TB In Philadelphia: Current Trends, Changing Demographics

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Overview

• Philadelphia TB Program Overview
• Philadelphia TB Epidemiology
  • Disease Burden
  • Risk factors
  • Drug resistance
Percentage of TB Program Budget By Source

- **City**: 18%
- **State**: 25%
- **Federal**: 57%

Total funding for FY 2011: $1,524,260

Source: TB Cooperative Agreement, State TB Grant, Philadelphia City Budget

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TB Case Management Model

- **TB Patient**
  - Compliance Agreement and Legal Process
  - Monthly Physician Visits in clinic
  - Disease Surveillance Investigator (DSI) Involvement
  - Regular Review of Therapy Regimens by Medical Director
  - Home/ Clinic Directly Observed Therapy
  - Active Social Worker Involvement
  - Enablers for Clinic Visits (e.g. subway tokens)
TB Epidemiology

• Disease Burden

• Risk Factors
  – Foreign born
  – Substance Abuse
  – HIV status
  – Other


- Average Philadelphia Case Rate: 7.7 cases per 100,000 population
- Average Pennsylvania Case Rate: 1.3 cases per 100,000 population

Total Number of cases for the time period: **1397**

Source: Pennsylvania National Electronic Disease Surveillance System (PA-NEDSS)
Philadelphia TB Cases 1947 to Present

Source: PA-NEDSS, Philadelphia TB Control Archives

Philadelphia TB Cases: 2001-2011

Source: PA-NEDSS
Lawrence J. Flick Memorial Clinic Patient Visits

Source: Philadelphia TB Control Program

TB Cases By Zip Code 2005-2011

Source: PA-NEDSS
Tuberculosis Case Rates 2001-2010: Philadelphia Compared with Other Large Cities

Source: PA-NEDSS, CDC DTBE Reported Tuberculosis in the United States 2010


Source: PA-NEDSS
Number of Foreign vs. U.S. Born Cases of TB in Philadelphia


Source: PA-NEDSS
**Culture Positive vs Clinical Cases**

![Culture Positive vs Clinical Cases](chart1.png)

Calendar Year

- Culture Positive
- Clinically Confirmed

Source: PA-NEDSS

**Risk Factors Associated with TB Disease in Philadelphia Cases: 2005-2010**

![Risk Factors Associated with TB Disease in Philadelphia Cases: 2005-2010](chart2.png)

Percent of Cases

- HIV Positive Status
- Substance Abuse
- Born outside of the U.S.
- Other*

*homelessness, residence in a long term care facility or being incarcerated at the time of TB diagnosis

Source: PA-NEDSS
Philadelphia TB Epidemiology: Risk Factors

• HIV positive serostatus
  – 11% of Philadelphia TB cases were HIV positive, compared with 1.2% of the general Philadelphia population and 8.6% of all TB cases in the nation (all ages).
  * Reporting areas missing HIV data include: California, Georgia, Hawaii, Massachusetts, Vermont, Federated States of Micronesia and U.S. Virgin Islands.

• Substance Abuse (injecting drug use, non-injecting drug use and alcohol abuse)
  – 24% of Philadelphia TB cases were using injecting, non-injecting illicit drugs and/or abusing alcohol at time of diagnosis.
  – Nationally, 12.5% of TB cases were using injecting, non-injecting illicit drugs and/or abusing alcohol.

Philadelphia TB Epidemiology: Risk Factors (2)

• Homelessness
  – 5% of cases were homeless at the time of diagnosis or had a history of homelessness, compared with 1.2% of the Philadelphia population.
  – Nationally, 5.5% of TB cases were or had a history of homelessness.

• Residence in Correctional Facilities
  – 1.7% of Philadelphia TB cases either were a resident in a correctional facility, or had a history of incarceration compared with 0.5% of the Philadelphia population.
  – The national rate among TB cases is 4.1%.

• Residence in Long-term Care Facilities
  – 3% of Philadelphia TB cases were either residing in or had a history of residence in long-term care facilities (i.e. nursing homes, drug treatment facilities) compared with 0.5% of the Philadelphia population.
  – The national rate among TB cases is 2.6%.
Conclusion

- The demographics of TB in Philadelphia have changed considerably in the past few years
- While the number of TB cases has dropped over the past few years, the proportion of cases that are foreign born continues to rise
- Drug resistance is emerging as a challenge in managing TB in Philadelphia
- We expect both of these trends to continue
References


3. The Pennsylvania Version of the National Electronic Disease Surveillance System (PA-NEDSS)