Tuberculosis Update 2019

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Communicable Disease Section
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Today’s Topics

- Geographical distribution
- TB statistics
- Differences between infectious TB disease and Latent TB
- Civil surgeon updates
- Latent TB
- Goals for TB Elimination
Today’s Topics

- TB Testing
- Latent Infection Treatment
- How and what to report to Public Health TB Control
TB in the United States

Tuberculosis incidence per 100,000 persons, 2017

Note: Based on cases reported to the National Tuberculosis Surveillance System.
Source: MMWR. 2018 Mar 23;67(11):317-23
TB Hotspots in San Bernardino County

- Rancho Cucamonga
- San Bernardino
- Ontario
- Loma Linda
San Bernardino County

TB Case County

<table>
<thead>
<tr>
<th>Year</th>
<th>Cases</th>
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</thead>
<tbody>
<tr>
<td>2014</td>
<td>52</td>
</tr>
<tr>
<td>2015</td>
<td>69</td>
</tr>
<tr>
<td>2016</td>
<td>68</td>
</tr>
<tr>
<td>2017</td>
<td>54</td>
</tr>
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<td>2018</td>
<td>56</td>
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What is TB?
Latent tuberculosis infection (LTBI) is the presence of *M. tuberculosis* organisms without signs and symptoms or radiographic or bacteriologic evidence of tuberculosis (TB) disease.1, 2
Latent TB Infection

- The TB bacteria is present in their body.
- The person is not sick.
- They cannot spread the bacteria to others.

TB Disease

- These people are sick.
- They usually have one or more of the classic TB symptoms.
- They can spread the infection to others.
In 2019, TB remains one of the world’s leading infectious disease killer

The US has comparatively low incidence of active TB

More than 2 million Californians are infected with latent TB

On average 1 in 10 will convert to active TB disease

About 80% of all TB cases in California arise from reactivation LTBI
What are our goals in TB?
Goals for TB Elimination

- TB elimination by 2100, a sustained annual decline of 3.9% is required
- Increases in LTBI testing and treatment completion would accelerate progress toward TB elimination
- Developing comprehensive and innovative approaches to diagnosing, treating, and monitoring LTBI
Priorities for TB elimination

- TB elimination will not be achieved without steadfast engagement among public health partners and sustained prevention and control programs.

- Several accepted treatment regimens are available for Latent TB Infection (LTBI)
Treatment for LTBI

- 9-months Isoniazid (INH) Regimen
  - Daily

- 12-Dose (3 months) Isoniazid and Rifapentine [RPT] Regimen
  - Once weekly

- 4-months Rifampin (RIF) Regimen
  - Daily
Technical Instructions

- **Highlights**
  - All applicants 2 years of age or older must have an IGRA test to determine immune response to M. tuberculosis antigens.
  - All applicants diagnosed with latent tuberculosis infection (LTBI) must be reported to the local health department.
Types of TB Testing

THE LAST 5 MINUTES OF EXAM
1. TST (Tuberculin Skin Test)
   • A TST is an acceptable alternative in settings where an IGRA is unavailable, too costly, or too burdensome.

2. IGRA (Interferon-Gamma Release Assays)
   • Recommended for individuals 5 years or older
Mantoux: TB skin test, tuberculin skin test, and PPDs

- Use a tuberculin Syringe
- TST is an intradermal injection
- Apply 0.1 ml of mantoux solution into the inner surface of the forearm
- Goal is to make a wheal
- Gloves are not required
Reading TST
Positive TST Results

≥ 5 mm of induration

• Known or suspected to have HIV infection
• Recent contacts to an active case of pulmonary or laryngeal TB
• Fibrotic changes seen on chest radiograph consistent with TB
• Immunosuppressed individuals

≥ 10 mm of induration

• Individuals with no known underlying conditions
Screening for Tuberculosis

IGRA  Interferon-Gamma Release Assays

Blood Tests for TB Infection

- QuantiFERON®-TB Gold
- T-SPOT®.TB test (T-Spot)
U.S. Preventive Services Task Force recommends testing for TB as a part of standard preventive care for certain at-risk groups

- Populations at increased risk for LTBI include persons who were born in, or are former residents of, countries with increased tuberculosis prevalence.

- Persons who live in, or have lived in, high-risk congregate settings (e.g., homeless shelters and correctional facilities)

CDC recommends treatment of LTBI to reduce the number of persons developing TB disease
High Risk Populations

- Persons with silicosis, diabetes mellitus, chronic renal failure, gastric bypass
- Contacts to active cases
- People with weaken immune system
- People who have symptoms of TB disease
- People who live or work where TB disease is more common
- People who use illegal drugs
How to Report?

911 WHAT YOUR EMERGENCY

THIS THING CALLED MY TAIL IS FOLLOWING ME
Health care providers can submit a report of a TB infection, such as a positive skin tuberculin test or interferon-Gamma Release Assay (IGRA) using a Confidential Morbidity Report (CMR).

Any active or suspect cases must be reported using the forms outlined in “Report a Case of Tuberculosis” section. These types of cases will not be accepted on a CMR form.
How to Report

- Fax all records and completed forms to (909) 387-6377.

- Follow up with a phone call to one of our TB nurses at (800) 722-4794.

- For additional questions go to http://wp.sbccounty.gov/dph/programs/cds/emerging-diseases/
Resources

- Visit the Centers for Disease Control website for updated information
  [www.cdc.gov/tuberculosis](http://www.cdc.gov/tuberculosis)

- Visit the California Department of Public Health website for information
  [www.cdph.ca.gov/programs/tuberculosis](http://www.cdph.ca.gov/programs/tuberculosis).

- Visit the San Bernardino Public Health Department general information

- CTCA-California Tuberculosis Controllers Association
  [www.ctca.gov](http://www.ctca.gov)

- SNTC-Southeastern National Tuberculosis Center
  [www.sntc.medicine.ufl.edu/](http://www.sntc.medicine.ufl.edu/)
Resources

- https://academic.oup.com/cid/article/64/2/111/2811357
- https://www.huffingtonpost.in/urvashi-prasad/busting-five-popular-misc_b_8210240.html
- https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/TB-Disease-Data.aspx

- NIH – National Institute of Health
- NTCA - National Tuberculosis Controllers Association
- Stewart RJ et al. MMWR 2018 Mar 23;67(11):317-23
Questions?
San Bernardino Department of Public Health Disease Control Section

Phone number: 1-800-722-4794