



Tuberculosis Programs & Epidemiology: What Epi Can Do For You
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TB Program Management Intensive | April 15, 2026

Accreditation Statement



Accreditation Statement

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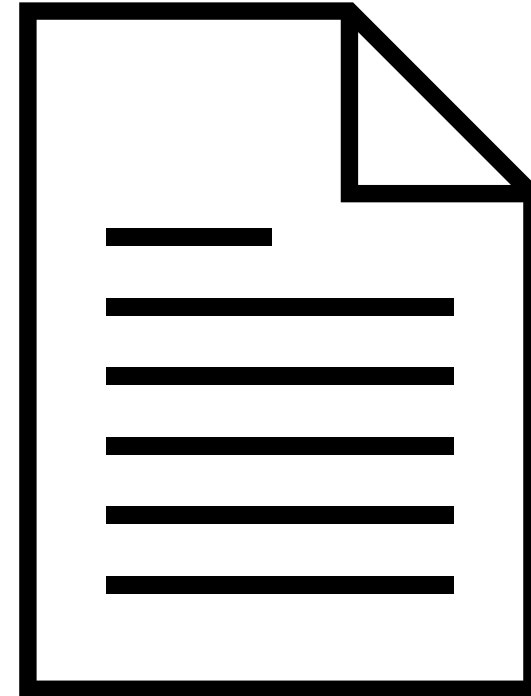
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Available Credit

- 14.00 ANCC
- 14.00 Attendance
- 14.00 IPCE

Disclosures

No relevant financial disclosures



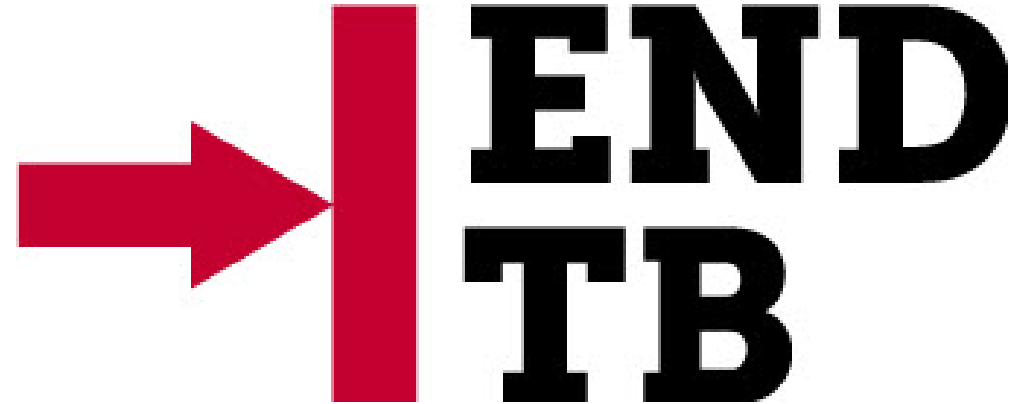
Learning Objectives

After completing this session, participants will be able to:

Learn about tuberculosis (TB) projects Kansas has made progress on with epidemiologic support.

Interpret key indicators used in TB surveillance and program planning.

Identify strategies to improve data quality and completeness, including training and system integration.



Overview

Background on Kansas TB Program

- 2024-2025 Kansas City Metro Outbreak
- Gaining an Epidemiologist

System Integration

- Surveillance Form Development
- Training

Programmatic Indicators

Data Quality and Accessibility

Conclusions

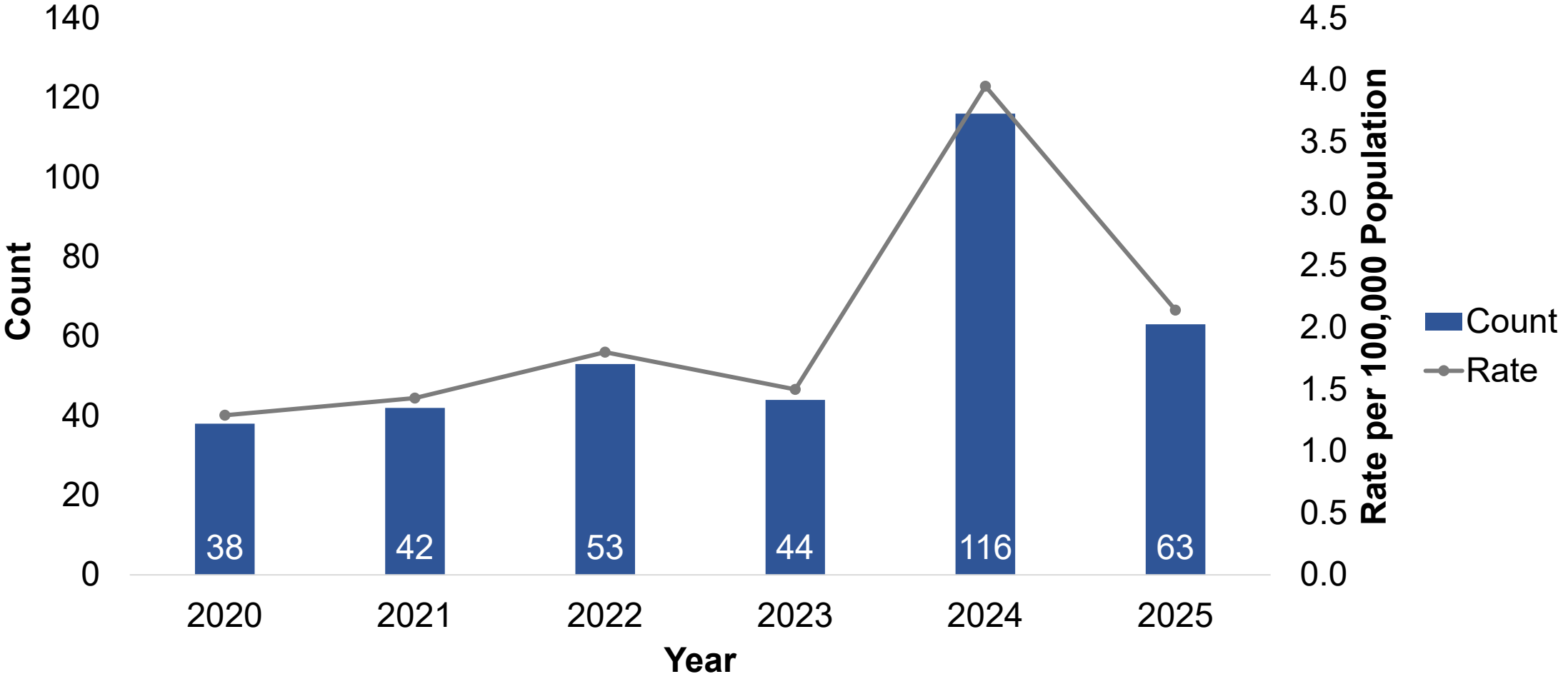
Background

In 2024, the Kansas Department of Health and Environment (KDHE) TB Program began responding to a large TB outbreak in the Kansas City area.

When this outbreak began, the Kansas TB Program had no dedicated epidemiology support.

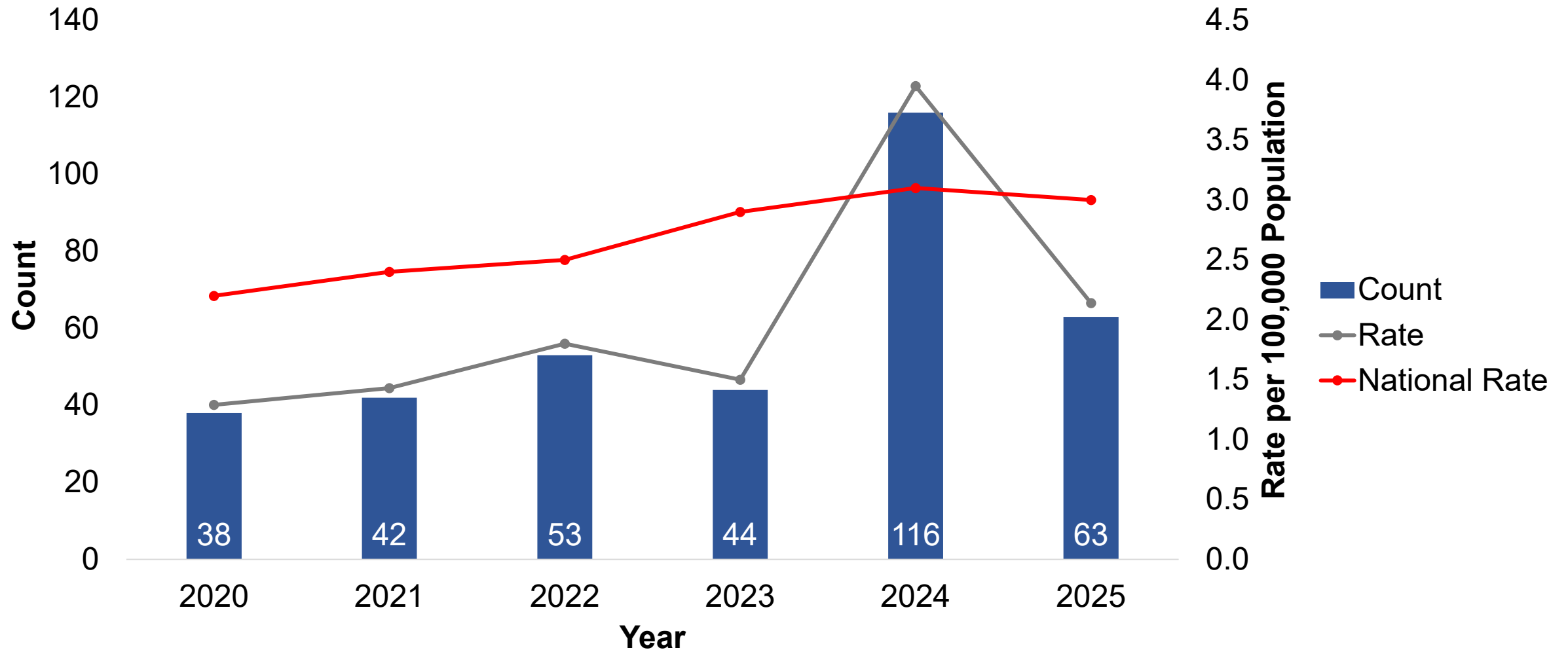
This outbreak drastically increased the number of cases the TB Program needed to manage.

Count and Rate of Active TB Cases, Kansas 2020-2025



Source: 2015-2024 cases reported to Kansas Department of Health and Environment (KDHE).

Count and Rate of Active TB Cases, Kansas 2020-2025



Background

In response to the outbreak, KDHE epidemiologists:



Performed data cleaning and developed internal and external outbreak data dashboards to make data easily accessible.



Made enhancements to the surveillance system form to allow TB Program to answer important questions throughout the outbreak.



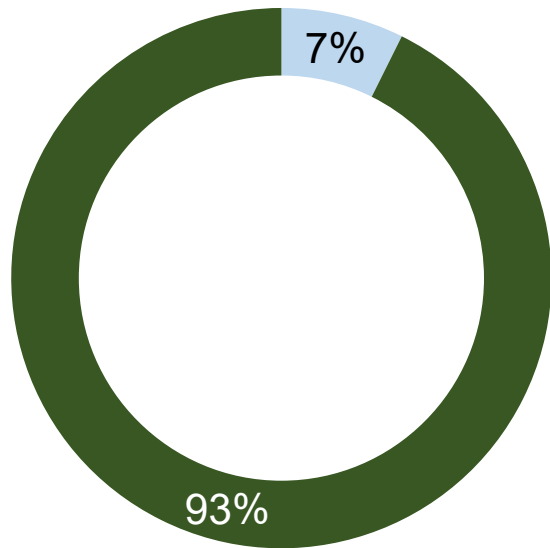
Utilized surveillance system data to update KDHE leadership and TB Program on important outbreak indicators.

2024-2025 KC Metro Tuberculosis Outbreak Overview

68 Active TB cases reported in 2024-2025.

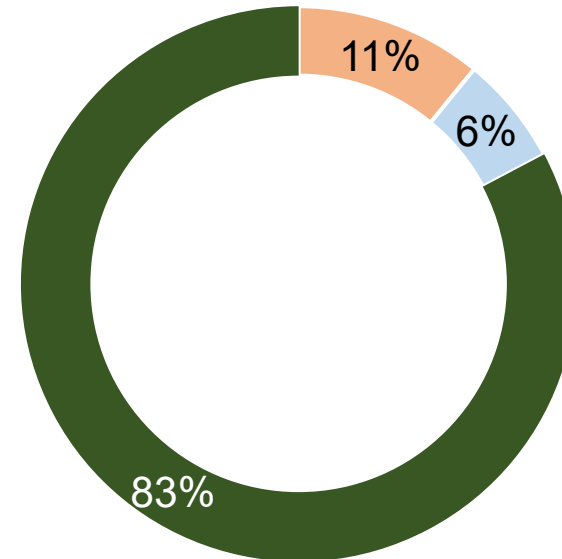
110 Latent TB (LTBI) cases reported in 2024-2025.

Active TB Treatment Outcomes



■ Deceased/Other ■ Completed Treatment

LTBI Treatment Outcomes



■ Refused/Adverse Reaction/Lost or Unable to Locate
■ Other (e.g. moved or are completing a longer/altered treatment regimen)
■ Completed Treatment


Onboarding Long-Term Epi Support

Learned About:

Report of Verified Case of Tuberculosis (RVCT)

- ◆ • Where data is reported to CDC
- ←● • Time consuming manual entry

National Tuberculosis Indicators Project (NTIP)

-  • Calculated from RVCT data
- How TB Program uses the data

Programmatic Pain Points


-  • Questions TB Program cannot currently answer with their data
- Data quality review

RVCT

RVCT has been entered manually – which requires time consuming data reconciliation and entry between two systems.

Began work on implementing a Message Mapping Guide (MMG) for required TB RVCT.

Completed:

-  • Complete re-haul of surveillance system form
- Mapping and implementation documentation

In Progress:

-  • Updated Disease Investigation Guidelines (DIGs)

This system integration project is anticipated to save about **two to three hours** per active TB case that it takes to enter a case in RVCT.


Data Elements Added to Surveillance System


Revised the EpiTrax TB form by incorporating previously missing RVCT variables and updating it to better align with RVCT.

Was sputum culture conversion documented? 

Yes No Unknown

If no, please select why sputum culture never occurred

Patient lost to follow-up 

Did the patient recently receive, or were they receiving, tumor necrosis factor-alpha (TNF- α) antagonist therapy at the time of initial TB diagnosis? 

Yes No Unknown

Has the patient ever received a solid organ transplant? 

Yes No Unknown

Data Elements Added to Surveillance System

Several other elements, not all related to RVCT, were also included in the new TB form to enhance surveillance.

Some examples of these elements include the following:

- **Barriers Tab** - to capture socioeconomic factors influencing patients.
- **Adverse Treatment Questions** - to collect detailed information on how treatment affects patients.
- **Medication Shipment History** - to monitor medication distribution for each patient.
- **CDC Laboratory Reporting Tab** - to enhance the completeness and accuracy of NTIP indicators.

Data Elements Added to Surveillance System

Economic Barriers

Add Row

Action	Barrier	Intervention attempted
Delete	Uninsured/Underinsured	<input checked="" type="radio"/> Yes <input type="radio"/> No
Delete	Employment insecurity/Unable to work	<input type="radio"/> Yes <input checked="" type="radio"/> No

Medication Shipment History

Add Row

Action	Medication	Date Sent to LHD
Delete	Pyrazinamide 500mg	03/01/2026 
Delete	B6 50 mg	03/01/2026 

Data Elements Added to Surveillance System

Redesigned form layout to improve usability and navigation within EpiTrax.

Centralized most required data fields within the Investigation tab for more efficient data entry.

The screenshot displays the 'Investigation' tab in the EpiTrax system. At the top, a navigation bar includes tabs for Demographic, Clinical, Laboratory, Contacts, Encounters, Investigation (selected), Notes, Tasks, and Administrative. Below this, the 'Investigative Information' section is visible. On the left, under 'Associated Forms', there is a list item for 'TB FORM V2025, Version: 16' with a 'Manage' button and a right-pointing arrow. The main content area is titled 'TB FORM V2025, Version: 16' and features a grid of sub-tabs: LTBI Supplemental Questions, CDC Lab Reporting, Site and Symptoms, Risk Factors (selected), Epidemiologic Investigation, and Country of Residence. Below these are tabs for Radiograph/Imaging Studies, Barriers, Multi-Drug Resistance, DOT Summary, and a monthly selection from January to August. Further down are tabs for September, October, November, December, IJN - KDHE only, and Genotyping and Drug Susceptibility Test (DST) - KDHE only. The 'Risk Factors' section contains three questions: 'What was the initial reason the patient was evaluated for TB?' with a dropdown menu showing 'Please select...'; 'Was the patient diabetic at time of initial TB diagnosis?' with radio buttons for Yes (selected), No, and Unknown; and 'Is the diabetic condition under control?' with radio buttons for Yes, No, and Unknown. Error icons (red X) are present next to the second and third questions.

NTIP

NTIP is an online tool that uses standardized national indicators to track program progress toward meeting National TB Objectives.

Indicators are designed to evaluate how well programs are advancing toward the TB Program Objectives established by CDC.

Indicator

- Completion of Therapy
- Drug-Susceptibility Results
- Laboratory Turnaround Time
- Sputum Culture Results Reported
- Universal Genotyping
- Contact Investigation
- Exam of Immigrants and Refugees
- Performance Snapshot
- Targeted Testing
- Data Reporting - EDN
- Indicator Summary
- Recommended Initial Therapy
- TB Incidence Rates
- Data Reporting - RVCT
- Known HIV Status
- Sputum Culture Conversion
- Treatment Initiation

NTIP Monthly Meetings

NTIP meetings are conducted monthly to review key indicators.

The purpose of these meetings is to:



Identify gaps and prioritize areas for improvement.



Analyze Kansas' performance for specific indicators in comparison to previous years and national averages.

- Known HIV Status, Sputum Culture Reporting and Conversion were determined to be indicators of focus.



Develop actionable strategies and next steps to improve Kansas TB outcomes and indicator performance.

NTIP Data Overview

National TB Program Objective	2024 Results	2025 Results	2026 (So Far)	2030 Target
Case Management and Treatment (%)				
Known HIV Status	89.3	82.0 —	84.6 —	97.6
Treatment Initiation	71.1	78.9 ↑	63.6 ↓	91.1
Recommended Initial Therapy	87.4	93.3 ↑	92.3 —	96.0
Sputum Culture Result Reported	88.8	64.6 ↓	66.7 —	97.7
*Sputum Culture Conversion	36.6	5.9	0.0	79.9
*Completion of Treatment	78.6	13.0	0.0	92.8

Note: NTIP data updated on 03/10/2026.

*Completion of Treatment and Sputum Culture Conversion metric have a lag due to long treatment regimens.

NTIP Sputum Culture Reporting Deep Dive 2025

Below is an example of a table I created to highlight county-level breakdowns of sputum culture reporting:

County	Sputum Culture Result Reported	Sputum Culture Result <u>Not</u> Reported
County A	67.7% (21/31)	32.3% (10/31)
County B	58.8% (10/17)	23.1% (7/17)
Kansas	64.6% (31/48)	35.4% (17/48)

Kansas Overall Sputum Culture Reporting: 35.4% of cases had sputum culture results not reported, indicating some gaps in laboratory reporting.

NTIP Sputum Culture Reporting Deep Dive 2025

Example table of cases missing sputum culture reporting:

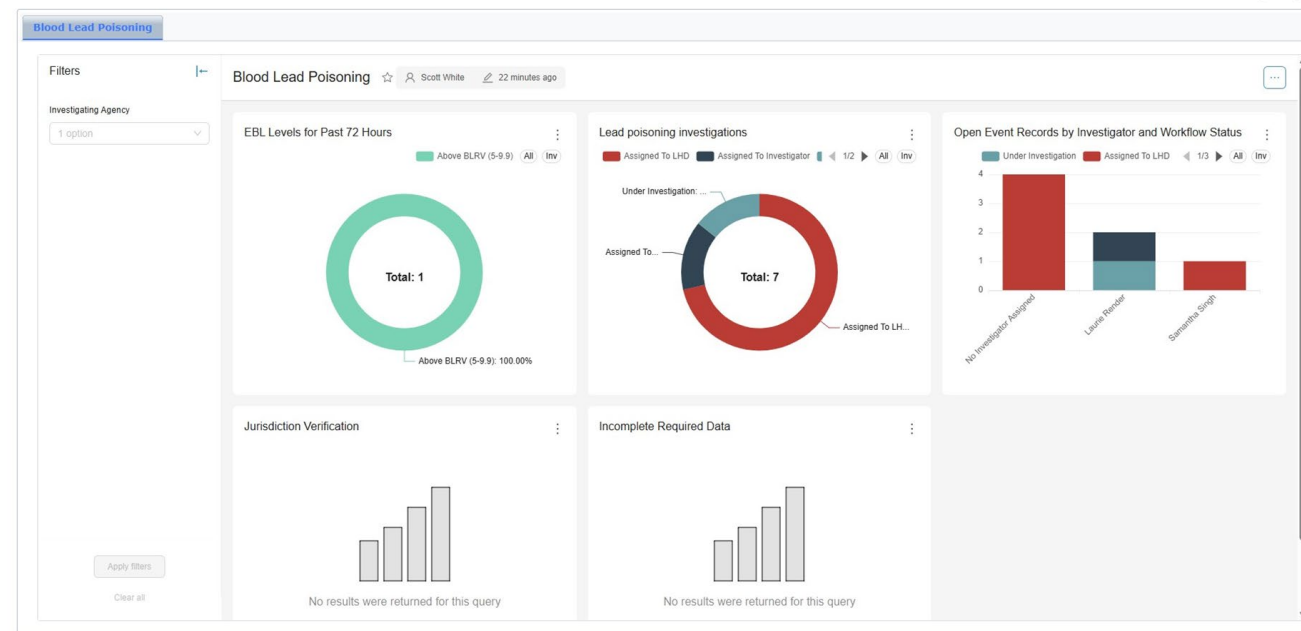
EpiTrax CMR Number	County
2025XXXXXXXX	County A
2025XXXXXXXX	County A
2025XXXXXXXX	County B

Surveillance System Dashboards

Develop TB-specific dashboards within the surveillance system to improve data quality and monitoring.

Future EpiTrax TB Dashboards will include:

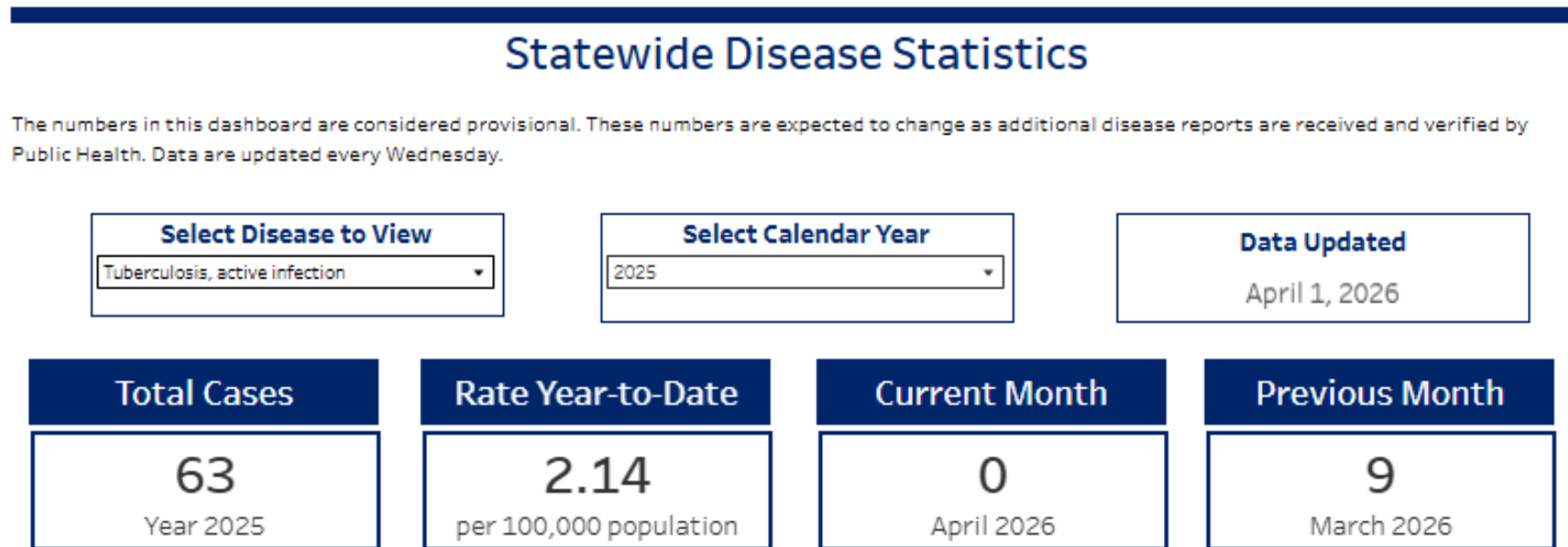
- A flag to indentify missing required RVCT variables in real time
- A dedicated “Unknowns” flag to review incomplete data



Publicly Available Data

The Kansas Reportable Infectious Disease Dashboard:

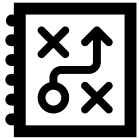
- Provides TB data for 2020 – current by state, regional, and county breakdowns
- Includes demographic breakdowns for ethnicity, birth sex, age group for state-level data



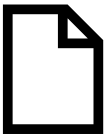
Future Training Plans



Educational training webinar on new TB form in surveillance system and on DIGs needed for Local Health Department (LHDs) investigators.



Lab entry flow training to prevent duplicate records from being created.



Training on lab entry into surveillance system.

Conclusions

Epidemiologists can support the activities of a TB Program through:



Modernizing data reporting and providing more capacity to analyze data proactively rather than reactively.



Identifying areas to improve data quality and improve programmatic indicators.



Making data available to interest holders and internally to enhance data driven programmatic planning and decision making.

Questions



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