Colorado Tuberculosis Elimination

Tavia Mirassou-Wolf, MPH
Training and Education Coordinator
Colorado Department of Public Health and Environment
Icebreaker
Objectives:

• Gain knowledge on TB and the Colorado TB elimination plan
• Understand key tactics for engaging multi-disciplinary stakeholders to implement initiatives aimed at improving public health outcomes
• Apply tools for engaging multi-disciplinary stakeholders in your unique setting
TB is a Global Problem

In 2017:
• #1 infectious disease killer globally
• 10 million people became sick with TB disease
• 1.6 million TB-related deaths; surpassing HIV/AIDS
• In the U.S., 9,105 TB cases were reported

*Source: WHO Global TB Report 2018*
What is Tuberculosis?

- Infectious bacterial disease
- No effective vaccine
- Treatable with antibiotics
- Serious if not treated in time
- Usually affects the lungs

Doctors Without Borders Video (2 min. 30 sec): https://www.youtube.com/watch?v=UOVnqqPgftc
How is TB spread?

Millions of tuberculosis germs can be in the lungs of an infectious person.
## Infection Vs. Disease

<table>
<thead>
<tr>
<th>Latent TB Infection</th>
<th>Active TB Disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have no symptoms</td>
<td>I may have symptoms—cough, fever, weight loss, night sweats</td>
</tr>
<tr>
<td>My chest x-ray is normal*</td>
<td>My chest x-ray may be abnormal</td>
</tr>
<tr>
<td>I am not infectious</td>
<td>I could infect other people when I cough, laugh, sing or speak</td>
</tr>
<tr>
<td>I have a positive result on the TB skin test or blood test</td>
<td>I may have a positive result on tests of my sputum</td>
</tr>
<tr>
<td>The TB germs are “sleeping” in my body but could “wake up” in the future</td>
<td>The TB germs have “woken up”</td>
</tr>
</tbody>
</table>

Source: [http://www.scdhec.gov/Health/docs/TBInfectionvsTBDisease.pdf](http://www.scdhec.gov/Health/docs/TBInfectionvsTBDisease.pdf)
What Causes TB Germs to ‘Wake Up’?

5-10 percent of people infected with TB will develop TB disease in their lifetime.

Factors increasing risk of progression:
- HIV + (26-31x)
- Diabetes (3x), kidney disease, or cancer
- Surgery to remove part of stomach
- Organ transplant
- Lifestyle factors that weaken the immune system
- Medications that affect the immune system
Local Response to the Global Crisis of Tuberculosis
History of Tuberculosis in Colorado

• Dry air, even temperature and continuous sunshine
• “Colorado is the mecca of consumptives”
• Between 1880 and 1890 three major studies supported the benefits of Colorado’s climate in treating TB

• 67-70% clinical improvement in tubercular patients who came to the state
• By 1925, an estimated 60% of the population had come seeking a TB cure

Denver History Minute Video (1 min. 30 sec.): https://www.youtube.com/watch?v=r3IGXHTpO7c
Modern Woodmen of America - Historical Tuberculosis Sanatorium video (40 seconds): https://www.youtube.com/watch?v=ydD4k6iiF5M
Risk Factors for TBD: Colorado 2018

- Birth in one of 30 Highest TB-Burden Countries: 38%
- Diabetes: 13%
- Excess Alcohol: 9%
- Homelessness: 6%
- Resident of a Correctional Facility: 3%
- Non-Injection Drug Use: 2%

Note: A TB patient may have more than one risk factor indicated. Percentages may not equal 100%.
Countries of Origin: Active TB Cases in Colorado

- Mexico: 16 (25%)
- United States: 14 (22%)
- India: 7 (11%)
- Viet Nam: 7 (11%)
- South Korea: 4 (6%)
- Philippines: 2 (3%)
- China: 2 (3%)
- Nepal: 2 (3%)
- Other: 10 (16%)

*Other countries: Afghanistan-1, Cambodiab-1, Central African Republicb-1, Cuba-1, Ethiopiab-1, Indonesiab-1, Laos-1, Nigeriab-1, Pakistanb-1, Somalia-1
Active TB Cases in Colorado

Number of cases

- 1999: 88
- 2000: 97
- 2001: 138
- 2002: 104
- 2003: 111
- 2004: 127
- 2005: 124
- 2006: 111
- 2007: 103
- 2008: 85
- 2009: 71
- 2010: 70
- 2011: 64
- 2012: 74
- 2013: 73
- 2014: 64
- 2015: 64
- 2016: 64
- 2017: 64
- 2018: 84

Linear Trendline (Number of Tuberculosis Cases)
Cases by County
Colorado TB Elimination Plan
TB Elimination Plan Goals:

1. Find and engage people at risk for TB infection
2. Test people at risk
3. Ensure access to and completion of treatment
4. Focus efforts to prevent TB transmission – Create systematic support
5. Tailor communications
6. Monitor progress to evaluate effective use of limited public health resources
TB Elimination Plan Goals: CO

Colorado TB Elimination Plan

1. Find and engage individuals and populations at risk for TB infection.
2. Test those at risk for TB infection so individuals know their status.
4. Create systematic support for TB prevention.
5. Tailor communication messages to key groups.
6. - Integrate emerging technologies
   - Evaluate programmatic effectiveness
Public health can’t do it alone...

REACH
Paradigm Shift

OH WOW! PARADIGM SHIFT!

OLD WAYS WON'T OPEN
NEW DOORS
In Colorado

Targeted Testing

Check appropriate risk factor boxes below.
LTBI testing is recommended if any of the 4 boxes below are checked.
If LTBI test result is positive and active TB disease is ruled out, LTBI treatment is recommended.

☐ Birth or foreign travel of ≥ 1 month consecutively in a country/countries with an elevated TB rate.
  - Includes countries other than the United States, Canada, Australia, New Zealand, or Western and North European countries.
  - Interferon Gamma Release Assay is preferred over Tuberculin Skin Test for foreign-born persons.
  - Note: Doctors may make individual decisions based on the information supplied by the individual during the evaluation. Individuals who have traveled to TB-endemic countries for the purpose of medical or health tourism for less than one month may be considered for further screening based on the risk estimated during the evaluation.

☐ Medical conditions increasing risk for progression to TB disease.
  Radiographic evidence of prior healed TB, low body weight (10% below ideal), silicosis, diabetes mellitus, chronic renal failure or on hemodialysis, gastrectomy, jejunoileal bypass, solid organ transplant, head and neck cancer.

☐ Immunosuppression, current or planned.
  HIV infection, injection drug use, 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.
Design Thinking

How many ways can you use a brick?
Partnerships

- Partnership Yes’s
- Partnership No’s

- Examples of partnerships that already exist that could be leveraged for TBE work
- Partnerships that can be formed to support TBE work (or other cross-cutting public health work) in your own county or region.
Example of TBE Partnerships

- Work with FQHC
- Agencies that work with individuals experiencing homelessness
- Universities
- CBOs who serve individuals at risk for TB infection
Get Involved

- TBE meetings
  - September 5th, 3:00-4:00pm
- Further TBE discussions
- Enhanced Case Management
  - Monthly, 3rd Third Thursday 12:00pm-1:00pm
- Regional trainings
- Check out our [website](#) and calendar of events
Thank You!

Questions?

Tavia.mirassou-wolf@state.co.us