THE STATE OF TUBERCULOSIS,
NEW YORK CITY 2015

Joseph Burzynski, MD, MPH
Assistant Commissioner
Bureau of Tuberculosis Control

Core TB Control Activities

• Screen for, diagnose & treat TB in our Chest Centers
• Ensure patients receive the best possible care and can complete treatment (case management, medical consultation)
• Prevent transmission and identify those who need treatment (contact investigation, outbreak detection)
• Maintain a registry of confirmed and suspected cases and contacts
• Conduct analysis and evaluation to inform best practices
• Collaborate with community-based organizations and other agencies

Reporting & Surveillance

1. Go to nyc.gov/health
2. Select "Providers"
3. Arrive at Reporting Page
4. Select Reporting Diseases and Conditions
5. Find "Tuberculosis"

Case Management Process

Health Department receives report of newly reported or suspected TB diagnosis
Individual with suspected or confirmed TB is assigned a Case Manager

The Case Manager:
- Reviews chart
- Interviews & educates patient
- Identifies, interviews & tests contacts
- Offers Directly Observed Therapy (DOT)
- Follows patients and contacts through treatment completion

Directly Observed Therapy

Health Department Chest Centers

- Manhattan Heights Chest Center
- Morrisania Chest Center
- Brooklyn Chest Center
- East Harlem Chest Center
- Queens Chest Center
Expanded Contact Investigations

Medical Consultation & Provider Outreach

Community Collaboration

Training and Collaboration

HIGHLIGHTS FROM THE NYC TB ANNUAL SUMMARY

2015

Tuberculosis cases and rates, New York City, 1982-2015

Note: Rates are based on decennial census data.
Tuberculosis rates by age in years, New York City, 2006-2015

Tuberculosis cases and rates by sex, New York City, 2006-2015

Tuberculosis cases and rates by birth in the United States (U.S.), New York City, 1992-2015


TB among the foreign-born in New York City

Top ten countries of birth by TB burden and NYC incidence, 2015

<table>
<thead>
<tr>
<th>COUNTRY OF BIRTH</th>
<th># CASES</th>
<th>COUNTRY OF BIRTH</th>
<th>INCidence (per 100,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>131</td>
<td>Sudan</td>
<td>324</td>
</tr>
<tr>
<td>United States</td>
<td>104</td>
<td>Nepal</td>
<td>124</td>
</tr>
<tr>
<td>Mexico</td>
<td>96</td>
<td>Cameroon</td>
<td>114</td>
</tr>
<tr>
<td>Philippines</td>
<td>28</td>
<td>Saudi Arabia</td>
<td>109</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>26</td>
<td>Bolivia</td>
<td>83</td>
</tr>
<tr>
<td>Dominican Republic</td>
<td>24</td>
<td>Burma</td>
<td>82</td>
</tr>
<tr>
<td>Ecuador</td>
<td>22</td>
<td>Indonesia</td>
<td>78</td>
</tr>
<tr>
<td>Haiti</td>
<td>22</td>
<td>Thailand</td>
<td>63</td>
</tr>
<tr>
<td>India</td>
<td>22</td>
<td>Sierra Leone</td>
<td>93</td>
</tr>
<tr>
<td>Guyana</td>
<td>17</td>
<td>Bosnia &amp; Herzegovina</td>
<td>92</td>
</tr>
</tbody>
</table>

2. Incidence calculated based on the NYC population in May 2015.
Epidemiologic investigations in non-household settings by site type, number of exposed contacts, and transmission assessment, New York City, 2015 (n=48)

<table>
<thead>
<tr>
<th>Site Type</th>
<th>Number of Exposed Contacts</th>
<th>Transmissions Detected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential</td>
<td>14</td>
<td>12 (86%)</td>
</tr>
<tr>
<td>Non-residential</td>
<td>38</td>
<td>9 (23%)</td>
</tr>
<tr>
<td>Total</td>
<td>52</td>
<td>21 (40%)</td>
</tr>
</tbody>
</table>

TB exposures in health care settings, 2015 (n=149)

- Outpatient setting (58%)
- Inpatient setting (42%)
- Other health care services (9%)
- Long-term care facility (5%)

2015 TB Annual Summary will be available on World TB Day at www.nyc.gov search “TB annual report.”

For a hardcopy report, please email tbepi@health.nyc.gov

For Additional data: Epi QUERY

- An interactive, user-friendly system designed to guide users through basic data analyses
- Data are available on NYC TB cases from 2001-2014
  - Demographic & geographic characteristics
- To access TB EpiQuery, go to: http://nyc.gov/health/epiquery

2015 PUBLICATIONS

Highlights

Bureau of TB Control published 11 papers in 2015

Treatment outcomes
- Treatment for TB infection with 3 months of rifapentine and isoniazid in NYC Health Department clinics. Steven N, et al. CID 2015

Contact investigations/transmission

Academic collaborations
### Risk for TB Disease Among Contacts with Prior Positive Tuberculin Skin Test

<table>
<thead>
<tr>
<th>Risk factors for TB disease among contacts that tested prior positive</th>
<th>Adjusted PR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact under 5 years old at TB exposure</td>
<td>19.48 (7.15–53.09)</td>
</tr>
<tr>
<td>Household contact</td>
<td>2.60 (1.30–5.21)</td>
</tr>
<tr>
<td>Received ≥ 1 month of treatment for TB infection</td>
<td>0.27 (0.08–0.93)</td>
</tr>
<tr>
<td>US born index patient</td>
<td>4.04 (1.95–8.38)</td>
</tr>
<tr>
<td>Infectious index patient (sputum or cavities on CXR)</td>
<td>1.93 (1.01–3.71)</td>
</tr>
</tbody>
</table>

- Among contacts with prior positive TST results, just 1.3% developed active TB disease ≤ 4 years after exposure
- Genotype results were concordant with the index patients among 14 of 15 contacts who developed active TB disease and had genotyping results available
- Healthcare providers should consider prophylaxis for contacts with prior TB infection, especially young children and close contacts of TB patients (e.g., those with household exposure).

Gounder et al. J Gen Intern Med. 2015

### Enhanced TB Infection Treatment Outcomes after Implementation of QFT-Gold Testing

**QFT-G implementation did not influence treatment initiation, but did increase the proportion of patients completing LTBI treatment**

Olive A et al. JID 2015

### Free Tuberculosis-Related Services

**Any New Yorker who has active TB or a positive test for TB infection can be referred for these free services:**
- Chest Center Services, including:
  - Evaluation & Treatment for Active TB
  - Treatment for LTBI
- Case Management Services, including:
  - Directly Observed Therapy (video/in-person)
  - Shorter regimens for LTBI (3HP & 4R)

**Contacts may also be referred for QFT testing**

### Treatment for TB infection with three months of rifampentine and isoniazid

<table>
<thead>
<tr>
<th>Treatment Choice, n (%)</th>
<th>3HP</th>
<th>Other</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>302</td>
<td>92</td>
<td>-</td>
</tr>
<tr>
<td>Completed treatment</td>
<td>296 (98)</td>
<td>42 (46)</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Lost</td>
<td>31 (10)</td>
<td>23 (25)</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Refused</td>
<td>21 (7)</td>
<td>22 (24)</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Switched treatment</td>
<td>18 (6)</td>
<td>0 (0)</td>
<td>0.01</td>
</tr>
</tbody>
</table>

- Implementation of 3HP increased treatment completion by 31%, but did not increase treatment acceptance
- In-clinic DOT requirement was a major barrier to acceptance
- Side effects were generally mild; 13 patients (4%) permanently discontinued 3HP due to side effects


### Resources for Providers

**nyc.gov/health**
- Report confirmed or suspected TB via NYCMED (Health Department portal)
- Sign up for Health Alert Network emails

**347-396-7400 (TB Hotline)**
- Contact Doctor on Call for medical consultation or to review discharge plans
- Connect patients with DOT and other services

**nyc.gov/health/tb**
- Access educational resources
- Sign up for TB Action News emails
QUESTIONS?