



# Epi Data Brief

New York City Department of Health and Mental Hygiene

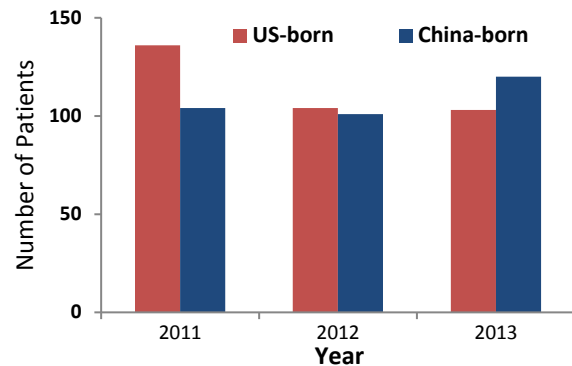
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## Tuberculosis among New Yorkers Born in China

In 2013, China was the most commonly reported country of birth among all individuals with tuberculosis (TB) in New York City (NYC). The number of TB patients born in China accounted for 18% of all TB cases in NYC and exceeded the number born in the United States (US).<sup>1</sup> This report describes the demographic and clinical characteristics of NYC TB patients born in China.

From 2011 to 2013, there were 344 reported TB cases among New Yorkers born in China,\* resulting in an average annual incidence of 23 per 100,000 compared with 2 per 100,000 among those born in the US. During this period, the number of TB cases increased among persons born in China, decreased among those born in the US, and stayed relatively stable among those born in other countries.

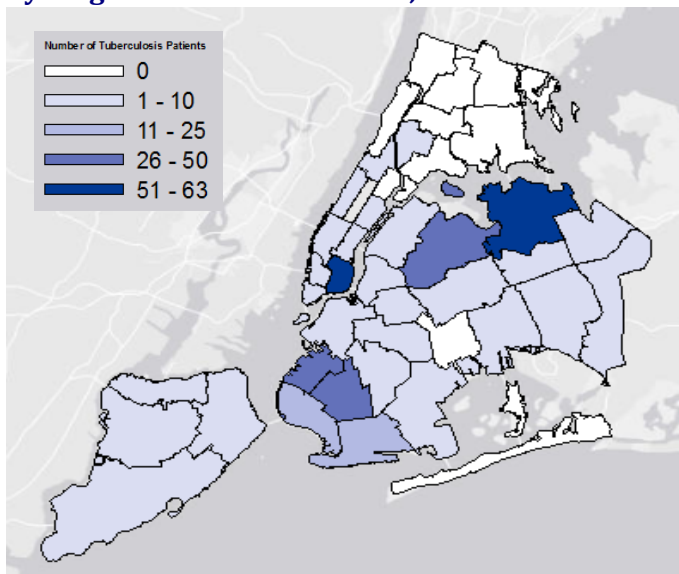
### New York City tuberculosis patients by place of birth, 2011-2013



Source: NYC DOHMH Bureau of Tuberculosis Control

## Characteristics of NYC TB patients born in China

### New York City tuberculosis patients born in China by neighborhood of residence, 2011-2013



The United Hospital Fund classifies NYC into 42 neighborhoods comprised of contiguous zip codes.

Source: NYC DOHMH Bureau of Tuberculosis Control

- Most (75%) resided in Brooklyn or Queens at the time of diagnosis; neighborhoods with the highest number of patients included Flushing, Lower East Side, and Sunset Park.
- Most (75%) were 35 years of age or older at the time of TB diagnosis.
- Most (76%) lived in the US for more than five years before their TB diagnosis.
- Less than 1% reported a history of homelessness; less than 2% reported having ever been incarcerated.
- Nearly 25% reported current tobacco use; less than 1% reported a history of injection cocaine or heroin use.
- Most (87%) had pulmonary disease.
- Few (15%) reported previously testing positive for TB either by tuberculin skin test or interferon-gamma release assay.
- Forty percent refused or were not offered HIV testing.

**Data Source:** NYC DOHMH Bureau of Tuberculosis Control surveillance data 2010-2014. Rates for 2011-2013 were calculated using 1-year American Community Survey population estimates, 2011-2013.

**Definitions:** \*For this analysis, "China" included persons reporting China, Hong Kong, or Taiwan as a country of birth;

\*\*Number reflects percentage of isoniazid resistance among US-born TB patients with drug susceptibility testing done;

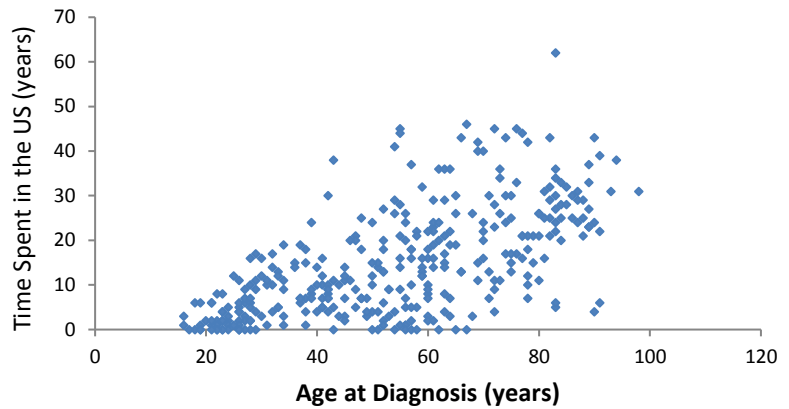
\*\*\*In NYC, a cluster is defined as two or more TB patients having matching restriction length polymorphism (RFLP) and spacer oligonucleotide typing (spoligotype) results.

**References:** 1. New York City Department of Health and Mental Hygiene. Bureau of Tuberculosis Control Annual Summary, 2013. New York, NY: 2014.

## Characteristics of NYC TB patients born in China (continued)

- Diabetes was reported among 12%. Cancer was reported among 10%. History of Hepatitis B was reported among 6%, and Hepatitis C or HIV was reported in less than 1%. Over half (53%) of patients reported not having any other health problems.
- Among 273 who were culture-positive for *Mycobacterium tuberculosis*, 32 (12%) had a strain resistant to isoniazid, a first-line TB drug compared with 9%\*\* among US-born. Multidrug-resistance (resistance to isoniazid and rifampin) was identified in strains from nine (3%) patients.
- Among 225 patients with TB strain information available, 77 (34%) were clustered.\*\*\* The large proportion (66%) of cases with a nonclustered strain suggests that most cases were from infections that were acquired outside of NYC.

### New York City tuberculosis patients born in China vary widely by age and years in the United States



Source: NYC DOHMH Bureau of Tuberculosis Control, 2011-2013

## Recent outbreaks of tuberculosis among New Yorkers born in China

Since 2010, the NYC Health Department has identified two outbreaks (cluster A and cluster B) of drug-susceptible TB strains among young adults born in China.

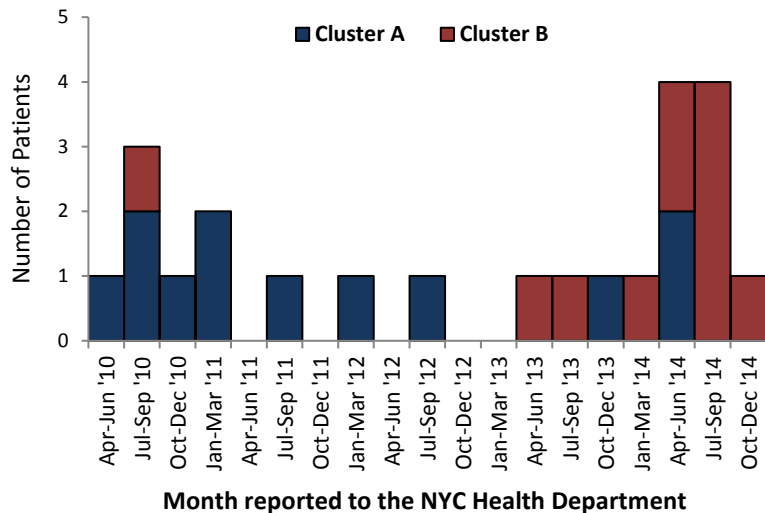
A total of 23 confirmed outbreak-associated cases were identified between June 2010 and December 2014 (cluster A = 12; cluster B = 11).

All outbreak-associated patients had pulmonary disease. Most had clinical characteristics suggestive of infectiousness.

Demographic and social characteristics were similar among patients in both clusters. All patients had links to the same Brooklyn neighborhood.

The NYC Health Department is working to promptly identify new cases, interrupt transmission, encourage prompt TB diagnosis and reporting, screen for TB in individuals at high risk, and increase awareness of TB and TB services among community members.

### New York City tuberculosis outbreak-associated patients by time of report



Source: NYC DOHMH Bureau of Tuberculosis Control

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