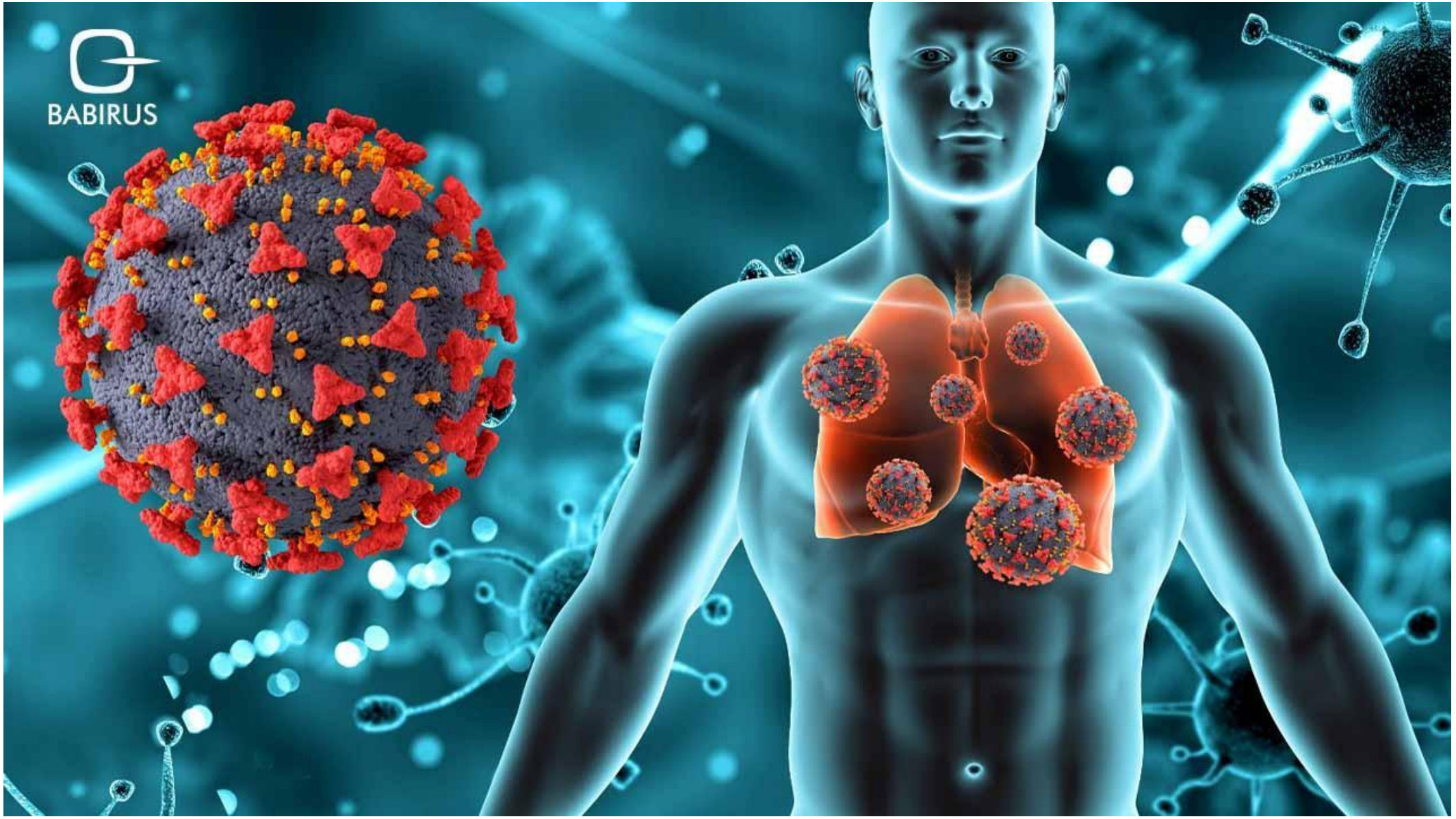


Tuberculosis in the U.S. 2025: Challenges, Advances, and the Path Forward

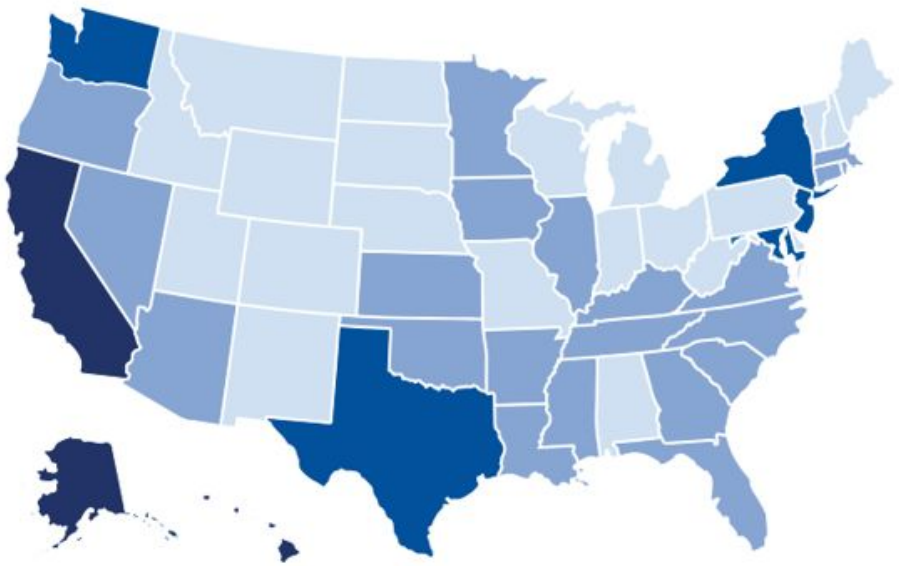
LEARNING OBJECTIVES

- **Review the impact of TB on the US and world**
- **Understand the impact of Federal funding and global TB incidence rates**
- **Understand the impact of AB 2132, the first TB testing law**

Instructor:
Octavia Hopkins, RN MSN
Senior Clinical Science Consultants
Immune Response, North America

The fight against TB in the US **isn't** over

TB isn't just history. It's a growing menace that demands our attention.



Reported TB cases in the US, 2023 (TB incidence per 100,000) (1):

< 1.5 ≥ 4.5

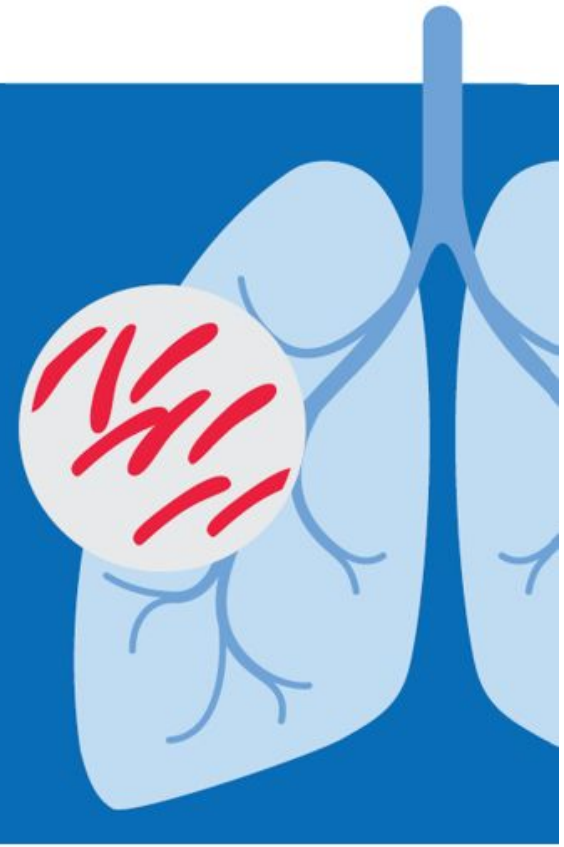
In 2023, the US saw a

16% surge

in TB cases. It marked the third straight year of increases and the highest case count in a decade.

TB, a disease many thought was under control, is making a fierce comeback.

This isn't just a statistic – it's a call to action.



The fight against TB in the US **isn't** over

QIAGEN

13 million

people in the US carry TB infection.[1]

They may feel fine now, but they are at risk of developing active, contagious TB later.

Ignoring TB is no longer an option.

Contact tracing

People living with **HIV**

Congregate living settings

Migrants/ **Foreign-born**

Immunosuppressed/ TNF-α **recipients**

Healthcare workers

Infants and children aged **<5 years**

What are the key risk groups?

People with compromised immune systems

This includes individuals with HIV, diabetes or those receiving immunosuppressive therapy.

Those living in crowded conditions

TB spreads easily in places like long-term care facilities, prisons and nursing homes.

Healthcare personnel and immigrants

Those exposed to high-TB-burden areas, whether at work or abroad, face heightened risks.

Children

Children younger than 5 years of age are at higher risk for developing TB disease once infected.

1. US CDC. Tuberculosis – data and statistics. https://www.cdc.gov/tb/statistics/default.htm

These numbers aren't just statistics. They are a call to action.
AB 2132 is part of that action.

TB kills more than **200** Californians each year (1).

Over **2 million** Californians have TBI,
but only **20%** know their status (1).

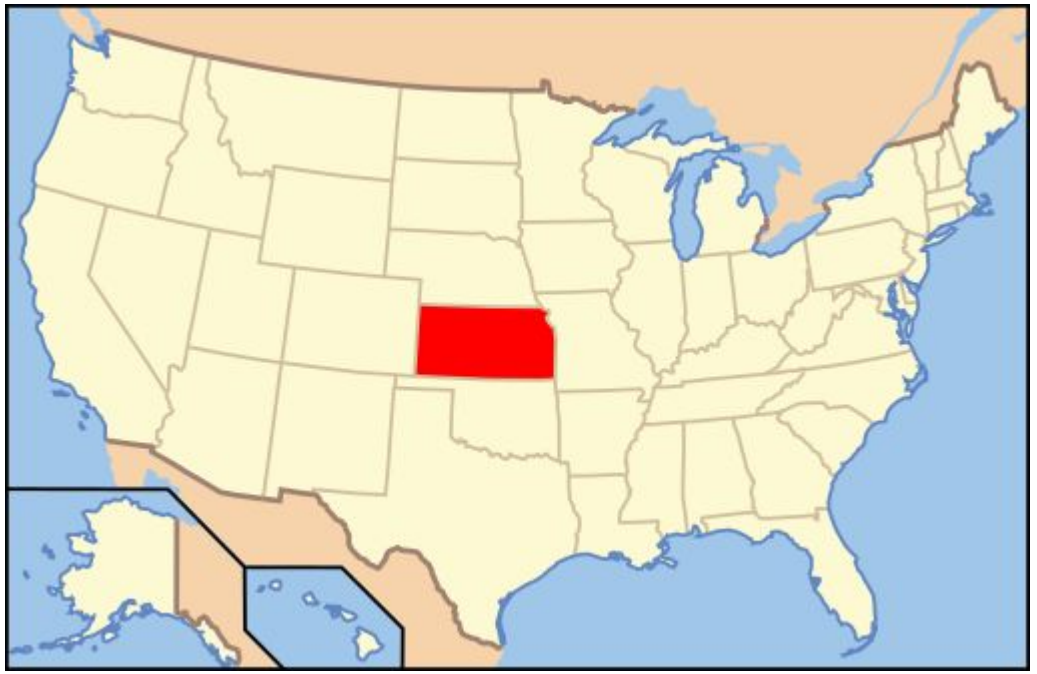
California cases are up **24%** since 2020 (1).

83% of active TB infections in California are due to latent TB cases that were undiagnosed or untreated (1).

California has the highest number of active TB cases in the US and has the third-highest active TB incidence rate in the US (1).

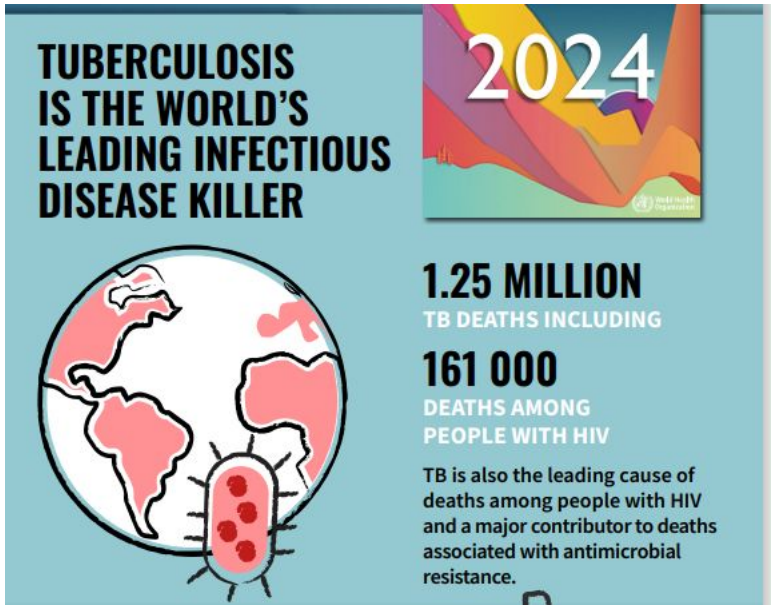
KANSAS OUTBREAK

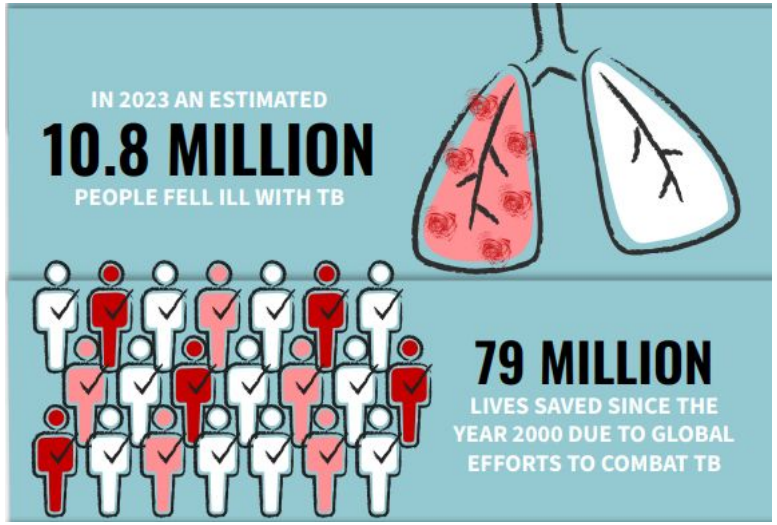
- As of Jan. 31, 2025, there are 67 confirmed cases of active tuberculosis (TB) disease associated with this outbreak
- Thirty-five have completed treatment and are considered cured
- Thirty are currently under treatment. There are two reported deaths associated with this outbreak
- There are 79 confirmed latent TB cases
- Thirty-one of these individuals have completed treatment and 28 are currently under treatment.

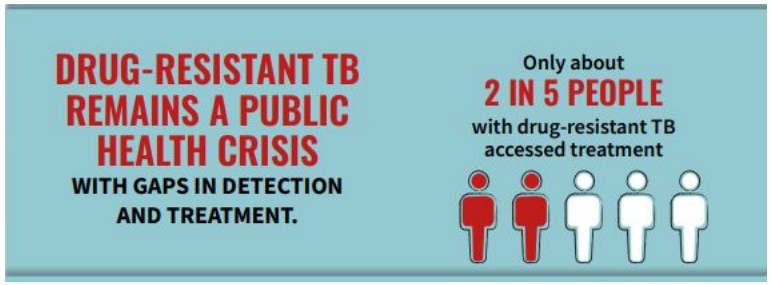


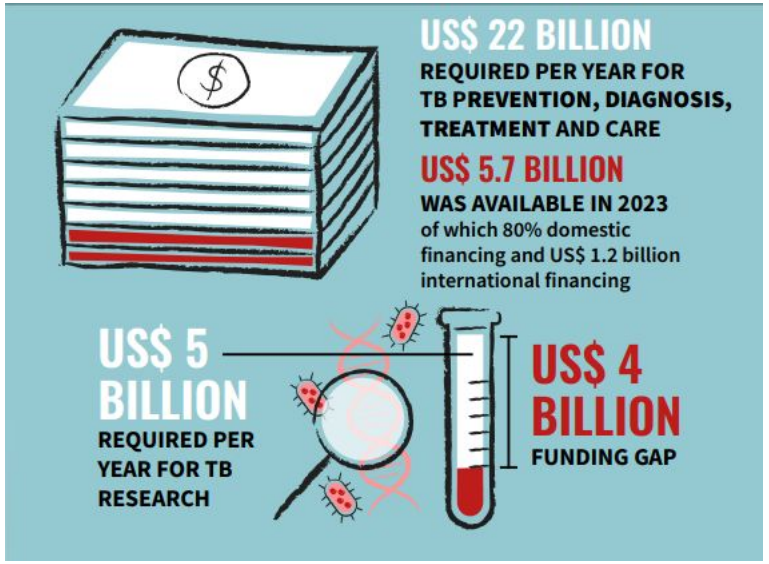
News Flahttps://www.kdhe.ks.gov/CivicAlerts.aspx?AID=1436sh • Current Tuberculosis Outbreak in Kansas City, K

WHO 2024 GLOBAL REPORT









In 2023, TB returned to being the world's leading infectious disease killer, surpassing COVID-19. It was also the leading killer of people with HIV and a major cause of deaths related to antimicrobial resistance.

- TB occurs in every part of the world. In 2023, the largest number of new TB cases occurred in the WHO South-East Asia Region (45%), followed by the African Region (24%) and the Western Pacific Region (17%).

- Around 87% of new TB cases occurred in the 30 high TB burden countries, with more than two-thirds of the global total in Bangladesh, China, Democratic Republic of the Congo, India, Indonesia, Nigeria, Pakistan and the Philippines.

https://www.who.int/news-room/fact-sheets/detail/tuberculosis

Box 1.1 WHO End TB Strategy at a glance

Vision	A world free of TB, zero deaths, disease and suffering due to TB			
Goal	**End the global TB epidemic**			
Indicators	**Milestones**		**Targets**	
	2020	**2025**	**2030**	**2035**
Percentage reduction in the absolute number of TB deaths[a] (compared with 2015 baseline)	35%	75%	90%	95%
Percentage reduction in the TB incidence rate (compared with 2015 baseline)	20%	50%	80%	90%
Percentage of TB-affected households facing catastrophic total costs due to TB[b] (level in 2015 unknown)	0%	0%	0%	0%

Consolidated guidance on tuberculosis data generation and use. Module 4. Surveys of costs faced by households affected by tuberculosis

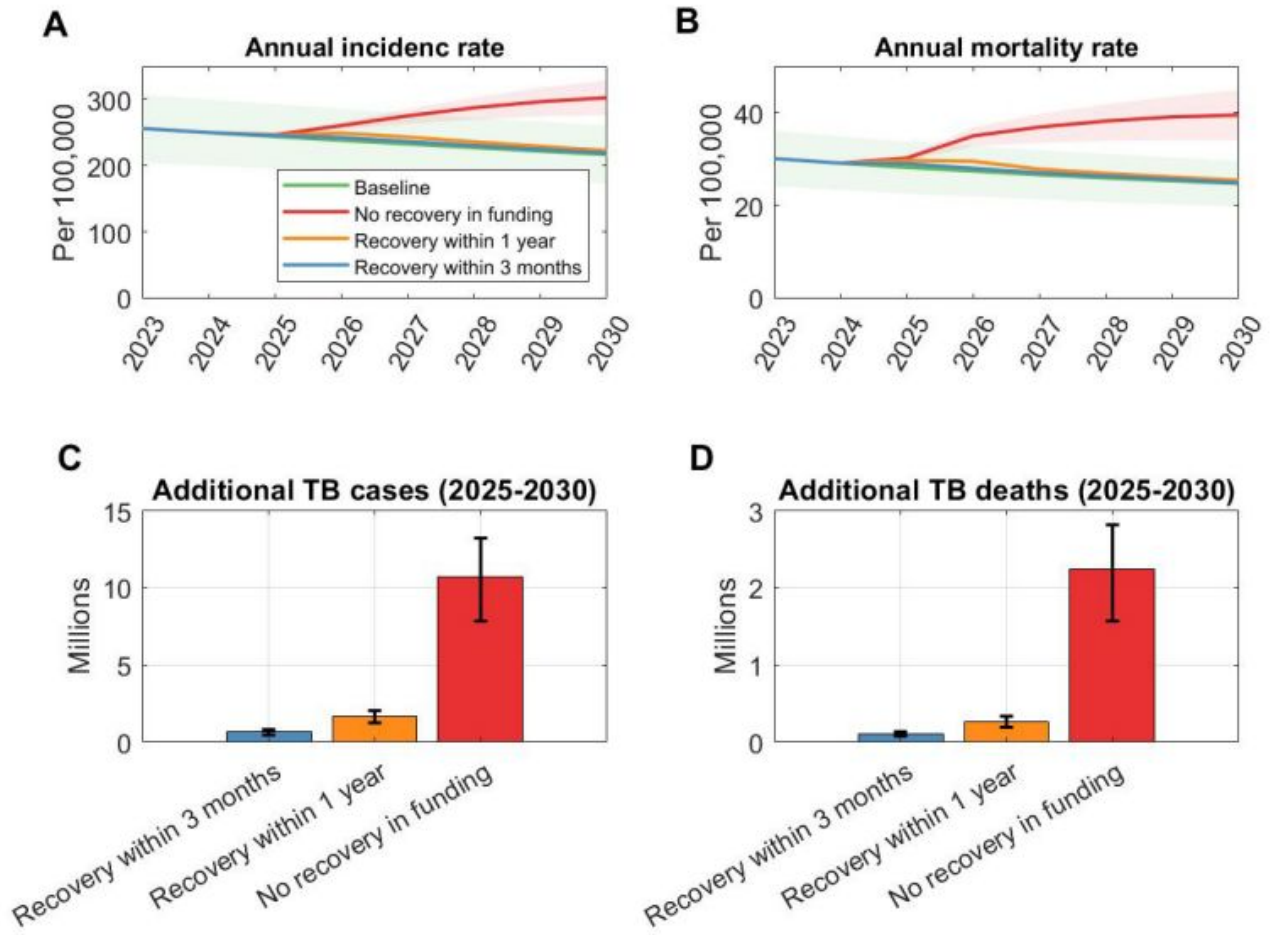


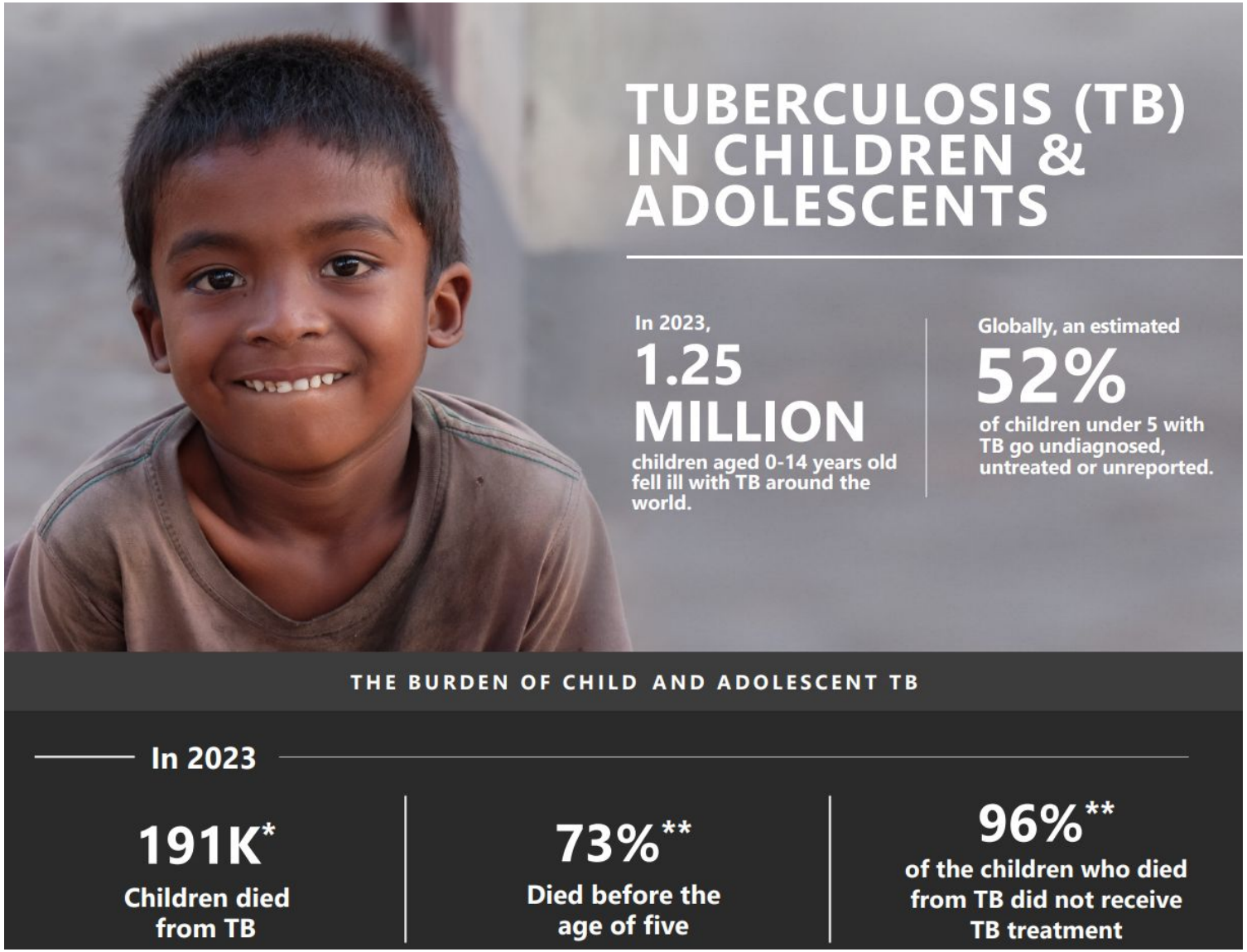
Figure 1: Impact of a US Aid freeze and cut on tuberculosis outcomes across 26 HBCs from 2025 - 2030. (A) Annual TB incidence per 100,000 population under three funding scenarios: a 90-day freeze with a subsequent 3-month recovery, a one-year recovery, and permanent disruption (no recovery). (B) Annual TB mortality rate corresponding to the same three recovery scenarios. (C) and (D) shows additional cases and deaths during 2025 to 2030 under the three recovery scenarios.

- Across 26 high-burden countries which account for 80% of the global TB burden and 90% among recipients of US funding for TB, termination of US funding will result in an estimated 10.6 million additional TB cases and 2.2 million additional TB deaths during the period 2025 to 2030.
- Many countries now stand at a crossroads: one path leads to continued reliance of foreign aid, while the other moves toward self-sufficiency and self-reliance.

A DEADLY EQUATION: THE GLOBAL TOLL OF US TB FUNDING CUTS

© WHO / Barry Christianson
Nurse Ntoyanto takes a blood sample from Granville, 38, at his follow-up visit at Phillippi Plaza in Cape Town on 23 May 2024.

"Any disruption to TB services – whether financial, political or operational – can have devastating and often fatal consequences for millions worldwide," said Dr Tereza Kasaeva, Director of WHO's Global Program on TB and Lung Health. "The COVID-19 pandemic proved this, as service interruptions led to over 700 000 excess deaths from TB between 2020 and 2023."



Tuberculosis (TB) In Children & Adolescents

CALIFORNIA PASSES FIRST STATE LAW FOR LATENT TB

- AB2132 describes a new requirement for tuberculosis screening (assessment for risk factors) in primary care in California. It specifies when and which patients should be offered screening and follow-up health care.
- Under AB2132, TB screening and appropriate follow-up should be offered to all adult patients in California receiving primary care services.
- If risk factors are identified and if the patient's health insurance covers it, TB testing is required.
- For those who test positive for TB, further follow-up or referral for latent TB infection treatment is then required.

The full text of the bill can be read here:

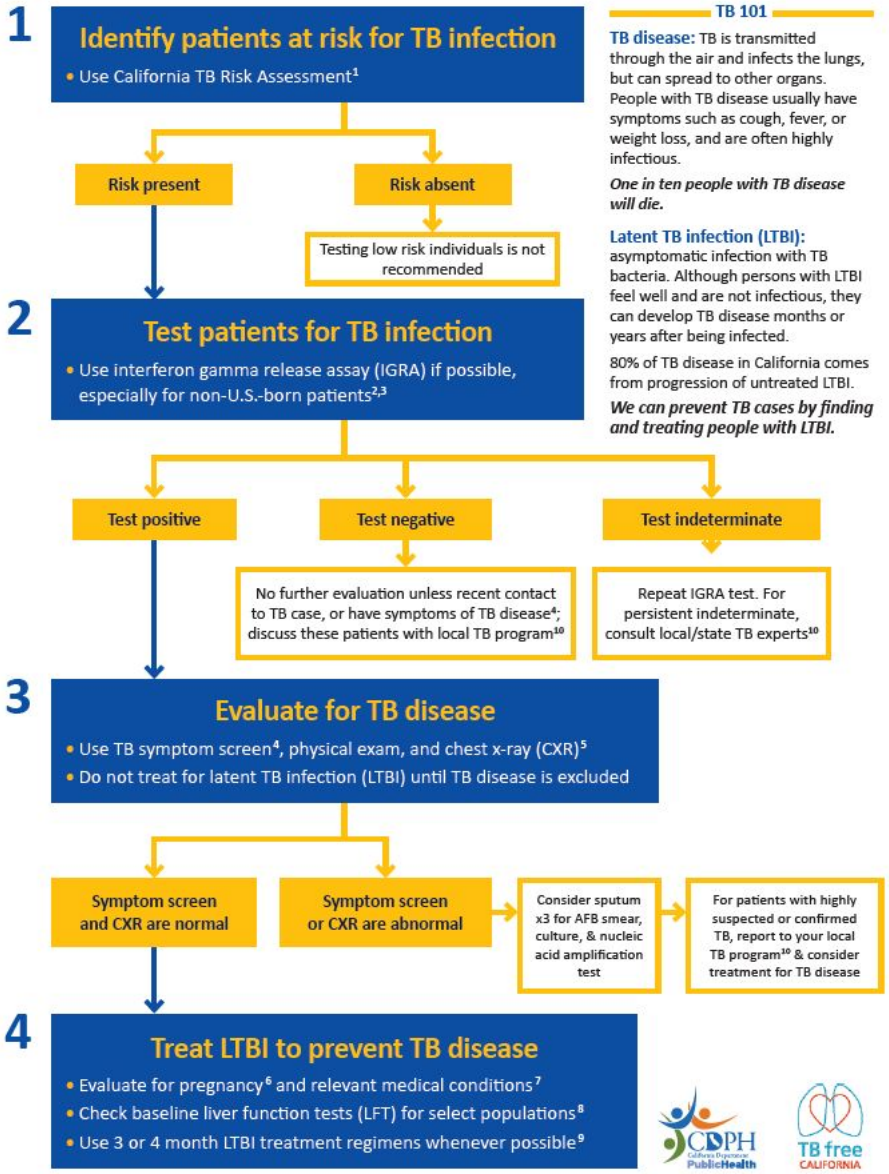
California Legislative Information, AB-2132 Health Care Services: Tuberculosis

PREVENT TUBERCULOSIS (TB) IN 4 STEPS: A GUIDE FOR MEDICAL PROVIDERS

For additional support, or to talk to a local or state TB expert, contact:

- Local TB program: https://ctca.org/directory/
- State TB Control Branch: (510) 620-3000 or tbcb@cdph.ca.gov
- Curry International Tuberculosis Center: https://www.currytbcenter.ucsf.edu/

January 15, 2025 – updated guide on CTCA website to include the passage of AB 2132



SAN DIEGO COUNTY ADULT TUBERCULOSIS RISK ASSESSMENT

LTBI testing is recommended if any of the 5 boxes below are checked.

☐ **Close contact** to someone with infectious TB disease during lifetime

☐ **Foreign-born** person from a country with an elevated TB rate

- Includes any country other than the United States, Canada, Australia, New Zealand, or a country in western or northern Europe
- If resources require prioritization within this group, prioritize patients with at least one medical risk for progression
- Interferon Gamma Release Assay is preferred over Tuberculin Skin Test for foreign-born persons ≥2 years old

☐ **US-born** person and

- ☐ lives in or visits a country with an elevated TB rate or
- ☐ crosses the US-Mexico border frequently or
- ☐ eats queso fresco or other unpasteurized dairy from Mexico.

- If resources require prioritization within this group, prioritize patients with at least one medical risk for progression

☐ **Immunosuppression**, current or planned

HIV infection, organ transplant recipient, treated with TNF-alpha antagonist (e.g., infliximab, etanercept, others), steroids (equivalent of prednisone ≥15 mg/day for ≥1 month) or other immunosuppressive medication

☐ **History of homelessness, incarceration, or drug abuse**

For children, this includes close or frequent contact to individuals with these risk factors

Treat for LTBI if LTBI test result is positive and active TB disease is ruled out.

TB PREVENTIVE TREATMENT

Preventing TB to End TB

*Nearly 2 billion people may have been infected with tuberculosis (TB) worldwide. CDC is on the forefront of efforts to accelerate the uptake of **Tuberculosis Preventive Treatment (TPT)** – a proven intervention that can prevent TB disease and death among those at high risk of developing TB.*

FAST FACTS

TPT can reduce TB deaths among people living with HIV by nearly 40% and up to 80% when combined with antiretroviral therapy. TB is the #1 cause of death for people living with HIV. In 2023, about 161,000 people died of HIV-associated TB.**

Between 2005 and 2023, globally ***19 million people*** living with HIV were started on TPT equivalent to 47% of the ***39.9 million people*** estimated to be living with HIV in 2023.**

** *World Health Organization Global TB Report 2024*

PREVENTING TB DISEASE AMONG PEOPLE LIVING WITH HIV AND CHILDREN

16X **People living with HIV are *16X*** *more likely* to develop TB disease than someone with HIV.*

* *World Health Organization Tuberculosis Fact Sheets*

TOP 10 **TB is a *top 10*** *cause of death for* children worldwide* with the youngest children at greatest risk of severe disease and death from TB.

* *The Lancet—Global, regional, and national causes of death in children and adolescents younger than 20 years*

India Accelerates TB Treatment Initiation

In India, CDC collaborated with the government to comprehensively train 785 state and district staff on the effective use of program data to improve TB diagnosis, treatment, and related interventions, helping to protect 625 million people. The average time from TB detection to starting treatment was reduced by up to 60 percent.

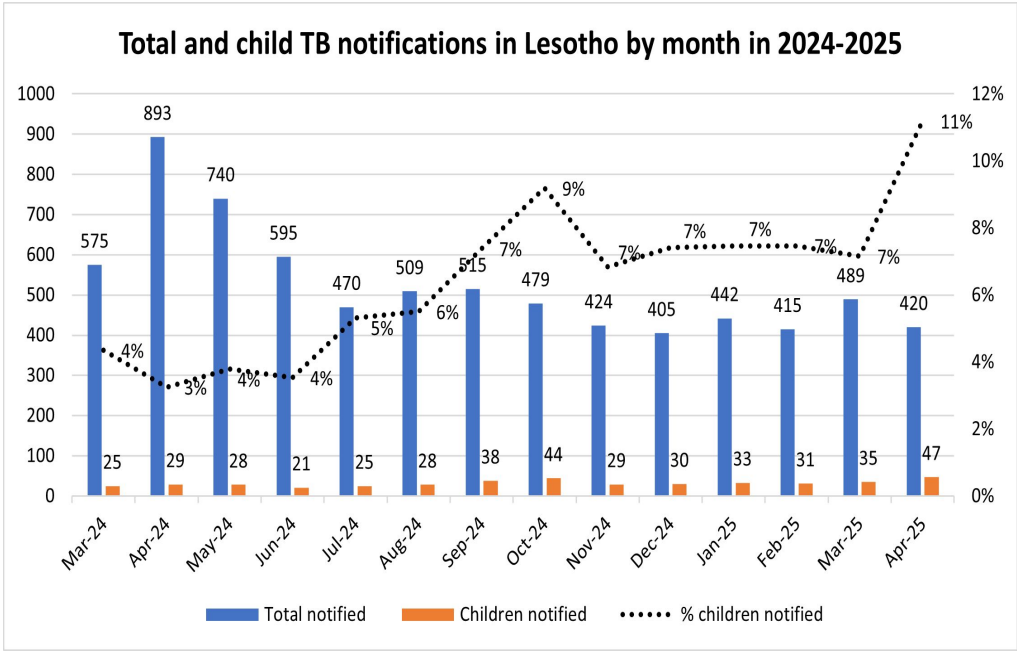
- We achieved a treatment success rate of 89% among people with a new or relapse cases of TB who started treatment in 2022.
- The missed TB cases reduced to 22% in 2023, compared to 44% in 2020, and initiated TB preventive treatment for nearly 1.5 million people.
- **Community engagement** is essential, from planning to monitoring TB services, addressing stigma and discrimination and promote equity in TB service access.
- We cannot end TB by continuing to work in silos. Thus, we need to **strengthen and leverage partnerships** with other UN agencies, WHO Collaborating Centers and other research organizations located in Member States, as well as

Haiti (2023) 149/100,000

Provided expertise in TB diagnostic practices on how to integrate short-course TPT (1HP and 3HP) in the national guidelines. Nearly all (99 percent) PLHIV started and completed TPT, 97 percent of TB patients received an HIV test, and 87 percent of patients with TB and HIV received ART in FY2024.

https://www.who.int/southeastasia/health-topics/tuberculosis

- The Union's Sub-Saharan Africa Region Child and Adolescent TB Centre of Excellence (COE) in collaboration with U.S. Centers for Disease Control and Prevention (CDC) conducted a pilot of a new curriculum on the management of child and adolescent tuberculosis (TB) for healthcare workers in August 2024 in Lesotho.
- More than 45 healthcare professionals from Lesotho and COE member countries (Cameroon, Eswatini, Ethiopia, Kenya, Mozambique, Rwanda, Tanzania, Uganda, Zambia and Zimbabwe) attended the training.
- Since the training was conducted, Lesotho observed an increase in the proportion of children (below 15 years of age) diagnosed with TB. Children accounted for 3%-6% of all TB diagnoses before the trainings (March-August 2024) which increased to 7%-11% from October 2024 to April 2025.



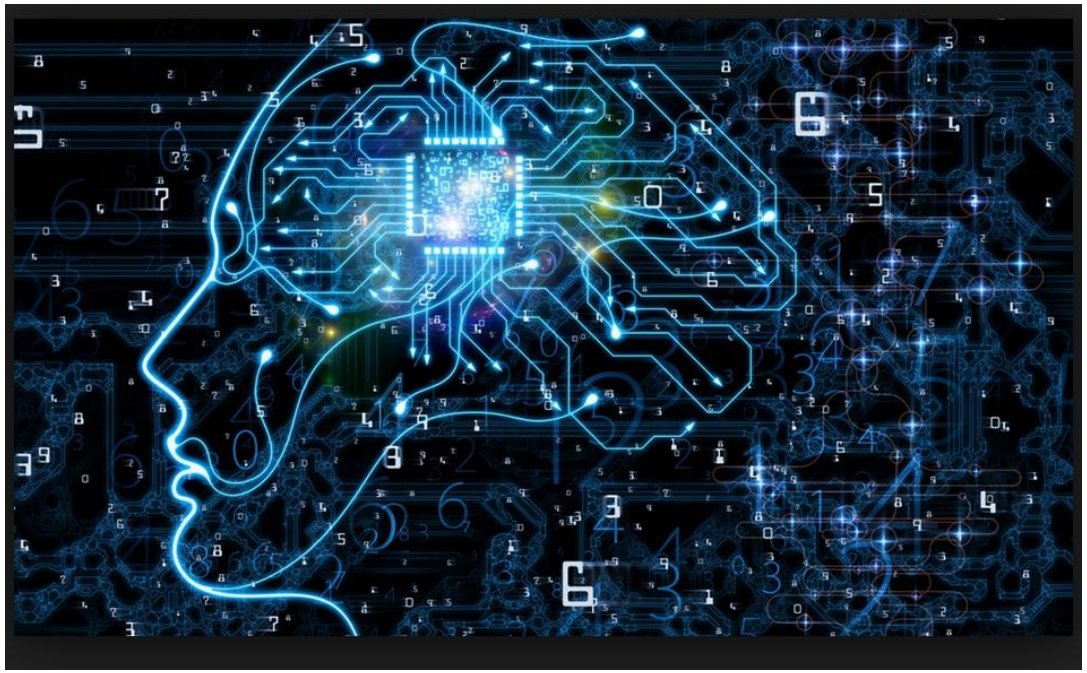
The Union has made these training materials and the free-of-charge course available on Union Courses Online.

- Researchers at Tulane University recently described a novel latent tuberculosis assay powered by an explosive insect-inspired chemical reaction.
- Particularly helpful for cases of HIV coinfection.
- The new test uses an antigen-specific T-cell response assay, or ASTRA, to detect biomarkers of infection.
- Rather than rely on an external power source, the reaction is propelled through a microfluidic device after the combination of two chemicals, hydroquinone and hydrogen peroxide
- This approach was inspired by bombardier beetles, a species with the ability to defensively squirt jets of skunky liquid utilizing this same chemical reaction.

https://www.360dx.com/immunoassays/inspired-bombardier-beetle-tulane-team-propels-instrument-free-latent-tuberculosis

A new study published in the *Proceedings of the National Academy of Sciences* describes the novel use of artificial intelligence to screen for antimicrobial compound candidates that could be developed into new tuberculosis drug treatments.

The study was led by researchers at the University of California San Diego, Linnaeus Bioscience Inc. and the Center for Global Infectious Disease Research at the Seattle Children's Research Institute.



"This is the first time that this kind of image analysis using machine learning and AI has been applied in this way to bacteria. Tuberculosis images are inherently difficult to interpret by the human eye and traditional lab measurements. Machine learning is much more sensitive in being able to pick up the differences in shapes and patterns that are important for revealing underlying mechanisms."

Joe Pogliano, paper co-author, professor in the Department of Molecular Biology

The Supreme Court ruled on the future of USPSTF (June 27, 2025)

Key Takeaways

- The Supreme Court upheld ACA requirements for insurance coverage of USPSTF-recommended preventive services, reversing a lower court's decision
- The decision prevents increased patient cost-sharing and financial burdens from untreated conditions due to lack of preventive care coverage
- There is a USPSTF recommendation of Grade B for TBI screening and testing
- US Preventive Services Task Force (USPSTF) concludes with moderate certainty that there is a moderate net benefit in preventing active tuberculosis disease by screening for LTBI in persons at increased risk for tuberculosis infection

https://www.ajmc.com/view/supreme-court-decision-protects-insurance-coverage-of-preventive-care

QUESTIONS OR COMMENTS

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