CureTB
Treating Tuberculosis (TB) Across Borders

Summer Institute on Migration and Global Health

June 19, 2018

Kathleen Moser, MD

U.S. – Mexico Unit

CDC, Division of Global Migration and Quarantine
Conflicts and Disclaimer

- No conflicts to disclose

- The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.
MIGRATION & TUBERCULOSIS: A Pressing Issue
ADDRESSING TUBERCULOSIS AMONG MIGRANTS: FOUR KEY BUILDING BLOCKS FOR ACTION
Four Building Blocks

1. Measurement and analysis of TB burden among migrants
2. Robust migrant-sensitive health systems for an effective TB response
3. Intersectoral policy and legal frameworks—Health-in-all-policies approach
4. Networks and multi-country partnerships with common goals
Four Building Blocks

1. Measurement and analysis of TB burden among migrants
2. Robust migrant-sensitive health systems for an effective TB response
3. Intersectoral policy and legal frameworks—Health-in-all-policies approach
4. Networks and multi-country partnerships with common goals
Reported Tuberculosis (TB) Cases
United States, 1982–2016*

*As of June 21, 2017.
Number of TB Cases Among U.S.-Born versus Non-U.S.–Born Persons, United States, 1993–2016*

*As of June 21, 2017.

*As of June 21, 2017.
Percentage of Non-U.S.-Born Persons Among TB Cases, United States,* 2006 and 2016

2006

2016

*As of June 21, 2017.

DC, District of Columbia; NYC, New York City (excluded from New York state)
Countries of Birth Among Non-U.S.—Born Persons Reported with TB, United States, 2016

*Percentages are rounded; as of June 21, 2017.
Percentage of Non-U.S.–Born Persons with TB, by Time of Residence in U.S. Before Diagnosis, 2016*

* As of June 21, 2017.
† Non-U.S.–born persons for whom information on length of residence in the United States before diagnosis is unknown or missing.
“Transfers Out”

- In 2015, 2.5% (241) of patients in the US with newly diagnosed TB patients were reported as having “moved” of the country before completing therapy.
  - They went to 50 destination countries.

42. Moved

Did the patient move during TB therapy? (select one)  □ No  □ Yes

If YES, moved to where (select all that apply):

□ In state, out of jurisdiction (enter city/county) Specify ___________________________ Specify ___________________________

□ Out of state (enter state) Specify ___________________________ Specify ___________________________

□ Out of the U.S. (enter country) Specify ___________________________ Specify ___________________________

If moved out of the U.S., transnational referral? (select one)  □ No  □ Yes
Four Building Blocks

1. Measurement and analysis of TB burden among migrants
2. Robust migrant-sensitive health systems for an effective TB response
3. Intersectoral policy and legal frameworks—Health-in-all-policies approach
4. Networks and multi-country partnerships with common goals
Cure TB

1997
CureTB starts in San Diego County TB program as a collaboration with sister city of Tijuana

2013
CureTB expands to routinely include all Latin America

2016
Joins CDC’s Division of Global Migration and Quarantine (DGMQ) and expands to all countries, becoming transnational

2017
Formal agreement with US Immigration and Customs Enforcement (ICE) to link outbound persons to care
Cure TB

Services provided by CureTB for all health departments and correctional partners

Referral of patients with active tuberculosis*
Any country

Source case finding
Mexico

Contact notification
Mexico

Clinical history request
Mexico and Central America

*Verified or possible TB in a person moving outside the United States and needing <30 days of treatment
CureTB elements

- Receive referral from originating provider/jurisdiction
- Interview patient by telephone to develop rapport, educate, assist
- Send accurate and up-to-date clinical information to downstream provider, state, national level
- Maintain communication with patient and health system until linked to care
- Determine treatment outcome and notify originating jurisdiction

Continuously motivate the patient by maintaining contact
Public health partners: See below to download and submit notification forms. Contact CureTB (CureTB@cdc.gov) for more information.

<table>
<thead>
<tr>
<th>For Referrals (except from California)</th>
<th>For California Referrals CureTB.org</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FAX</strong></td>
<td>404-471-8905</td>
</tr>
<tr>
<td><strong>E-MAIL</strong></td>
<td><a href="mailto:curetb@cdc.gov">curetb@cdc.gov</a></td>
</tr>
<tr>
<td><strong>PHONE</strong></td>
<td>(619) 542-4013</td>
</tr>
</tbody>
</table>
Four Building Blocks

1. Measurement and analysis of TB burden among migrants
2. Robust migrant-sensitive health systems for an effective TB response
3. Intersectoral policy and legal frameworks—Health-in-all-policies approach
4. Networks and multi-country partnerships with common goals
CureTB is part of CDC’s toolbox

- Division of TB Elimination
- Division of Global Migration and Quarantine
- Division of Global HIV and TB

Domestic Mobile populations International
CureTB is within the US-Mexico Unit (USMU) quarantine region.
Immigration (ICE) partnership

Figure 1. Patient review flow and key outcomes

Nicole Boardman, et al. An Active Tuberculosis Surveillance Program for ICE Detainees: Summary of the First Eight Months, NTCA 2018
Four Building Blocks

1. Measurement and analysis of TB burden among migrants
2. Robust migrant-sensitive health systems for an effective TB response
3. Intersectoral policy and legal frameworks—Health-in-all-policies approach
4. Networks and multi-country partnerships with common goals
2017 TB referrals  
n=254

<table>
<thead>
<tr>
<th>Country</th>
<th>Referral</th>
<th>Country</th>
<th>Referral</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mexico</td>
<td>115</td>
<td>Eritrea</td>
<td>2</td>
</tr>
<tr>
<td>Honduras</td>
<td>31</td>
<td>Afghanistan</td>
<td>1</td>
</tr>
<tr>
<td>Guatemala</td>
<td>12</td>
<td>Congo</td>
<td>1</td>
</tr>
<tr>
<td>Haiti</td>
<td>10</td>
<td>Cuba</td>
<td>1</td>
</tr>
<tr>
<td>Philippines</td>
<td>8</td>
<td>Dominican Republic</td>
<td>1</td>
</tr>
<tr>
<td>United States</td>
<td>6</td>
<td>Ghana</td>
<td>1</td>
</tr>
<tr>
<td>India</td>
<td>5</td>
<td>Indonesia</td>
<td>1</td>
</tr>
<tr>
<td>China</td>
<td>4</td>
<td>Iran</td>
<td>1</td>
</tr>
<tr>
<td>Ecuador</td>
<td>4</td>
<td>Japan</td>
<td>1</td>
</tr>
<tr>
<td>Guinea</td>
<td>4</td>
<td>Kenya</td>
<td>1</td>
</tr>
<tr>
<td>Nepal</td>
<td>4</td>
<td>Laos</td>
<td>1</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>3</td>
<td>Liberia</td>
<td>1</td>
</tr>
<tr>
<td>Brazil</td>
<td>3</td>
<td>Mali</td>
<td>1</td>
</tr>
<tr>
<td>El Salvador</td>
<td>3</td>
<td>Mongolia</td>
<td>1</td>
</tr>
<tr>
<td>Peru</td>
<td>3</td>
<td>Myanmar</td>
<td>1</td>
</tr>
<tr>
<td>Cameroon</td>
<td>2</td>
<td>Nicaragua</td>
<td>1</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>2</td>
<td>Nigeria</td>
<td>1</td>
</tr>
<tr>
<td>Pakistan</td>
<td>2</td>
<td>Panama</td>
<td>1</td>
</tr>
<tr>
<td>Senegal</td>
<td>2</td>
<td>Republic of Congo</td>
<td>1</td>
</tr>
<tr>
<td>Thailand</td>
<td>2</td>
<td>St.Kitts</td>
<td>1</td>
</tr>
<tr>
<td>The Gambia</td>
<td>2</td>
<td>Swaziland</td>
<td>1</td>
</tr>
<tr>
<td>Venezuela</td>
<td>2</td>
<td>Togo</td>
<td>1</td>
</tr>
<tr>
<td>Vietnam</td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Challenges and Strategies

- **Planning for movement**
  - Advance planning is helpful
  - Patients often prefer private physicians
  - May be distant from a main city/health center

- **Accurate medical information is key**
  - Details of TB care and documentation
  - Non-infectious patients may not be recognized as needing care
  - Important to clarify why patient on non-standard regimen and any adverse reactions/side effects
Challenges and Strategies

- **Ensuring medication adherence**
  - Not all countries have equivalent DOT
  - Not all countries have same availability of medications (Rfb) or formulations (fixed-dose combinations) or ready supply
  - Drugs for resistant strains may take time to receive at local level

- **Partnerships**
  - National TB Programs, International Health Regulation country contacts, CDC partners
  - State and jurisdictional partners
CureTB - Mexico NTP case reviews

- Follow up to harmonize outcomes and reporting
- Discuss difficult cases or specific barriers to continuity of care
Patient-centered care

Civil society
Family
Primary provider
National TB Programs
Correctional facilities
Health department

= Treatment success
Securing successful outcomes takes collaboration across borders

Figure 2. Outcomes of verified TB referrals to CureTB by year of referral (n=437), 2012–2015. Overall, most of the verified patients (76%) completed treatment.
Travel after release from custody

- 30-year-old man entered a border state and was apprehended.
- TB diagnosed in custody
- Fully susceptible strain
- Released back to Mexico after non-infectiousness was established
  - Did not live in border area
  - CureTB facilitated transport and linkage to care
Husband and wife

- Nicaraguan husband and wife diagnosed with infectious TB
  - Couple wanted to return to Nicaragua to comply with visa expiration
- Health department wanted them to stay in United States due to infectiousness
  - Temporary travel restriction
- CureTB spoke with the couple to clarify situation and link them to care upon return to Nicaragua
- Both started treatment in United States and completed in home country
Mother with drug resistant TB

- Young woman visiting from Asia delivered baby in the United States
  - Mother diagnosed with TB at delivery
  - Molecular results consistent with drug resistant TB
  - Woman suddenly left United States with her infant
- Patient could not be located and was placed on federal public health travel restriction
  - CureTB located her via National TB Program (NTP) and patient started on TB treatment
  - Followed until met criteria for travel restriction removal
Everyone is somewhere
Patient-centered care

Patient = Treatment success
Acknowledgements

**CDC/DGMQ/USMU**
- Carlos Vera-Garcia
- Manuel Ramirez
- Claudia Alexander
- Sonia Montiel
- Omar Duran

**San Diego TB Control**
- Rebeca Zurek
- Margarita Brooks
- Susannah Graves
- Christine Murto
Questions?

For more information please contact Centers for Disease Control and Prevention

1600 Clifton Road NE, Atlanta, GA 30333
Telephone: 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348
Visit: www.cdc.gov | Contact CDC at: 1-800-CDC-INFO or www.cdc.gov/info

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.