



Indiana
Department
of
Health

TUBERCULOSIS AND REFUGEE HEALTH PROGRAMS

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TB PREVENTION & CARE

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Tuberculosis history

- Human pathogen for more than 4,000 years:
 - The Wasting Disease
 - Consumption
 - The White Plague



The Global Perspective

Although TB is preventable and treatable, it is still one of the world's deadliest diseases.

- Worldwide, TB is one of the leading causes of death from an infectious disease.
- In 2021, an estimated
 - 10.6 million people developed TB disease
 - 1.6 million people died of TB disease



Source: <https://www.who.int/publications/m/item/global-tuberculosis-report-2022-factsheet>

TB in the United States – TB Disease

The table below shows the number of TB disease cases and incidence rates in the United States for the last several years.

Number of TB Disease Cases and Incidence Rates in the US			
	2021	2020	2019
Number of TB Disease Cases	7,882	7,163	8,916
Incidence Rate (rate shown per 100,000 persons)	2.4	2.2	2.7

In 2020, the annual rate of decline was substantially greater than in previous years, probably because of factors associated with the COVID-19 pandemic, including a combination of TB underdiagnosis and a true reduction in TB incidence.

In 2021, TB incidence partially rebounded, but remained 12% lower compared with 2019, which might be explained by longer lasting effects of the pandemic, including TB underdiagnosis and public health resource constraints.

TB in Indiana - 2021

- 127 cases
 - Incidence rate: 1.9 per 100,000 population
- 15 deaths
- 43.3 percent of cases in US-born persons
- One multi-drug resistant (MDR) case
- Most common risk factor was diabetes mellitus (26.8 percent)

Tuberculosis

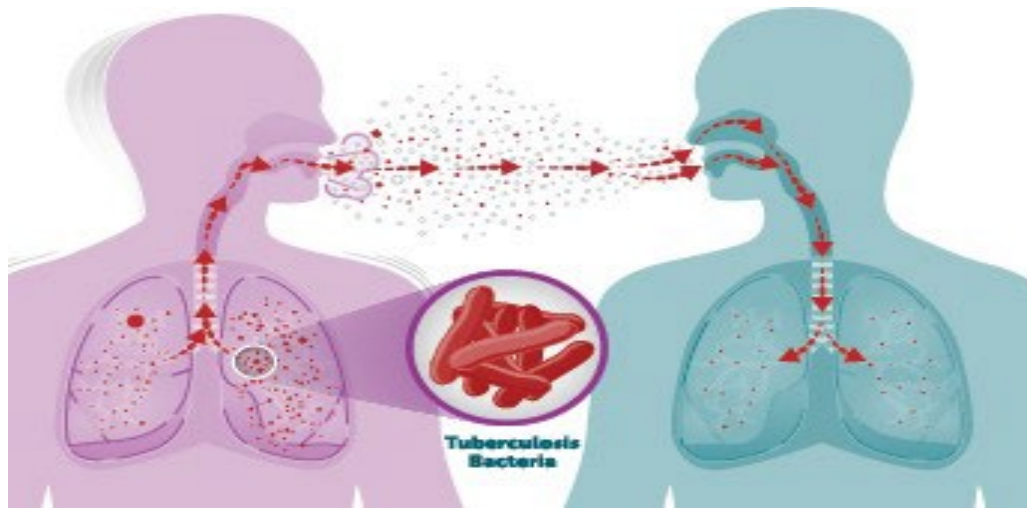
- Tuberculosis (TB) is caused by the bacterium *Mycobacterium tuberculosis*
- Usually affects the lungs, but can attack any part of the body
- Divides at a slow rate



How does TB spread?

TB is spread from person to person through the air or by other means of aerosolization that could occur in different scenarios such as wound care.

- TB bacteria are released into the air when a person with TB disease of the lungs or throat coughs, sneezes, speaks, or sings.
- People nearby may breathe in these bacteria and become infected.



Depending on the environment, particles can remain in the air for several hours.

How does TB spread continued

- Not everyone who is exposed to a person with infectious TB becomes infected.

Factors that Determine the Probability of Transmission of <i>M. tb</i>	
Susceptibility	Susceptibility (immune status) of the exposed individual
Infectiousness	Infectiousness of the person with TB disease, which is directly related to the number of tubercle bacilli they expel into the air
Environment	Environmental factors that affect the concentration of <i>M. tb</i> organisms
Exposure	Proximity, frequency, and duration of exposure

TB Signs and symptoms

- Signs and symptoms?
 - Cough greater than three weeks
 - Illustration to the right shows other possible symptoms

Think TB...Test for TB

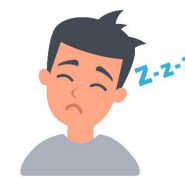
LONG-TERM
COUGH



FEVER



FATIGUE



CHILLS



WEIGHT LOSS



NIGHT SWEATS



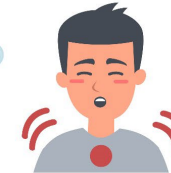
COUGHING UP
BLOOD



NO APPETITE



CHEST PAIN



Patients may have one or more of these signs and symptoms.

LTBI Compared to TB Disease

Person with LTBI	Person with TB Disease
Has a small amount of TB bacteria in their body that are alive but inactive	Has TB bacteria that are active in their body
Cannot spread TB bacteria to others	May spread TB bacteria to others
Does not feel sick	May feel sick and may have symptoms such as a cough, fever, and/or weight loss
Usually has a positive TB skin test or TB blood test result indicating TB infection	Usually has a positive TB skin test or TB blood test result indicating TB infection
Chest radiograph is typically normal	Chest radiograph may be abnormal
Sputum smears and cultures are negative	Sputum smears and cultures may be positive
Should consider treatment for LTBI to prevent TB disease	Needs treatment for TB disease
Does not require respiratory isolation	May require respiratory isolation

Treatment of LTBI versus TB disease

LTBI is less costly to treat than TB disease.

Additionally, treatment regimens for LTBI are shorter than those for TB disease.

Free LTBI medication is available via Purdue Pharmacy (cost is covered by IDOH) when ordered through the LHDs.



Latent TB Infection Reporting in Indiana

- LTBI is reportable by providers statewide
 - LTBI as defined by CSTE case definition
 - Treatment and completion data is reportable
 - Positive IGRA results are reportable by the lab
- *LTBI is severely underreported in Indiana*
- 2021 Preliminary Data - 1,159 reported cases
- IDOH is working on improvements to this – web-based reporting and additional outreach to providers

Drug-Resistant TB

Drug-resistant TB, including multidrug resistant TB (MDR TB) and extensively drug-resistant TB (XDR TB), is a major concern.

- They are caused by *M. tb* organisms that are resistant to the drugs normally used to treat the disease.
- Drug-resistant TB is difficult, complicated, and expensive to treat.
- It can develop in two ways:
 - Primary resistance is caused by person-to-person transmission of drug-resistant organisms.
 - Secondary resistance develops during TB therapy because the patient was not treated with an adequate regimen, did not take medications as prescribed, or due to other conditions such as malabsorption or drug interactions.



Where Do I Fit In?

What is a TB Case Manager?

- Liaison who links together:
 - Patient
 - Providers
 - Social service agencies
 - Health care facilities
 - Laboratory
 - Local health departments:
 - Health officer
 - Directly-observed therapy outreach worker
 - State health departments:
 - TB regional nurse consultant
 - Surveillance staff

Duties of a TB Case Manager

- Confirm the presence or absence of TB disease
- Interview the patient
- Determine if the patient may be infectious
- Verify that appropriate isolation measures have been implemented
- Determine the infectious period and possible sites of exposure

Duties of a TB Case Manager continued

- Assist in obtaining medication through Purdue Pharmacy
- Medication for TB Disease (& LTBI) is available for free (as IDOH covers the cost) when LHDs order through Purdue Pharmacy
- Ensure that regimen, dosage, and length of treatment are per standard of care

Duties of a TB Case Manager continued

- For TB disease, ensure patient receives medication using directly observed therapy (DOT)
 - Electronic DOT may be an option
 - Follow your LHD policies
 - Consider case circumstances
 - Ensure DOT logs are accurate and up-to-date

Duties of a TB Case Manager continued

- Ensure that each patient/family is educated about TB and its treatment
- Keep a case management record on each patient
- Ensure patients are reported to IDOH through NBS
- Assist with social needs:
 - Link to care (primary care provider, specialty providers)
 - Housing
 - Groceries
 - Health insurance/Medicaid

Duties of a TB Case Manager continued

- Ensure that the patient is educated about and offered an HIV test
- Monitor the patient's clinical progress:
 - Monitor signs and symptoms
 - Monitor lab specimen results
 - Monitor adverse reactions to medications
- Ensure that monthly reports are sent to IDOH in a timely manner
- Document when the patient converts sputum cultures to negative

Duties of a TB Case Manager continued

- **If patient was infectious, conduct a contact investigation for all exposed contacts:**
 - Provide/organize testing of contacts with TSTs or IGRAs
 - Ensure medical evaluations are completed for positive reactors
 - Order/administer/document LTBI treatment
 - Report all contacts and outcomes to IDOH in NBS

TB Resources

- IDOH Laboratory:
 - AFB smears, PCR, cultures, drug sensitivities, pyrosequencing, genotyping
 - Testing of hospital-collected samples by request
- TB medications through Purdue Pharmacy:
 - TB disease
 - LTBI
- Enablers/Incentives through IDOH:
 - Transportation, food, hotel, etc.
- TB medical consult:
 - Cohort review
 - By request of case manager/physician

TB Resources – IDOH Staff

- **TB regional nurse consultants:**
 - Case management
 - Education
 - Tuberculin skin test (TST) training/skills validation
- **TB epidemiologists:**
 - Contact investigations
 - Surveillance system/data
- **TB health educator:**
 - Training
 - Educational materials
 - Outreach

TB Program Regions

TB Prevention and Care Program

Main: 317-233-7434
Fax: 317-233-7747
E-mail: tbprogram@health.in.gov
After Hours: 317-233-1325
www.TB.in.gov

Marion County

Sarah Koch
(317) 221-7432
skoch@marionhealth.org

Allen County

Erika Pitcher
(260) 449-4838
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TB Office Staff

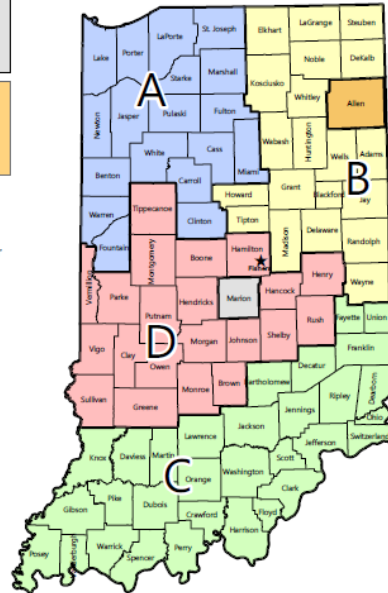
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**TB Prevention
and Care
Program**

Updated: 12/5/2022

TB Resources – Information

- IDOH TB Prevention & Care website (www.TB.in.gov):
 - Basic TB information
 - TB/LTBI reporting forms
 - Quick guides/webinar on using NBS surveillance system
 - Indiana data
- CDC TB website (www.CDC.gov/TB):
 - TB educational materials
 - TB guidelines
 - Infection control
 - TB data



Refugee Health Program



Indiana
Department
of
Health

Refugee Health Program

- Coordinates the refugee health medical screening program through contracting with clinics (local health department, FQHCs, and private clinics) to conduct domestic health assessments for all refugees and ensures these assessments are done in a timely and complete manner
- Monitors funds designated for Refugee Health Promotion and provides support to local agencies in order to enhance refugee self-sufficiency and acculturation
- Collects data to identify emerging trends in refugee health and provides partners with evidence-based information on health needs and program gaps
- Collaborates with local, state, and federal partners to ensure providers and other stakeholders are aware of refugees and can address their health needs in a culturally competent manner

Uniting for Ukraine

Uniting for Ukraine provides a pathway for Ukrainian citizens and their immediate family members to come to the United States and stay temporarily in a two-year period of parole. Participants are eligible to receive a free domestic refugee health assessment and are required to complete vaccine attestations and a tuberculosis screening.

The IDOH Refugee Health Program can connect Ukrainian arrivals and/or their sponsors to clinics that perform domestic refugee health assessments and assist with questions.

If you are contacted by Uniting for Ukraine participant/sponsor:

- Please obtain their contact information
- Share the contact information with Refugee Health Coordinator Maliki Yacouba at (317) 234-7252 or refugeehealth@isdh.in.gov
- Provide the participant/sponsor with Maliki Yacouba's contact information

Additional information including a LHD Fact sheet, translated materials & a reimbursement opportunity can be found at the following link: <https://www.in.gov/health/refugee-health/>.

Questions can be directed to refugeehealth@isdh.in.gov (317)234-7252 or tbprogram@health.in.gov (317)233-7434.

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