Tuberculosis Update: Impact of COVID-19 Pandemic

Julie Higashi, MD PhD
Immediate Past President, National TB Controller’s Association
Director, Tuberculosis Control Program
Los Angeles County Department of Public Health

TB Transmission is Airborne

- TB germs are spread through the air from one person to another
- When someone who is sick with TB disease coughs, laughs, sneezes, or sings and another person inhales their TB germs

Natural History of TB

- 90% Remain latently infected
- 5% Progression to active TB disease “Reactivation”
- Of those infected, 5% develop “primary” active TB disease
- Most people complete treatment. About 10% are diagnosed after death or die during treatment
- Not everyone who is exposed to TB develops TB infection
Natural History of TB: Impact of Concurrent COVID-19

- Not everyone who is exposed to TB develops TB infection.
- 30% remain latently infected.
- Of those infected, 5% develop "primary" active TB disease.
- Most people complete treatment. About 10% are diagnosed after death or die during treatment.

Los Angeles County in the Nation

In 2019, only California, Texas, New York State, and Florida had more TB cases than LA County.

- California: 2113 cases
- Texas: 1159 cases
- Los Angeles: 536 cases
- Florida: 558 cases

TB in Los Angeles County 2020

<table>
<thead>
<tr>
<th></th>
<th>2020 n</th>
<th>Average (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug resistant TB</td>
<td>56 (1)</td>
<td>83 (1)</td>
</tr>
<tr>
<td>Deaths</td>
<td>16% (1)</td>
<td>12%</td>
</tr>
<tr>
<td>Reports of TB Disease</td>
<td>462 (1)</td>
<td>532</td>
</tr>
<tr>
<td>TB Evaluations</td>
<td>1550 (1)</td>
<td>2664</td>
</tr>
<tr>
<td>Contacts</td>
<td>1514 (1)</td>
<td>2859</td>
</tr>
<tr>
<td>TB Infection</td>
<td>708,640*:</td>
<td>*estimated latent TB infection 2019</td>
</tr>
</tbody>
</table>
A Decrease in TB Disease: Why?

- COVID-19 mortality
- Immigration halted
- Reduced access to healthcare services
- Resources diverted to COVID-19 care
  - Olive View Medical Center TB unit diverted to COVID-19
  - DPH Chest Clinics reduced – 3 closed, 6 open
- Ambulatory Clinic safety concerns
  - Healthcare Clinic – reduced or telehealth
  - Sputum induction services reduced
- Transportation services reduced
- Field services reduced
  - Contact tracing
  - Case management nonadherent patients
- Patient Fear/Stigma
  - Refused/postponed evaluation

Neglected TB Program Activities in 2020
Slowed or Reversed Progress

- Time to link infectious patients to clinical care: from days to weeks
- Time to evaluate people who had high risk exposures: from days to weeks and months OR not done
- Outbreak response: weekly TB screenings in people experiencing homelessness (PEH) to monthly screenings or suspended
- Limited inpatient specialty care: medically fragile with prolonged treatment interruption or default, higher mortality

TB and COVID-19 Affected Patients in Los Angeles County: Cases and Mortality
TB and COVID-19 disproportionately affect the same communities in LAC

Overlap in neighborhoods that are hotspots for TB and COVID-19 offer opportunities for delivering coordinated TB/COVID-19 care and investing in community partnerships to improve health equity.

TB programs played a vital role in the COVID-19 response

- Subject matter expertise
  - Airborne transmission, infection prevention
  - Contact tracing
  - Outbreak response
  - Cultural competency
  - Clinical care
  - Legal intervention
  - Medical education (6 CME/CEU, 90% had COVID-19 educational content)

- Infrastructure
  - Telehealth equipment
  - Vendor contracts
  - Public Health Clinics (negative pressure rooms, sputum induction)
  - Public Health Pharmacy
  - TB housing, incentives/enablers

- Field services
  - Nursing
  - Patient transportation
  - Public health investigation

LAC TB program recovery and post COVID-19 response

- Recover staff assigned to COVID-19 response
- Restore capacity supporting core program activities
  - case management
  - contact tracing
  - completion of treatment of TB disease and TB infection
- Evaluate the gaps in core program activities and measure the impact of COVID-19 on disease outcomes and TB transmission
- Re-engage and re-evaluate patients lost to follow up
- Re-purpose COVID-19 infrastructure to advance TB control and elimination
- Rebuild TB infrastructure to control and eliminate TB
How You Can Help Stop TB!

1. Join the House TB Caucus
2. Support CDC domestic & USAID global TB funding
   - Support funding for TB infection/prevention
3. Bera-Young Comprehensive TB Elimination Act
4. Support TB research & development
   - Urge Biomedical Advanced Research & Development Authority (BARDA) to support and streamline TB R&D
   - Encourage NIAID and CDC to expand TB research

Acknowledgements

- Epidemiology Section
  - Ramon Guevara, PhD
  - Edward Lai
  - Josephine Yumul
  - Vilma Contreras
- Shom Dasgupta, MD FAAP
- LAC Acute Communicable Diseases Program
- California Department of Public Health TB Control Branch
  - Jennifer Flood, MD, MPH
  - Scott Nabity, MD, MPH

Thank you!

- House TB Elimination Caucus and Senate Leadership
  - Representative Ami Bera
  - Representative Don Young
  - Senator Sherrod Brown