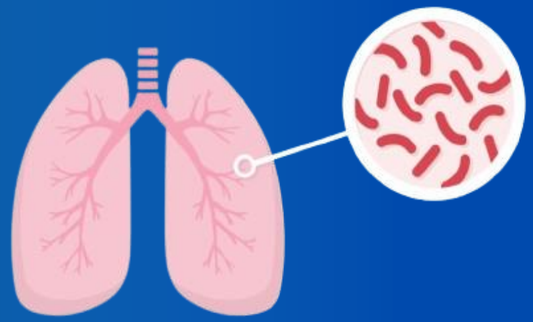
County of Los Angeles Public Health



SOUTHERN CALIFORNIA REGIONAL

COMMUNITY OF PRACTICE TO END TB

Wednesday, April 23, 2025

12:00PM - 1:30PM PDT

Agenda

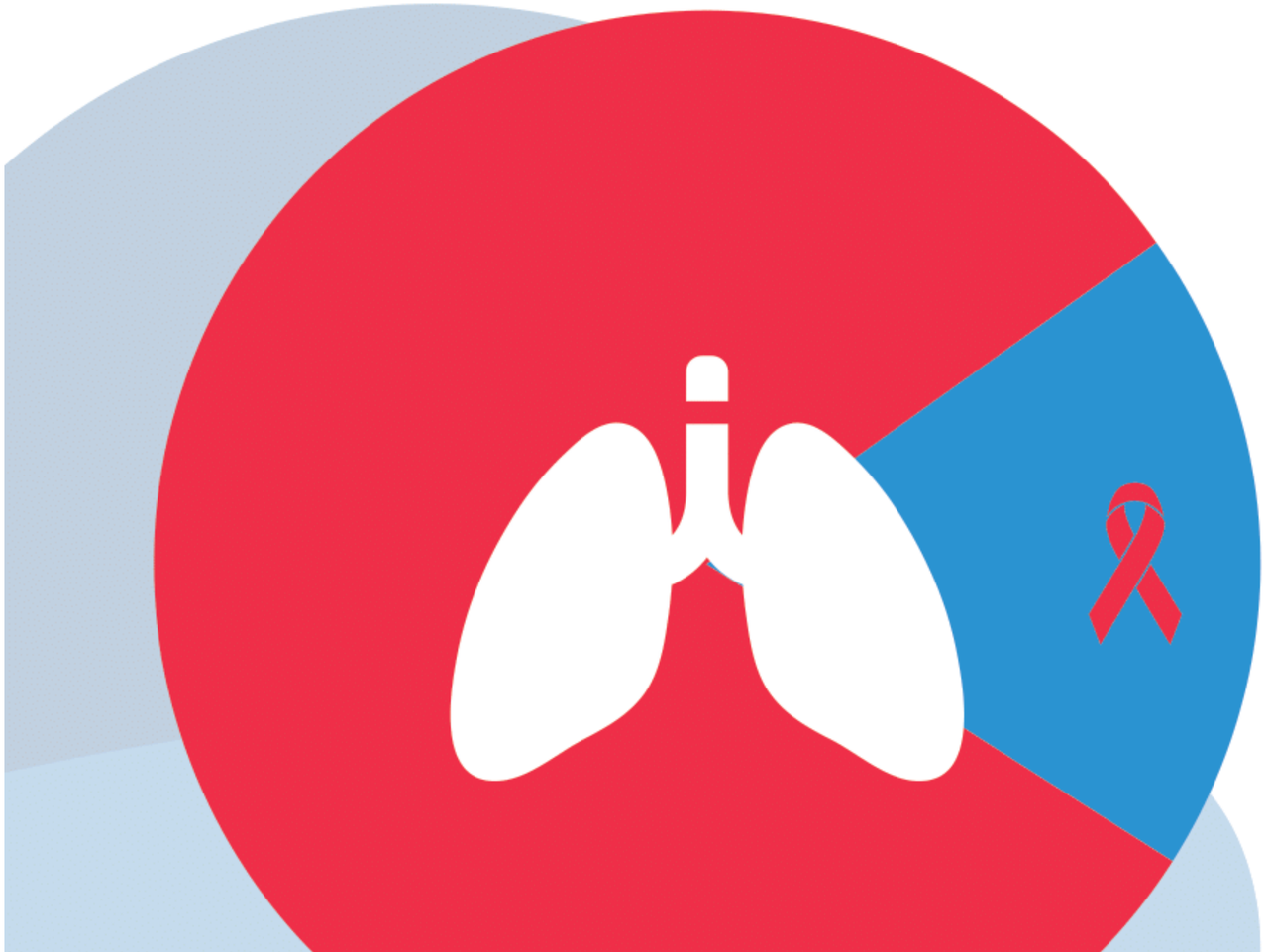
12:00 – 12:05	Welcome and introductions	**Parveen Kaur, MD** Clinical Lead Southern CA CoP to End TB	**Melissa Zhang** TB Control Program Analyst Los Angeles County Department of Public Health
12:05 – 12:20	Why TB prevention?	**Parveen Kaur, MD** Clinical Lead Southern CA CoP to End TB	
12:20 – 12:35	Overview of tuberculosis epidemiology statewide and in Los Angeles County	**Katya Salcedo, MPH** Epidemiologist TB Free CA, California Department of Public Health	**Julie Higashi, MD PhD** TB Control Program Director Los Angeles County Department of Public Health
12:35 – 12:55	The San Diego TBEI Community of Practice model: successes and lessons learned	**Catherine Bender, MPH** TB Elimination Initiative Director San Diego County TB Control and Refugee Health Branch	
12:55 – 1:10	Overview on school testing requirements	**Julie Higashi, MD PhD** TB Control Program Director Los Angeles County Department of Public Health	
1:10 – 1:30	Discussion session and meeting closure	**Parveen Kaur, MD** Clinical Lead Southern CA CoP to End TB	**Melissa Zhang** TB Control Program Analyst Los Angeles County Department of Public Health

Why TB Prevention?

Parveen Kaur, MD
Clinical Lead, Southern CA Regional CoP to End TB
TB Control Program
Los Angeles County Department of Public Health
Acting Health Officer, TB Controller
City of Pasadena Public Health Department

Tuberculosis is the top infectious killer in the world

1.25 million in 2023



IN 2018

1.5 MILLION* PEOPLE DIED FROM TB

INCLUDING
251 000 PEOPLE
WITH HIV

END TB

World Health Organization

Tuberculosis resurges as top infectious disease killer

29 October 2024 News release Washington D.C., USA

- The World Health Organization (WHO) published a new report on tuberculosis revealing that approximately 8.2 million people were newly diagnosed with TB in 2023 – the highest number recorded since WHO began global TB monitoring in 1995. This represents a notable increase from 7.5 million reported in 2022, placing TB again as the leading infectious disease killer in 2023, surpassing COVID-19.

- "The fact that TB still kills and sickens so many people is an outrage, when we have the tools to prevent it, detect it and treat it," said Dr Tedros Adhanom Ghebreyesus, WHO Director-General.

What is tuberculosis (TB)?

- TB is a communicable disease caused by a bacterium called ***Mycobacterium tuberculosis***
- Primary site of infection is the lungs but can disseminate to any part of the body including spine and brain
- TB spreads through airborne transmission
- Those who have been infected, but are not sick, have latent tuberculosis infection (LTBI) or simply TB Infection

TB Infection (Latent, LTBI)	TB Disease (Active)
Bacilli persist in non-replicating form controlled by immune system	Actively multiplying bacilli
TST/IGRA usually positive	TST/IGRA positive or negative
CXR usually normal	CXR usually abnormal
AFB Sputum smears / cultures negative	AFB Sputum smears / cultures usually positive
NO symptoms	Usually symptomatic
NOT infectious	Can be infectious (exceptions: extrapulmonary)

Risk of TB Infection and TB Disease

After Airborne exposure to *Mtb*:

- **5-10%** develop primary TB disease
- **90-95%** of those who have primary infection will develop LTBI
- Those with LTBI have **~10%** lifetime risk of progressing to active TB disease

  (Higher with immunocompromising conditions, kidney disease and DM)

Treatment reduces risk of progression ~90%

Why should we focus on TB prevention?

Active TB is only the “tip of the iceberg”

2100 people had TB disease in CA in 2024

More than **2 million** Californians have LTBI

California

USA

Source: CDPH TB Control Branch, Tuberculosis in California: 2024 Snapshot; San Diego TBEI Community of Practice

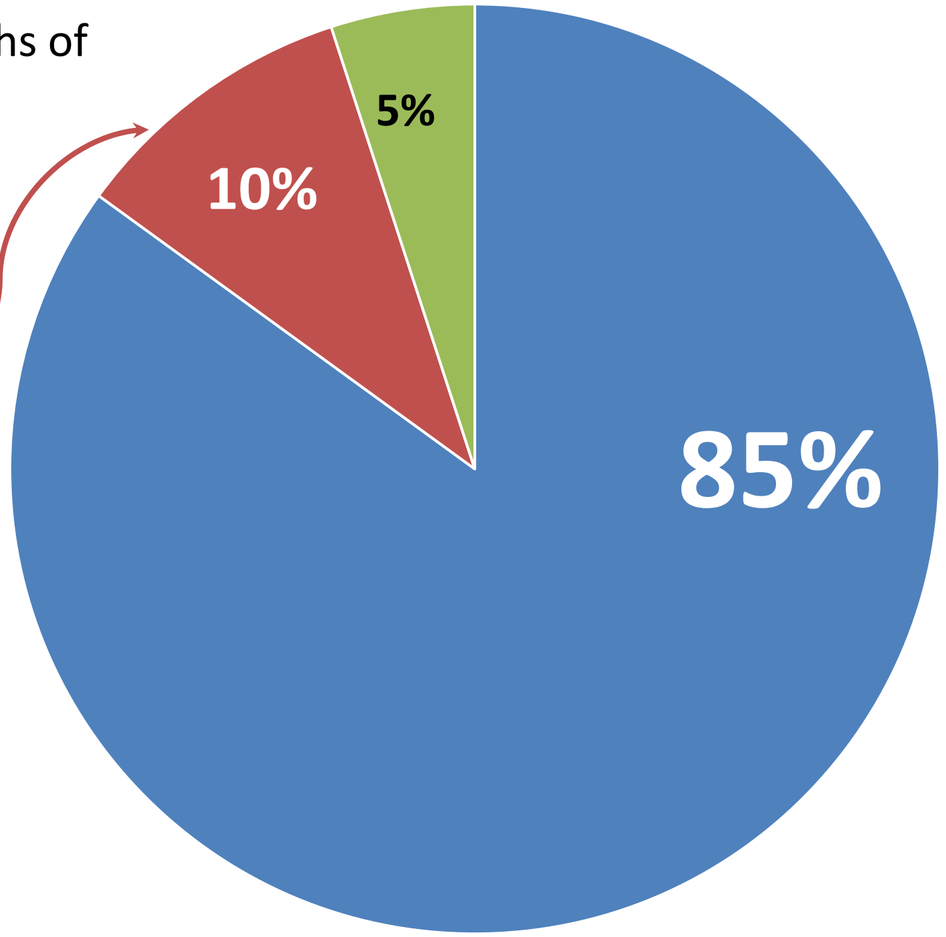
TB is preventable!

PREVENTABLE
with LTBI testing and treatment

Active TB in California

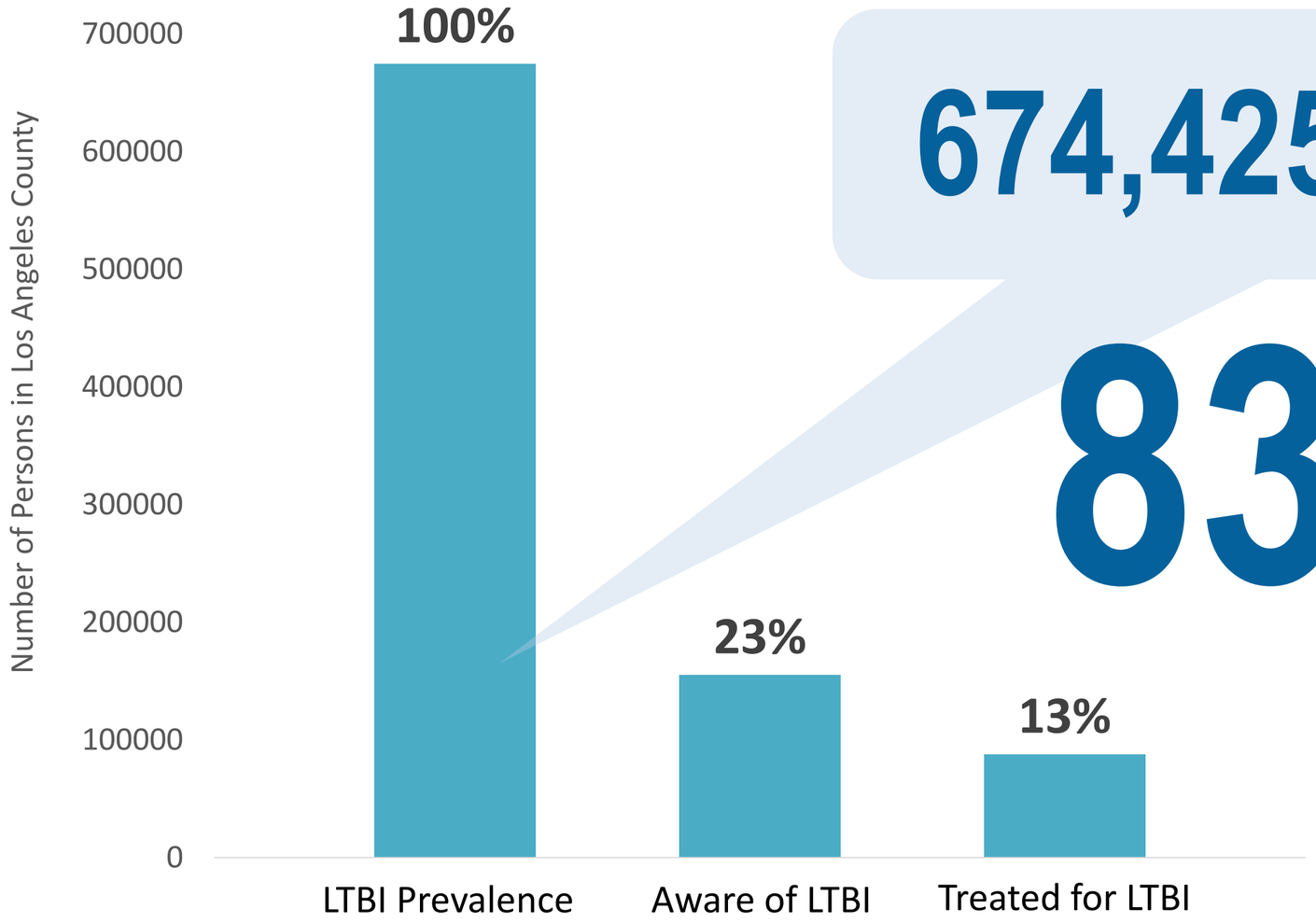
Importation
TB within 6 months of arrival in US

Recent Transmission



Progression
of LTBI to active disease

Awareness and treatment of LTBI is low

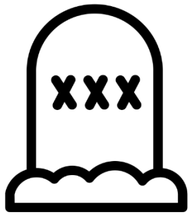


674,425 estimated persons in Los Angeles County had LTBI in 2024

83% of cases with active TB disease started with LTBI…
meaning they could have been prevented with testing and treatment of LTBI

Estimated using methodology from the CDPH TB Control Branch, Tuberculosis in California: 2024 Snapshot

TB has tragic consequences



Created by Blair Adams from Noun Project

Death

- 1 in 6 die within five years of diagnosis
- 10 -13% do not survive treatment

Created by Aficons from Noun Project

Disability

- After treatment, impaired lung function and shorter life expectancy
- >80% of children with CNS TB die or permanently disabled

Created by Max Hancock from Noun Project

Hospitalization

- 2x expensive and 4x longer than hospitalizations for other conditions

Created by priyanka from Noun Project

Cost

- Catastrophic costs to patients and families
- >$265 million in direct and societal costs in California in 2023

Pascopella, Open Forum Infect Dis, 2014; Lee-Rodriguez JAMA Netw Open. 2020
Hoger, Int J Tuberc Lung Dis, 2014; Shuldiner, Int J Tuberc Lung Dis, 2015; Miller, Am J Public Health. 2015; Duque-Silva, J Ped Inf Dis Soc, 2018
Source: California TB Elimination Action Plan 2021 - 2025

BCG vaccine

- Currently, there is only one licensed vaccine against TB, Bacillus Calmette-Guérin (BCG).
- Despite its protective efficacy against TB in children with severe disseminated TB disease

  BCG has failed to protect adults against pulmonary TB

  Lacks therapeutic value and

  Can cause complications in immunocompromised individuals.
- Due to the variable efficacy of the BCG vaccine against pulmonary TB; the low overall risk of infection with MTB, BCG vaccination is not generally recommended in the United States

Why address LTBI in the US?

- Lifetime risk of progressing to TB ~10%
  - Higher in certain risk groups
  - Treatment reduces risk of progression ~90%
- TB has tragic consequences: death, disability, hospitalization
- No effective TB vaccine (treatment = prevention)
- Protects individuals, families and the community
- TB prevention is significantly cheaper than treating TB disease
  - TB prevention = **$857/person**
  - Treating TB disease = **$43,900/person (~50X cheaper to prevent TB than to treat TB)**

Source: CDPH TB Control Branch, Cost and Consequences of Tuberculosis in California

“Every case of reactivation TB disease should be considered a missed opportunity for prevention”

Source: https://www.cdc.gov/tb/media/Stop_TB_poster_English.pdf

We have the test. We have the meds.

What are the challenges?

Source: https://www.cdc.gov/tb/publications/infographic/images/health-care-setting/TB_FB_5_1200x630.jpg

Barriers to TB Prevention

Patient

- Patient feels well
- Perception of risk: uncertain and not urgent
- Worried about medicine side effects

Provider

- Not considered important clinical problem
- Unclear who to test/treat (guidelines are confusing)
- Suboptimal tests/many treatment options

System

Organizational issues: Not a HEDIS measure; LTBI is not notifiable. EMR issues

California TB Screening Law (AB 2132)

Bill sponsored by CTCA Coalition for a TB Free California took effect as law on January 1, 2025

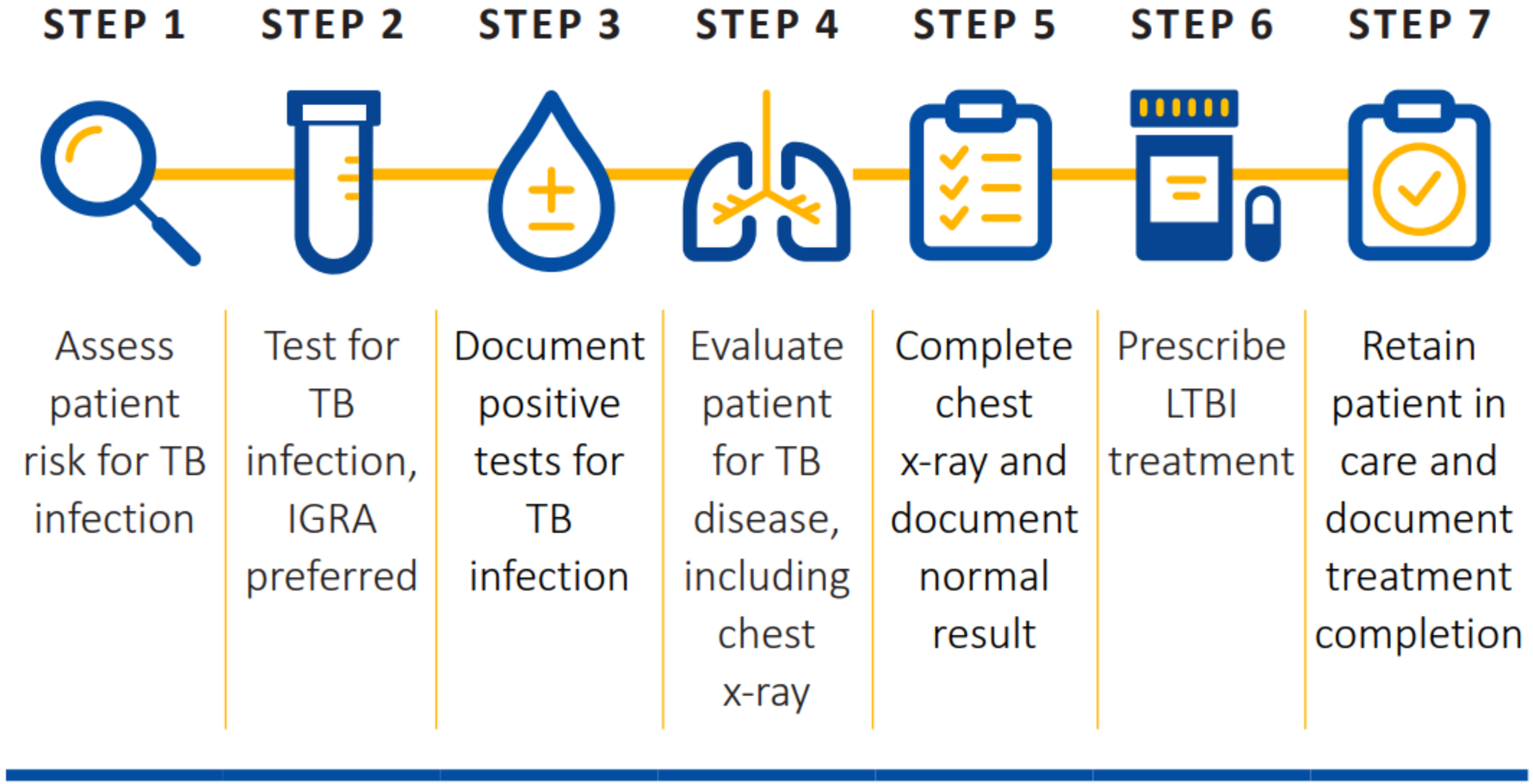
- Requires adult patients receiving primary care services to be offered a TB test if risk factors are identified.
- If patient's health insurance covers it, the patient should be followed by provision or referral for appropriate follow-up care.

AB 2132 - New CA TB Screening Law

- Focuses on tuberculosis screening and follow-up care in Primary care, aiming to improve public health.
- Effort to implement “Best Practice” to set expectations for Primary care.
- Sets a standard for TB care in the Care Cascade.
- Highlights additional training opportunities for the prevention of latent tuberculosis infection (LTBI).

Is an opportunity to accelerate TB elimination

LTBI cascade of care – pathway to prevention



Source: TB Free California (CDPH): Preventing Tuberculosis in Your Clinical Setting: A PRACTICAL GUIDEBOOK

Check appropriate risk factor boxes below.

TB infection testing is recommended if any of the 4 boxes below are checked.

If TB infection test result is positive and active TB disease is ruled out, TB infection treatment is recommended.

☐ **Birth, travel, or residence** for at least 1 month or frequent border crossing in a country with an elevated TB rate

- Includes countries other than the United States, Canada, Australia, New Zealand, or Western and Northern European countries
- If resources require prioritization within this group, **prioritize** patients with at least one medical risk for progression (see Fact Sheet for list)
- Interferon Gamma Release Assay is preferred over Tuberculin Skin Test f or non-U.S.-born persons ≥ 2 years old

☐ **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

☐ **Close contact** to someone with infectious TB disease at any time

- The Centers for Disease Control and Prevention indicates that the evaluation of contacts and treatment of infected contacts is an important component of the U.S. strategy for TB elimination

☐ **History of homelessness or incarceration**, current or past

- The U.S. Preventive Service Task Force (USPSTF) recommends screening populations at increased risk for TB infection based on increased risk of exposure including persons who have lived in high-risk congregate settings (e.g. homeless shelters and correctional facilities)

Community of Practice for care improvement and more!

- CoPs in healthcare are usually aimed at improving clinical outcomes or developing a skill, though there may be additional aims such as workforce or patient engagement

- Published studies of CoPs have shown them to be effective at achieving aims ranging from improved clinical guideline adherence and decreased hospital referrals to decreased stress and a sense of empowerment among participants

Slide credit: Susannah Graves

Source: Noar et al, The aims and effectiveness of communities of practice in healthcare: A systematic review. PLoS One. 2023; 18(10): e0292343

Summary

- TB is serious – increased hospitalization, disability, mortality, and societal costs.
- TB is curable… It is also Preventable!
- We have the tools to detect TB infection, medications to treat it and thus prevent progression to TB disease

  Identifying and treating persons with TB infection (LTBI) is the most promising tool to prevent TB disease.
- New California TB screening law (AB 2132) establishes best practices towards TB screening and elimination.
- New initiative Southern CA Regional Community of Practice to End TB established to accelerate TB elimination in Southern California.

Southern CA Regional Community of Practice to End TB

- The Southern CA Regional Community of Practice to End TB is established as a platform to focus efforts to prevent TB.
- Modeled after successful TB elimination efforts in both San Diego County and the Bay Area.
- Space for discussions, problem solving to implement and accelerate TB elimination in our region.
- This initiative aims to bring together healthcare providers, clinics, healthcare systems, and public health agencies to collaborate on scaling up LTBI diagnosis and treatment towards TB Elimination in Southern California.

Questions

CDPH
California Department of Public Health

Epidemiology of Tuberculosis (TB) in California, 2024

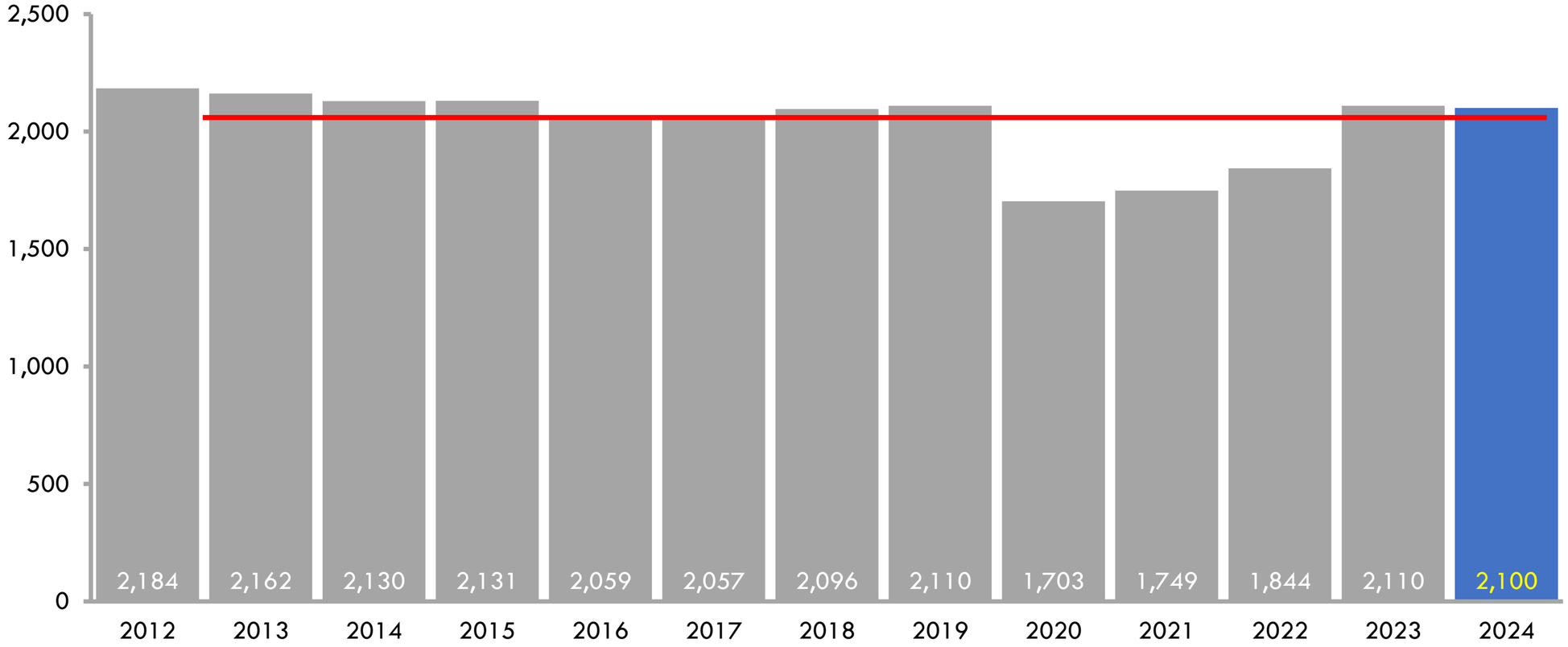
Southern California, Community of Practice
Katya Salcedo, Epidemiologist
CDPH, TB Control Branch
April 23, 2025
katya.salcedo@@cdph.ca.gov

2,100 Californians with TB in 2024

California, 2012–2024

National Rate: 3.0

CA Rate: 5.3



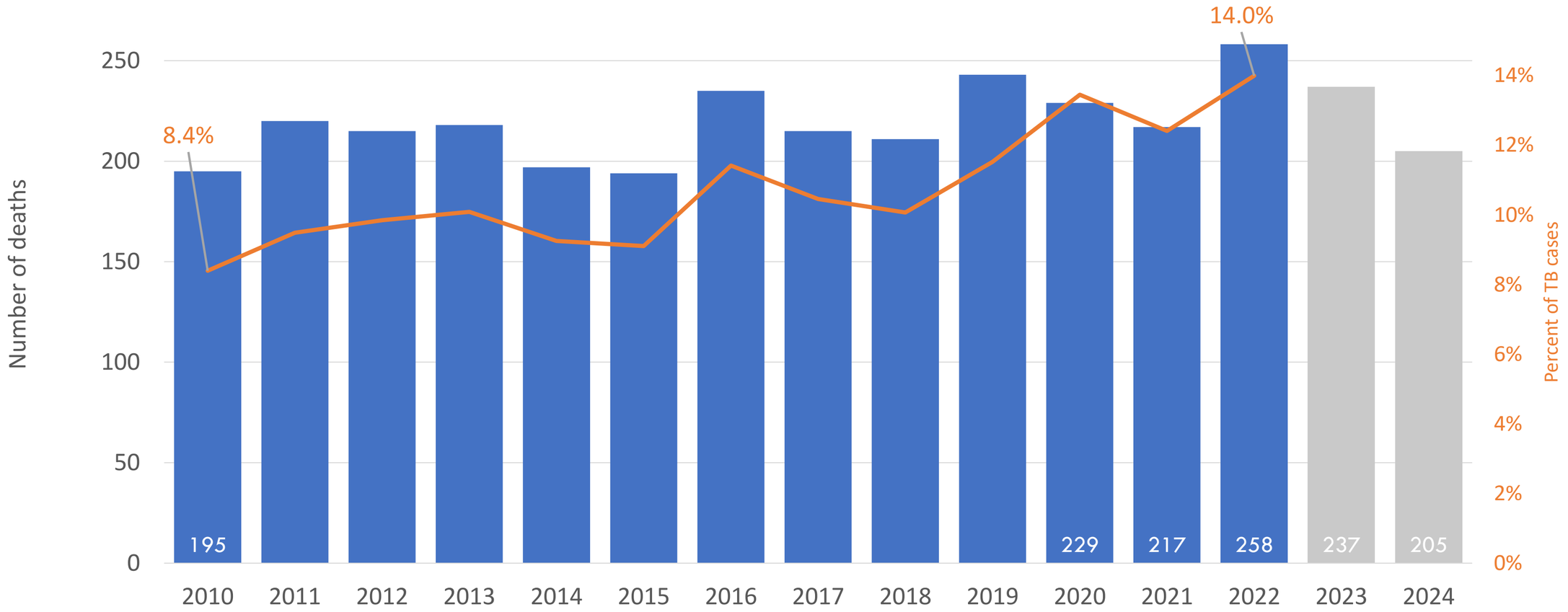
CDPH

Source: Reported Verified Cases of Tuberculosis (RVCT)
CDC Provisional 2024 TB data, U.S.

Slide credit: Pennan Barry

More people with TB are dying

Death before or during TB treatment, California

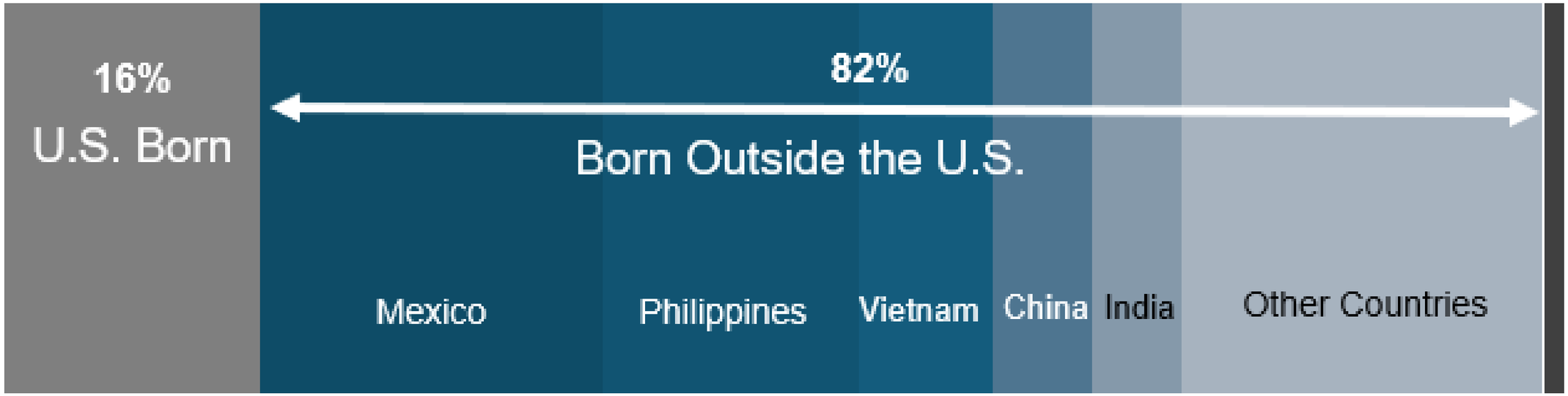


Source: Reported Verified Cases of Tuberculosis (RVCT)

Slide credit: Melissa Ehman

People born outside the U.S. bear the largest burden of TB

Birthplace of Persons with TB Disease, California, 2024



Source: Reported Verified Cases of Tuberculosis (RVCT)

Slide credit: Pennan Barry

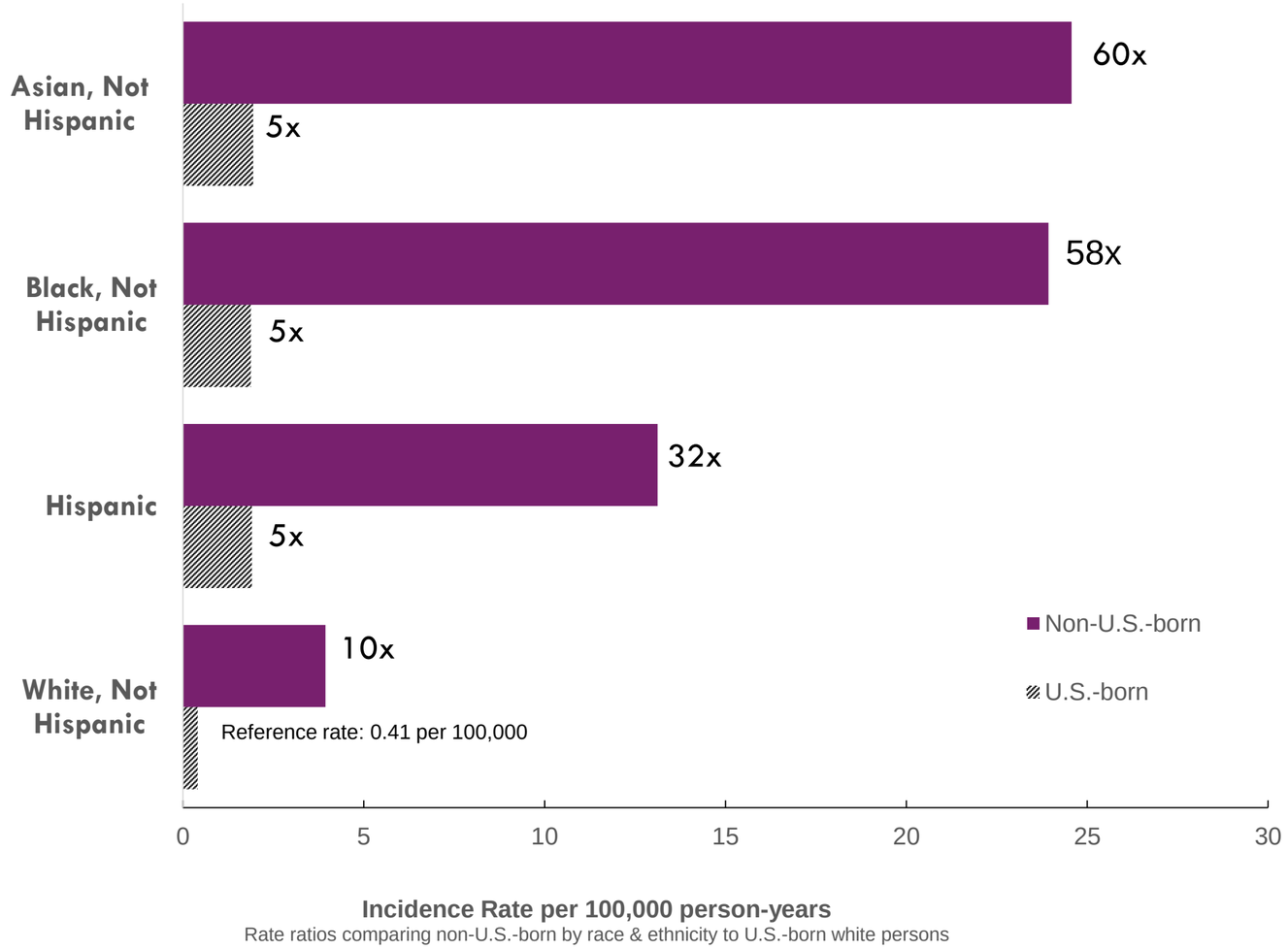
Marked disparities:

TB rate and rate ratio, California 2024

Source: Reported Verified Cases of Tuberculosis (RVCT)
Slide credit: Pennan Barry

CDPH

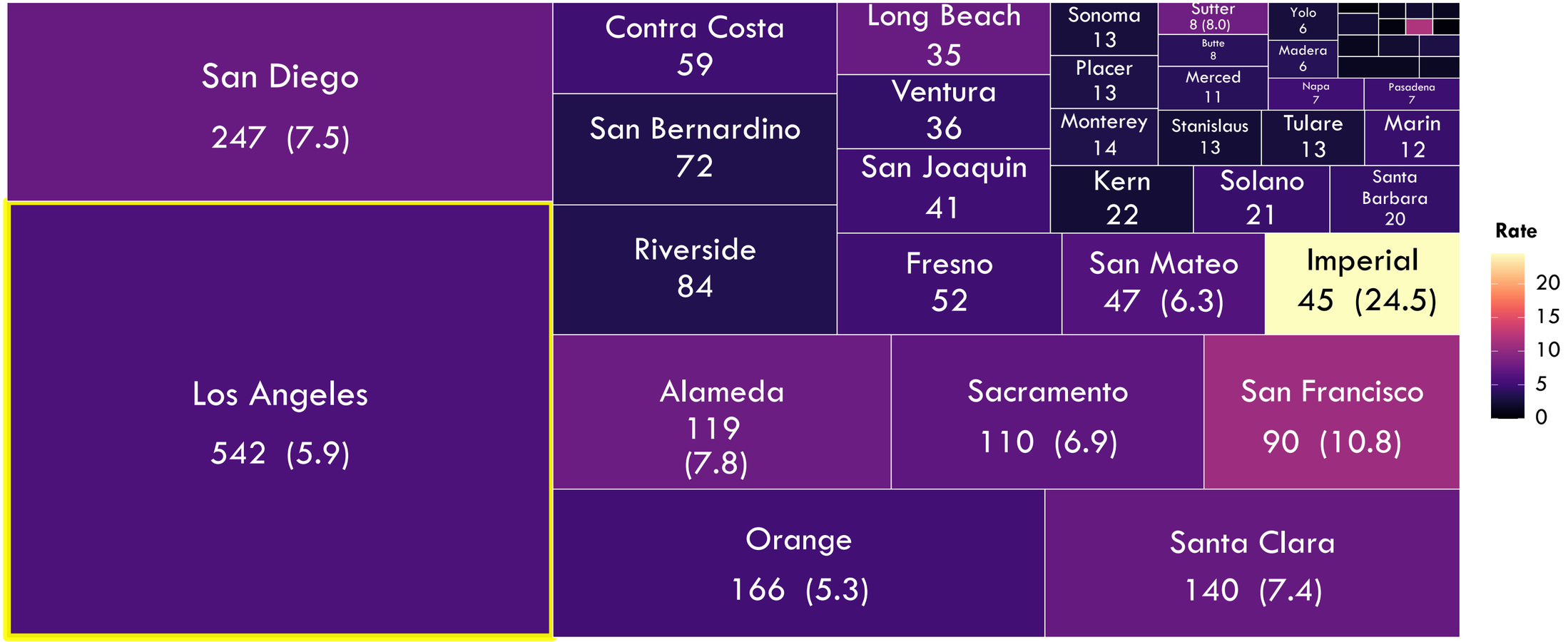
The TB rate for non-U.S.-born Asians is **60 times higher** than the TB rate of White U.S.-born persons



Rate ratios comparing non-U.S.-born by race & ethnicity to U.S.-born white persons

TB is not evenly distributed in all CA counties

Case number (rate per 100,000)

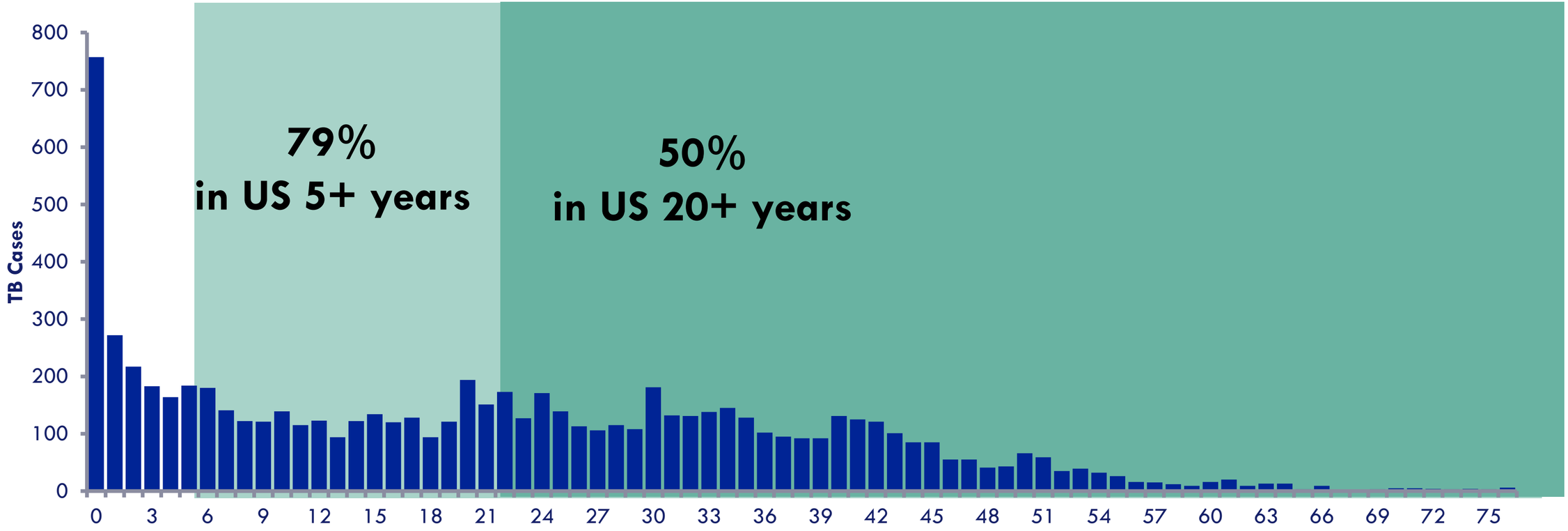


N=45

Source: Reported Verified Cases of Tuberculosis (RVCT)

Slide credit: Varsha Hampole

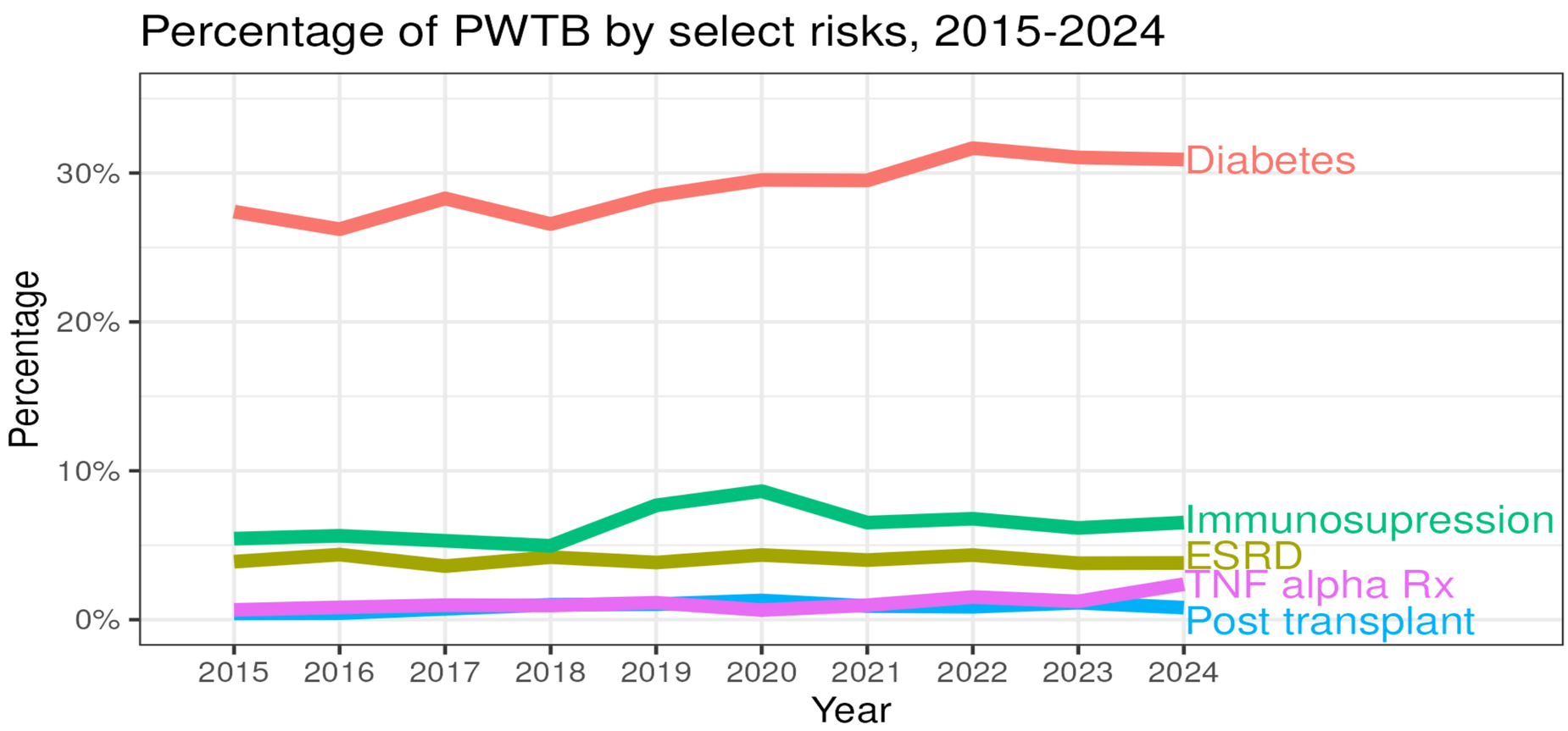
Most People with TB have been U.S. residents for many years - Years in U.S. at TB diagnosis California, 2020-2024



Source: Reported Verified Cases of Tuberculosis (RVCT)

Slide credit: Pennan Barry

More than 30% of people with TB had diabetes or another reported comorbidity



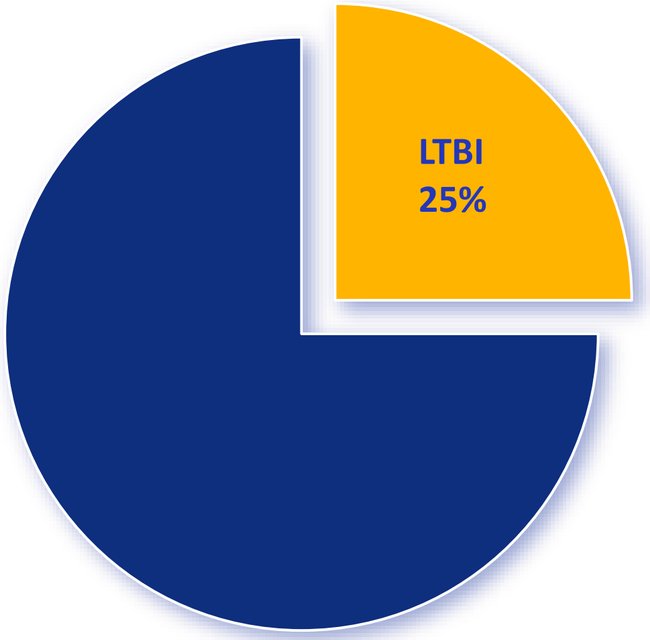
General CA Pop, 2023*
11.8%

Source: Reported Verified Cases of Tuberculosis (RVCT)

Slide credit: Pennan Barry

What about Latent TB Infection (LTBI)?

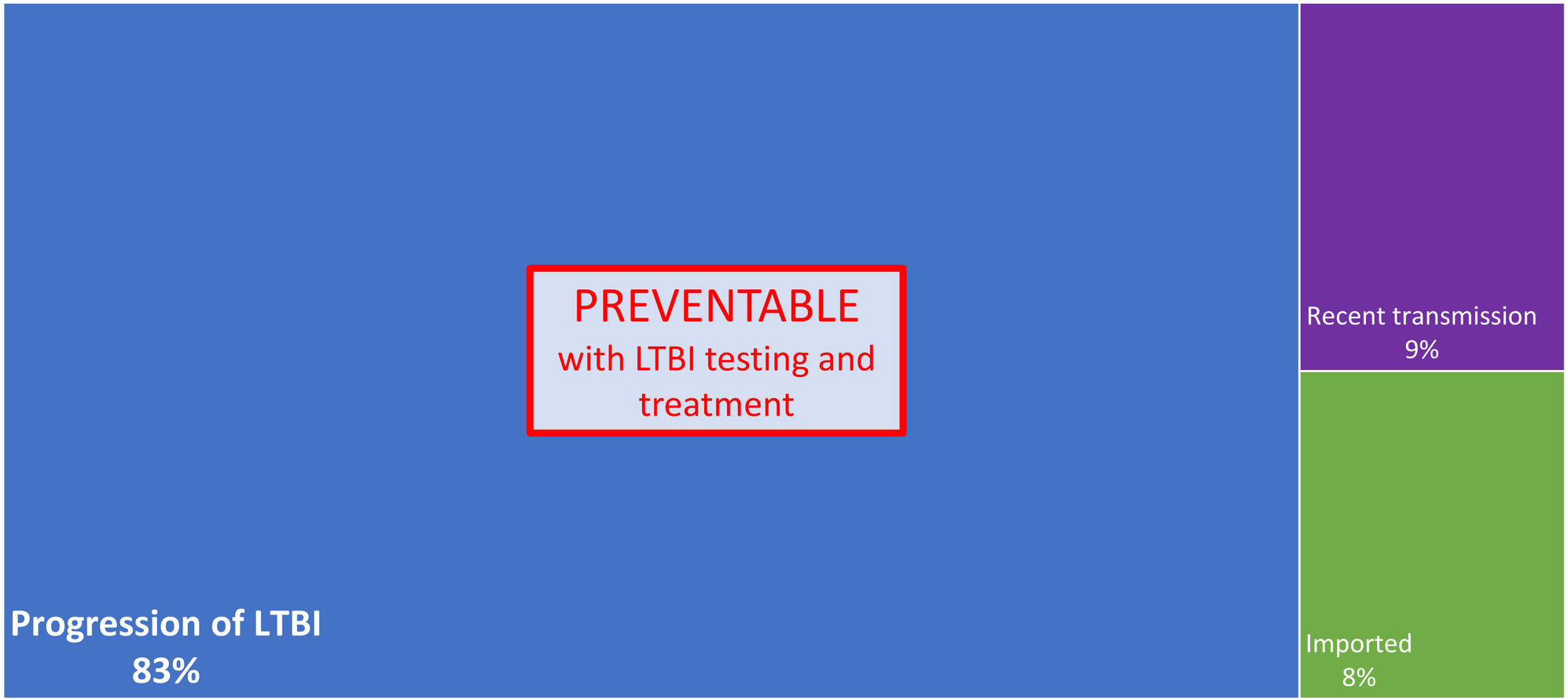
- Approximately 25% of the world's population has LTBI
- Approx. 13 million people in the U.S. have LTBI
  - In California, more than 2 million people have LTBI (approx. 6% of the population)
  - Approx. 1.8 million of them grew up outside of the U.S.
  - Only about 20% know they have LTBI, and most have not been treated



CDPH

Source: NHANES

Most TB in California arises from progression of untreated LTBI



CDPH

Source: Reported Verified Cases of Tuberculosis (RVCT)

Slide credit: Pennan Barry

Summary

In California:

- TB case count remains stagnant
- TB deaths are increasing
- People born outside the U.S. bear the largest burden of TB
- There are marked disparities by race, ethnicity, and place of birth
- Comorbidities that increase risk and complicate treatment are common

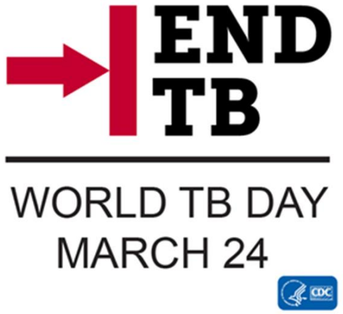
TB can be prevented with LTBI treatment!

Visit the California Department of Public Health website.

Epidemiology of Tuberculosis (TB) in Los Angeles County, CA, 2024

Epidemiology & Research Unit
Tuberculosis Control Program
April 23, 2025
Julie Higashi, MD PhD

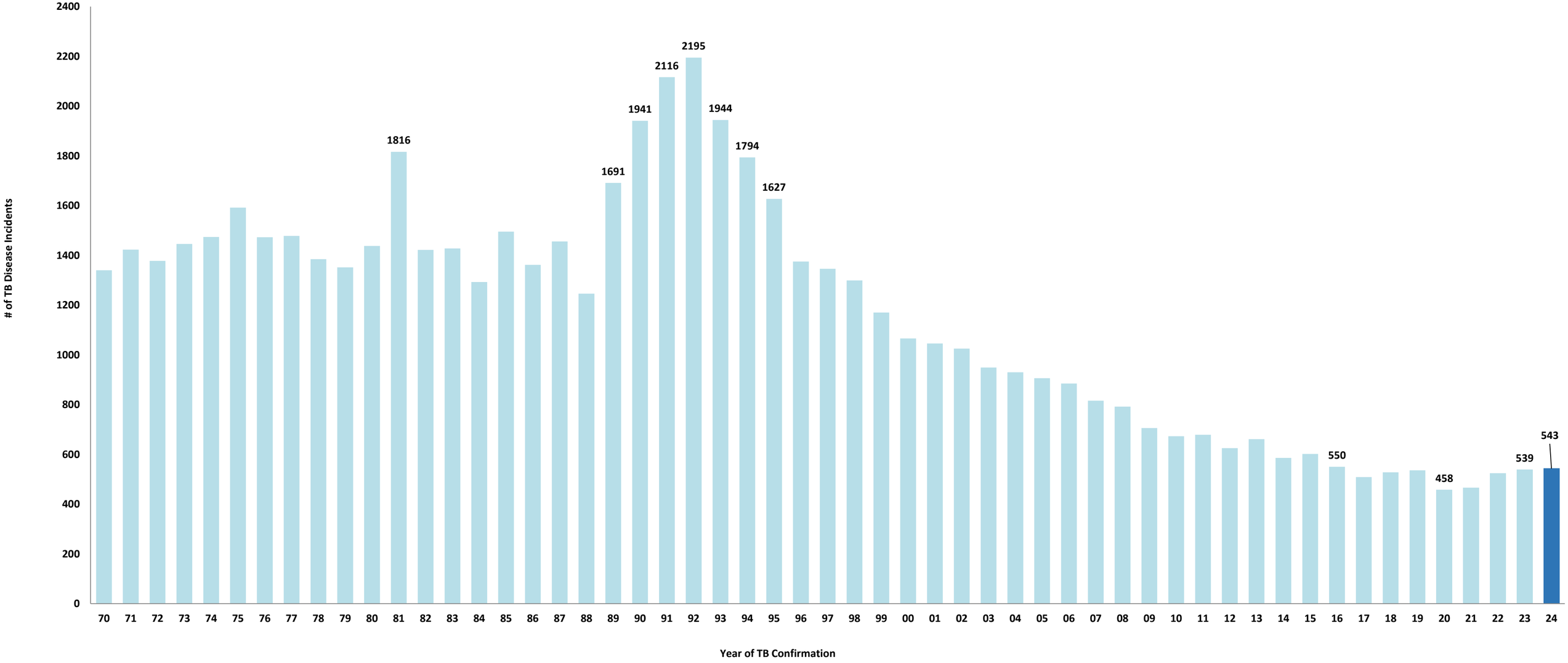
Acknowledgement



The information presented here represents the dedication and work of everyone in the Tuberculosis Control Program:

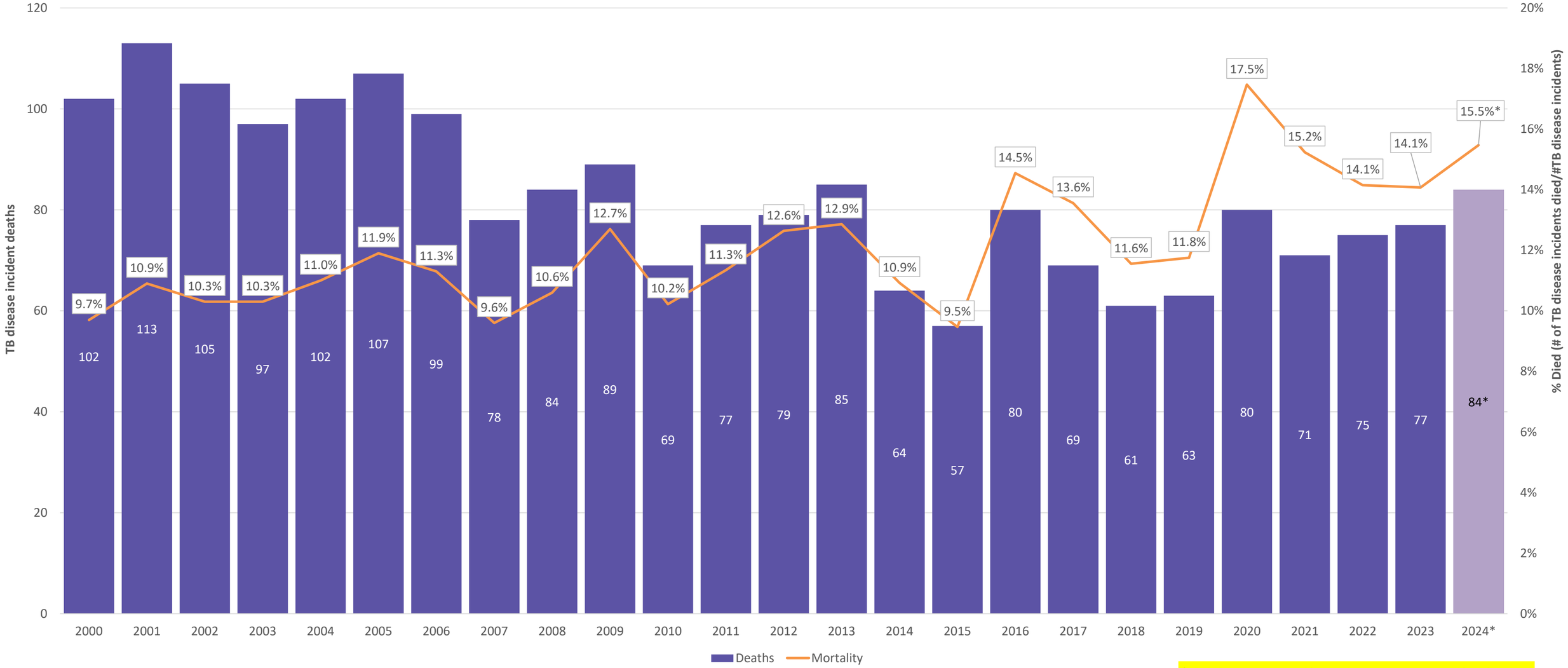
- the clinicians, nurses, and public health staff in the County clinics, districts, and health centers;
- the Public Health Laboratory;
- Public Health Information Services;
- and various community-based and private partners in the successful control and elimination of tuberculosis.

TB disease incidents in Los Angeles County (LAC) 1970-2024



Data exclude Pasadena and Long Beach TB disease incidents and are provisional to change. Based on TRIMS data and initial case count reported, updated March 13, 2025.

Mortality due to any cause among TB disease incidents , 2000-2024



*2024 mortality data are preliminary

Data exclude Pasadena and Long Beach TB disease incidents and are provisional to change. Based on TRIMS data, updated March 13, 2025.

TB disease incident rates in LAC RETURNED to pre-COVID pandemic levels

Tuberculosis Disease Incidents per 100,000 Population

Jurisdiction	2017-2019 median*	2020	2021	2022	2023	2024
Los Angeles County	5.2	4.5	4.7	5.3	5.5	5.5
California[1]	5.3	4.3	4.4	4.7	5.4	5.4
United States[2]	2.8	2.2	2.4	2.5	2.9	3.0

1.https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/TB-Disease-Data.aspx
2.https://www.cdc.gov/tb/statistics/default.htm

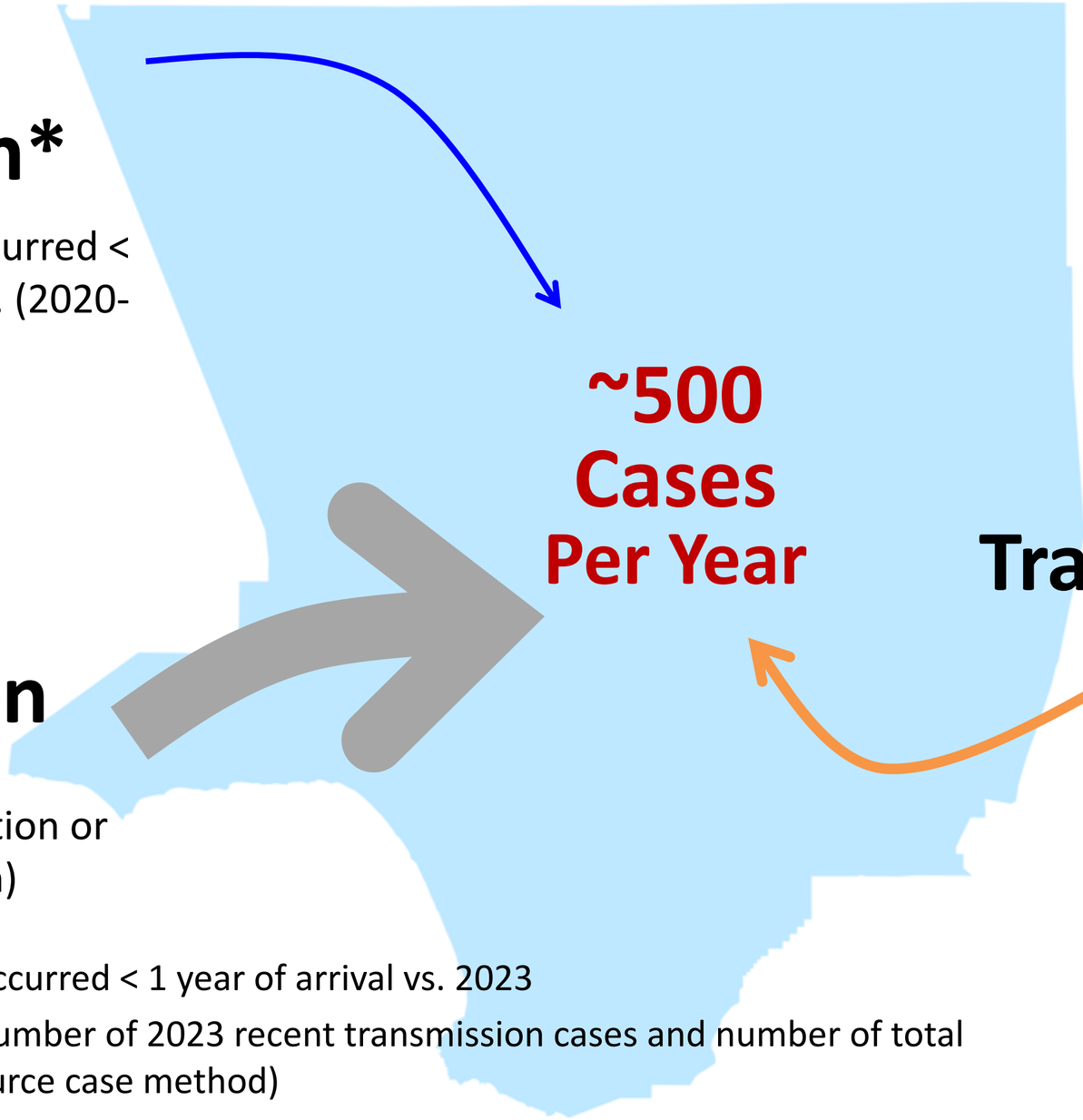
*The median number for 2017-2019 is used to represent the best estimate of the pre-COVID baseline and account for potential outliers.

How do TB disease incidents occur in Los Angeles?

County of Los Angeles Public Health

7% Importation*

177 of 2,529 cases occurred < 1 year of arrival in U.S. (2020-2024)



~500 Cases Per Year

12% Recent Transmission**

81% Progression

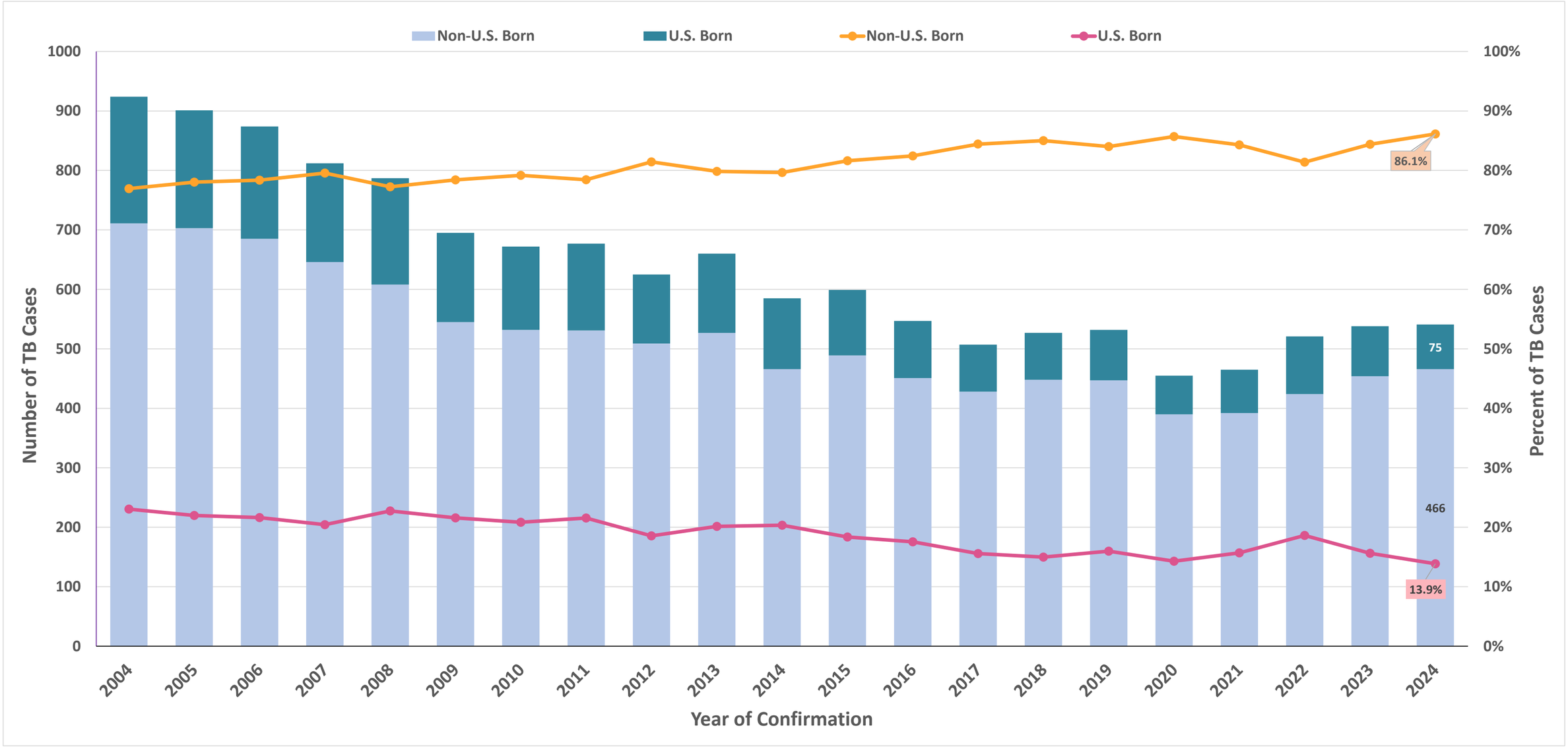
From TB infection
(cases not from importation or recent transmission)

*2024 saw a 22% increase in TB cases occurred < 1 year of arrival vs. 2023

**Preliminary estimate based on CDC number of 2023 recent transmission cases and number of total genotyped cases (not from plausible source case method)

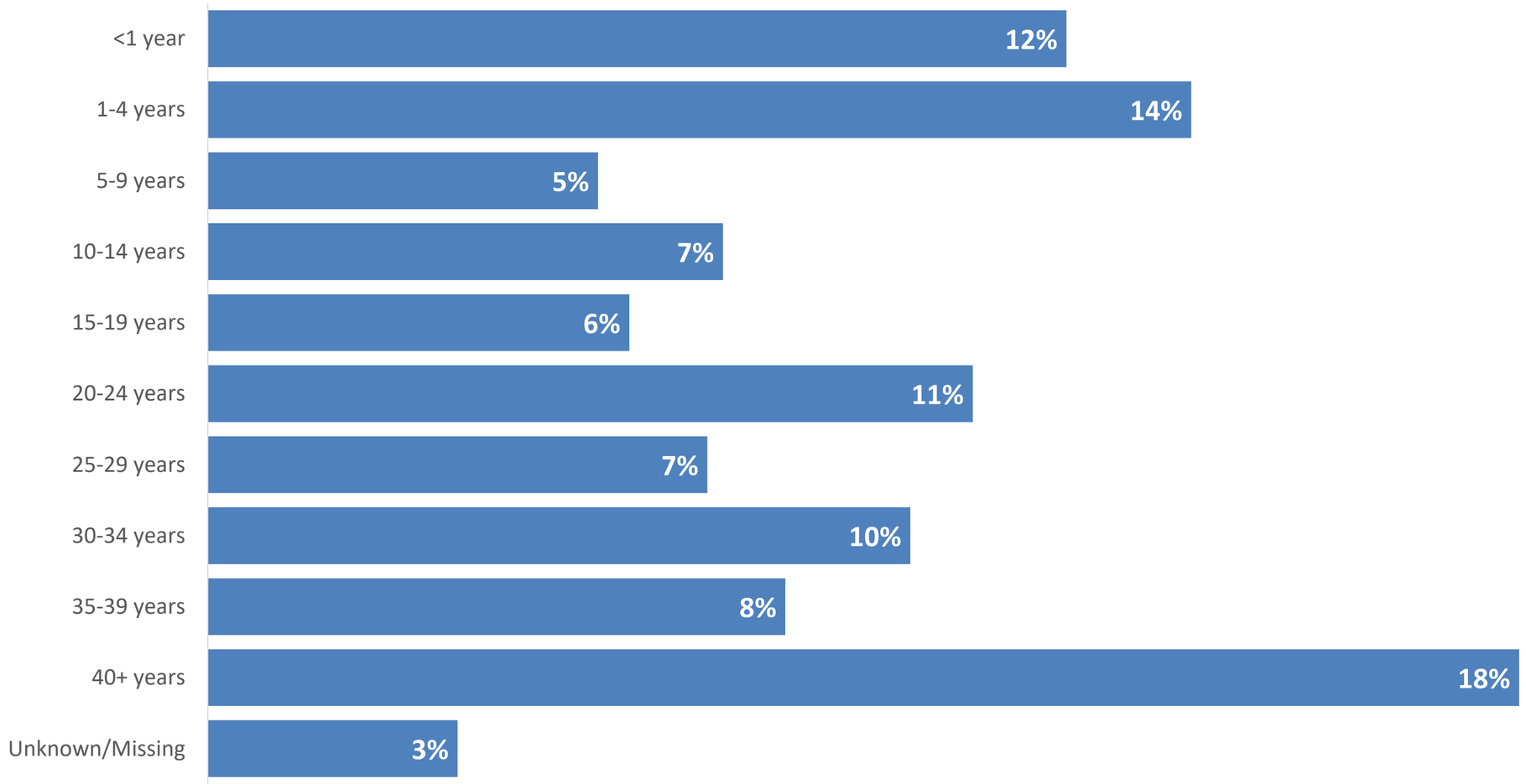
TB Disease Incidents: Characteristics and Trends

Nativity status for TB disease incidents, 2004-2024



Includes TB disease incidents with known place of birth. Data exclude TB disease incidents with unknown birthplace.
Data exclude Pasadena and Long Beach TB cases and are provisional to change. Based on TRIMS data, updated March 13, 2025.

Percentage of TB Disease Incidents Among Non-U.S.-Born Persons by Years Since Arrival in the United States Prior to Diagnosis, 2024



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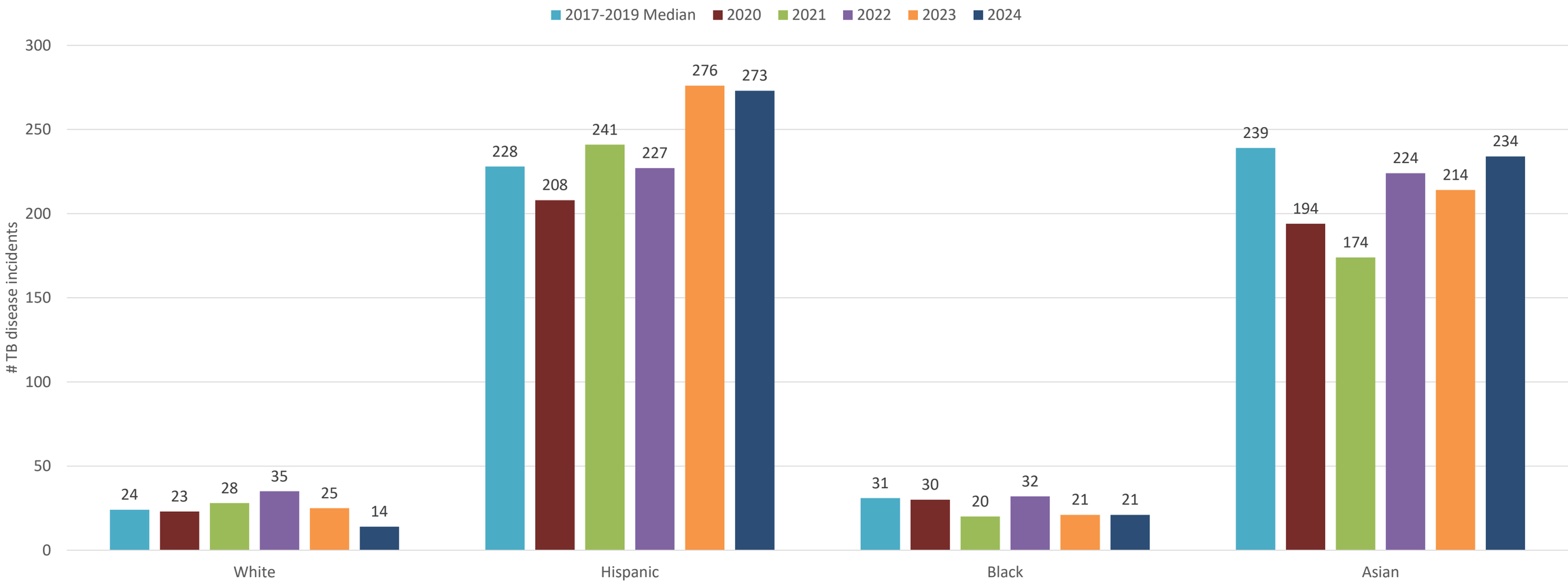
TB disease incidents by race/ethnicity (counts) 2017-2024

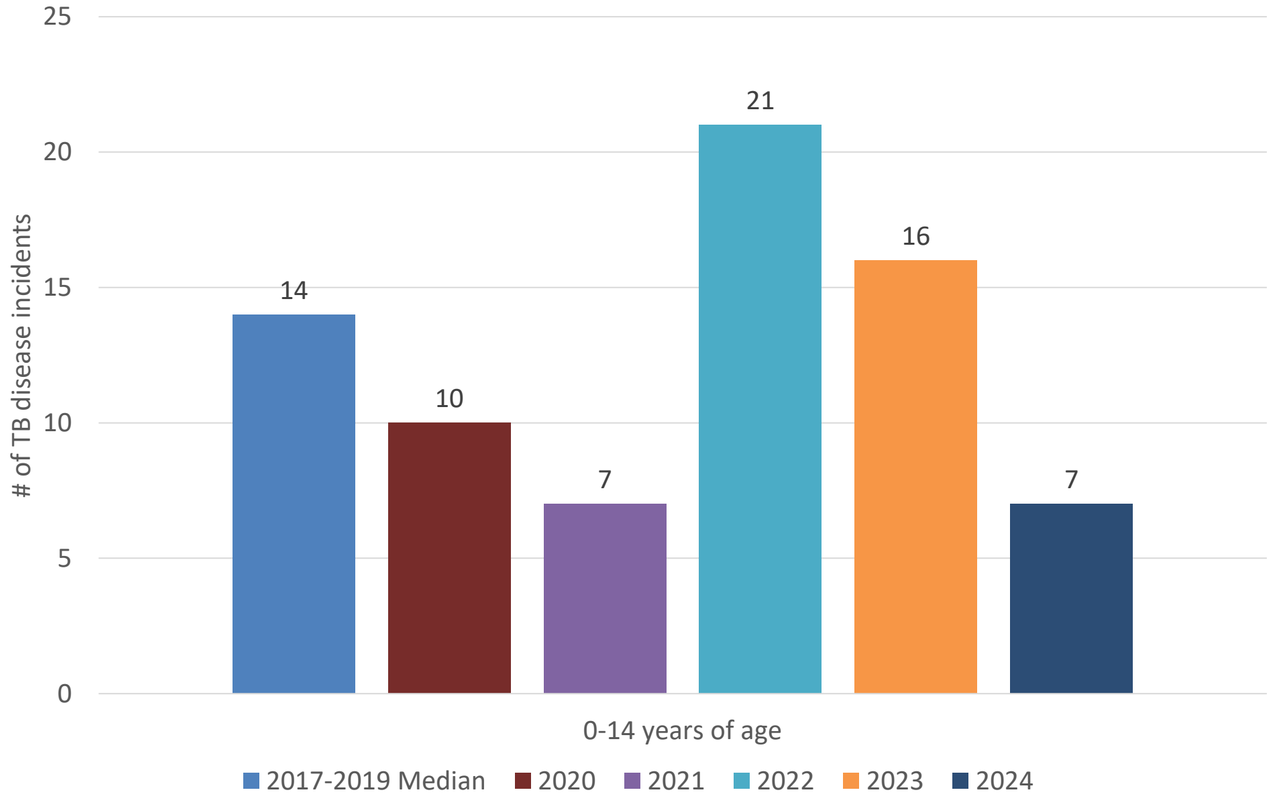


Data exclude Pasadena and Long Beach TB disease incidents and are provisional to change. Based on TRIMS data, updated March 13, 2025.

Note: American Indian/Alaska Native and Native Hawaiian/Pacific Islander categories not shown on the graph.
<5 TB disease incidents of American Indian/Alaskan Native race/ethnicity in 2017-2024.
<5 TB disease incidents of Native Hawaiian/Pacific Islander race/ethnicity in 2017-2024.

Pediatric (0-14 years of age) TB disease incidents, 2017-2024

2024 pediatric TB incidents were **56% LOWER** than in 2023.

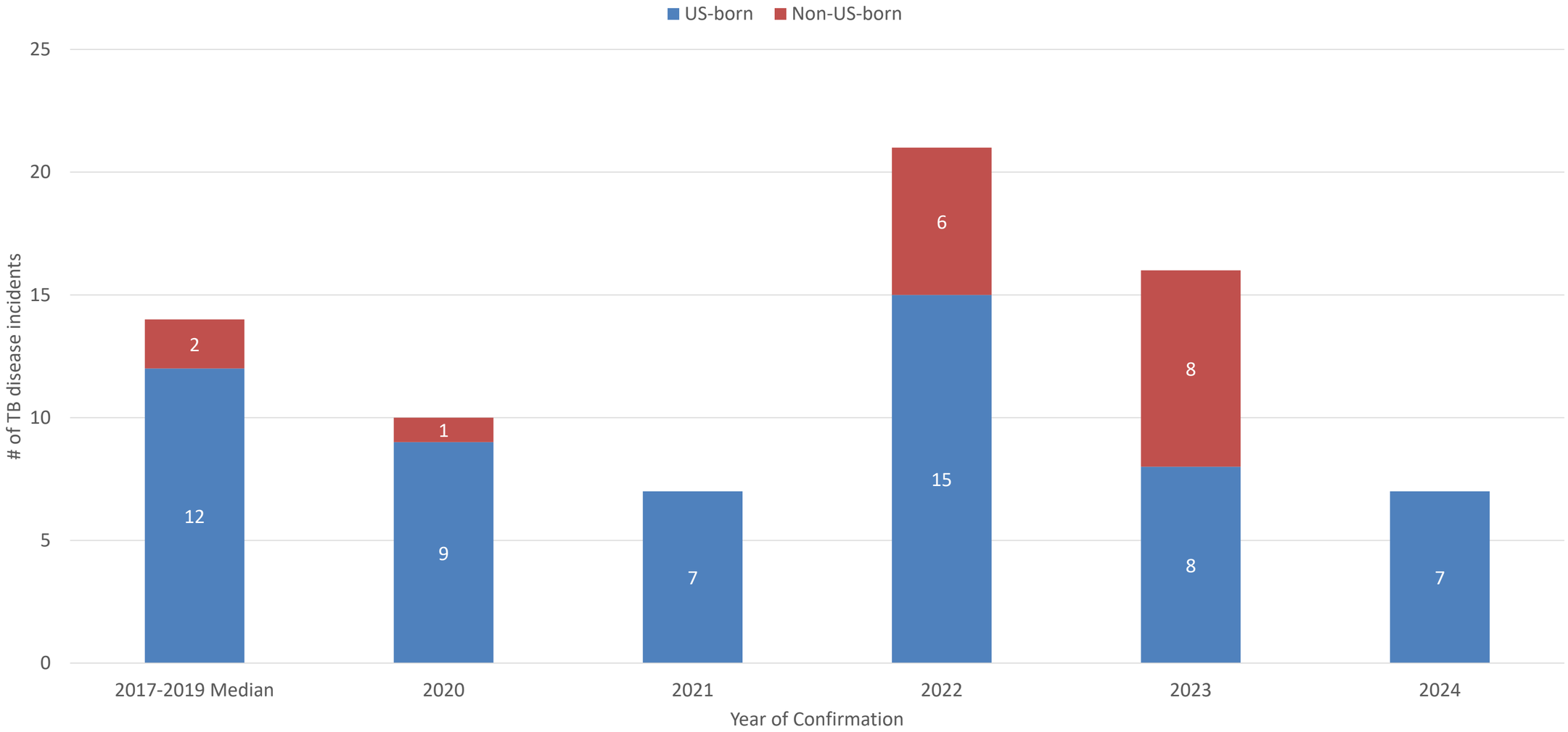


Pediatric TB disease incident characteristics

Year	% Microbiologically Confirmed	% Hispanic race/ethnicity
2017-2019 Median	47%	82%
2020	70%	50%
2021	29%	71%
2022	43%	81%
2023	63%	88%
2024	57%	86%

Note: Pediatric age group defined by TB surveillance conventions, not for clinical purposes.
Microbiologically confirmations include: positive culture, positive NAAT, positive smear/tissue.
Data exclude Pasadena and Long Beach TB disease incidents and are provisional to change. Based on TRIMS data and initial case count reported, updated March 13, 2025.

Pediatric (0-14 years of age) TB Cases by Nativity, 2017-2024



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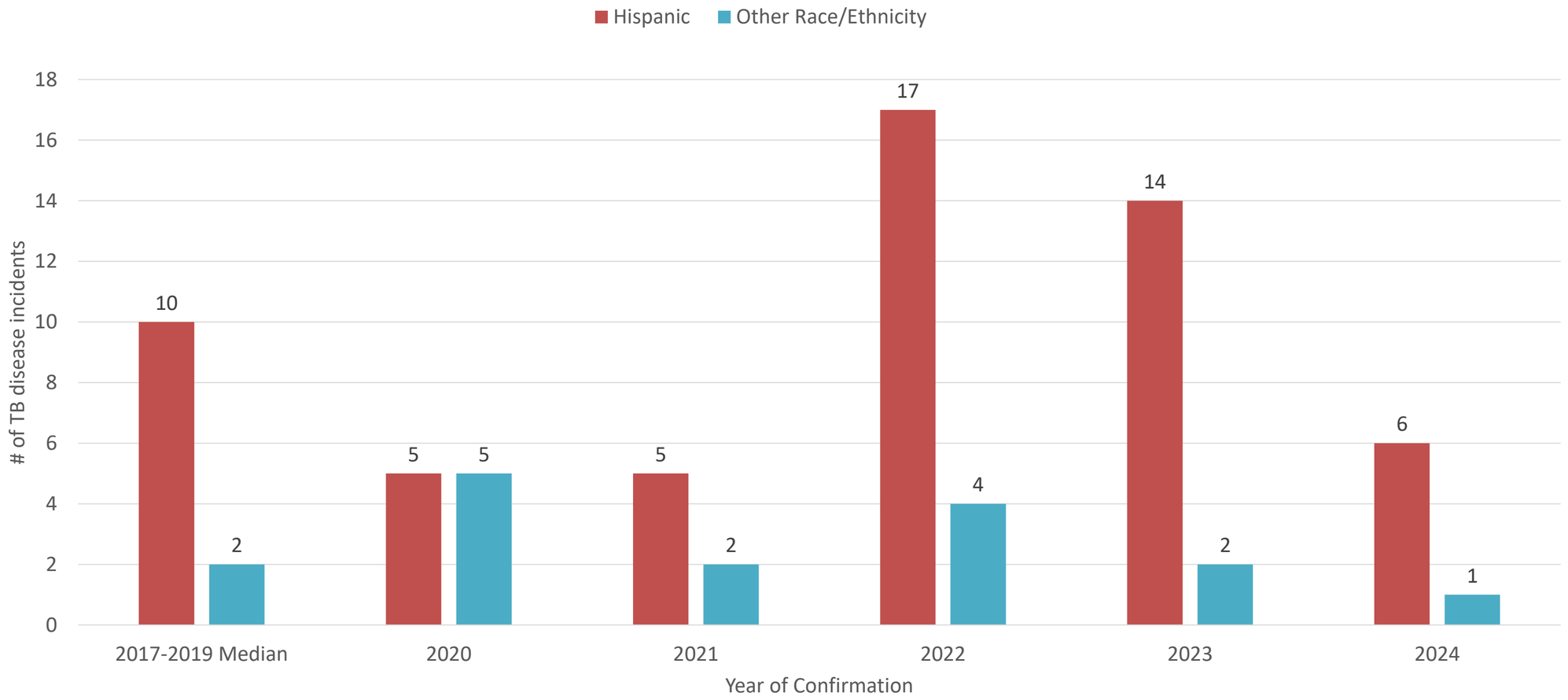
Pediatric (0-14 years of age) TB Cases by Race/Ethnicity, 2017-2024



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Summary Slide of 2024 TB Disease Incident Trends

- TB disease incidents in Los Angeles County and California have remained stable at pre-COVID levels for the second year in a row
- TB disease incidents in the Hispanic population of LA County have increased since 2020-2022
- After an abrupt increase in pediatric disease incidents in 2022, an indicator of local transmission, reported incidents in the last two years have decreased, and are concentrated in the Hispanic population
- TB mortality remains higher than pre-COVID, with the third consecutive annual increase in number of TB deaths.
- Scaling up diagnosis and treatment of TB infection is critical for maintaining progress toward TB elimination after the disruption of the COVID-19 pandemic

Questions

SAN DIEGO COUNTY TB ELIMINATION INITIATIVE (TBEI) COMMUNITY OF PRACTICE

April 23, 2025

Catherine Bender, MPH

TBEI Program Coordinator, County of San Diego TB and Refugee Health Branch

COUNTY OF SAN DIEGO
HEALTH AND HUMAN SERVICES AGENCY

LIVE WELL SAN DIEGO

San Diego County TB Elimination Initiative (TBEI)

What is the TBEI?

A Board of Supervisors approved, **public-private partnership,** launched in January 2020, to build a coordinated tuberculosis (TB) elimination framework in San Diego County.

TBEI Structure

Co-chairs
Dr. Ankita Kadakia, County of San Diego
Dr. Jeannette Aldous, San Ysidro Health

Advisory Task Force

TBEI Program Director
Catherine Bender, County of San Diego

Community of Practice

Co-chairs
Dr. Jeffrey Percak, County of San Diego
Dr. Richard Garfein, UCSD

Schools and Community Outreach Projects

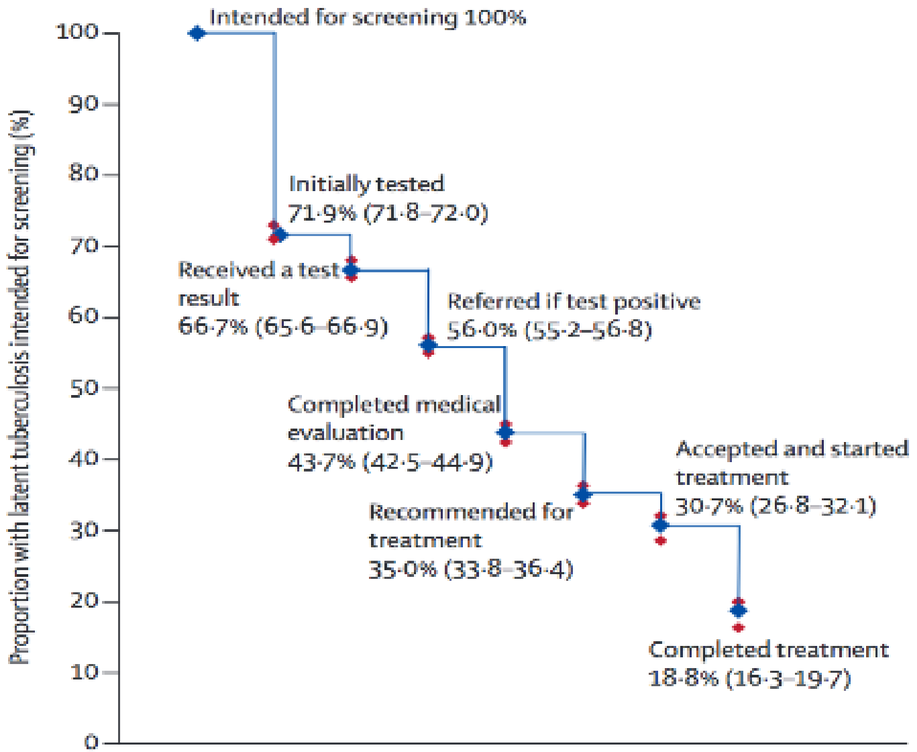
Facilitated by
County of San Diego and TBEI Members

TBEI COMMUNITY OF PRACTICE

TBEI Community of Practice

In October 2021, the TBEI formed a **Community of Practice (CoP)** to encourage the development and use of LTBI care cascades by healthcare organizations in the County.

- **Latent Tuberculosis Infection (LTBI) care cascades** describe the proportion of a population that has been screened for infection, received results, referred for diagnosis, evaluated for treatment, and started and completed treatment.
- **Attrition** in the LTBI care cascade highlights opportunities for intervention and provides data to evaluate the impact of quality improvement efforts.
- Many providers lack data, tracking systems, and/or expertise to create and use a LTBI care cascade.



Alsdurf H et al. Lancet ID, 2016

TBEI Community of Practice

The GOAL of the TBEI CoP is to move San Diego County forward in implementing LTBI care cascade best practices.

MEMBERS

Primary care, infectious disease, and pulmonary medicine providers, epidemiologists, quality leads from community clinics, health systems, health plans, universities, and state and local health departments

ROLES

1) Educate and encourage wider adoption of LTBI care cascade in healthcare settings throughout the County
2) Set individual goals for clinics
3) Be early adopters – share interventions and report back lessons learned
4) Share data from clinic LTBI care cascades
5) Encourage EHR enhancement needed to produce a care cascade

TBEI CoP Quarterly Meeting Format

- **Member and partner presentation(s)**
  - Patient demographics
  - Why they chose to improve LTBI care cascade
  - How they achieved buy-in for changes
  - How they approached improvement projects (e.g. workgroups established, stakeholders involved)
  - Baseline LTBI data
  - Resulting strategies and interventions to improve LTBI care cascade
  - Future plans
- **Working session – member round robin**
  - Sharing progress of LTBI care improvement plans and interventions
  - Raise questions and barriers for member input into potential solutions
- **Share existing and new tools and resources to address barriers**

TBEI Community of Practice – Growing Membership

Accomplishments Include:

- ✓ Advanced LTBI improvement initiatives at each site
- ✓ Expanded capacity to measure LTBI data - most members shared LTBI data
- ✓ LTBI Toolkit developed for provider and patient education
- ✓ Provider education implemented across all sites
- ✓ LTBI patient outreach across multiple sites
- ✓ Partnerships with CDPH, TB Free CA, and CDC

- American Pacific Health Foundation
- California Department of Public Health, TB Control
- County of San Diego TB Clinic, Pharmacy, and Behavioral Health Services
- CDC
- Children's Primary Care Medical Group
- Family Health Centers of San Diego
- Father Joe’s Villages
- Indian Health Council
- Kaiser Permanente
- La Maestra
- Opsam Health
- San Diego Family Care
- San Ysidro Health
- San Diego American Indian Health Center
- Scripps Health
- Sharp Community Medical Group
- Southern Indian Health Center
- TrueCare
- UCSD Health
- UCSD School of Public Health and School of Medicine
- Vista Community Clinic

TBEI Community of Practice Highlights

Advancing LTBI Improvement Initiatives

CoP members shared enhanced LTBI practices, data and interventions at quarterly meetings during member presentations and round robin, including:

- Provider education (presentations at primary care staff meetings and grand rounds).
- Presentations to quality improvement committees to begin LTBI improvement projects.
- EMR updates (include TB risk assessment at annual visit, provider notifications, treatment completion letters generated through EMR, decision support tools for treatment in EMR, best practice advisory, LTBI registry generated per EMR).
- Testing with IGRA instead of TST for patients at risk.
- Implementing LTBI care coordinators (to limit impact on primary care).
- Provide patient education materials in appropriate languages at primary care visits.
- Enhanced employee TB testing protocols with focus on LTBI treatment.
- Follow-up with women testing positive for LTBI during pregnancy to encourage LTBI treatment post-delivery.
- “All family” LTBI approach - reduce individual outreach.

TBEI Community of Practice Highlights

Expanding Capacity for LTBI Care Cascade Measurement

- **Baseline LTBI care cascade** measurement, and resulting interventions shared by 11 provider organizations.
- Many sites sharing ongoing **LTBI quarterly measurement** and addressing gaps.
- Development of new workgroups to focus on LTBI improvement after LTBI baseline measurement highlighted need for intervention.

TBEI Community of Practice Highlights

Enhancing Provider Education and Outreach

- **TBEI members presented LTBI care cascade education, strategies, and resources** to provider forums reaching over 300 providers in San Diego County each year since 2023
  - Primary care provider forums
  - County healthcare sector meetings
  - Health plan advisory committee meetings
  - In-person TB Prevention Education and Community Engagement Summit (2024)
- **World TB Day social media strategies and email messaging** to providers
- **TBEI Article** in San Diego Physician Magazine
- **LTBI tools and resources** developed and shared, including:
  - TBEI CoP provider education slide set
  - LTBI toolkit

Lessons Learned

- ✓ Engaging providers in a CoP helps build momentum and inspire members to focus on their LTBI care cascade.
  - Each member organization has different capacity for LTBI measurement and quality improvement strategies.
  - It is important for each member to assesses what is in their capacity to create change and best way to secure buy-in. **Both incremental and largescale changes make a difference** and start the quality improvement process.
  - Communication slides assist providers with seeking buy-in and getting started on identifying changes needed.
  - Access to EHR tools and template examples encourage provider willingness to explore enhancements.
  - Quarterly check-ins sharing member progress helps keep LTBI top of mind amidst other priorities.
- ✓ Individual meetings including provider education and learning about existing practices are helpful to engage new members.
- ✓ Providers need training to collect and use data for cascades.

Questions?

Thank you!

Catherine.Bender@sdcounty.ca.gov

Overview of K-12 School Entry Testing Requirements

Julie Higashi, MD PhD
Director, Tuberculosis Control Program
April 22, 2025

Recent Guidance on K-12 School Entry TB Screening in California

County of Los Angeles Public Health

CTCA Position on TB Evaluation of School-Age Children

2024 Update

Summary

The major benefits for screening are:

1. identifying students who would benefit from LTBI treatment
2. encouraging screening of families in which children have LTBI and
3. providing information about tuberculosis and promoting LTBI treatment

Summary of rationale for update to CTCA guidance regarding TB screening upon school entry:

A. The TB risk assessment process should promote equity for all students by encouraging families to engage with a primary care medical home for screening while not excluding

https://ctca.org/wp-content/uploads/CTCA-TB-Testing-of-SchoolAge9_24_2.pdf

Poll question

Please answer the poll question on screen:

Are you currently doing universal or risk-based testing?

K-12 School Entry Screening is a TB Elimination Activity

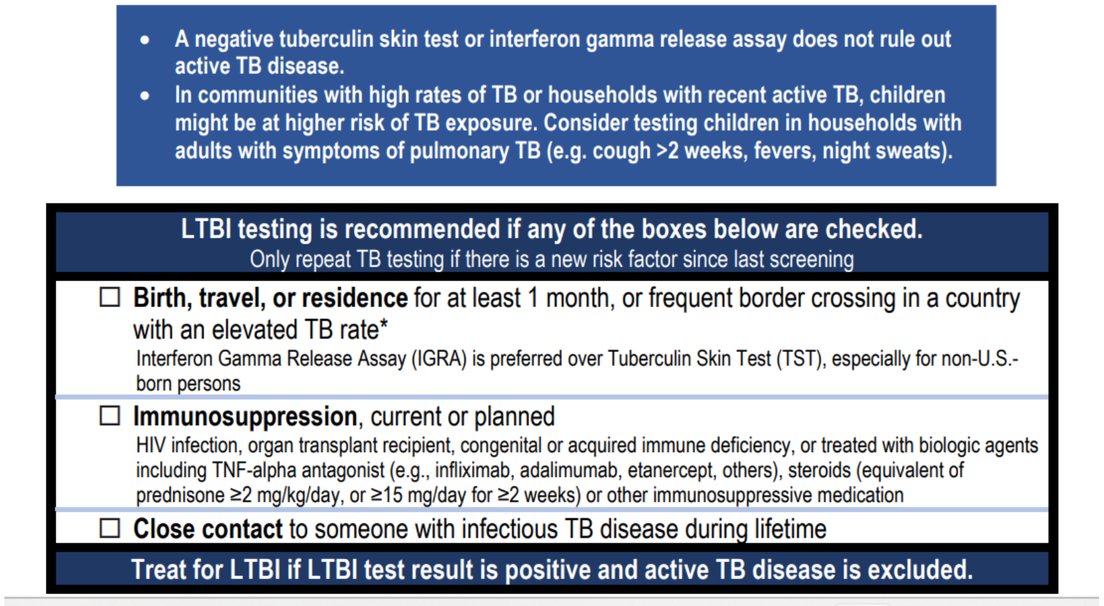
- K-12 school entry screening is determined by the local health officer - California Health and Safety Code 121475-121520
- Promotes health equity for children from at risk populations by supporting linkage to primary care and TB care
- Potential for higher impact in high morbidity areas
  - Identify students who would benefit from TB infection treatment
  - Encourage screening of families in which children have TB infection
  - Provide information about tuberculosis and promoting TB infection treatment
  - Provides baseline testing results for contact investigations following TB exposures in educational settings*

Poll question

Please answer the poll question on screen:

Have you had a TB exposure or contact investigation at your school in the last 2 years?

California Pediatric Tuberculosis Risk Assessment



- A negative tuberculin skin test or interferon gamma release assay does not rule out active TB disease.
- In communities with high rates of TB or households with recent active TB, children might be at higher risk of TB exposure. Consider testing children in households with adults with symptoms of pulmonary TB (e.g. cough >2 weeks, fevers, night sweats).

LTBI testing is recommended if any of the boxes below are checked.
Only repeat TB testing if there is a new risk factor since last screening

- ☐ **Birth, travel, or residence** for at least 1 month, or frequent border crossing in a country with an elevated TB rate*
  Interferon Gamma Release Assay (IGRA) is preferred over Tuberculin Skin Test (TST), especially for non-U.S.-born persons
- ☐ **Immunosuppression**, current or planned
  HIV infection, organ transplant recipient, congenital or acquired immune deficiency, or treated with biologic agents including TNF-alpha antagonist (e.g., infliximab, adalimumab, etanercept, others), steroids (equivalent of prednisone ≥2 mg/kg/day, or ≥15 mg/day for ≥2 weeks) or other immunosuppressive medication
- ☐ **Close contact** to someone with infectious TB disease during lifetime

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

- Children can complete risk assessment from 1 year prior to and up to after 90 days post school entry
- If risk identified by provider, TB test is done and if TB test positive, additional evaluation is completed
- No school exclusion if child is asymptomatic

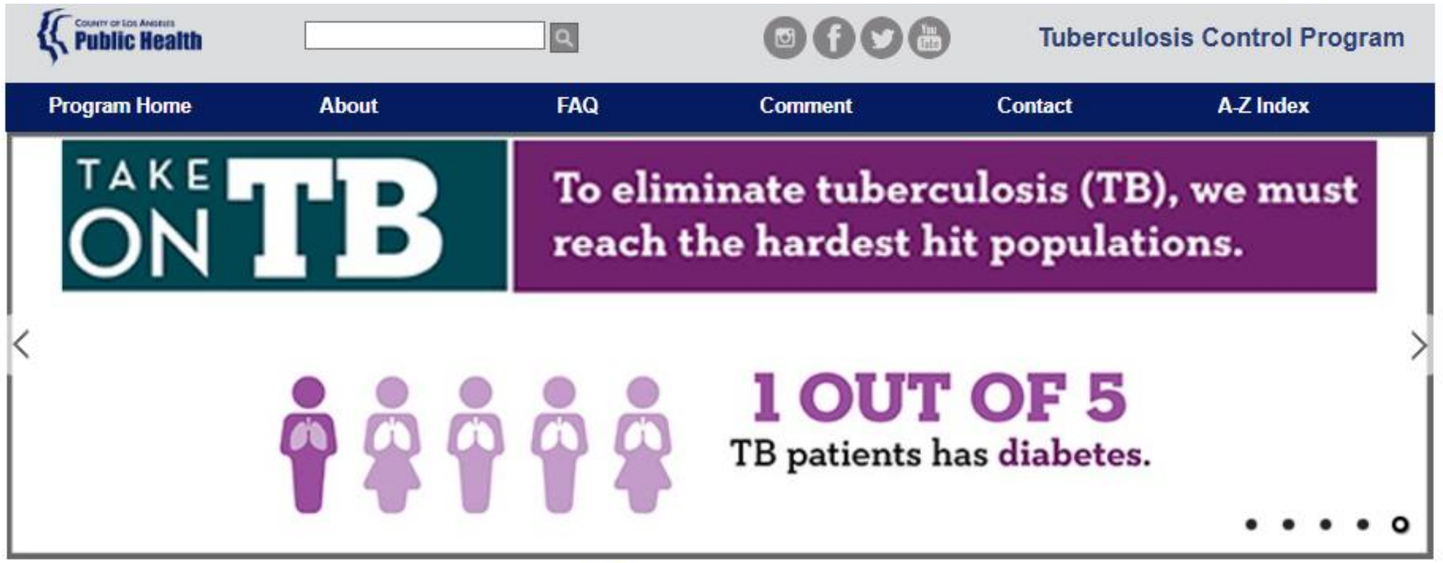
Costs and challenges for risk based TB screening

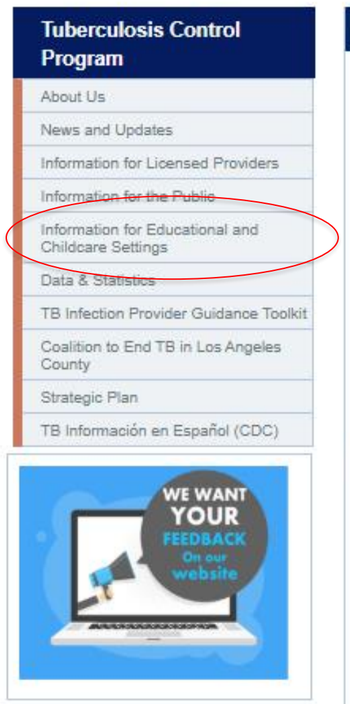
- Shift from universal screening to risk based screening takes resources to establish a clearance process for students with positive TB tests
- If the child has a positive TB test and is asymptomatic, they should not be excluded from school
- If a child has TB risks, a positive TB test and TB symptoms – report to local health department
  - Children < 10 years old are not considered to be infectious but should receive clinical care
  - Children > 10 years old should be excluded until medically cleared to return to school

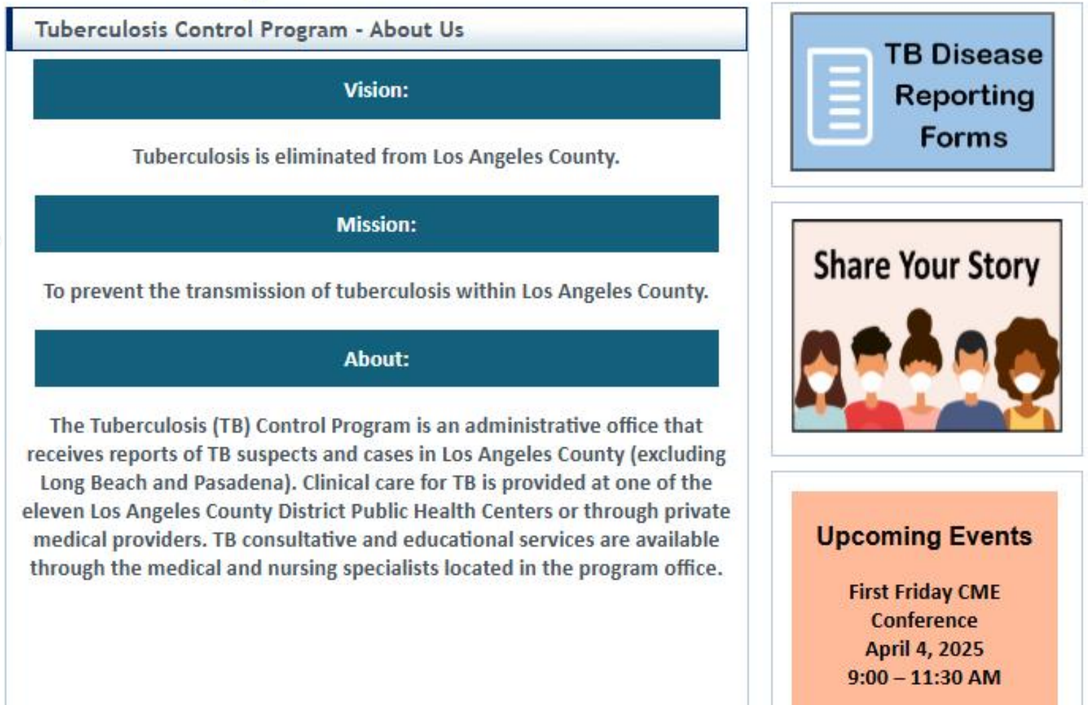
Poll question

Please answer the poll question on screen:

Are you excluding kids from school because they have not finished their TB testing?


Public Health
Tuberculosis Control Program
Program Home
About
FAQ
Comment
Contact
A-Z Index
TAKE ON TB
To eliminate tuberculosis (TB), we must reach the hardest hit populations.
1 OUT OF 5
TB patients has diabetes.

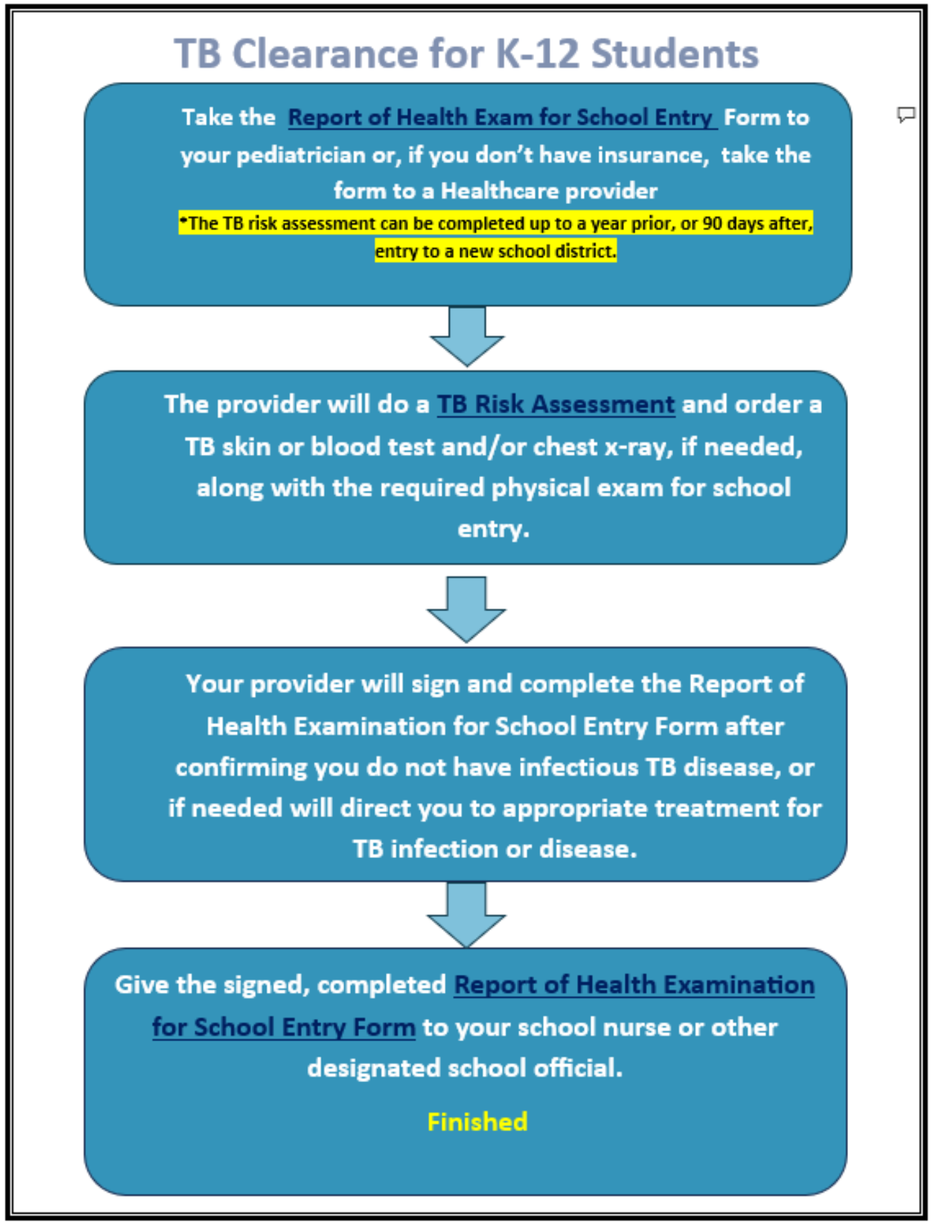

Tuberculosis Control Program
About Us
News and Updates
Information for Licensed Providers
Information for the Public
Information for Educational and Childcare Settings
Data & Statistics
TB Infection Provider Guidance Toolkit
Coalition to End TB in Los Angeles County
Strategic Plan
TB Información en Español (CDC)
WE WANT YOUR FEEDBACK On our website


Tuberculosis Control Program - About Us
Vision:
Tuberculosis is eliminated from Los Angeles County.
Mission:
To prevent the transmission of tuberculosis within Los Angeles County.
About:
The Tuberculosis (TB) Control Program is an administrative office that receives reports of TB suspects and cases in Los Angeles County (excluding Long Beach and Pasadena). Clinical care for TB is provided at one of the eleven Los Angeles County District Public Health Centers or through private medical providers. TB consultative and educational services are available through the medical and nursing specialists located in the program office.

TB Disease Reporting Forms
Share Your Story
Upcoming Events
First Friday CME Conference
April 4, 2025
9:00 – 11:30 AM

TB Program Website

K-12 school entry TB clearance process update



Take the Report of Health Exam for School Entry Form to your pediatrician or, if you don't have insurance, take the form to a Healthcare provider

*The TB Clearance process can be completed up to a year prior, or 90 days after entry to a new school district.

- A negative tuberculin skin test or interferon gamma release assay does not rule out active TB disease.
- In communities with high rates of TB or households with recent active TB, children might be at higher risk of TB exposure. Consider testing children in households with adults with symptoms of pulmonary TB (e.g. cough >2 weeks, fevers, night sweats).

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

Only repeat TB testing if there is a new risk factor since last screening

- ☐ **Birth, travel, or residence** for at least 1 month, or frequent border crossing in a country with an elevated TB rate*
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  HIV infection, organ transplant recipient, congenital or acquired immune deficiency, or treated with biologic agents including TNF-alpha antagonist (e.g., infliximab, adalimumab, etanercept, others), steroids (equivalent of prednisone ≥2 mg/kg/day, or ≥15 mg/day for ≥2 weeks) or other immunosuppressive medication
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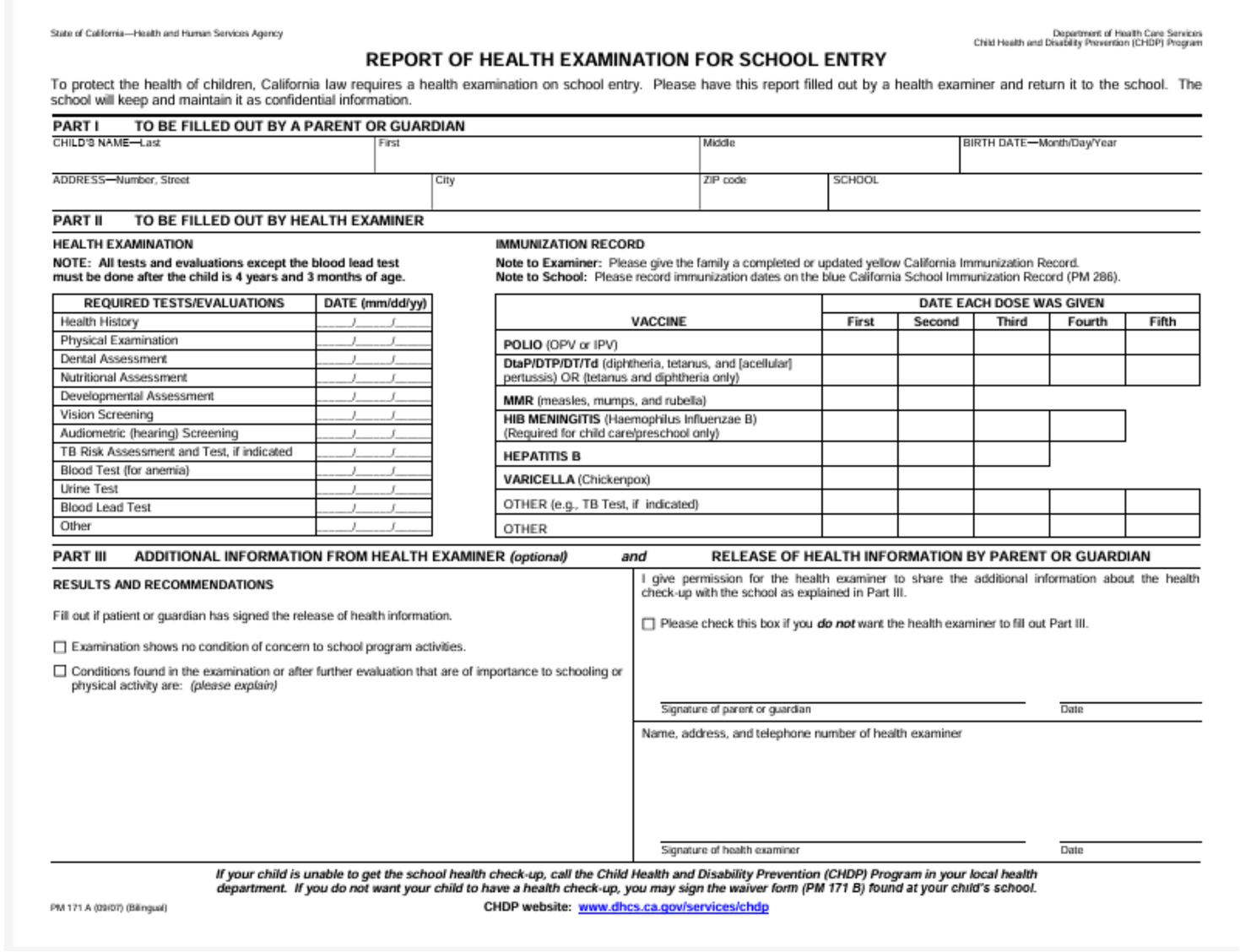
Treat for LTBI if LTBI test result is positive and active TB disease is excluded.

Report of Health Examination for School Entry



State of California—Health and Human Services Agency

Department of Health Care Services
Child Health and Disability Prevention (CHDP) Program

REPORT OF HEALTH EXAMINATION FOR SCHOOL ENTRY

To protect the health of children, California law requires a health examination on school entry. Please have this report filled out by a health examiner and return it to the school. The school will keep and maintain it as confidential information.

PART I TO BE FILLED OUT BY A PARENT OR GUARDIAN

CHILD'S NAME—Last	First	Middle	BIRTH DATE—Month/Day/Year

ADDRESS—Number, Street	City	ZIP code	SCHOOL

PART II TO BE FILLED OUT BY HEALTH EXAMINER

HEALTH EXAMINATION

NOTE: All tests and evaluations except the blood lead test must be done after the child is 4 years and 3 months of age.

REQUIRED TESTS/EVALUATIONS	DATE (mm/dd/yy)
Health History	____/____/____
Physical Examination	____/____/____
Dental Assessment	____/____/____
Nutritional Assessment	____/____/____
Developmental Assessment	____/____/____
Vision Screening	____/____/____
Audiometric (hearing) Screening	____/____/____
TB Risk Assessment and Test, if indicated	____/____/____
Blood Test (for anemia)	____/____/____
Urine Test	____/____/____
Blood Lead Test	____/____/____
Other	____/____/____

IMMUNIZATION RECORD

Note to Examiner: Please give the family a completed or updated yellow California Immunization Record.
Note to School: Please record immunization dates on the blue California School Immunization Record (PM 286).

VACCINE	DATE EACH DOSE WAS GIVEN				
	First	Second	Third	Fourth	Fifth
POLIO (OPV or IPV)					
DtaP/DTP/DT/Td (diphtheria, tetanus, and [acellular] pertussis) OR (tetanus and diphtheria only)					
MMR (measles, mumps, and rubella)					
HIB MENINGITIS (Haemophilus Influenzae B) (Required for child care/preschool only)					
HEPATITIS B					
VARICELLA (Chickenpox)					
OTHER (e.g., TB Test, if indicated)					
OTHER					

PART III ADDITIONAL INFORMATION FROM HEALTH EXAMINER *(optional)* ***and*** **RELEASE OF HEALTH INFORMATION BY PARENT OR GUARDIAN**

RESULTS AND RECOMMENDATIONS

Fill out if patient or guardian has signed the release of health information.

☐ Examination shows no condition of concern to school program activities.

☐ Conditions found in the examination or after further evaluation that are of importance to schooling or physical activity are: *(please explain)*

I give permission for the health examiner to share the additional information about the health check-up with the school as explained in Part III.

☐ Please check this box if you ***do not*** want the health examiner to fill out Part III.

Signature of parent or guardian — Date

Name, address, and telephone number of health examiner

Signature of health examiner — Date

If your child is unable to get the school health check-up, call the Child Health and Disability Prevention (CHDP) Program in your local health department. If you do not want your child to have a health check-up, you may sign the waiver form (PM 171 B) found at your child's school.

PM 171 A (09/07) (Bilingual)

CHDP website: www.dhcs.ca.gov/services/chdp

The provider will do a **TB Risk Assessment** and order a TB skin or blood test and/or chest x-ray, if needed, along with the required physical exam for school entry.

Report of Health Examination for School Entry

State of California—Health and Human Services Agency

Department of Health Care Services
Child Health and Disability Prevention (CHDP) Program

REPORT OF HEALTH EXAMINATION FOR SCHOOL ENTRY

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PART I TO BE FILLED OUT BY A PARENT OR GUARDIAN

CHILD'S NAME—Last	First	Middle	BIRTH DATE—Month/Day/Year

ADDRESS—Number, Street	City	ZIP code	SCHOOL

PART II TO BE FILLED OUT BY HEALTH EXAMINER

HEALTH EXAMINATION

NOTE: All tests and evaluations except the blood lead test must be done after the child is 4 years and 3 months of age.

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Health History	____/____/____
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Nutritional Assessment	____/____/____
Developmental Assessment	____/____/____
Vision Screening	____/____/____
Audiometric (hearing) Screening	____/____/____
TB Risk Assessment and Test, if indicated	____/____/____
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Urine Test	____/____/____
Blood Lead Test	____/____/____
Other	____/____/____

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MMR (measles, mumps, and rubella)					
HIB MENINGITIS (Haemophilus Influenzae B) (Required for child care/preschool only)					
HEPATITIS B					
VARICELLA (Chickenpox)					
OTHER (e.g., TB Test, if indicated)					
OTHER					

PART III ADDITIONAL INFORMATION FROM HEALTH EXAMINER *(optional)* ***and*** **RELEASE OF HEALTH INFORMATION BY PARENT OR GUARDIAN**

RESULTS AND RECOMMENDATIONS

Fill out if patient or guardian has signed the release of health information.

☐ Examination shows no condition of concern to school program activities.

☐ Conditions found in the examination or after further evaluation that are of importance to schooling or physical activity are: *(please explain)*

Chest x ray

I give permission for the health examiner to share the additional information about the health check-up with the school as explained in Part III.

☐ Please check this box if you ***do not*** want the health examiner to fill out Part III.

Signature of parent or guardian — Date

Name, address, and telephone number of health examiner

Signature of health examiner — Date

If your child is unable to get the school health check-up, call the Child Health and Disability Prevention (CHDP) Program in your local health department. If you do not want your child to have a health check-up, you may sign the waiver form (PM 171 B) found at your child's school.

PM 171 A (09/07) (Bilingual)

CHDP website: www.dhcs.ca.gov/services/chdp

Your provider will sign and complete the Report of Health Examination for School Entry Form after confirming you do not have infectious TB disease, or if needed will direct you to appropriate treatment for TB infection or disease.

Tuberculosis Clearance Form

This satisfies requirements in the California Education Code, and the California Health and Safety Code.

Certificate of Completion of Tuberculosis Risk Assessment and/or Examination

Date of TB risk assessment and/or examination: _____month/____day/_____year

First and Last Name of the patient assessed and/or examined: _____

Date of Birth: _____month/____day/_____year

The patient named above has submitted to a pediatric tuberculosis risk assessment. The patient does not have risk factors, or if tuberculosis risk factors were identified, the patient has had a TB skin test (TST) or TB blood test (IGRA), and chest x-ray (CXR) if indicated, and upon exam determined to be free of infectious tuberculosis. The patient is cleared to attend school.

Discussion points

Different Local Health Jurisdiction Policies

Implementation Needs

Interjurisdictional Coordination

Resources for Families

Resources for School Districts

Resources for Community Providers

Acknowledgements

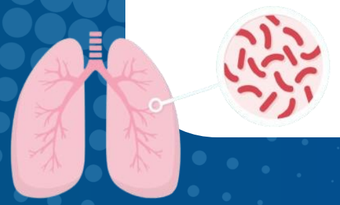
- California Tuberculosis Controller's Association
- California Department of Public Health Tuberculosis Control Branch
- Los Angeles County Tuberculosis Control Program
  - Health Education Team
  - Southern California COP Team
  - Contact Investigation Outbreak Team

SOUTHERN CALIFORNIA REGIONAL

COMMUNITY OF PRACTICE TO END TB

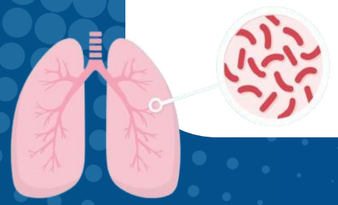
County of Los Angeles Public Health

GOAL: to foster collaboration and knowledge sharing among providers, clinics, healthcare systems, and other public health agencies to scale up the diagnosis and treatment of TB infection, improve patient outcomes, and strengthen community engagement across Southern California.



Discussion

1. What are you hoping to gain from participating in this Community of Practice?
2. What barriers to TB prevention have you experienced in your health care setting?
3. What are the opportunities for improvement in TB prevention activities in your healthcare setting?
4. Are there any tools, resources, or topics that you would like to see addressed through this Community of Practice?



SOUTHERN CALIFORNIA REGIONAL

COMMUNITY OF PRACTICE TO END TB

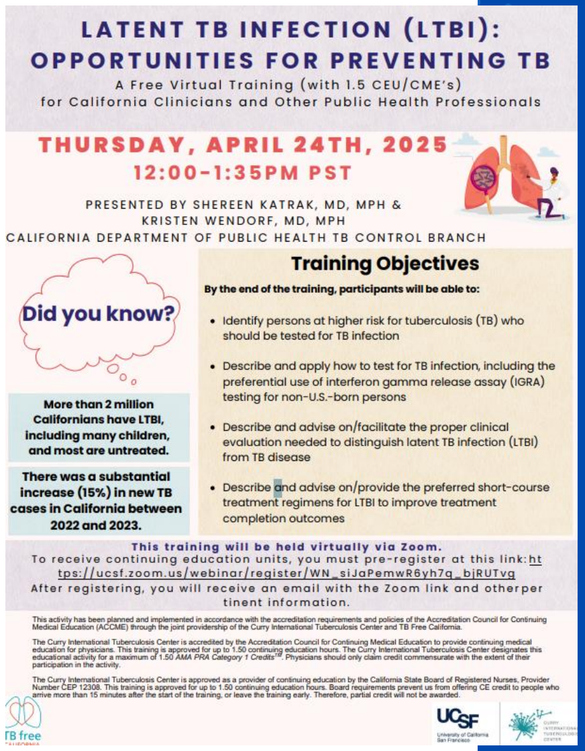
County of Los Angeles Public Health

Resources

- **Thursday, April 24, 2025 from 12:00-1:35PM PST - Latent TB Infection (LTBI): Opportunities for Preventing TB**
  - Free virtual training (with 1.5 CEU/CME's) for CA clinicians and other public health professionals
  - Hosted by TB Free California

- **Friday, May 30, 2025 from 9:00-11:00AM PST – Preventing TB in Your Clinical Setting**
  - Free virtual training (with 1.75 CEU/CME's) for PCPs and other public health professionals
  - Hosted by TB Free California

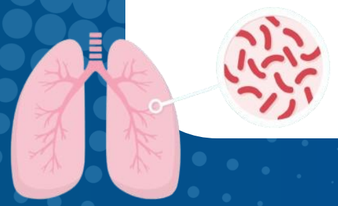
- **Available in May – Qiagen trainings to support California TB Screening Law AB 2132**
  - CME accredited, on-demand webinar with Dr. Thanassi and Mike Carson, discussing the reason for the law, the benefits to CA communities and best practices
  - CEU accredited, on-demand webinar for RN/NP/PA
  - Medical Assistant educational, recorded presentation on "How and Why" to ask risk screening questions



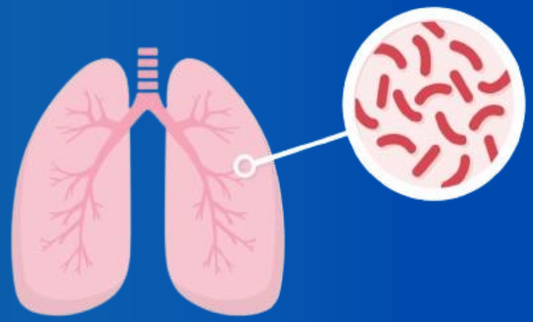
Future meetings

June (date TBD)	Partner presentations: Opportunities for EHR improvement LTBI and maternal health
August (date TBD)	TBD
October (date TBD)	Partner presentation: Clinical pharmacy-led LTBI clinic model

Topics and presenters subject to change



County of Los Angeles Public Health



SOUTHERN CALIFORNIA REGIONAL

COMMUNITY OF PRACTICE TO END TB

Thank you!