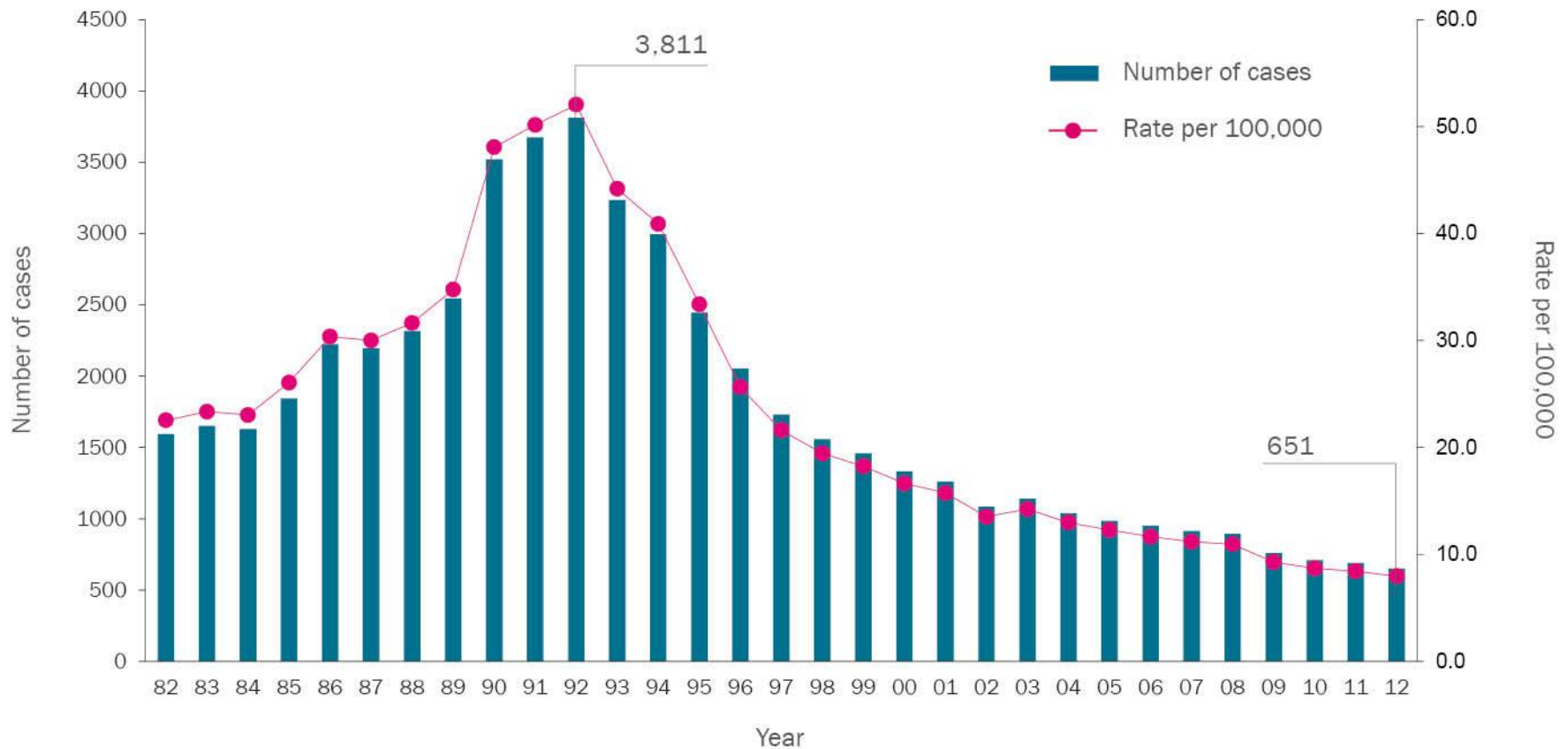


2012

**TOWARDS ZERO TB**

**NEW YORK CITY DEPARTMENT OF HEALTH AND MENTAL HYGIENE**  
Bureau of Tuberculosis Control Annual Summary, 2012

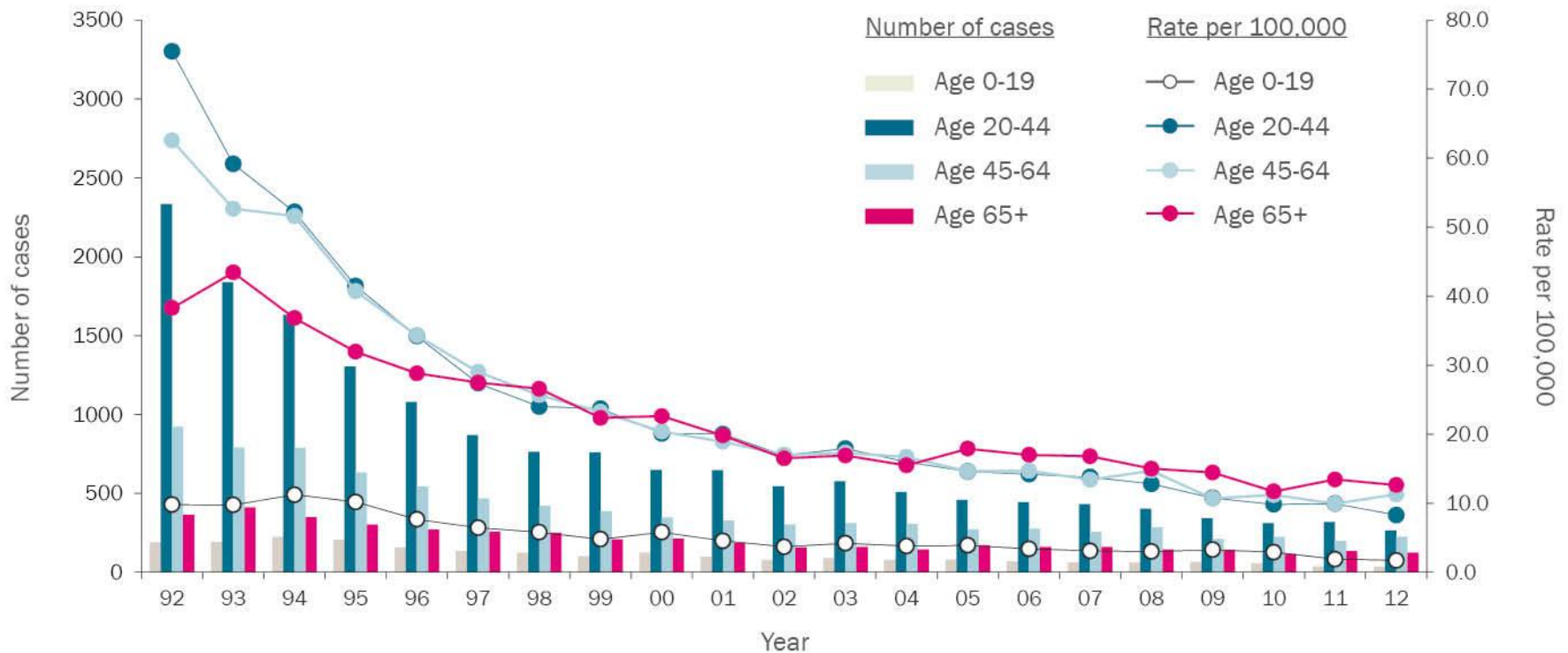
# Tuberculosis cases and rates<sup>1</sup>, New York City, 1982-2012



1. Rates are based on official United States Census Bureau data.

**Demographic and social characteristics**

# Tuberculosis cases and rates<sup>1</sup> by age in years, New York City, 1992-2012



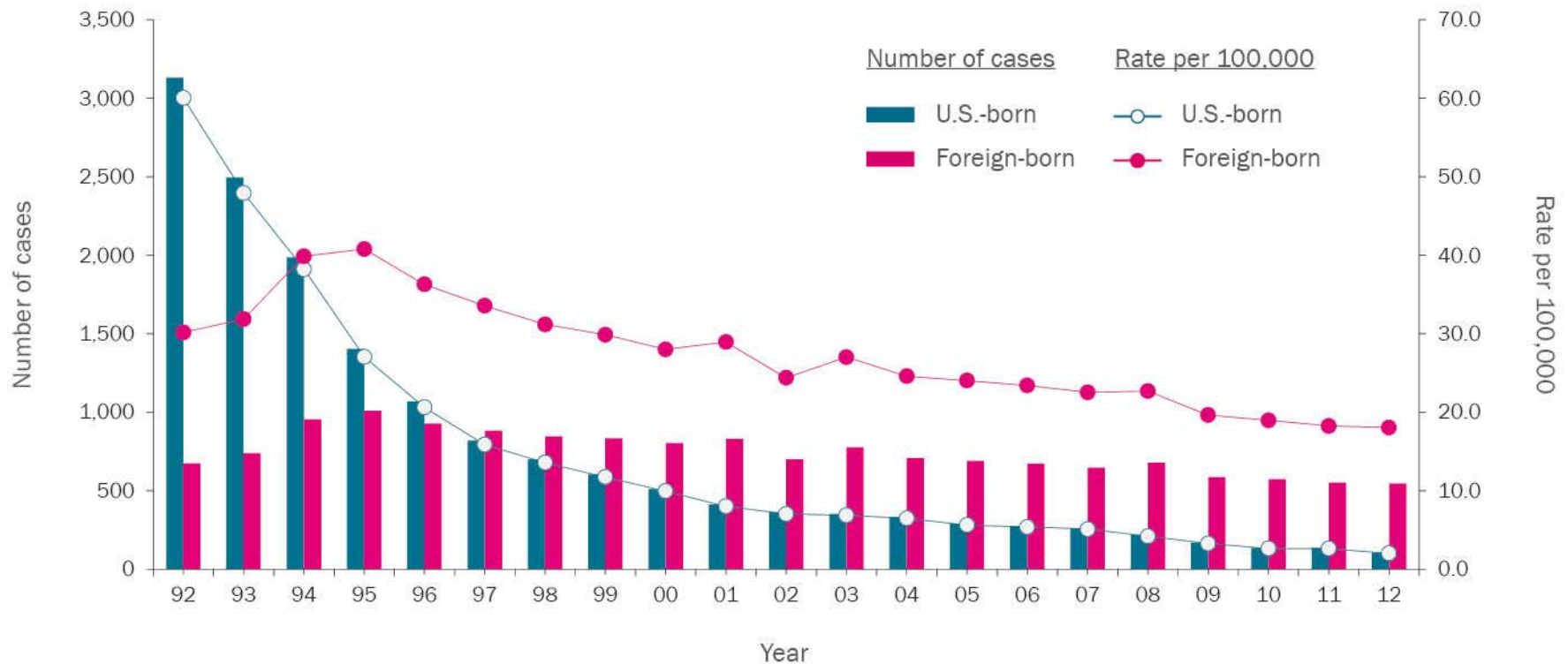
1. Rates prior to 2000 are based on official United States (U.S.) intercensal population estimates. Rates for 2000-2012 are based on New York City Department of Health and Mental Hygiene population estimates modified from U.S. Census Bureau data.

# Tuberculosis cases and rates<sup>1</sup> among children younger than five, New York City, 1992-2012



1. Rates are based on official United States Census Bureau interpolated intercensal population estimates.

# Tuberculosis cases and rates<sup>1</sup> by birth in the United States (U.S.),<sup>2</sup> New York City, 1992-2012

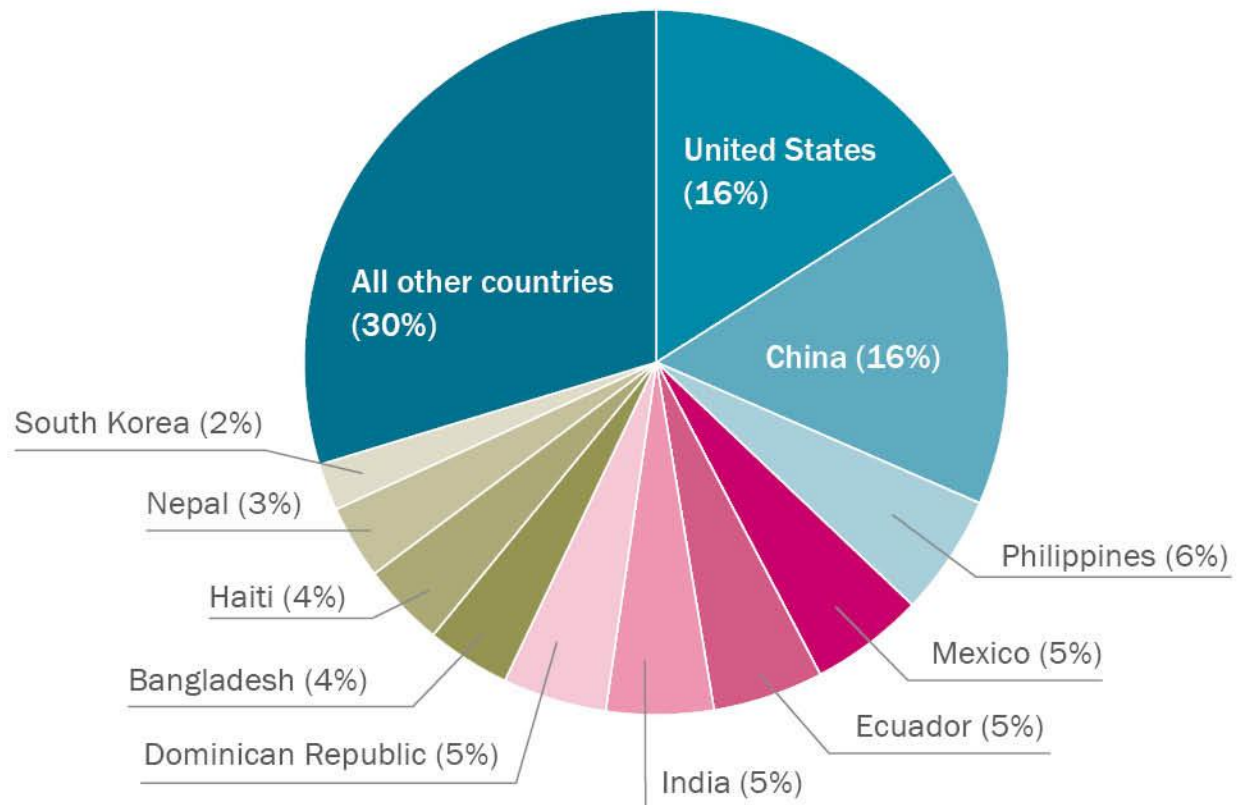


1. Rates prior to 2000 are based on official United States (U.S.) Census Bureau data. Rates from 2000-2012 are based on official U.S. Census Bureau data and intercensal estimates. 2. U.S. includes Puerto Rico and the U.S. Virgin Islands.

# Tuberculosis cases by country of birth, New York City, 2012

Country of birth<sup>1</sup> (number of cases):

■ United States <sup>2</sup>	(104)
■ China <sup>3</sup>	(101)
■ Philippines	(36)
■ Mexico	(34)
■ Ecuador	(33)
■ India	(32)
■ Dominican Republic	(31)
■ Bangladesh	(25)
■ Haiti	(25)
■ Nepal	(22)
■ South Korea	(14)
■ All other countries	(185)

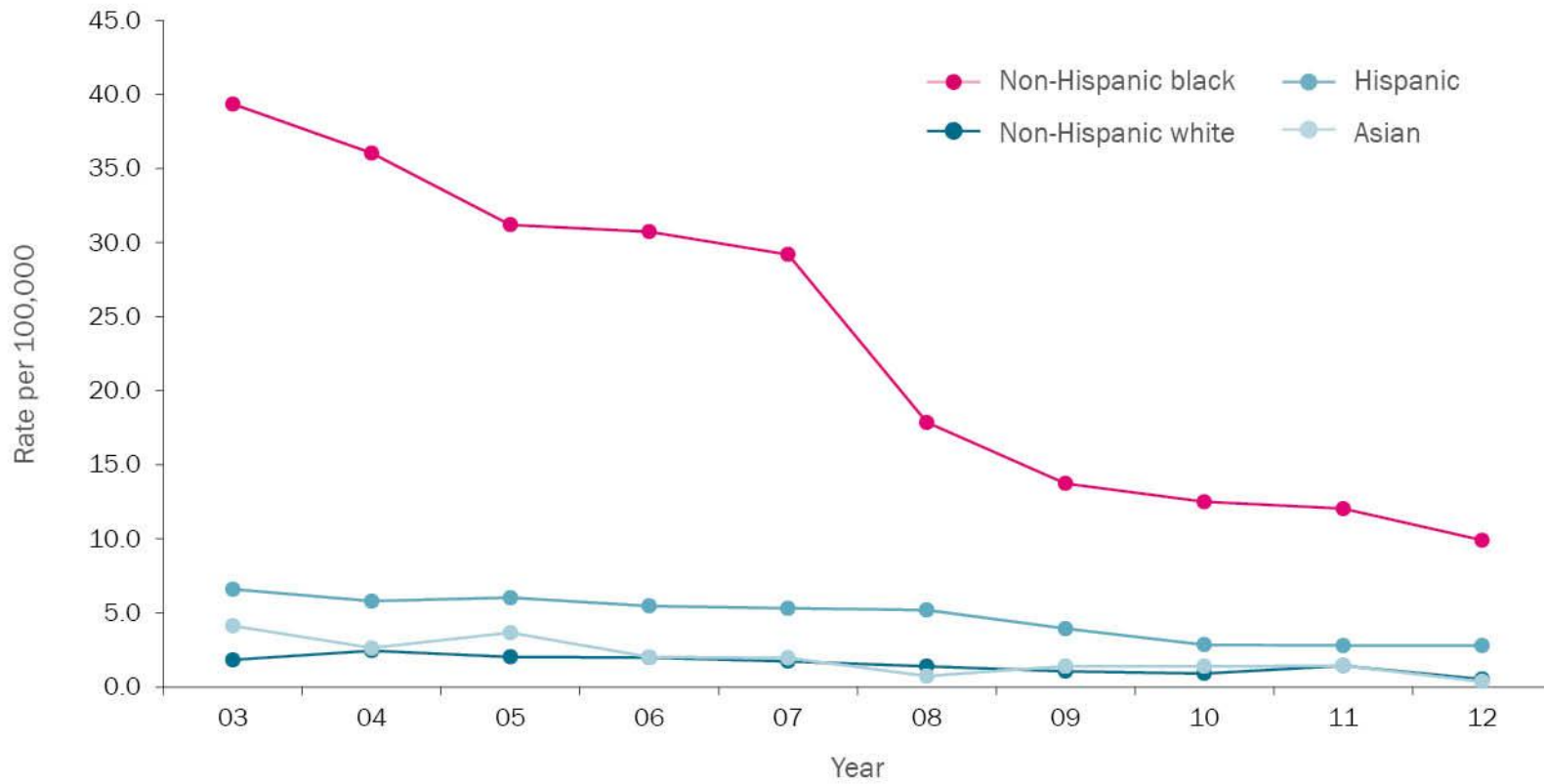


1. There was one case in 2012 for whom country of birth was unknown.

2. United States (U.S.) includes Puerto Rico and the U.S. Virgin Islands.

3. China does not include Hong Kong (8 cases).

# Tuberculosis cases and rates<sup>1</sup> among persons born in the United States<sup>2</sup> by race/ethnicity, New York City, 2003-2012



1. Rates are based on American Community Survey one-year estimates.

2. United States (U.S.) includes Puerto Rico and the U.S. Virgin Islands.



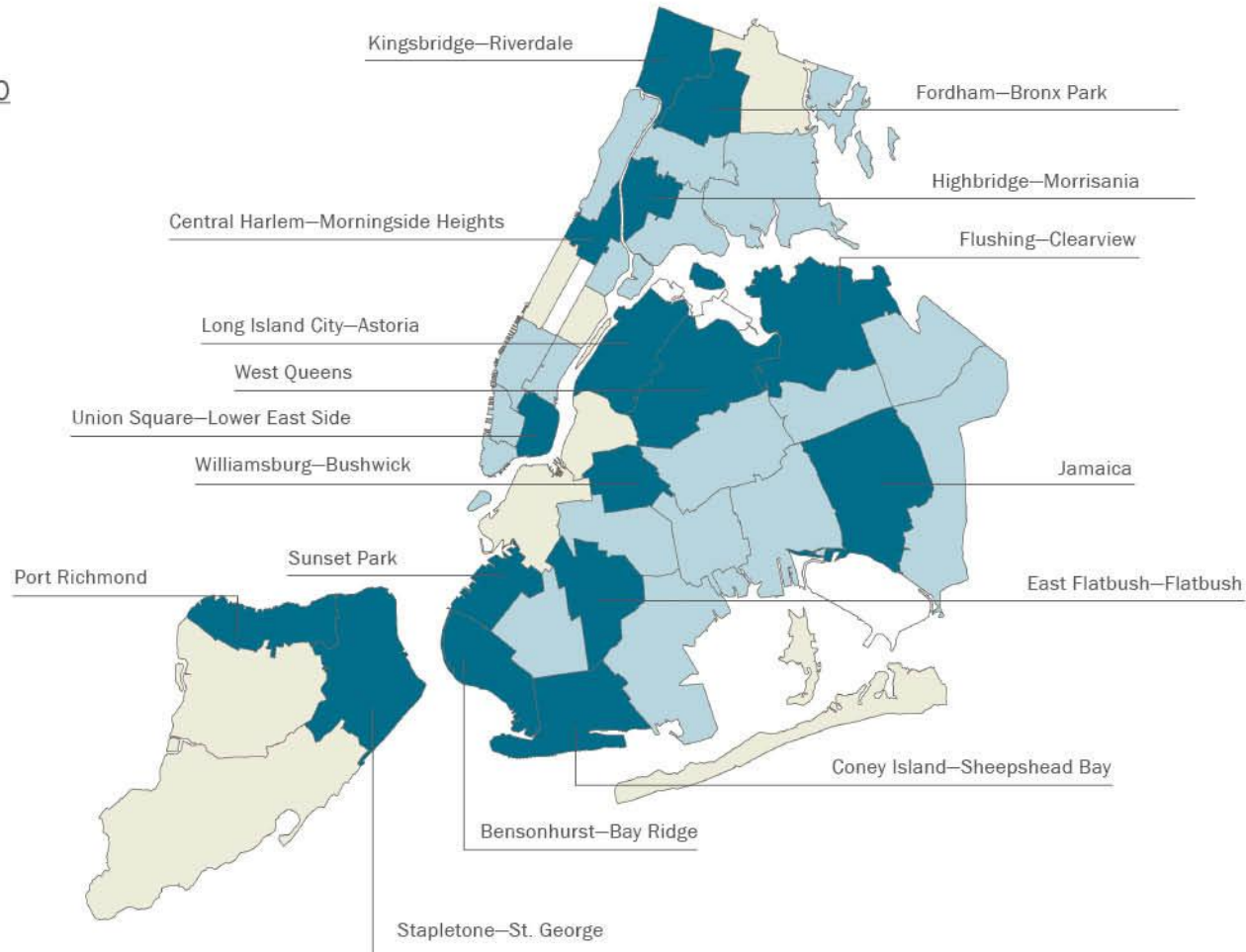
# Tuberculosis rates<sup>1</sup> by United Hospital Fund (UHF) neighborhood, New York City, 2003-2012

Rate per 100,000

0.0 to 3.2

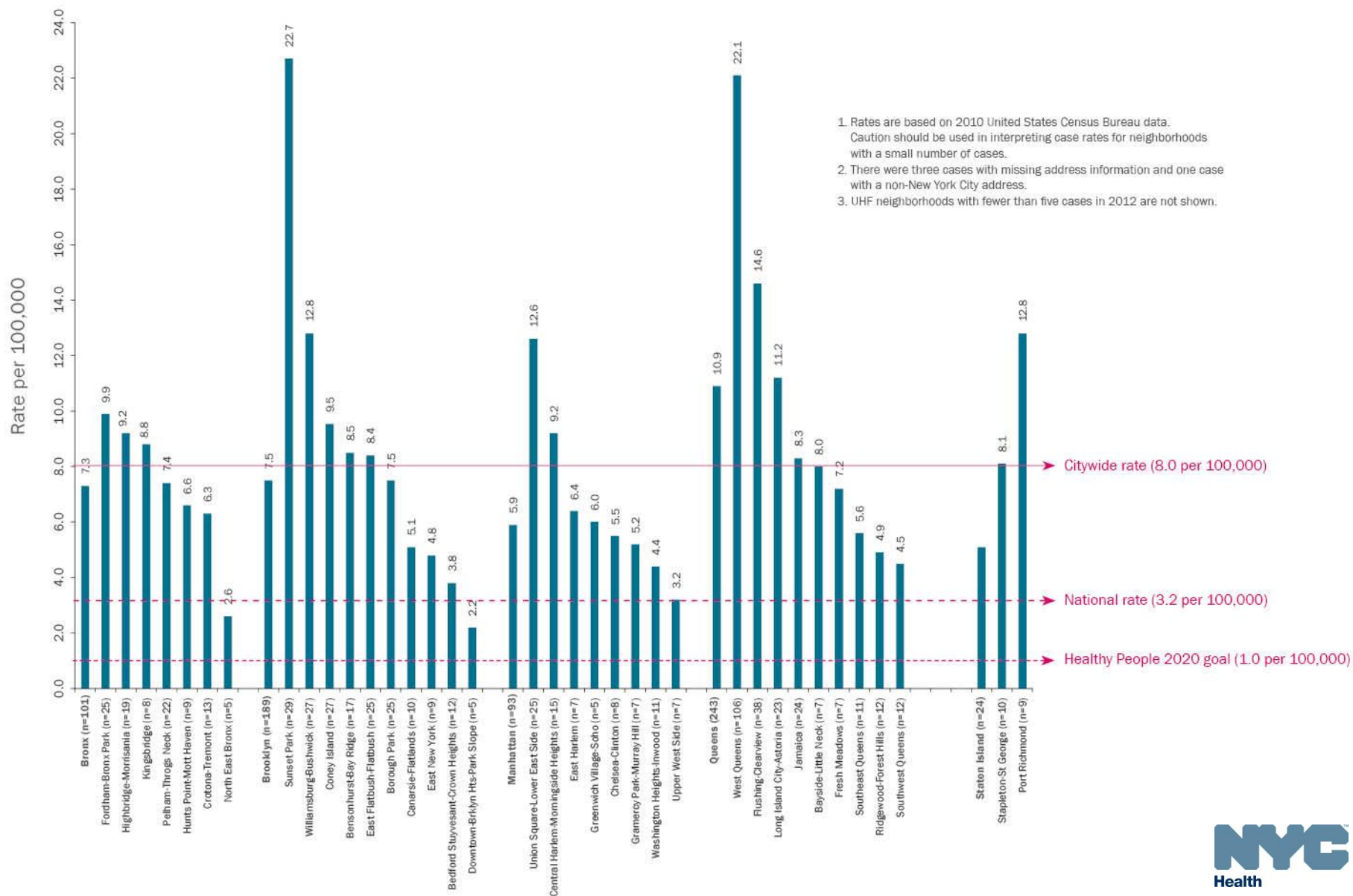
3.3 to 8.0

8.1 to 22.7



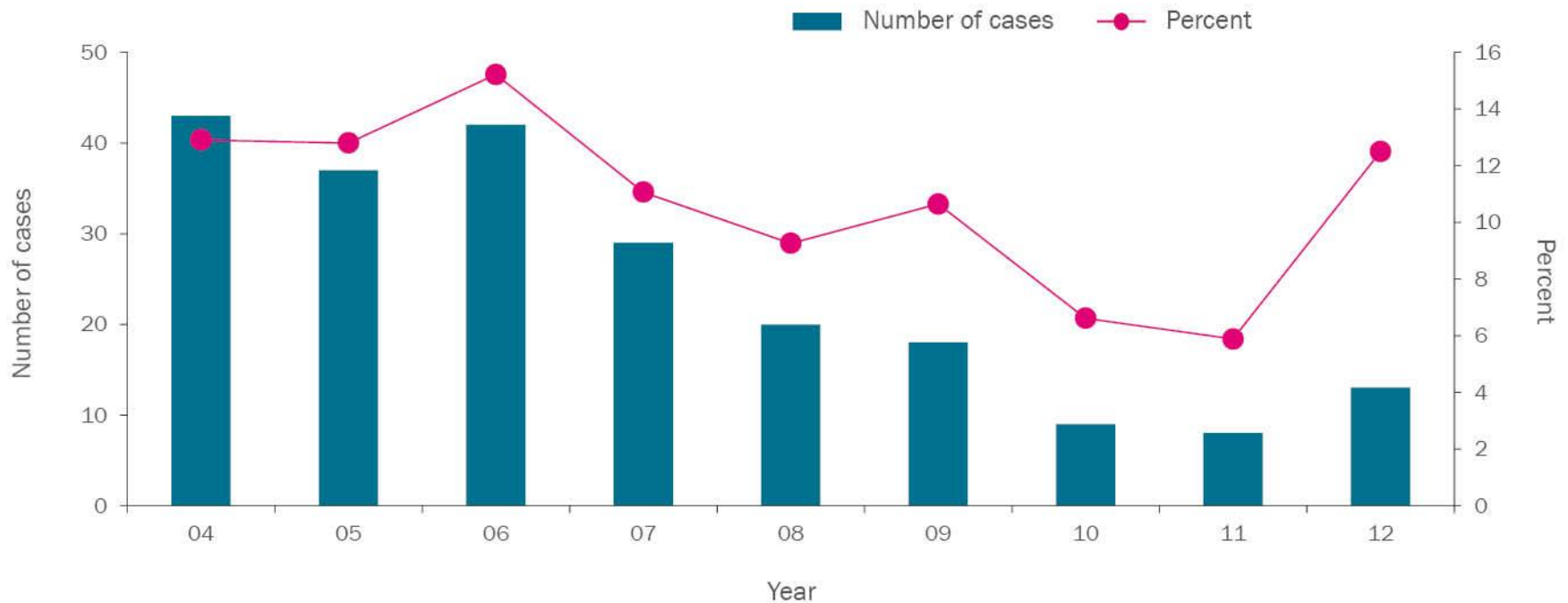
1. Rates are based on 2010 United States Census Bureau data. Caution should be used in interpreting case rates for neighborhoods with a small number of cases. 2. There were three cases with missing address information and one case with a non-New York City address.

# Tuberculosis rates<sup>1</sup> by borough and United Hospital Fund (UHF) neighborhood, New York City, 2012



1. Rates are based on 2010 United States Census Bureau data. Caution should be used in interpreting case rates for neighborhoods with a small number of cases.
2. There were three cases with missing address information and one case with a non-New York City address.
3. UHF neighborhoods with fewer than five cases in 2012 are not shown.

# History of homelessness<sup>1</sup> within 12 months prior to tuberculosis diagnosis among persons born in the United States,<sup>2</sup> New York City, 2004-2012

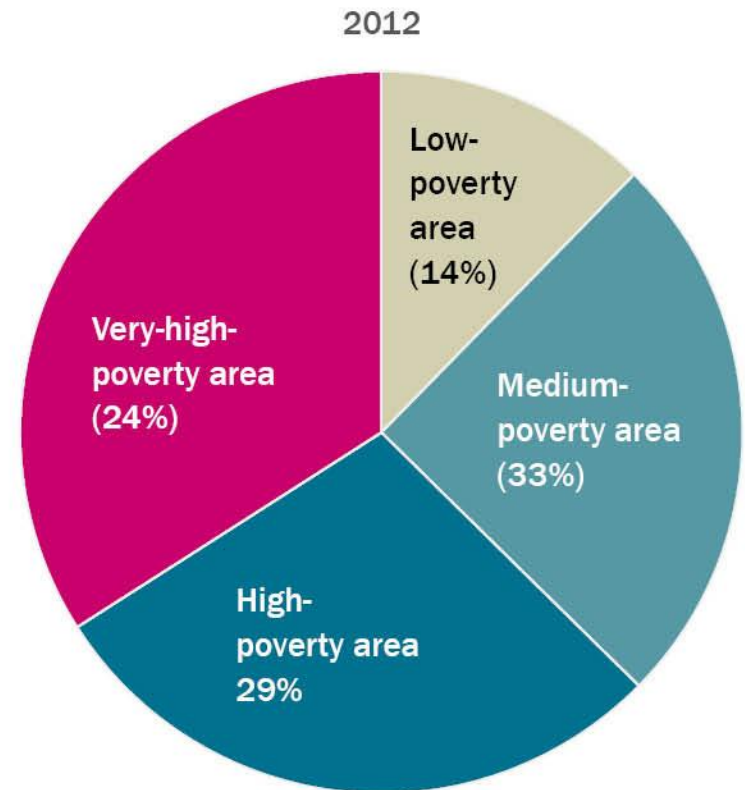


1. History of homelessness is based on self-report.

2. United States (U.S.) includes Puerto Rico and the U.S. Virgin Islands.

# Tuberculosis cases by area-based socioeconomic status,<sup>1-2</sup> New York City, 2000 and 2012

Area-based poverty level:	2000	2012
	n (%)	n (%)
■ Low-poverty area: 0 to <10% of households below federal poverty level	164 (12%)	91 (14%)
■ Medium-poverty area: 10 to <20% of households below federal poverty level	333 (25%)	213 (33%)
■ High-poverty area: 20 to <30% of households below federal poverty level	380 (29%)	186 (29%)
■ Very-high-poverty area: 30% or more of households below federal poverty level	453 (34%)	153 (24%)

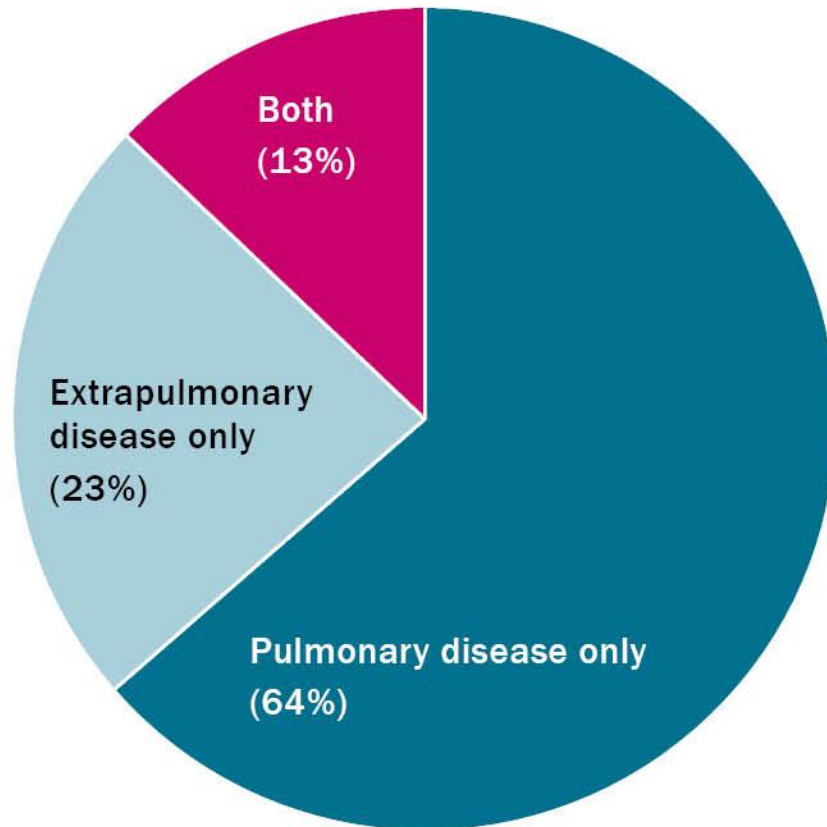


1. Eight cases in 2012 and two cases in 2000 were excluded due to insufficient address information.

2. Area-based poverty level is based on data from the American Community Survey 5-year estimates for 2007-2012.

**Clinical characteristics**

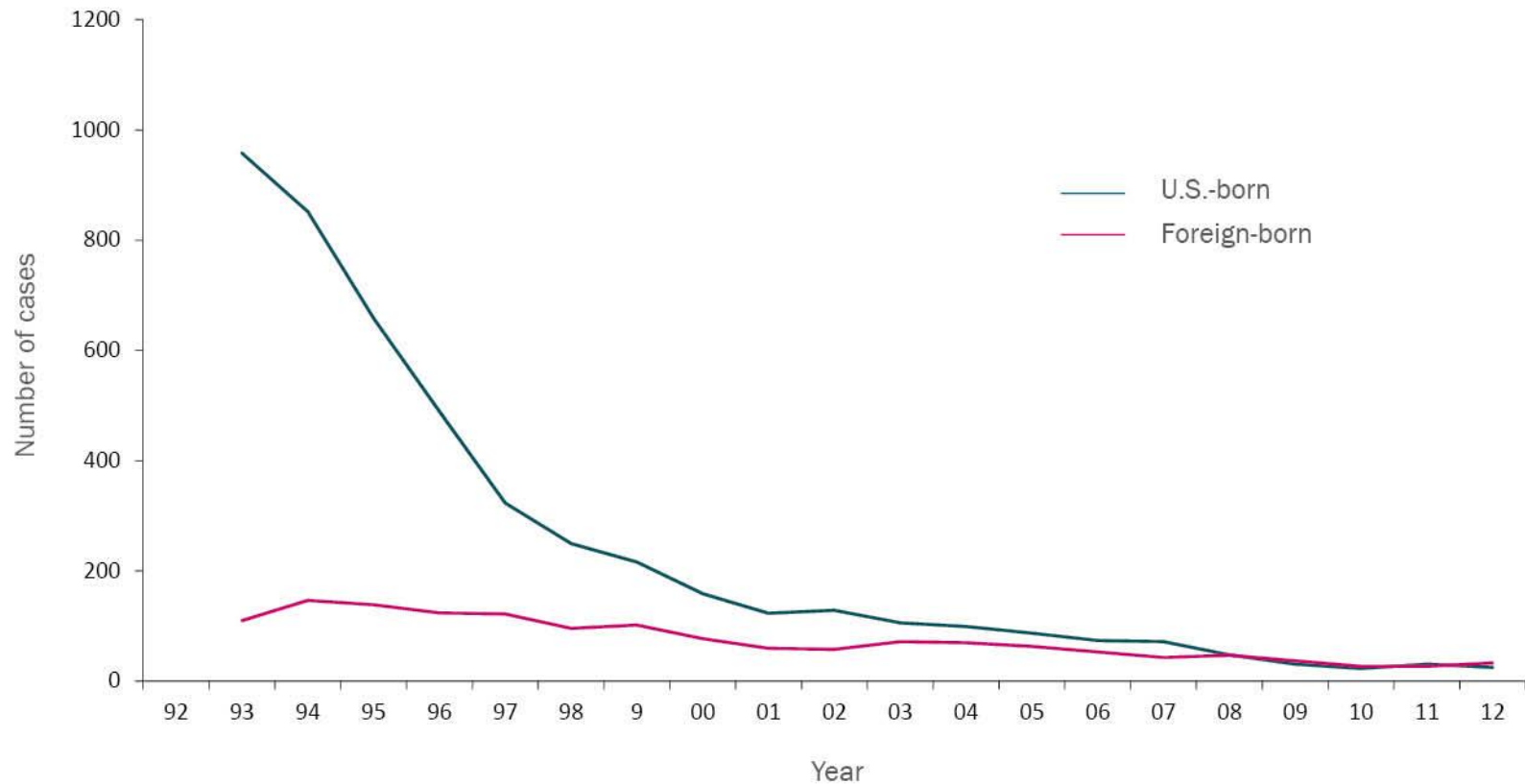
# Tuberculosis cases by disease site, New York City, 2012 (n=651)



Disease site among tuberculosis cases with extrapulmonary disease, New York City, 2012 (n=236)

Disease site:	n	(%)
Lymphatic	93	(39%)
Pleural	51	(22%)
Bone/joint	26	(11%)
Meningeal	13	(6%)
Genitourinary	12	(5%)
Peritoneal	10	(4%)
Laryngeal	1	(<1%)
Other	30	(13%)

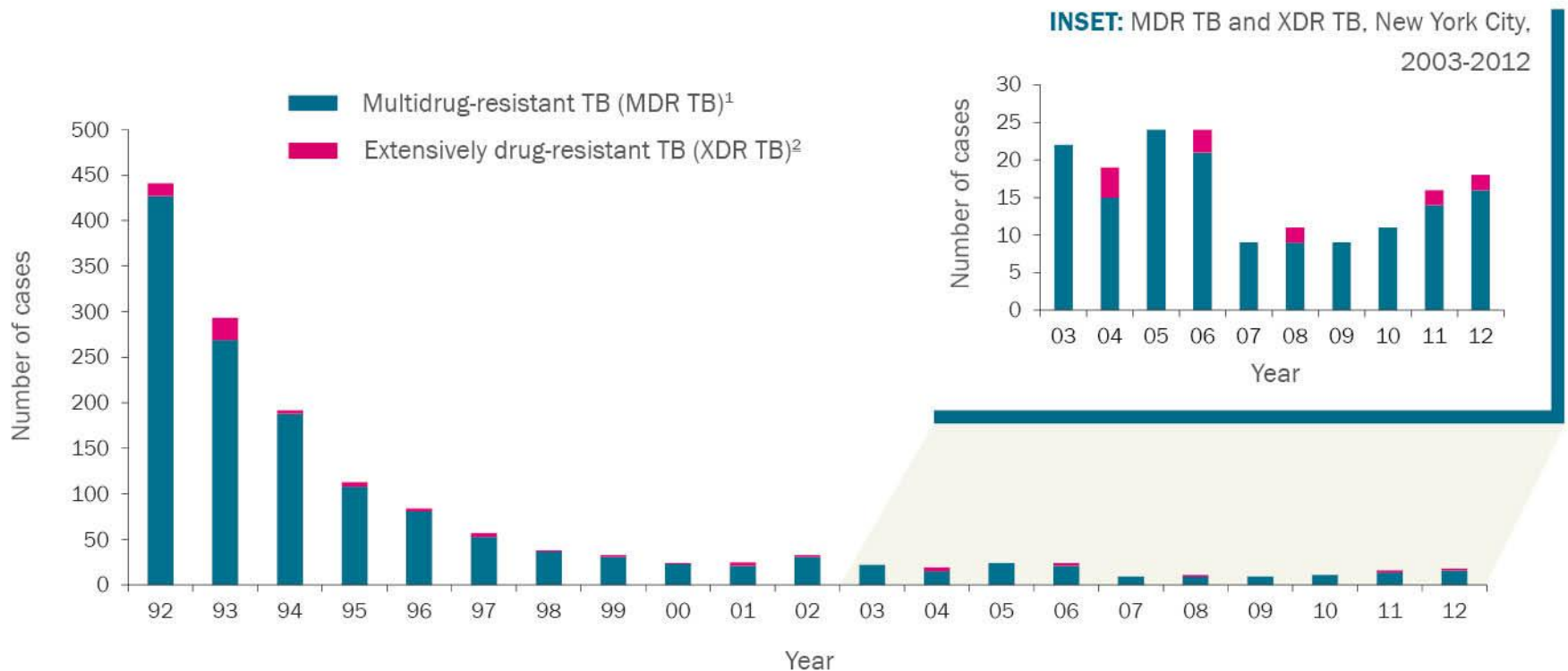
# Tuberculosis and HIV co-infection by birth in the United States (U.S.),<sup>1-2</sup> New York City, 1992-2012



1. Data for HIV status is from the Bureau of Tuberculosis (TB) Control TB case registry only.

2. United States (U.S.) includes Puerto Rico and the U.S. Virgin Islands.

# Multidrug resistance among tuberculosis (TB) cases, New York City, 1992-2012

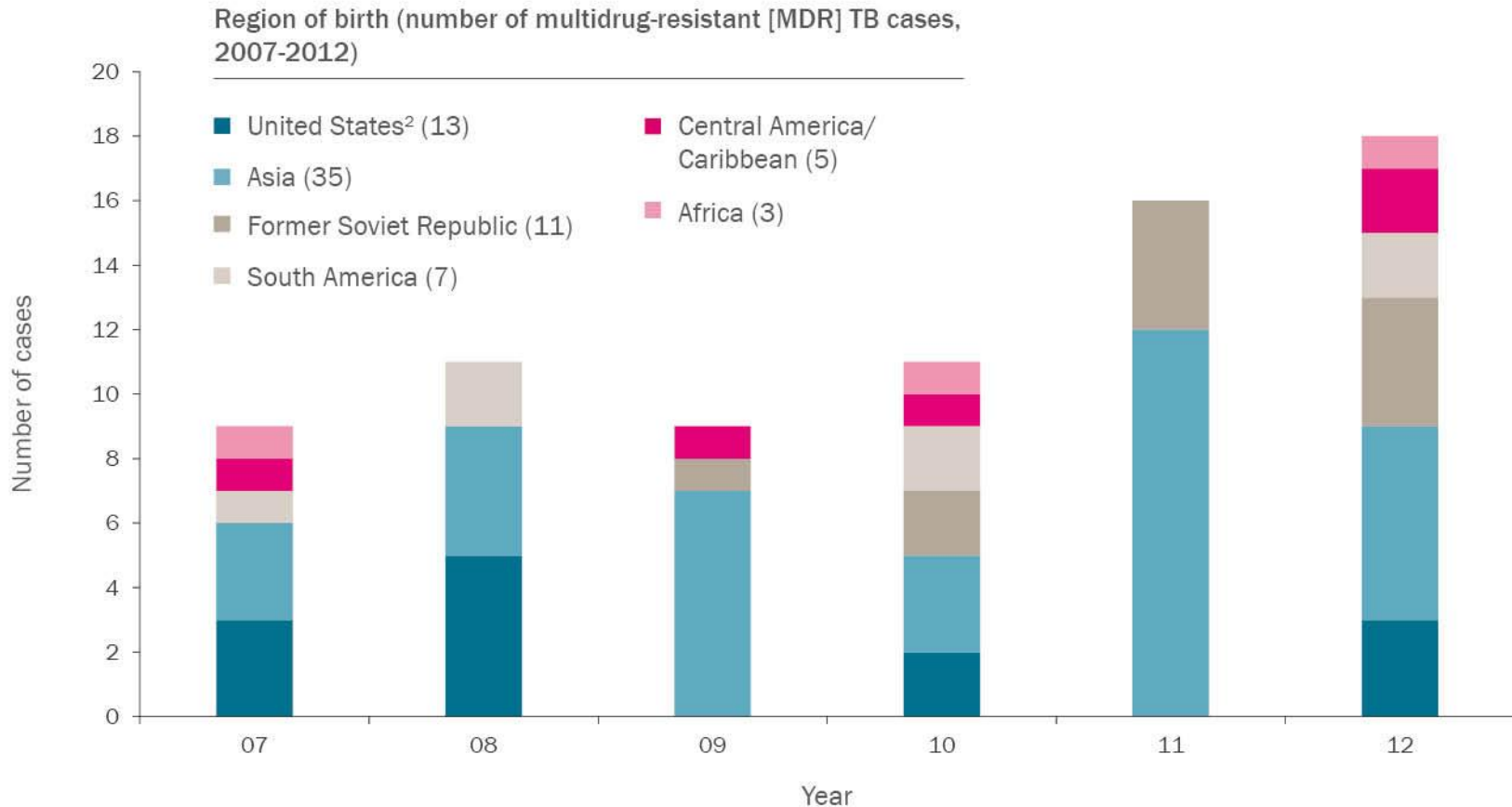


1. Multidrug-resistant TB is defined as a strain that is resistant to at least isoniazid and rifampin.

2. Extensively drug-resistant TB is defined as a strain resistant to at least isoniazid and rifampin plus a fluoroquinolone and a second-line injectable anti-TB medication.



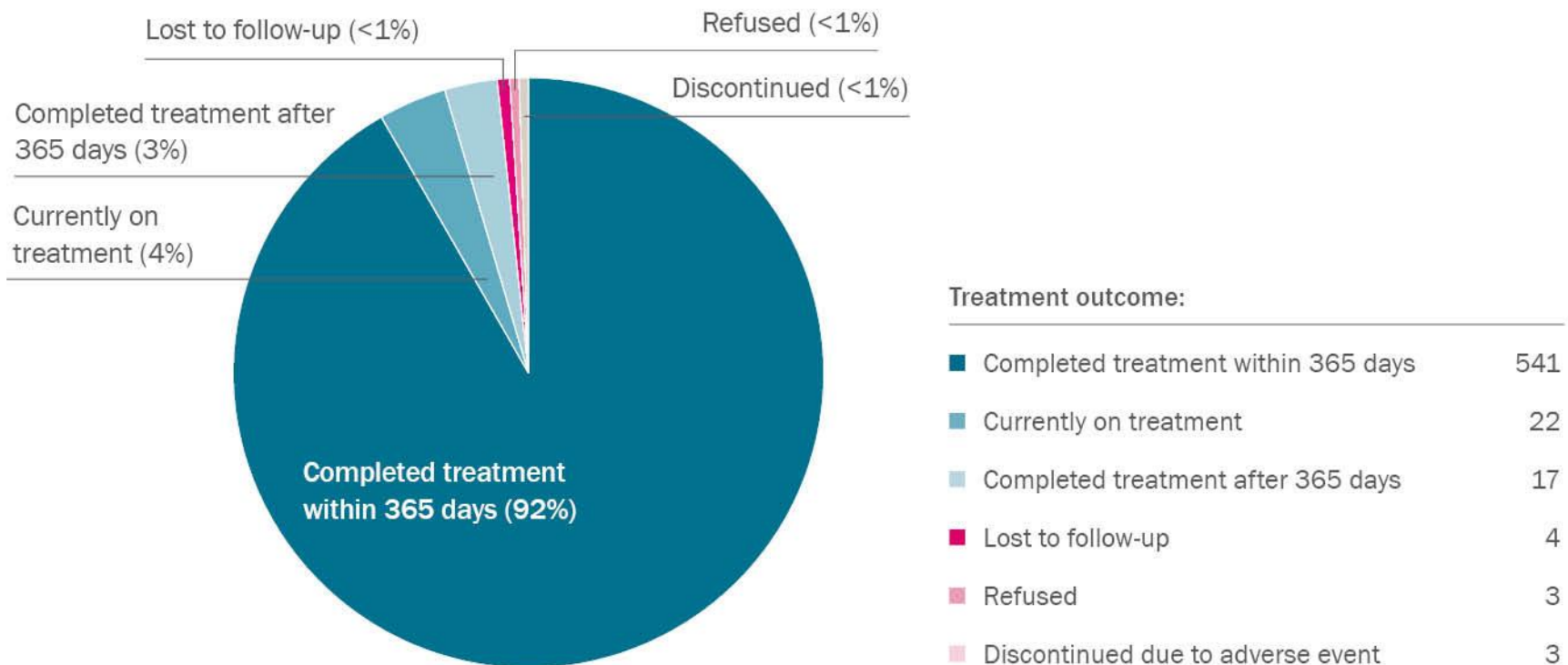
# Multidrug resistance<sup>1</sup> among tuberculosis (TB) cases by region of birth, New York City, 2007-2012



1. Multidrug-resistant TB is defined as a strain that is resistant to at least isoniazid and rifampin (Includes extensively drug resistant TB).

2. United States (U.S.) includes Puerto Rico and the U.S. Virgin Islands.

# Treatment outcomes for tuberculosis (TB) cases eligible to complete treatment within 365 days,<sup>1</sup> New York City, 2011 (n=590)



1. Excludes patients who never started on anti-TB medications, those who died before treatment completion, those with any rifampin resistance, those with meningeal TB, those who moved outside of the U.S. during treatment, those who were not alive at time of diagnosis, and children aged 14 or younger with disseminated TB.

**Tables**

# Select demographic characteristics among tuberculosis cases by birth in the United States (U.S),<sup>1</sup> New York City, 2011-2012

Characteristics	2011						2012					
	U.S.-born		Foreign-born		Total		U.S.-born		Foreign-born		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Age group (years)												
0-19	14	10	24	4	38	6	9	9	25	5	34	5
20-44	43	32	275	50	318	46	27	26	237	43	265	41
45-64	52	38	147	27	199	29	48	46	178	33	226	35
65+	27	20	106	19	134	19	20	19	106	19	126	19
Race/ethnicity												
Black Non-Hispanic	62	46	89	16	151	22	51	49	86	16	137	21
White Non-Hispanic	30	22	42	8	72	10	11	11	33	6	44	7
Hispanic	39	29	150	27	190	28	39	38	138	25	178	27
Asian	4	3	257	47	261	38	1	1	270	49	271	42
Multiple	1	1	6	1	7	1	1	1	11	2	12	2
Other	0	0	8	1	8	1	0	0	8	2	8	1
Unknown race/ethnicity	0	0	0	0	0	0	1	1	0	0	1	<1

1. United States (U.S.) includes Puerto Rico and the U.S. Virgin Islands.

# Select demographic characteristics among tuberculosis cases by birth in the United States (U.S),<sup>1</sup> New York City, 2011-2012

Characteristics	2011						2012					
	U.S.-born		Foreign-born		Total		U.S.-born		Foreign-born		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Sex												
Female	65	48	227	41	293	43	44	42	241	44	285	44
Male	71	52	325	59	396	57	60	58	305	56	366	56
Borough of residence <sup>2</sup>												
Manhattan	38	28	69	13	107	16	25	24	68	12	93	14
Bronx	28	21	73	13	101	15	33	32	67	12	101	16
Brooklyn	47	35	169	31	217	31	30	29	159	29	189	29
Queens	19	14	230	42	249	36	11	11	231	42	242	37
Staten Island	3	2	11	2	14	2	5	5	19	3	24	4
Time in the U.S.												
Less than 1 year	n/a	n/a	72	13	72	13	n/a	n/a	71	13	71	13
1-5 years	n/a	n/a	150	27	150	27	n/a	n/a	133	24	133	24
Greater than 5 years	n/a	n/a	324	59	324	59	n/a	n/a	340	62	340	62
Unknown	n/a	n/a	6	1	6	1	n/a	n/a	2	<1	2	<1

1. United States (U.S.) includes Puerto Rico and the U.S. Virgin Islands.

2. Two cases in 2012 had non-New York City addresses but were confirmed as New York City cases.

# Select clinical characteristics among tuberculosis cases by birth in the United States (U.S),<sup>1</sup> New York City, 2011-2012

Characteristics	2011						2012					
	U.S.-born		Foreign-born		Total		U.S.-born		Foreign-born		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Ever respiratory smear positive	54	40	200	37	254	37	38	37	227	42	265	41
Sputum smear positive	45	83	185	93	230	91	30	79	210	93	240	91
NAA positive <sup>2</sup>	42	78	152	76	194	77	29	49	180	96	209	79
Culture positive	92	68	408	75	501	73	70	67	424	78	495	76
Clinical case <sup>3</sup>	44	32	144	26	188	27	34	33	122	22	156	24
Disease site												
Pulmonary-only	89	65	358	66	447	65	66	63	349	64	415	64
Extra-pulmonary only	26	19	127	23	154	22	25	24	127	23	152	23
Both pulmonary and extrapulmonary	21	15	67	12	88	13	13	13	71	13	84	13
Cavitary chest x-ray <sup>4</sup>	20	18	83	20	103	19	17	17	65	15	78	16

1. United States (U.S.) includes Puerto Rico and the U.S. Virgin Islands. 2. Of patients with pulmonary disease and positive respiratory acid-fast bacilli (AFB) smears 3. As per CDC clinical case definition 4. Percent of cases with pulmonary disease

# Select clinical characteristics among tuberculosis cases by birth in the United States (U.S),<sup>1</sup> New York City, 2011-2012

Characteristics	2011						2012					
	U.S.-born		Foreign-born		Total		U.S.-born		Foreign-born		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Multidrug resistance <sup>2</sup>	0	0	14	3	14	3	3	4	15	4	18	4
Extensive drug resistance <sup>3</sup>	0	0	2	<1	2	<1	0	0	2	<1	2	<1
Other drug resistance <sup>4</sup>	12	13	59	15	71	14	7	10	58	14	66	14
History of prior TB disease	8	6	26	5	34	5	9	9	32	6	41	6
HIV status												
Infected	31	23	27	5	58	8	26	25	34	6	60	9
Not infected	78	57	410	75	488	71	52	50	396	73	449	69
Refused	18	13	100	18	118	17	23	22	90	16	113	17
Not offered/done or unknown	9	7	15	3	27	4	3	3	26	5	27	4

1. United States (U.S.) includes Puerto Rico and the U.S. Virgin Islands. 2. Multidrug resistance is defined as resistant to at least isoniazid and rifampin. Percent is among those with positive culture and susceptibility done 3. Extensive drug resistance is defined as resistant to at least isoniazid and rifampin plus a fluoroquinolone and a second-line injectable anti-TB medication. Percent is among those with positive culture and susceptibility done 4. Other drug resistance is defined as not multidrug-resistant, but resistant to one or more first-line drugs. Percent is among those with positive culture and susceptibility done.

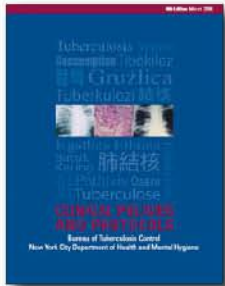
# Select social characteristics among tuberculosis cases by birth in the United States (U.S),<sup>1</sup> New York City, 2011-2012

Characteristics	2011						2012					
	U.S.-born		Foreign-born		Total		U.S.-born		Foreign-born		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Homeless <sup>2</sup>	5	4	13	2	18	3	9	9	8	1	17	3
Resident of correctional facility <sup>2</sup>	4	3	3	1	7	1	4	4	4	1	8	1
Employed <sup>3</sup>	106	78	457	83	563	82	33	32	313	57	347	53
Healthcare worker <sup>4</sup>	4	4	17	4	21	4	5	15	34	11	39	11
Injection drug use <sup>3</sup>	8	6	1	<1	9	1	7	7	0	0	7	1
Non-injection drug use <sup>3</sup>	22	16	17	3	39	6	25	24	14	3	34	6
Excessive alcohol use <sup>3</sup>	4	3	8	1	12	2	6	6	11	2	17	3
Any drug or excessive alcohol use <sup>3</sup>	27	26	25	5	52	8	31	30	22	4	53	8

1. United States (U.S.) includes Puerto Rico and the U.S. Virgin Islands. 2. At time of diagnosis 3. In past 12 months before TB diagnosis.  
4. Percent is among all employed.



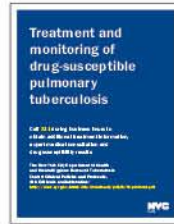
# Select educational materials for healthcare providers, patients and the public



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4th Edition.

Describes policies, protocols and recommendations for the prevention, treatment and control of tuberculosis



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Treatment and monitoring of drug-susceptible pulmonary tuberculosis

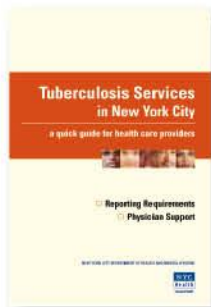
Provides concise information about treatment and monitoring for pulmonary TB



## REFERENCE GUIDE

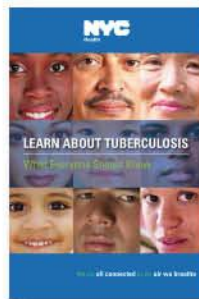
The Mantoux Tuberculin Skin Test: A Guide for Providers

Step-by-step guide to administering and reading TST



## PROVIDER BROCHURE

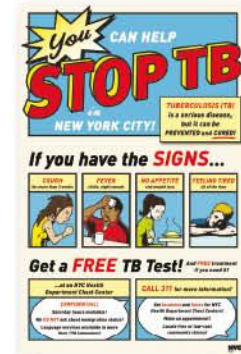
Tuberculosis Services in New York City: a Quick Guide for Health care Providers



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