication event (see **DPH Support Staff for LBOH TB Case Management**)

DPH can provide the following as needed:

- Clinical and technical assistance
- Interpreter assistance
- PPD solution
- Quest IGRA test order
- TB Clinic referral assistance

# DPH Division of Global Populations: Tuberculosis

- Questions related to **Tuberculosis** casework can go directly to the TB Program:
  - **TB Email:** [BIDLS-TBGeneral@mass.gov](mailto:BIDLS-TBGeneral@mass.gov)
  - **TB Program Phone:** **(617) 983-6970**
  - **Check Your Town's Communication Event in MAVEN.** Listed under **DPH Support Staff for LBOH TB Case Management** in MAVEN.
    - State Direct Services Coordinator
    - State TB Epidemiologist
    - State TB Nurse

**Town Communication Event Example**

MDPH Support Staff for LBOH TB Case Management					
First Name	Last Name	Title	Email	Phone	
Arnaud	Barbosa	State Direct Services Coordinator	DPHEmail	(123) 123-1234	
Steven	Shelley	State TB epi	DPHEmail	(123) 123-1234	
Anna	Hippchen	State TB Nurse	DPHEmail	(123) 123-1234	

# Overview of Contact Follow-Up for LBOHs

1. Interview index case to **identify contacts** during their infectious period.
2. Determine **parameters of contact investigation**. The case's symptoms and test results inform the scope of contact investigations.
  - Often contact investigations are limited to household members (most common) but could be expanded to include work or social contacts.
  - DPH can help confirm if expanded follow-up is needed.
3. Establish and facilitate **testing** for contacts (two rounds of testing).
4. Refer positive contacts for **further evaluation**.

---

# Contact Elicitation and Identification

---

# Contact Investigations - When Should They Occur?

- **Information on the Index Case is required to determine if a Contact Investigation is appropriate.** This includes looking at the patient's symptoms and test results.
  - This information determines IF a contact investigation should be conducted.
  - This also determines how extensive the contact investigation should be (just household contacts or beyond).
- When was their symptom onset date? This helps determine the infectious period under investigation (exposure period for contacts).

# Who is a Contact?

- Exposure status depends on **proximity, duration** and **infectiousness** of index patient
  - **Proximity:** contacts would be within 6 feet of patient
  - **Duration:** contacts would be with patient for an extensive amount of time\* (8 or more hours, cumulative)
  - **Infectiousness of index case:** symptomatic, smear + and/or cavitory chest imaging

\* Duration shortens if contact is immunocompromised and/or under 5 years old

# Who is not a TB Contact?

- For TB, a much longer exposure time is needed compared to some other infections like COVID-19 or measles.
- People with short, one-off interactions
- People exposed to people with extra-pulmonary TB
- If there is ever a question, our epidemiologists are available for questions

# Contact Investigation Parameters

- The need and scope of each contact investigation is evaluated on a case-by-case basis, and is determined by a number of factors:
  - Pulmonary versus Extrapulmonary
  - For persons with pulmonary TB, a household contact investigation is usually indicated
- Based on clinical factors, a contact investigation may be expanded beyond household members to include work or social contacts:
  - Sputum AFB smear status
  - Presence of cavitation on CXR
- Expansion of the contact investigation may also be needed based on the setting in which an exposure might have occurred
  - Congregate setting
  - Presence of immunocompromised or otherwise vulnerable contacts

# Large Scale Contact Investigations



Workplace, school, long term care facility, etc.



Partnership between state TB program, LBOH and the exposure site



Onsite testing events

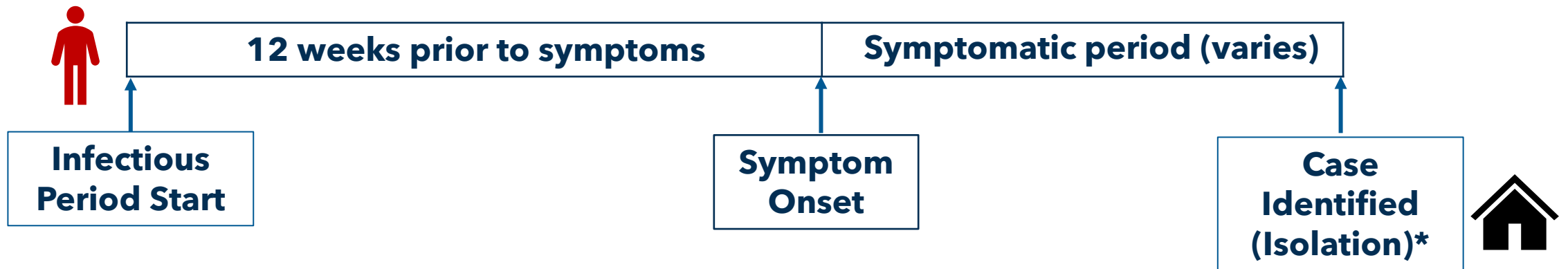
# State Support for Contact Investigations

You are not alone! State teams work with LBOH to help identify exposures as needed

- Determine infectious periods
- Identify exposed individuals
- Facilitate screening tests through Quest Diagnostics
- Help organize large testing events as needed

# Establish Index Case Infectious Period

Cases of TB Disease are **infectious up to 12 weeks before symptom onset** and may continue to expose others while infectious until isolated.



## Identifying Exposure Period

Start = 1<sup>st</sup> positive finding OR 1<sup>st</sup> day of symptoms  
(whichever came 1<sup>st</sup>) and go back 8-12 weeks  
End = Last day patient was in contact with peers

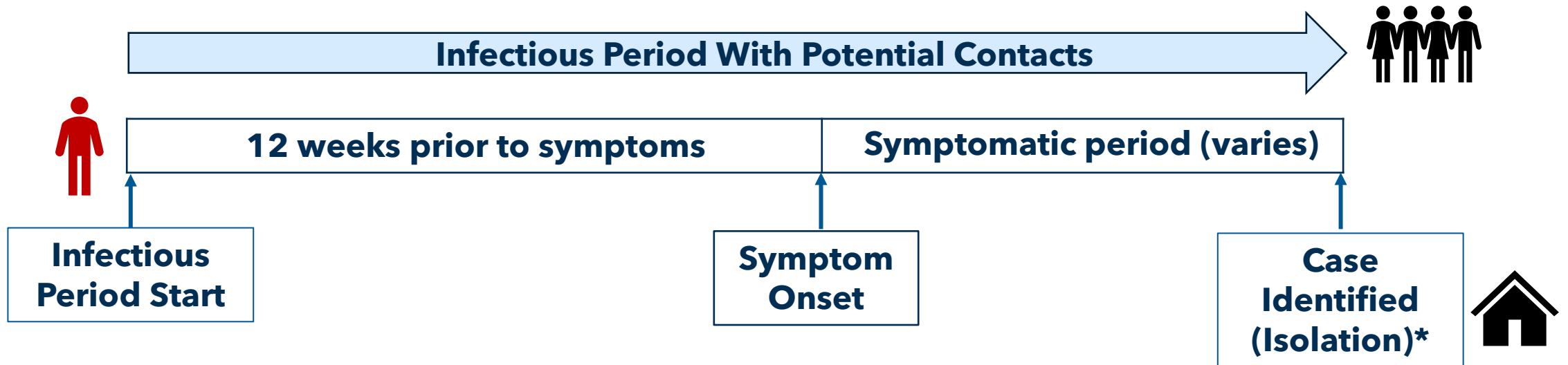
**\* intervention ensures no further exposure to others (hospitalization, treatment, etc.).**

# TB Disease Patient Interviewing

- Developing a relationship with a patient can be crucial to identifying contacts
  - Disease associated stigma
  - Social stress related to illness
  - TB disease is often one of many issues
- Ask where and whom they spent time during the infectious period
- Ask about activities during infectious period
  - Ask about number of hours per day/week

# Identify Contacts Exposed

To identify contacts, review **proximity and duration** of potential exposures up to 12 weeks before case symptom onset through to the last exposure to case while infectious.

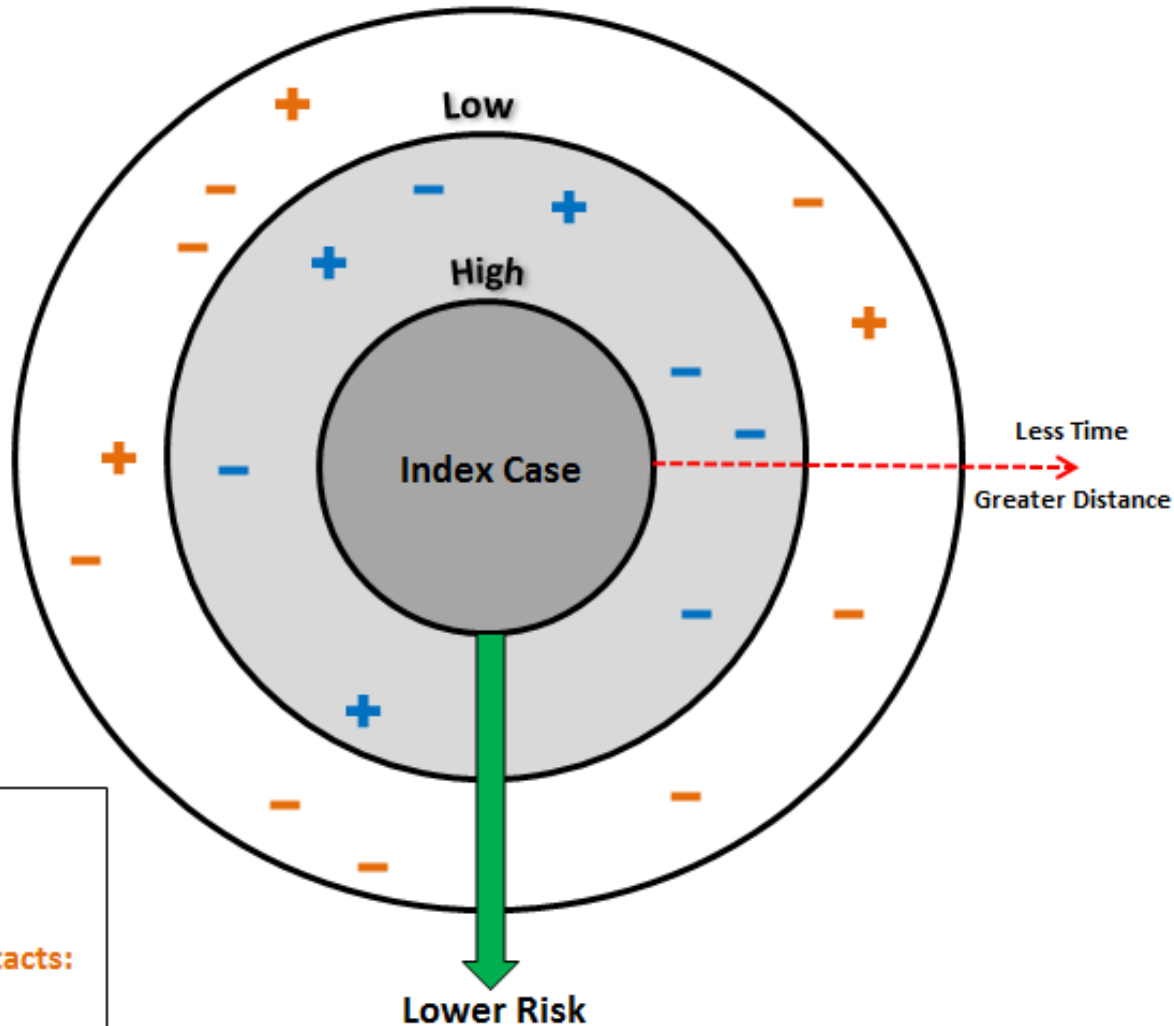


## Identifying Exposure Period

Start = 1<sup>st</sup> positive finding OR 1<sup>st</sup> day of symptoms  
(whichever came 1<sup>st</sup>) and go back 8-12 weeks  
End = Last day patient was in contact with peers

**\* intervention ensures no further exposure to others (hospitalization, treatment, etc.).**

# Concentric Circles



<b>Household Contacts:</b>
— Negative
+ Positive
<b>Non-Household Contacts:</b>
— Negative
+ Positive

- Start with closest contacts
  - Household
  - Significant others
  - Close friends
- Expand if smear + and/or cavitory CXR **OR** clinically indicated
  - More than 10% of inner circle contacts come back positive
  - Workplace, School, etc.

# Contact Information Gathering

- Minimally, ask for their name and contact information
  - Phone number, address, date of birth & gender
    - This information is needed for DPH sponsored testing
- Once identified, ask the contact:
  - Do they have any TB symptoms?
    - Cough, fever, night sweats or weight loss
  - Do they have a weakened immune system?
  - Were they born in the United States?
  - If a child is identified, are they under the age of 5?

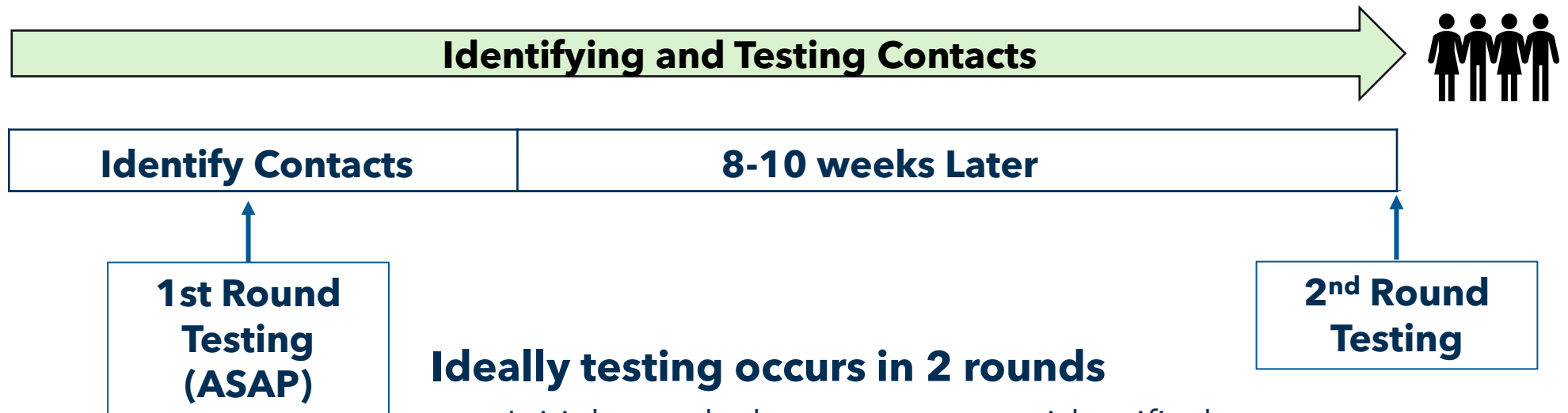
---

# **TB Screening for Contacts**

---

# Contact Testing (Two Rounds)

**Establish a testing timeline for contacts.** Most contacts should be tested immediately upon identification as a contact, and then again 8-10 weeks later.



## Ideally testing occurs in 2 rounds

Initial round when contacts are identified

Used mainly to identify previous positive contacts

2<sup>nd</sup> round 8-10 weeks after exposure ends

Immune response can take time

# Contact Testing

## Initial/Baseline - 1<sup>st</sup> round

- TST or IGRA
  - IGRA for BCG vaccinated
  - If negative, re-test in 8-10 weeks from exposure end
  - If positive, refer for further evaluation
    - CXR
    - Symptom Check
    - Treatment Recommendation

## 2<sup>nd</sup> round

- TST or IGRA
  - Same method preferred
  - If negative, 😊
  - If positive (conversion), refer for evaluation
    - CXR
    - Symptom Check
    - Treatment Recommendation

# BCG Vaccine

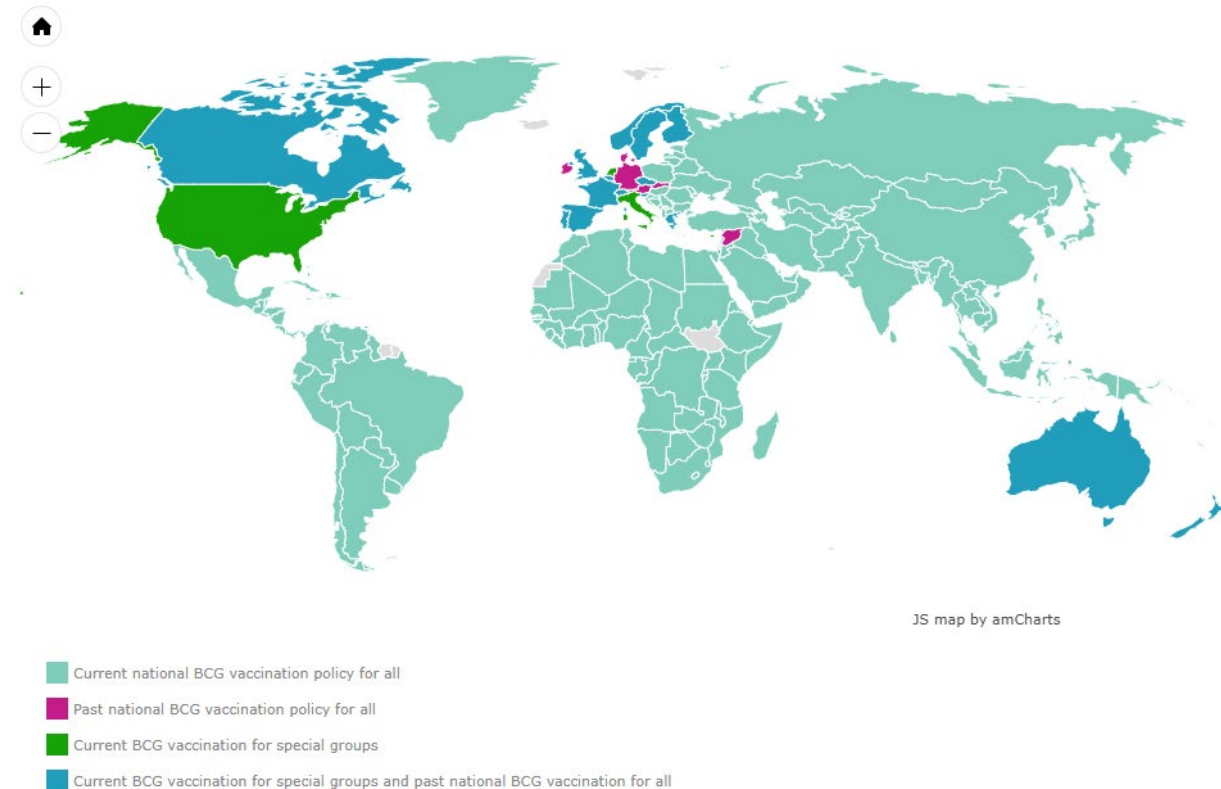
- **Bacille Calmette-Guérin (BCG)** is a vaccine for tuberculosis (TB) disease. The vaccine is not generally used in the United States.



# BCG Vaccine

- Routinely administered at birth in most countries outside of the US, Canada, and Western Europe
  - Leaves a characteristic scar
  - Reduces risk of childhood TB meningitis
  - Does not provide lifelong protection
  - **Increases risk of false positive TSTs**

A DATABASE OF GLOBAL BCG VACCINATION POLICIES AND PRACTICES



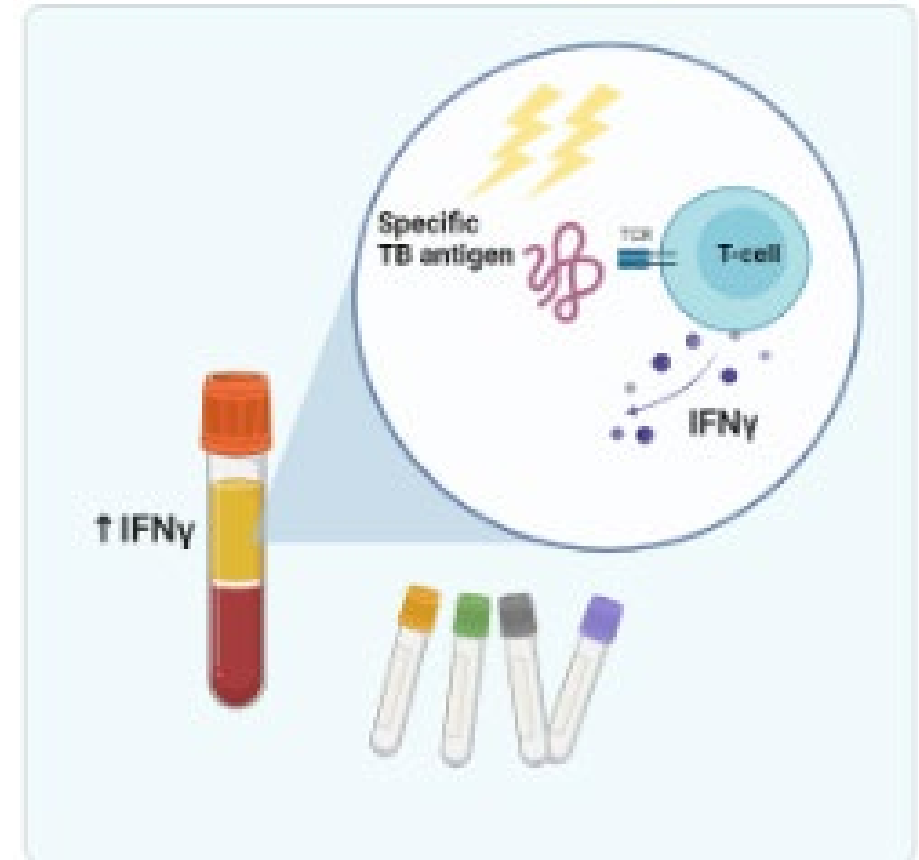
# The Mantoux tuberculin skin test - TST

- Intra-dermal planting in the forearm with 0.1 ml of **purified protein derivative (PPD)**
- Read 48-72 hours later by measuring **induration** in mm (millimeters)
- Approved for all ages



# Interferon-Gamma Release Assay - IGRA

- Two FDA approved TB blood tests
  - T-Spot.TB test
  - QuantiFERON-TB Gold Plus
- Measure immune response after exposure to TB antigens
- Not affected by BCG vaccination
- Requires only one visit per test
- Now approved for all ages



# Immunosuppressed and Contacts Under 5

- Contacts under 5 years old and/or immunocompromised may need to take additional steps
  - TST or IGRA - may be affected in immunosuppressed patients
  - Two-view CXR
  - Window Prophylaxis
    - Vulnerable contacts should be placed on window treatment for the duration between rounds of testing, even if first round is negative
    - Isoniazid (INH) or Rifampin (RIF) used most often

# Window Prophylaxis Informational Flyer

- Window Prophylaxis - What Parents Need to Know
- Available online
- Translated into 9 languages

## Keeping Kids Under Five Years Old Healthy After Exposure to Tuberculosis:

### What Parents Need to Know

Tuberculosis (TB) spreads through the air. You can breathe in the germ that causes TB if you spend time with someone who is sick with TB. If a child under 5 years old breathes in the TB germ, they may become sick very quickly.

**Coughing or having a fever for 2-3 weeks or more**



**Feeling sick, weak, or tired**



**Less playful than normal**



**Not eating or nursing well**



**Losing weight or not gaining weight**



#### How can I keep my child healthy?

If you find out your child was in contact with someone sick with TB, reach out to your local public health department to help your child get the care they need. Testing and treatment can help keep your child healthy.

Your child should see a healthcare provider for a physical exam, chest X-ray, and a TB skin test or a TB blood test. The doctor may recommend medicine even if your child's test is negative.

---

**Follow Up for  
Contacts with  
Positive Test Results**

---

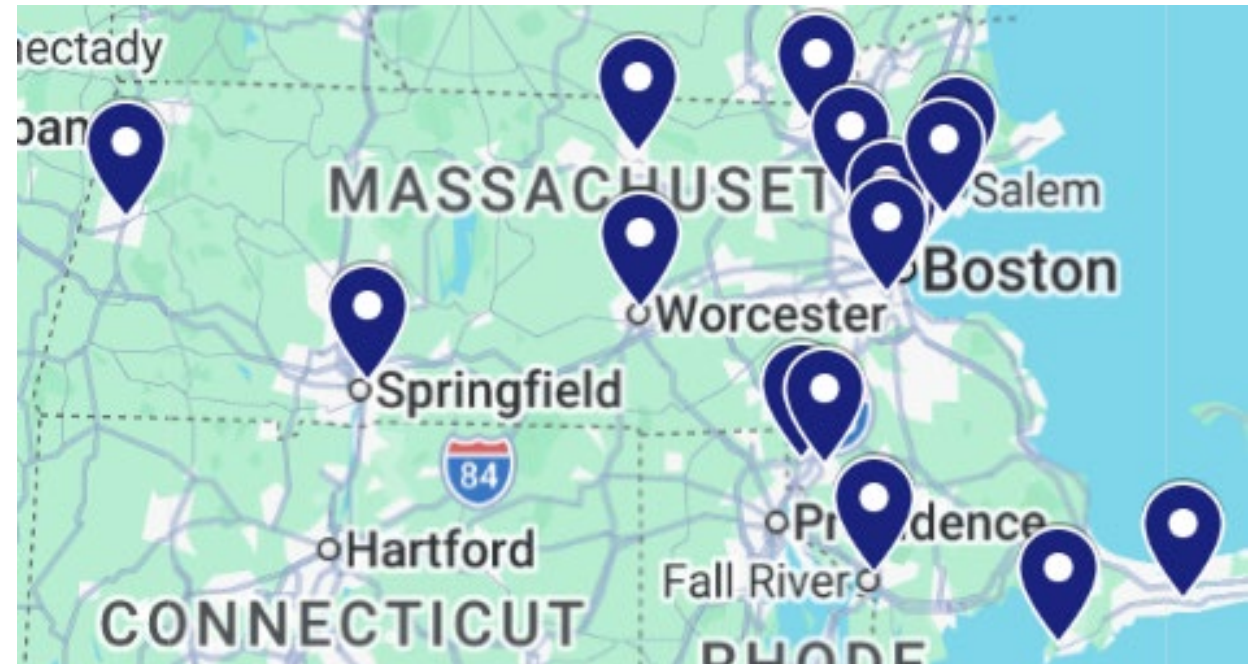
# Contact Follow Up

## **If contact comes back positive on either round:**

- CXR and symptom check to evaluate for TB disease
  - If negative, contact is diagnosed with LTBI (latent tuberculosis infection)
  - Patients with LTBI are not considered infectious or actively ill
- Referral to TB clinic
  - Treatments for LTBI available
    - Optional but highly recommended to prevent progression to active TB
    - INH for 9 months, RIF for 4 months, 3HP for 12 weeks

# Referral to TB Clinic

- **17 TB Outpatient Service clinics** operating in Massachusetts
- Treatment is free to uninsured referred patients
- List of clinics can be found online <https://www.mass.gov/info-details/massachusetts-tb-outpatient-services>



# Payment Coverage for TB Services

DPH covers TB services:

- At contracted TB clinics in Massachusetts
- For TB outpatient services (not inpatient)

DPH will pay for TB services for:

- Uninsured Patients
- Insurance Copays
- Insurance Rejections

DPH has an approved list of CPT codes for TB outpatient services.

DPH does not cover insurance deductibles or co-insurance.

---

# Resources & Survey

---

# Direct Services & Language Support

- Provide Tuberculosis education through a cultural lens
- Assistance with home visits and the relaying of TB infection testing results
- Increase contact's access and linkage to TB follow-up care
- Promote engagement and retention in care for TB treatment
- Language & transportation support (when available)
  - Collectively, the DS Team speaks 21 languages
  - LBOH should use interpreter line for routine TB case management follow up

**Language Line Solutions**

**Dial: 866-874-3972**

**Code: 684959**

# Requesting Direct Service Involvement

Direct Services' outreach is automatically assigned to any TB disease patients, but needs to be requested for contacts if a community health worker is not already involved

## To request outreach:

1. Enter the MAVEN event
2. Open the Care Plan / Follow-up question package
3. Set "Outreach requested" to "Yes"
  - ❖ Set "Program Requesting Outreach" to "BOH/TB Clinic"
  - ❖ Set "Reason for Referral?" to "Contact Investigation" or "LTBI-Contact"

01. Administrative
02. Demographic
03. ClassA/B
04. Medical/Risk History
05. Medical Information
06. Medications
07. Provider / Clinic Information
08. Care Plan / Followup
09. Exposure/Control & Prevention
10. ECR Information
11. Electronic Case Reporting
12. Sequencing Information



**Outreach requested**  
Yes

**+ Add New**

**Date outreach requested**  
04/06/2025

**Person Requesting ORE Name (Retired)**

**Program Requesting Outreach**  
BOH/TB Clinic

**Outreach assigned**

**Reason for Referral (Retired)**

**Reason for Referral?**  
Joint Visit with LPH

# Quest Diagnostics Contract

Decreases barriers to testing by providing QuantiFERON draws, free of charge, to any identified TB disease contacts

- Viable at any Quest Location in New England
- Allows LBOH, DPH staff and Quest phlebotomist to mobilize for large scale testing events
- Utilizes existing DPH standing orders
- Created by request to your DPH team
  - By MAVEN task, email or phone call

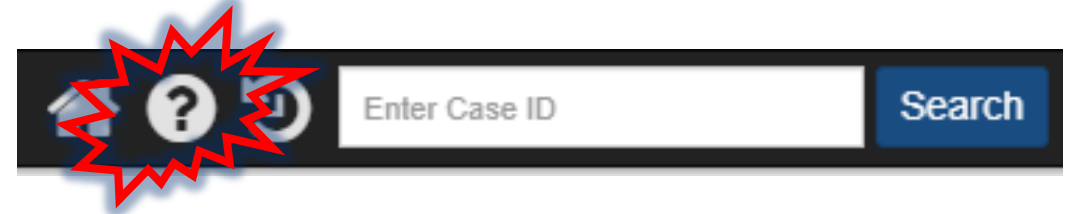


# State Supplied PPD (Tubersol)

Local Boards of Health can request State supplied PPD solution for TB disease contact testing and other populations.

- Tuberculin vials contain enough solution for 10 tests
- Ordered by emailing Denise Lancto, our Administrative Assistant or by calling our TB Main Line:
  - [denise.lancto@mass.gov](mailto:denise.lancto@mass.gov) or 617-983-6970
- For more details: [Policy for distribution of DPH-purchased PPD & 2026 TST Standing Orders](#)

## Global Populations and Refugee Resources (Includes Tuberculosis(TB))



- TB Case Investigation & Case Management Partnership in Care Training (2021)
  - [Session 1 \(Introduction to TB\)](#)
  - [Session 2 \(Introduction to TB Disease Response and Case Management\)](#)
  - [Session 3 \(Contact Investigations\)](#)
- Tuberculosis Disease Investigation & Follow-up for LBOHs (2024)
  - [Presentation](#) & [Recording](#)
- Tip Sheets: [TB Workflows](#) & [Reports](#)

# DGPIDP 2026 Survey

**Goal:** To better identify how local board of health partners utilize state sponsored resources during contact investigations and learn where improvements can be made

- To be issued to all MAVEN users
- Continually striving to increase contact evaluation and reduce barriers to testing
- Gauge local board of health partners interest in expanded testing options



# DPH DGPIID: Tuberculosis

- Questions related to **Tuberculosis casework** and **Contacts** can go directly to the TB Program:
  - **TB Email:** [BIDLS-TBGeneral@mass.gov](mailto:BIDLS-TBGeneral@mass.gov)
  - **TB Program Phone:** **(617) 983-6970**
  - **TB Program Fax:** **(617) 887-8791**
  - **Check Your Town's Communication Event in MAVEN.** Listed under **DPH Support Staff for LBOH TB Case Management**
- Questions related to **Tuberculosis reports** and **MAVEN in general** can go directly to DSAI:
  - **MAVEN Help Desk:** [mavenhelp@mass.gov](mailto:mavenhelp@mass.gov)
  - **DSAI Phone:** **(617) 983-6801**
  - **DSAI Fax:** **(617) 887-8789**

# Outside Tuberculosis Resources

- [Global Tuberculosis Institute at Rutgers \(GTBI\)](#)
  - [Fundamentals of TB Contact Investigation](#)
- [UCSF Curry International Tuberculosis Center](#)

