Tuberculosis Update 2018

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April 24th, 2018 and May 9th, 2018
Today’s Topics

- Geographical distribution
- TB case rate and Statistical trends
- Differences between TB disease and TB infection
- TB Myths and Misconceptions
- Latent Infection Impact on TB Elimination
- Goals for TB Elimination
- Available Tests and Techniques
- Some recommendations and guidelines
- 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
- Fontana
- Loma Linda

Sources: Esri, HERE, DeLorme, Intermap, IGD, IMAQUA, NGA, UCGS, NRCAN, GEBCO, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, Mapmyindia, and the GIS User Community.
San Bernardino County compared to CA

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TB Case Rate Per 100,000 Population

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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
**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.
TB Myths

- Anyone over 30 years old should not be treated for LTBI
- Newly arrived immigrant are at higher risk for disease
- All TB patients are infectious
- TB is easy to catch and highly infectious
- You can’t get TB more than once
- TB is just a lung disease
In 2018, TB remains 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
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)
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
Screening for Tuberculosis

**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)
New Recommendations

- 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
Other Recommendations

- Persons with silicosis, diabetes mellitus, chronic renal failure, gastric bypass
- Contacts to active cases
- People with weaken immune system ¹
- People who have symptoms of TB disease ²
- People who live or work where TB disease is more common ³
- People who use illegal drugs
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
- There are certain restrictions for each of these regimen
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.
Health care providers must report **suspected** or **confirmed cases** of TB to the Tuberculosis Control Program. using the forms (Initial TB case report form) outlined in “Report a Case of Tuberculosis” section within 24hrs.

**These types of cases will not be accepted on a CMR form**

- Please follow the [TB Health Facility Discharge Planning Guidelines](#) for your hospitalized or clinic patients.

- 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.
Resources

- Visit the Centers for Disease Control website for updated information
  www.cdc.gov/tuberculosis

- Visit the California Department of Public Health website for information
  www.cdph.ca.gov/programs/tuberculosis.

- Visit the San Bernardino Public Health Department general information
  http://wp.sbcounty.gov/dph/programs/cds/

- CTCA-California Tuberculosis Controllers Association
  www.ctca.gov

- SNTC-Southeastern National Tuberculosis Center
  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?
Tuberculosis Control

- **Call-in number:** 1-800-722-4794
- **Fax:** (909) 387-6377
- **Email:** Oteiko@dph.sbcounty.gov