



**Indiana**  
**Department**  
**of**  
**Health**

# UPDATES FROM THE IDOH TB LABORATORY

**JESSICA GENTRY**

MYCOBACTERIOLOGY LABORATORY  
SUPERVISOR

6/10/25

## OUR MISSION:

To promote, protect, and improve the health and safety of all Hoosiers.

## OUR VISION:

Every Hoosier reaches optimal health regardless of where they live, learn, work, or play.



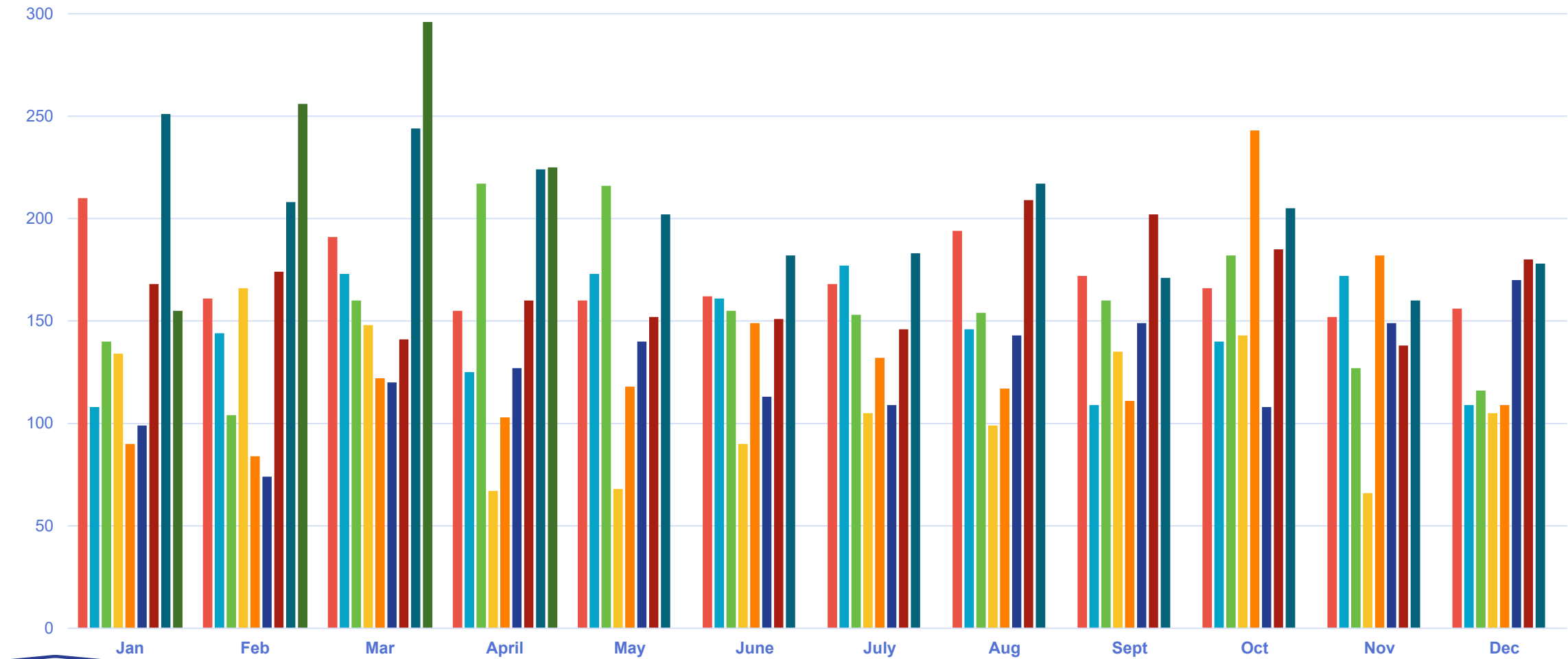
# IDOH TB Lab Updates

---

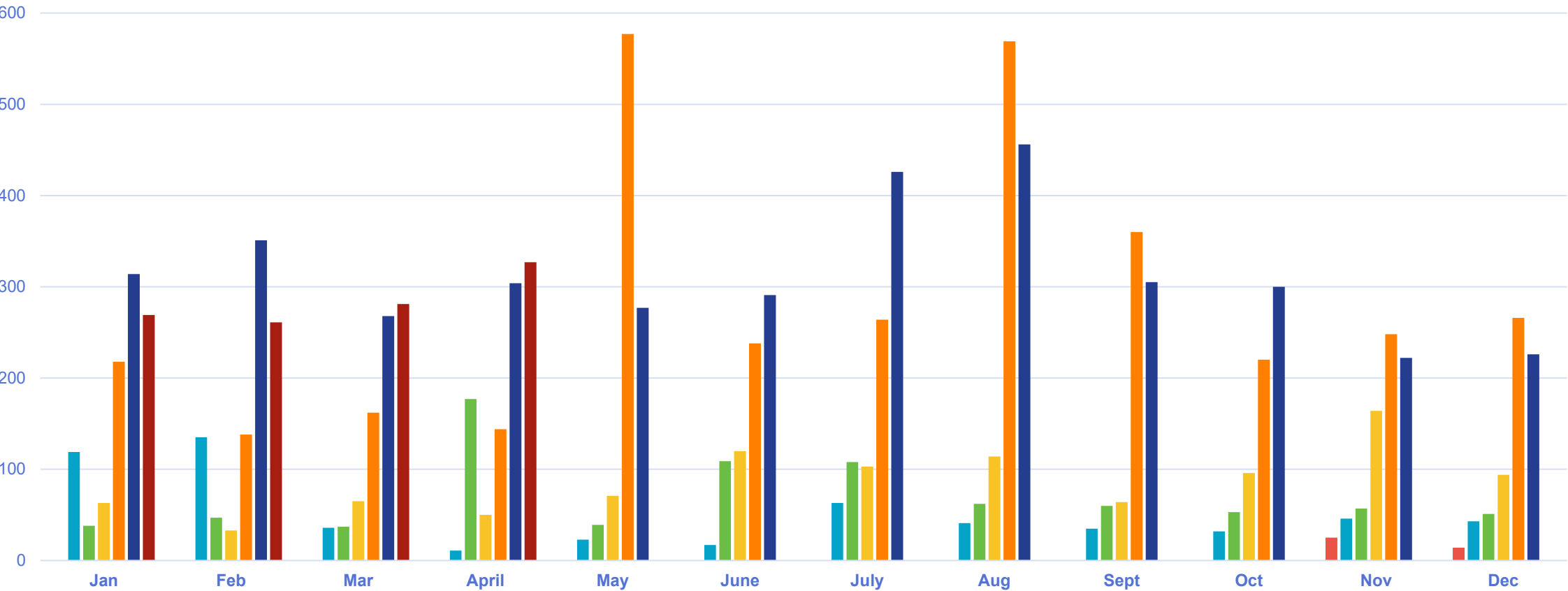
1. TB lab has been very busy!
2. Sputum collection algorithm
3. STAT courier updates
4. New TB sputum shippers
5. PZA testing status
6. Expansion of DST
7. Educational Resources



# IDOH TB Lab Specimen Volume, 2017-2025



# IDOH TB QFT Volume, 2019-2025



# IDOH TB Lab Workload

2024 was a 10-year high for AFB specimen submissions:

- >200 specimens received per month for 16 months out of 100
- 10 of these were in 2024-2025

Records broken in 2024:

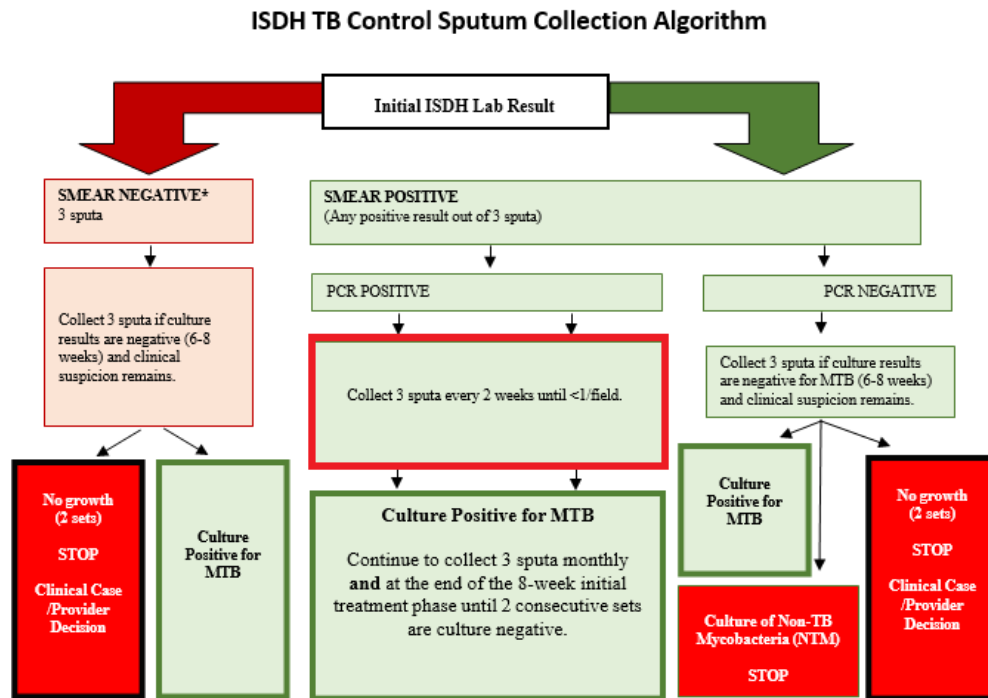
- Culture DST panels (71 patients)
- Pyrosequencing (90 patients)
- QFT (3740 tests)

TB team has added a sixth member (4 microbiologists, 1 lab tech, 1 supervisor)

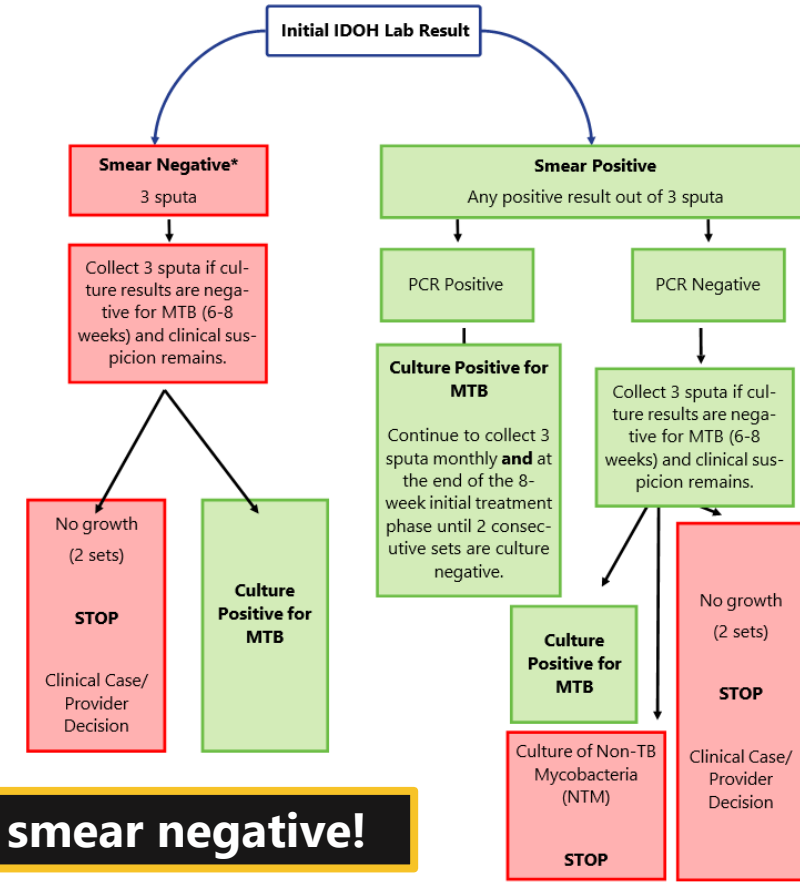
Specimen processing is capped at 30 sputa per day

# Updated Sputum Collection Algorithm

## Previous version



## NEW updated version



**Removed: Weekly sputum collections until smear negative!**

# Updated Sputum Collection Algorithm

- After the first set of sputa:
  - Collect three sputa monthly
  - Collect three sputa at the end of eight weeks of the initial treatment phase (until two consecutive sets are culture negative)
    - Assumes adequate treatment and pan susceptibility
    - Receiving rapid molecular DST is helpful supportive evidence

Exception: Patients with extensive respiratory isolation restrictions (RIR) due to special circumstances such as drug resistance, laryngeal TB, highly vulnerable contacts, etc.

**Positive smear status is longer justification to require respiratory isolation**



# STAT Courier Changes

---

- STAT courier service will be reduced July 1 due to significant funding reduction
- LHDs no longer receiving service from STAT will likely need to revert to UPS shipping

# NEW TB Shipping Requirements

---

TB specimens (sputum) are now required to be stored/shipped refrigerated and should be received at 2-8°C.



This is to ensure specimen integrity from the time of collection through the time of testing.

All specimens should be stored in a refrigerator prior to shipment.

- Specimens sent via STAT courier are to be sent as “route refrigerated”
- Specimens dropped off by LHD personnel should be transported in coolers w/frozen ice packs
- Specimens sent via UPS should now be shipped in insulated shippers w/two frozen ice packs

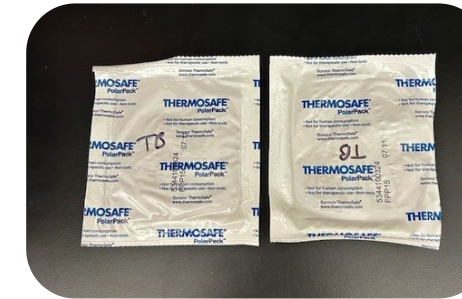
# LimsNet Kit Ordering

LimsNet now has two options for TB Specimens:

<input type="checkbox"/>	6A	<b>TB (Returned via UPS)</b> Min: 1, Max: 8 *Whole kit consist of 3 sputum tubes w/biohazards bags and absorbent material, 2 ice packs, insulated shipper w/box, and 1 UPS return label.		<b>Sputum Tubes</b> Max: 12
<input type="checkbox"/>	6A	<b>TB (Returned via STAT courier or Marion Co)</b> Min: 1, Max: 8 * Whole kit consist of 3 sputum tubes with inner and outer containers.		<b>Sputum Tubes</b> Max: 12

# UPS Shipped Packages

- Each sputum tube should be placed in an individual biohazard bag w/absorbent material
- Two frozen ice packs
- Insulated shipper box
- UPS label on the outside



# STAT Courier Delivered Packages

- Each sputum tube should be placed in the white plastic can and then in the 6A outer can
- 6A cans should be placed in a plastic bag with the STAT label affixed to the outside
- Specimens should be sent in STAT portal as "route refrigerated"



# Local Health Department Delivered Packages

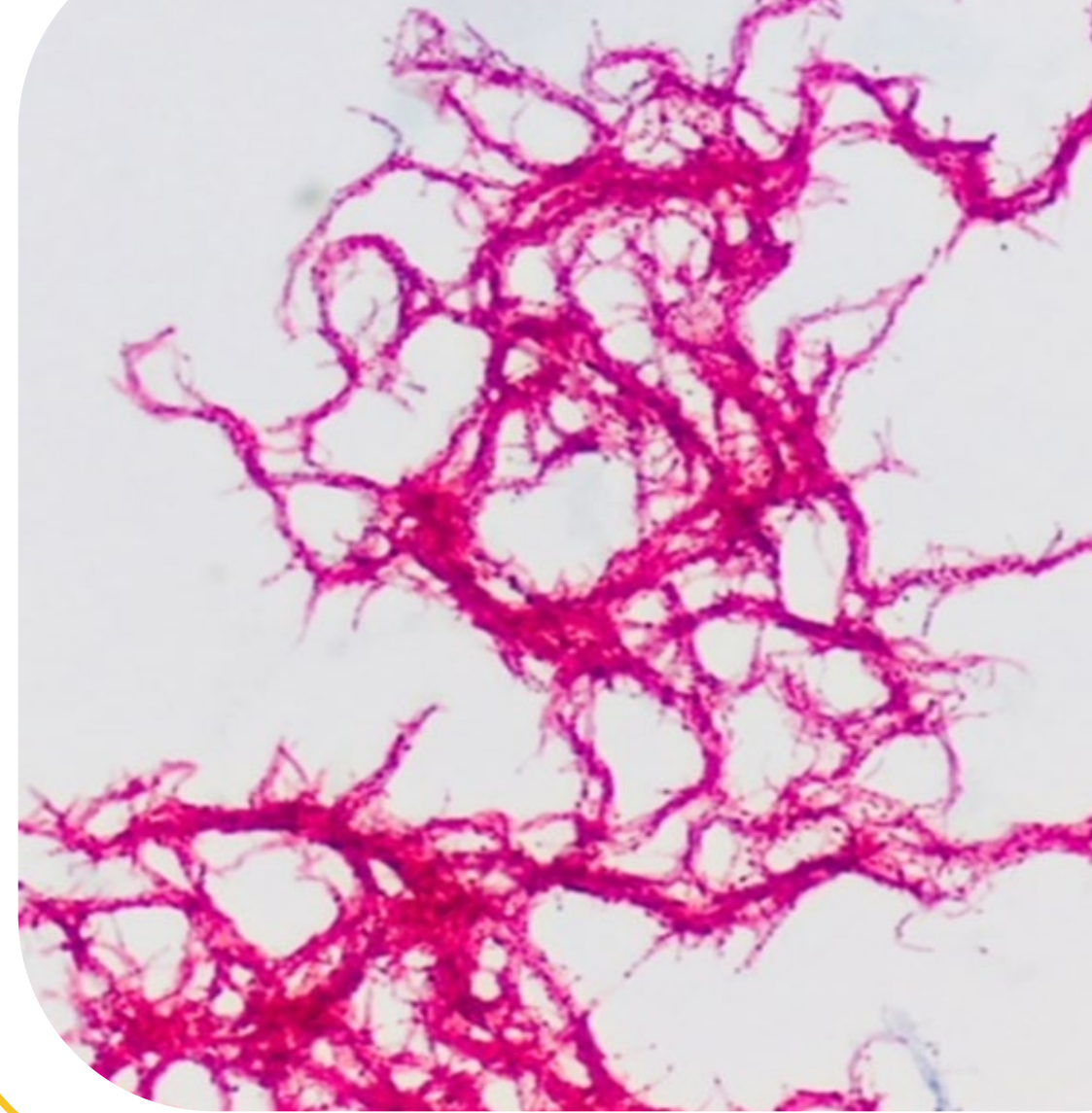
- Each sputum tube should be placed in the white plastic can and then in the 6A outer can
- 6A cans should be transported in a cooler with ice packs





# Ordering New Kits

- Remember to order containers through LimsNet
- All UPS packages should now be using the new packaging
- Return unneeded 6A cans to IDOHL via UPS bag



# PZA Susceptibility Testing

---

Culture DST for PZA is not currently being performed at IDOHL due to issues with performance of the test kit.

- However, some reference labs are continuing to perform PZA. PZA resistant results should be interpreted with extreme caution.

PZA mono-resistance is rare. Isolates susceptible to other first line drugs are likely susceptible to PZA.

- The exception is *M. bovis*, for which resistance can be assumed.

For patients with other drug resistances (INH, RIF, etc.) *pncA* testing will be requested from the CDC.

- Testing for other patients with special circumstances will be considered by the IDOH TB Program on a case-by-case basis



# Upcoming Projects at the TB Lab: Sensititre

- Sensititre DST—will expand the number of anti-TB drugs tested at IDOHL to up to 12
- Some results may be reported as Minimum Inhibitory Concentrations (MICs) instead of S/R

	1	2	3	4	5	6	7	8	9	10	11	12
A	OFL 32	MXF 8	RIF 16	AMI 16	STR 32	RFB 16	PAS 64	ETH 40	CYC 256	INH 4	KAN 40	EMB 32
B	OFL 16	MXF 4	RIF 8	AMI 8	STR 16	RFB 8	PAS 32	ETH 20	CYC 128	INH 2	KAN 20	EMB 16
C	OFL 8	MXF 2	RIF 4	AMI 4	STR 8	RFB 4	PAS 16	ETH 10	CYC 64	INH 1	KAN 10	EMB 8
D	OFL 4	MXF 1	RIF 2	AMI 2	STR 4	RFB 2	PAS 8	ETH 5	CYC 32	INH 0.5	KAN 5	EMB 4
E	OFL 2	MXF 0.5	RIF 1	AMI 1	STR 2	RFB 1	PAS 4	ETH 2.5	CYC 16	INH 0.25	KAN 2.5	EMB 2
F	OFL 1	MXF 0.25	RIF 0.5	AMI 0.5	STR 1	RFB 0.5	PAS 2	ETH 1.2	CYC 8	INH 0.12	KAN 1.2	EMB 1
G	OFL 0.5	MXF 0.12	RIF 0.25	AMI 0.25	STR 0.5	RFB 0.25	PAS 1	ETH 0.6	CYC 4	INH 0.06	KAN 0.6	EMB 0.5
H	OFL 0.25	MXF 0.06	RIF 0.12	AMI 0.12	STR 0.25	RFB 0.12	PAS 0.5	ETH 0.3	CYC 2	INH 0.03	POS	POS

# Upcoming Projects at the TB Lab: Molecular DST

- GeneXpert—being validated as a partial replacement for pyrosequencing and a backup for TB PCR
- Targeted Next Generation Sequencing (tNGS) assay—similar to CDC's MDDR panel; will be used as a replacement for pyrosequencing (but possibly can only be run on cultures)



# QuantiFERON-TB Gold Plus



- Offered to LHDs for \$20 per test or for free (if insurance/Medicaid is provided)
- IDOHL provides green top lithium heparin tubes and packaging/shipping materials
  - Supplies can be ordered through LimsNet
  - Shipping boxes can fit up to six tubes
- Minimum of 5mL of blood is required
- Blood must be stored/shipped cold and received at the lab within 48 hours
  - Advise shipping same day for overnight UPS delivery
  - Cannot collect on Friday or day prior to a state holiday
- Collection instructions can be found on our website



# TB Lab Resources

## Tuberculosis Laboratory Resources



### IDOHL Specimen Submission

Find updated specimen submission and shipping instructions online for:

- QuantiFERON-TB Gold Plus (QFT-Plus tube collection) testing
- QuantiFERON-TB Gold Plus (Single Tube) testing
- Tuberculosis/Mycobacteriology Isolates testing
- Tuberculosis/Mycobacteriology Specimen testing



To view the instructions to collect and submit blood specimens to the IDOH Laboratory for QuantiFERON-TB Gold Plus testing, scan the QR code located to the right.

### TB Specimen Submission at IDOHL

Scan the QR code to the right to view Jessica Gentry's 2023 TB Summit presentation that covers:

- Specimen collection, packaging, and shipping
- Testing and results interpretation
- The process for ordering testing
- LimsNet
- QuantiFERON-TB Gold Plus



# Resources for Sputum Collection

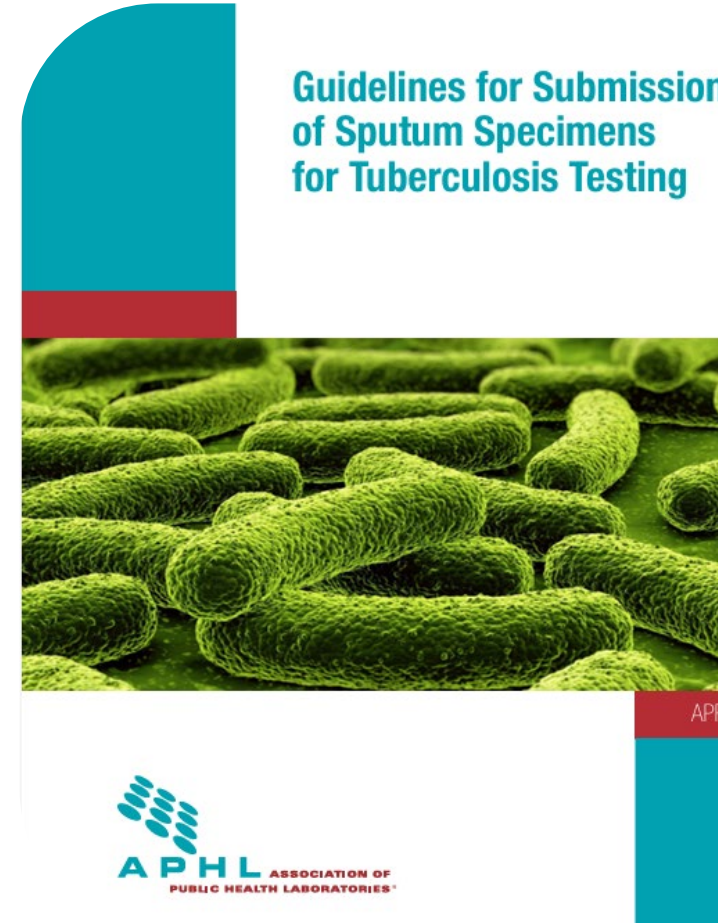
Rutgers Global Tuberculosis Institute's animated videos are designed to educate the patient on how to properly collect and handle their sputa, including both home and induced collections. The videos are available in both English and Spanish.



# Resources for Sputum Collection

## APHL Guidelines for Submission of Sputum for Tuberculosis Testing

This guide describes best practices for sputum collections, including different reasons patients may require a sputum collection, frequency of collection, and what materials are required. It also includes step-by-step instructions for both induced and spontaneous collections.





# APHL Course: Lab Testing for TB Nurses



**Understanding Tuberculosis (TB) Laboratory  
Testing for Public Health Nurses**

**Let's get started**

# Questions?

**Jessica Gentry**

Mycobacteriology Supervisor

317-921-5858

[jgentry@health.in.gov](mailto:jgentry@health.in.gov)

