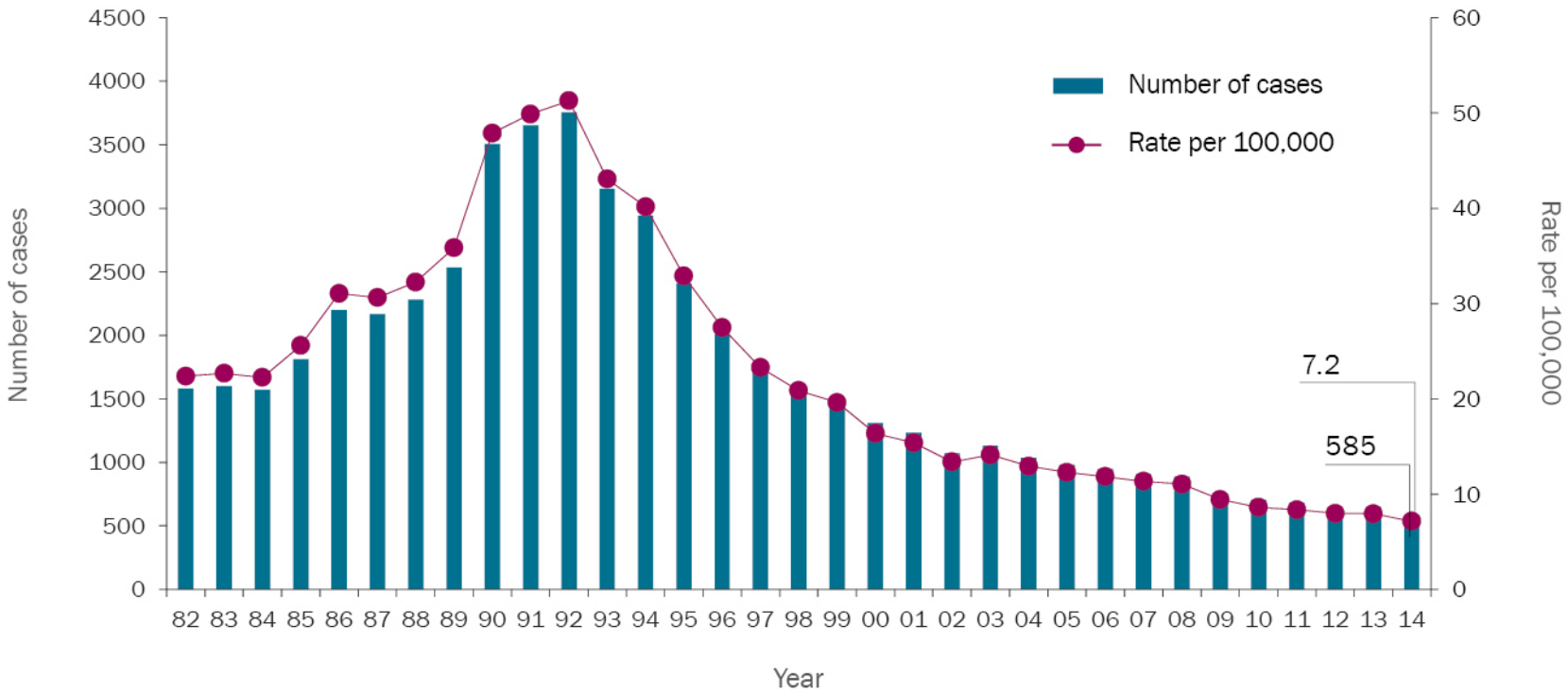
2014

STOPPING TB TOGETHER

NEW YORK CITY DEPARTMENT OF HEALTH AND MENTAL HYGIENE

BUREAU OF TUBERCULOSIS CONTROL ANNUAL SUMMARY, 2014

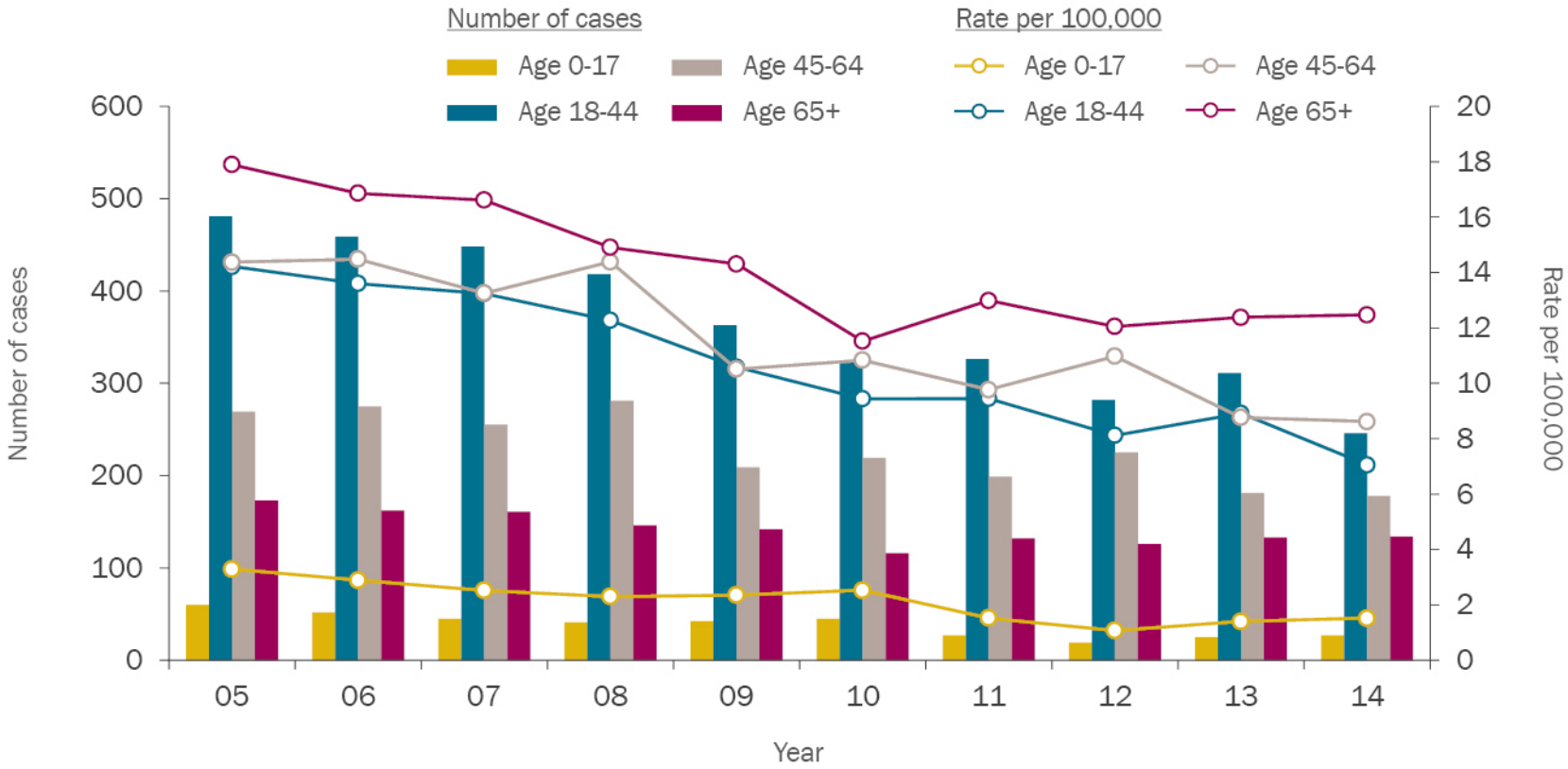
TUBERCULOSIS CASES AND RATES,[1] NEW YORK CITY, 1982-2014



1. Rates are based on decennial Census data.

NYC Health

TUBERCULOSIS CASES AND RATES[1] BY AGE, NEW YORK CITY, 2005-2014



1. Rates are based on NYC DOHMH population estimates, modified from U.S. Census Bureau interpolated intercensal population estimates, 2000-2013. Updated August 2014.

NYC Health

TUBERCULOSIS CASES AND RATES[1] BY SEX, NEW YORK CITY, 2005-2014

1. Rates are based on NYC DOHMH population estimates, modified from U.S. Census Bureau interpolated intercensal population estimates, 2000-2013. Updated August 2014.

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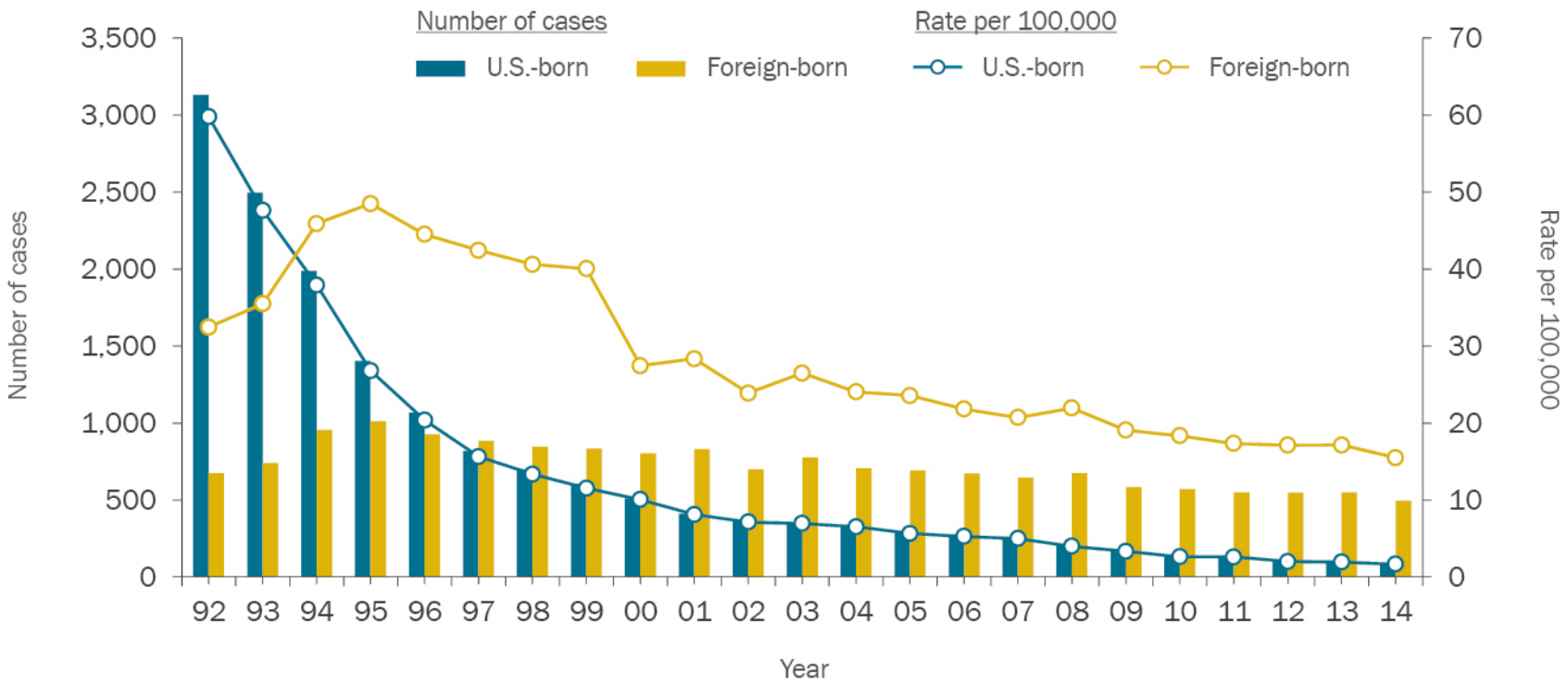
TUBERCULOSIS CASES AND RATES[1] BY BIRTH IN THE U.S.[2] NEW YORK CITY, 1992-2014



1. Rates prior to 2000 are based on 1990 U.S. Census data. Rates for 2000-2005 are based on 2000 U.S. Census data. Rates after 2005 are based on 3-year American Community Survey data centered on the given year or the most recent available data.
2. U.S.-born includes individuals born in the U.S. and U.S. territories. Excludes cases with unknown country of birth,

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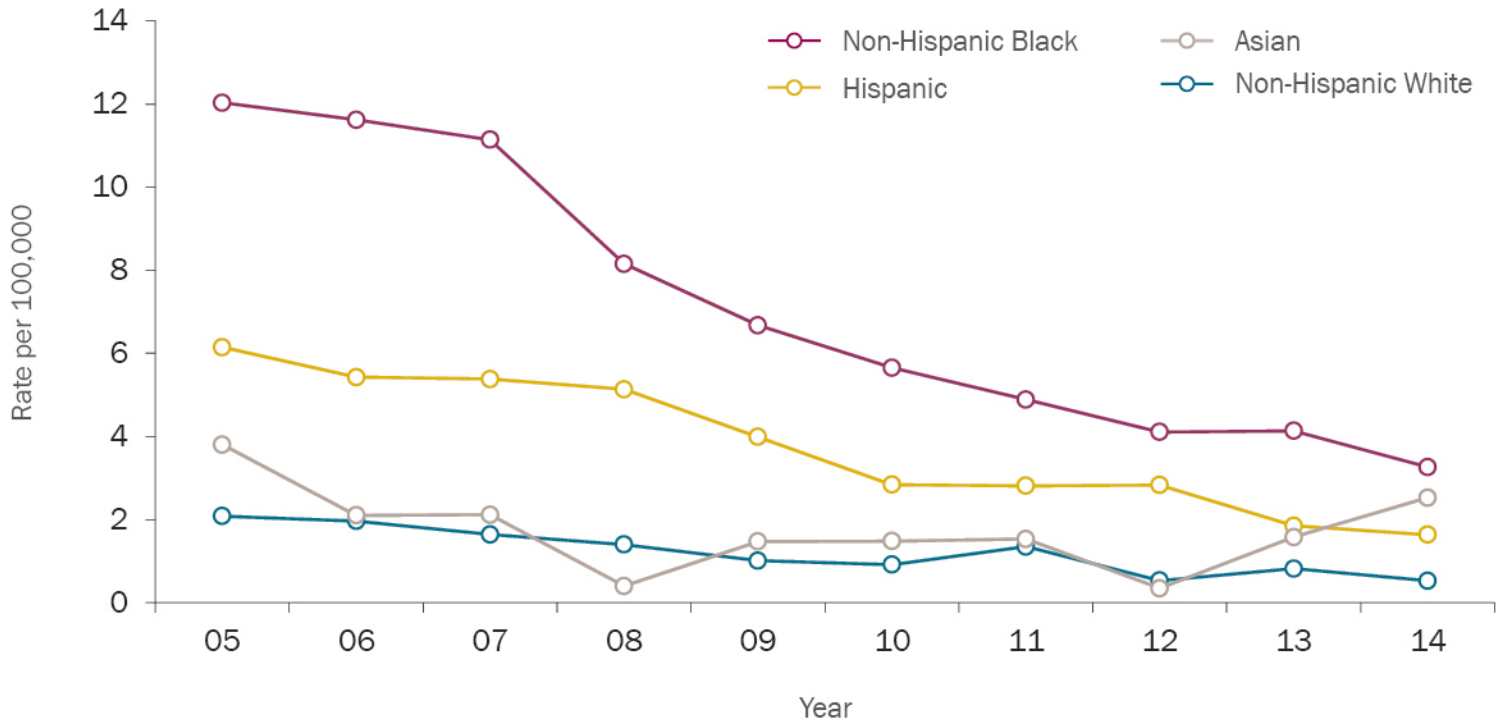
TUBERCULOSIS RATES[1] AMONG PERSONS BORN IN THE U.S. BY RACE/ETHNICITY NEW YORK CITY, 2005-2014



1. Rates are based on 1-year American Community Survey Public Use Microdata Sample data for the given year or the most recent available data.
2. U.S.-born includes invididuals born in the U.S. and U.S. territories.

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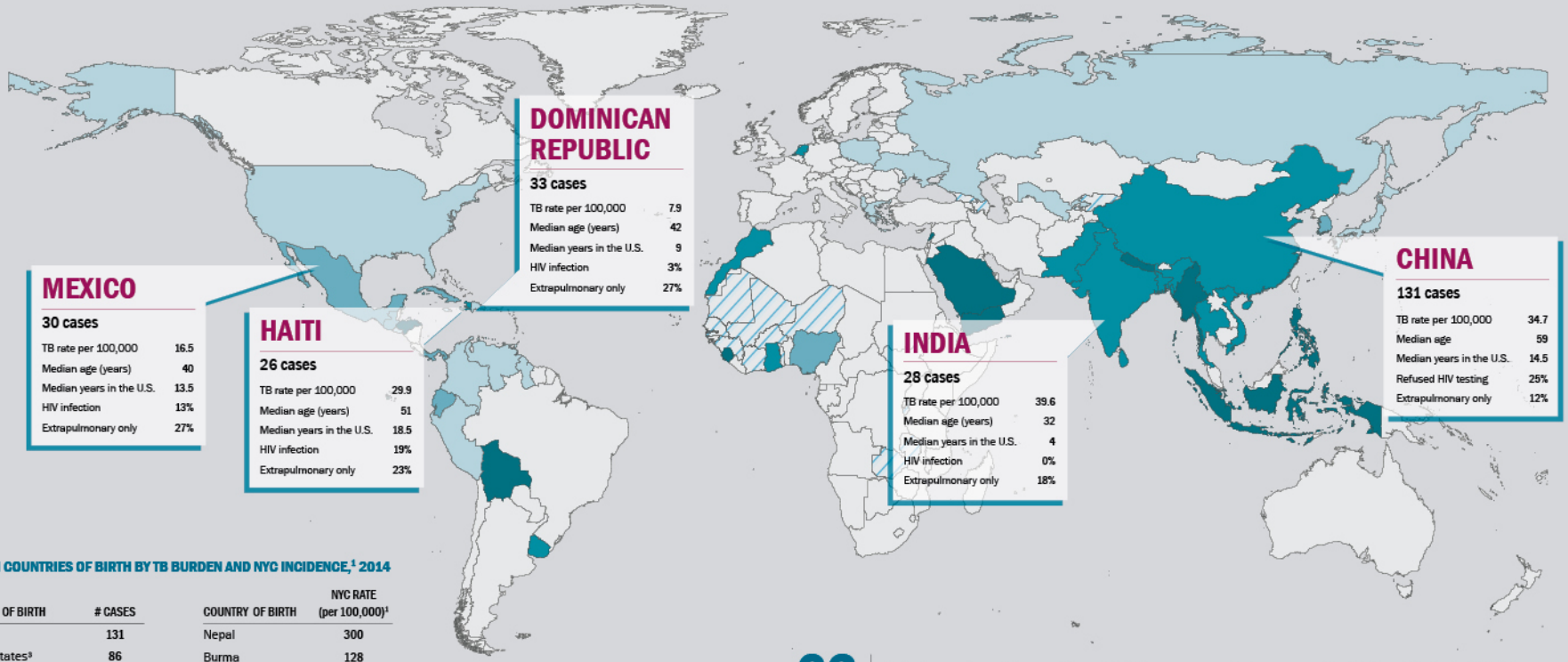
TUBERCULOSIS CASES AND RATES[1] BY COUNTRY OF BIRTH,[2-3] NEW YORK CITY, 2014



TOP TEN COUNTRIES OF BIRTH BY TB BURDEN AND NYC INCIDENCE,[1] 2014

COUNTRY OF BIRTH	# CASES	COUNTRY OF BIRTH	NYC RATE (per 100,000)[1]
China[2]	131	Nepal	300
United States[3]	86	Burma	128
Dominican Republic	33	Sierra Leone	100
Mexico	30	Saudi Arabia	77
India	28	Bolivia	64
Haiti	26	Philippines	49
Philippines	25	Indonesia	45
Ecuador	24	Yemen	45
Bangladesh	16	Lebanon	45
Pakistan	15	Honduras	40

New York City TB rate (per 100,000)

- 1.7 to 10.0
- 10.1 to 20.0
- 20.1 to 40.0
- 40.1 to 300.0
- Rate not available
- No NYC TB cases

62 Total number of countries of birth represented among NYC TB patients in 2014

10 Median number of years that foreign-born NYC TB patients had lived in the U.S. at diagnosis

15.5 TB rate per 100,000 among foreign-born New Yorkers in 2014

1. Rates are based on 2013 American Community Survey Public Use Microdata Sample data. 2. China includes individuals born in Hong Kong, Taiwan and Macau.
3. U.S.-born includes individuals born in the U.S. and U.S. territories. Two cases had unknown country of birth.

TOP TEN COUNTRIES OF BIRTH BY TUBERCULOSIS BURDEN AND INCIDENCE,[1] NEW YORK CITY, 2014

COUNTRY OF BIRTH	# CASES
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Philippines	25
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Pakistan	15

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1. Rates are based on 2013 American Community Survey Public Use Microdata Sample data. 2. China includes individuals born in Hong Kong, Taiwan and Macau. 3. U.S.-born includes individuals born in the U.S. and U.S. territories. Two cases had unknown country of birth.

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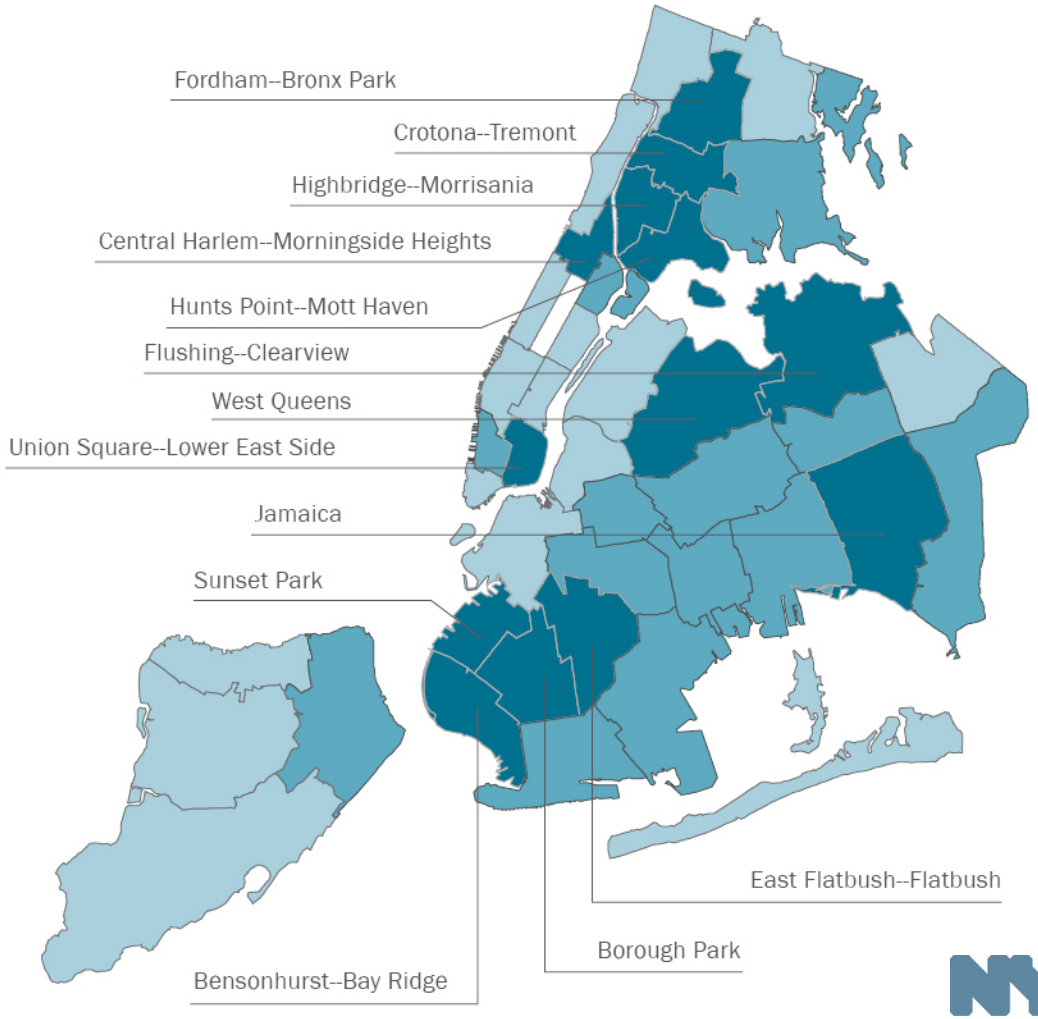
TUBERCULOSIS RATES[1] BY UNITED HOSPITAL FUND NEIGHBORHOOD, NEW YORK CITY, 2014



Rate per 100,000

- Below national rate (1.1 to 3.0)
- Below citywide rate (3.1 to 7.2)
- Above citywide rate (7.3 to 23.1)

1. Rates are based on NYC DOHMH population estimates, modified from U.S. Census Bureau interpolated intercensal population estimates, 2000-2013. Updated August 2014.

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TUBERCULOSIS CASES AND RATES[1] BY AREA-BASED POVERTY LEVEL[2-3] AND BIRTH IN THE U.S.,[4] NEW YORK CITY, 2014

Area-based poverty level[2]	Number of U.S.-born cases	U.S.-born rate	Number of foreign-born cases	Foreign-born rate	Total number of cases	Total NYC rate
30 to 100%	27	2.6	92	17.4	120	7.7
20 to <30%	28	2.3	172	19.7	200	9.6
10 to <20%	21	1.3	195	15.8	217	7.5
Less than 10%	10	0.9	37	7.8	48	2.9

1. Rates are based on 2008-2012 American Community Survey data.
2. Area-based poverty level is based on 2008-2012 American Community Survey data on the proportion of ZIP code residents living below the Federal poverty limit.
3. Cases were assigned to a ZIP code based on their residence at TB diagnosis.
4. U.S.-born includes individuals born in the U.S. and U.S. territories. Two cases had unknown country of birth.

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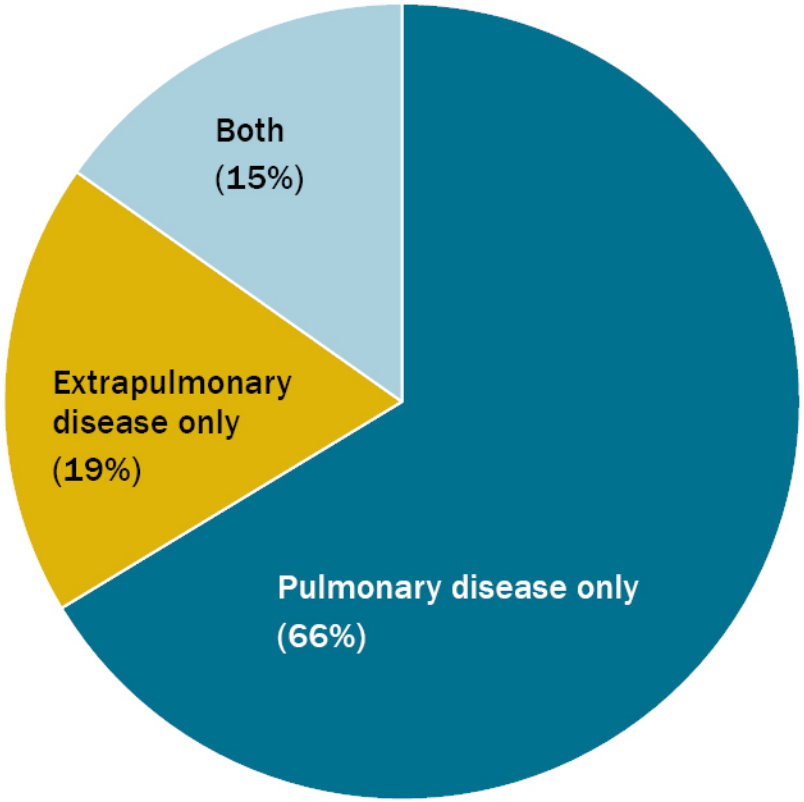
TUBERCULOSIS CASES BY DISEASE SITE NEW YORK CITY, 2014 (N=585)



Disease site[1] among tuberculosis cases with any extrapulmonary disease, New York City, 2014 (n=198)

Disease site:	n	%
Lymphatic	83	42%
Pleural	55	28%
Bone/joint	16	8%
Meningeal	15	8%
Genitourinary	9	5%
Peritoneal	11	6%
Laryngeal	1	1%
Other	30	15%

1. Categories are not mutually exclusive.

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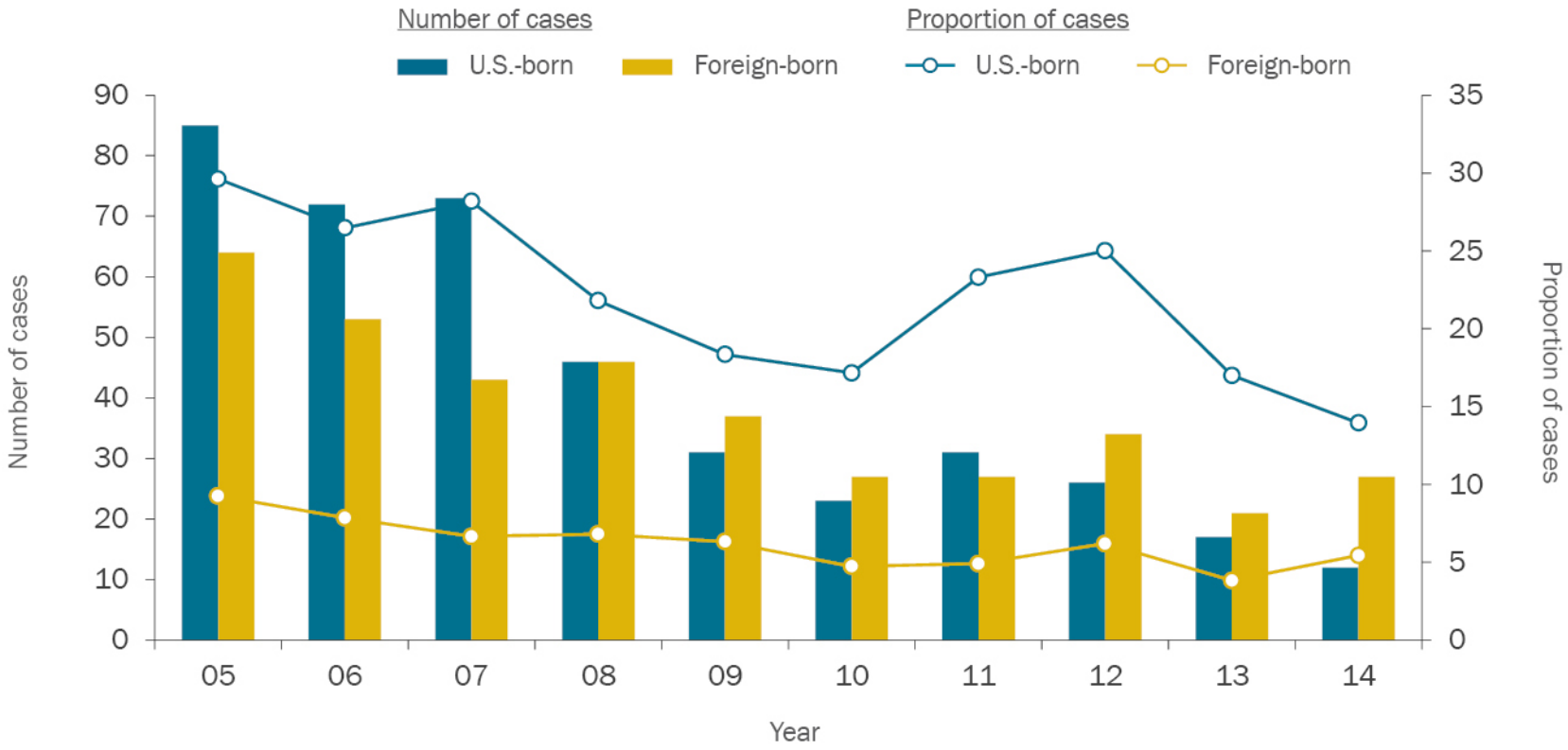
HIV INFECTION AMONG TUBERCULOSIS CASES BY BIRTH IN THE U.S.,[1] NEW YORK CITY, 2005-2014



1. U.S.-born includes individuals born in the U.S. and U.S. territories. Two cases had unknown country of birth.

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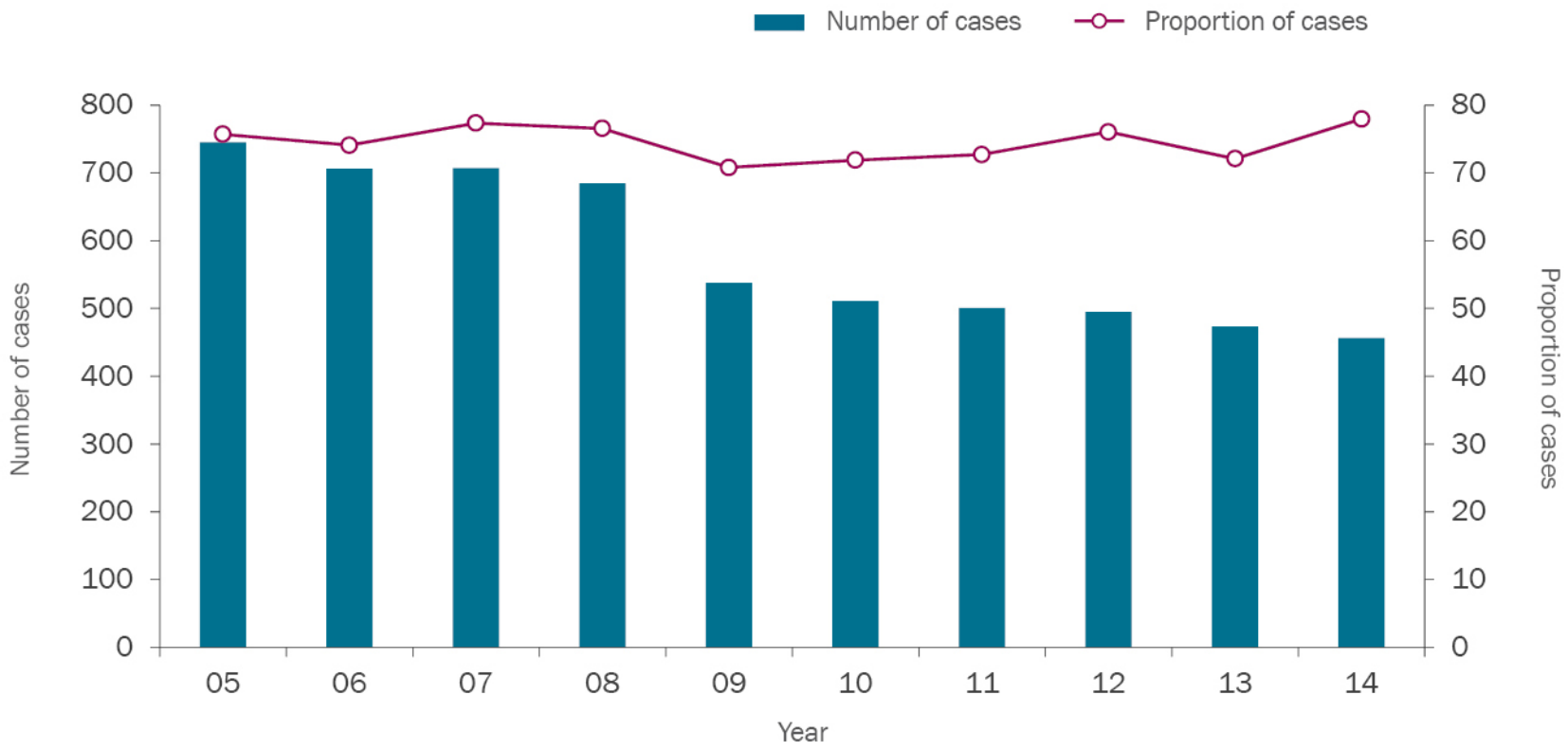
NUMBER AND PROPORTION OF CULTURE-CONFIRMED TUBERCULOSIS (TB) CASES AMONG ALL TB CASES, NEW YORK CITY, 2005-2014



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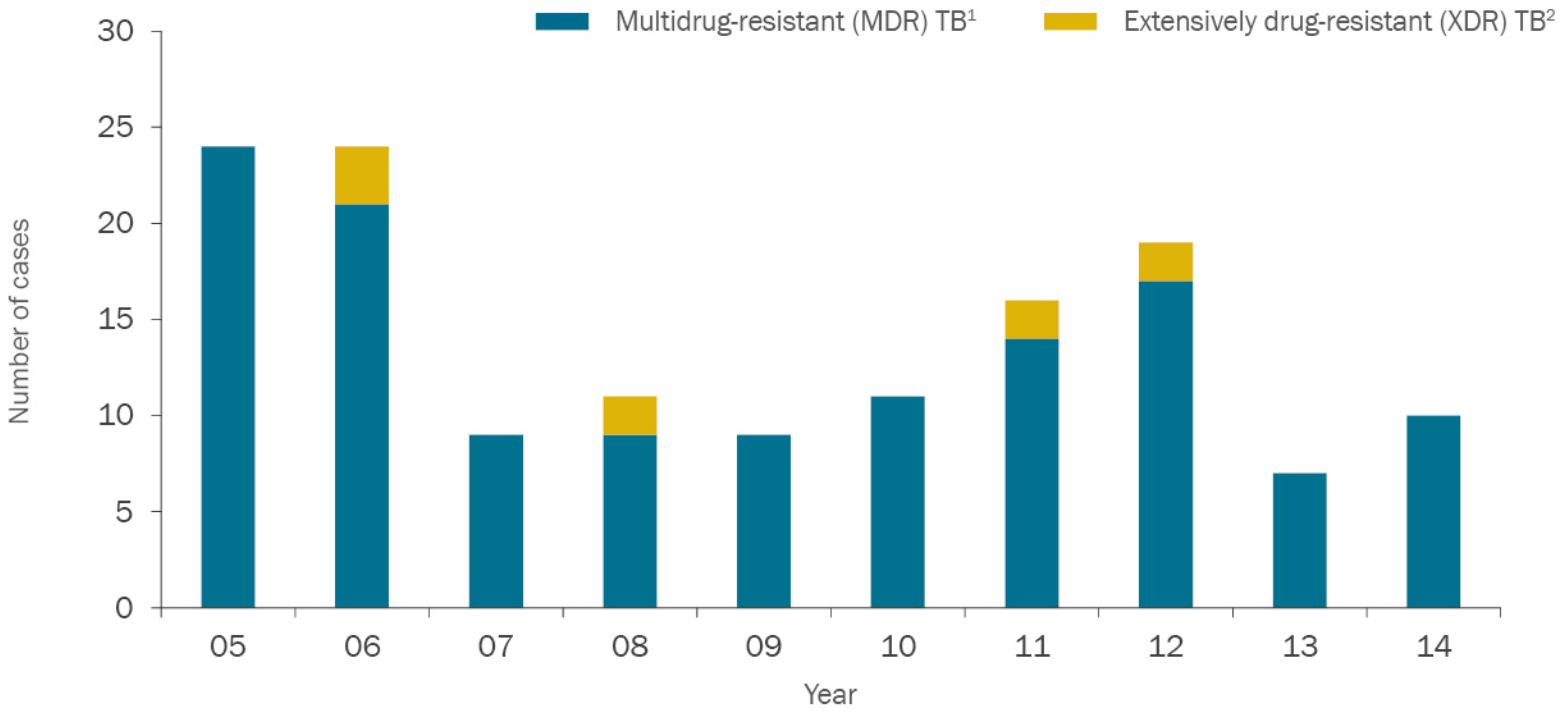
MULTIDRUG RESISTANCE AMONG TUBERCULOSIS CASES, NEW YORK CITY, 2005-2014



1. Multidrug-resistant (MDR) TB is defined as resistance to at least isoniazid and rifampin.
2. Extensively drug-resistant (XDR) TB is defined as resistance to at least isoniazid and rifampin plus a fluoroquinolone and a second-line injectable anti-TB medication.

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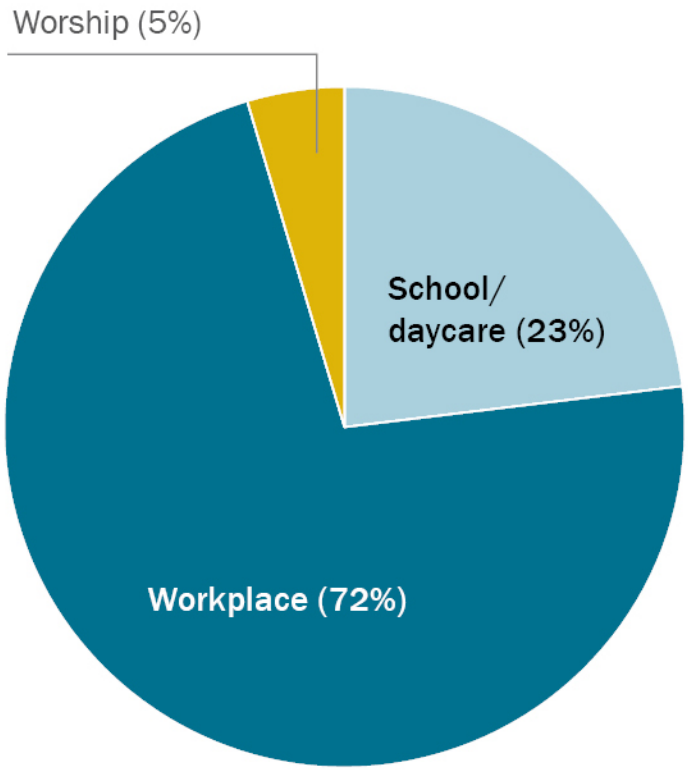
TUBERCULOSIS EPIDEMIOLOGIC INVESTIGATIONS IN CONGREGATE SETTINGS BY SITE TYPE, NUMBER OF EXPOSED CONTACTS, AND TRANSMISSION ASSESSMENT, NEW YORK CITY, 2014 (N=65)



	≥15 exposed contacts	<15 exposed contacts	Total
Number of sites	17	48	65
Transmission likely[2]	5 (36%)	11 (30%)	16 (31%)
Number of contacts	878	267	1145
Eligible for testing	833 (95%)	247 (93%)	1080 (94%)
Tested	667 (80%)	229 (93%)	896 (83%)
Positive	51 (8%)	58 (25%)	109 (12%)

1. Excludes healthcare-associated investigations (n=160).
2. Proportion calculated among investigations where transmission could be assessed.

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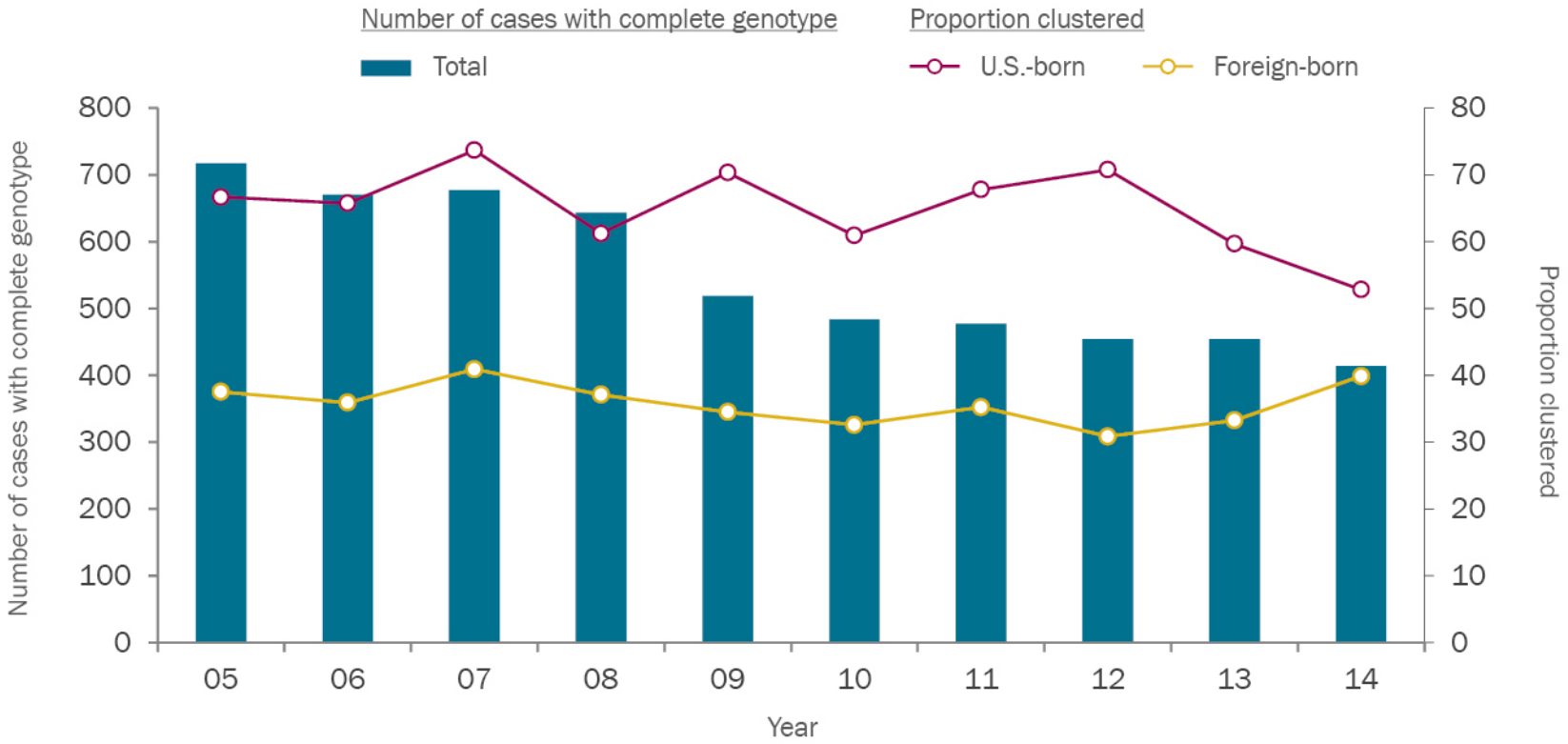
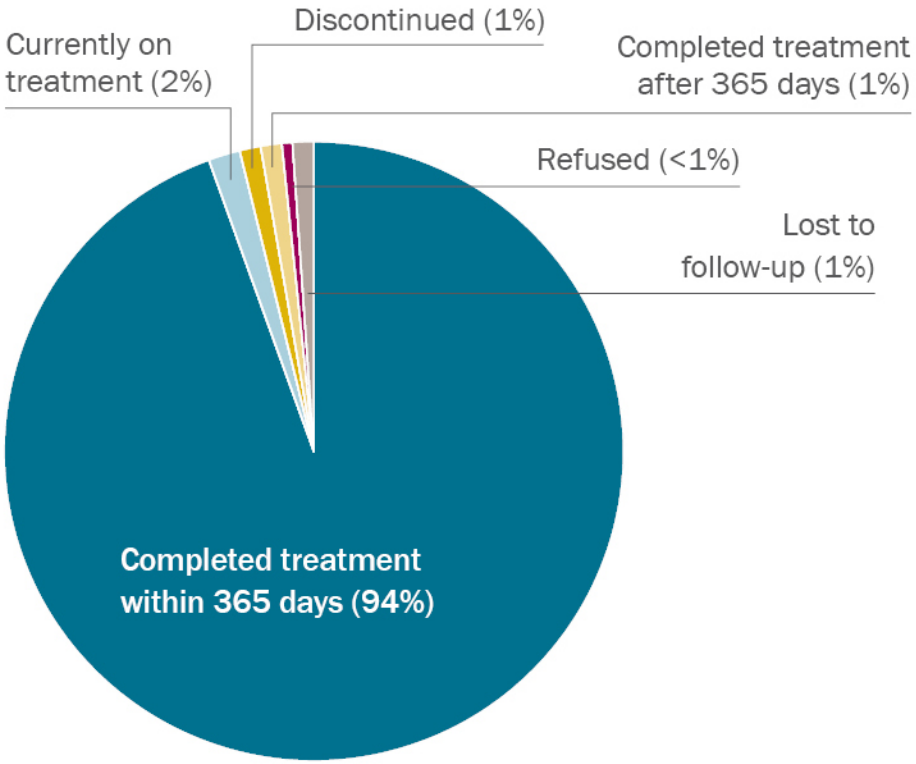
NUMBER OF CULTURE-POSITIVE TUBERCULOSIS CASES WITH COMPLETE GENOTYPE[1] AND PROPORTION CLUSTERED[2] BY BIRTH IN THE U.S.,[3] NEW YORK CITY, 2005-2014



1. Complete genotype is defined as a valid spacer oligonucleotide typing (spoligotype) and *IS6110* restriction length polymorphism analysis (RFLP) result.
2. Cases were defined as clustered if they had similar or exact-matching RFLP and spoligotype results to at least one other TB case counted in NYC since January 1, 2001. Proportion is among cases with valid and complete genotype results available.
3. U.S.-born includes individuals born in the U.S. and U.S. territories. Excludes cases with unknown country of birth.

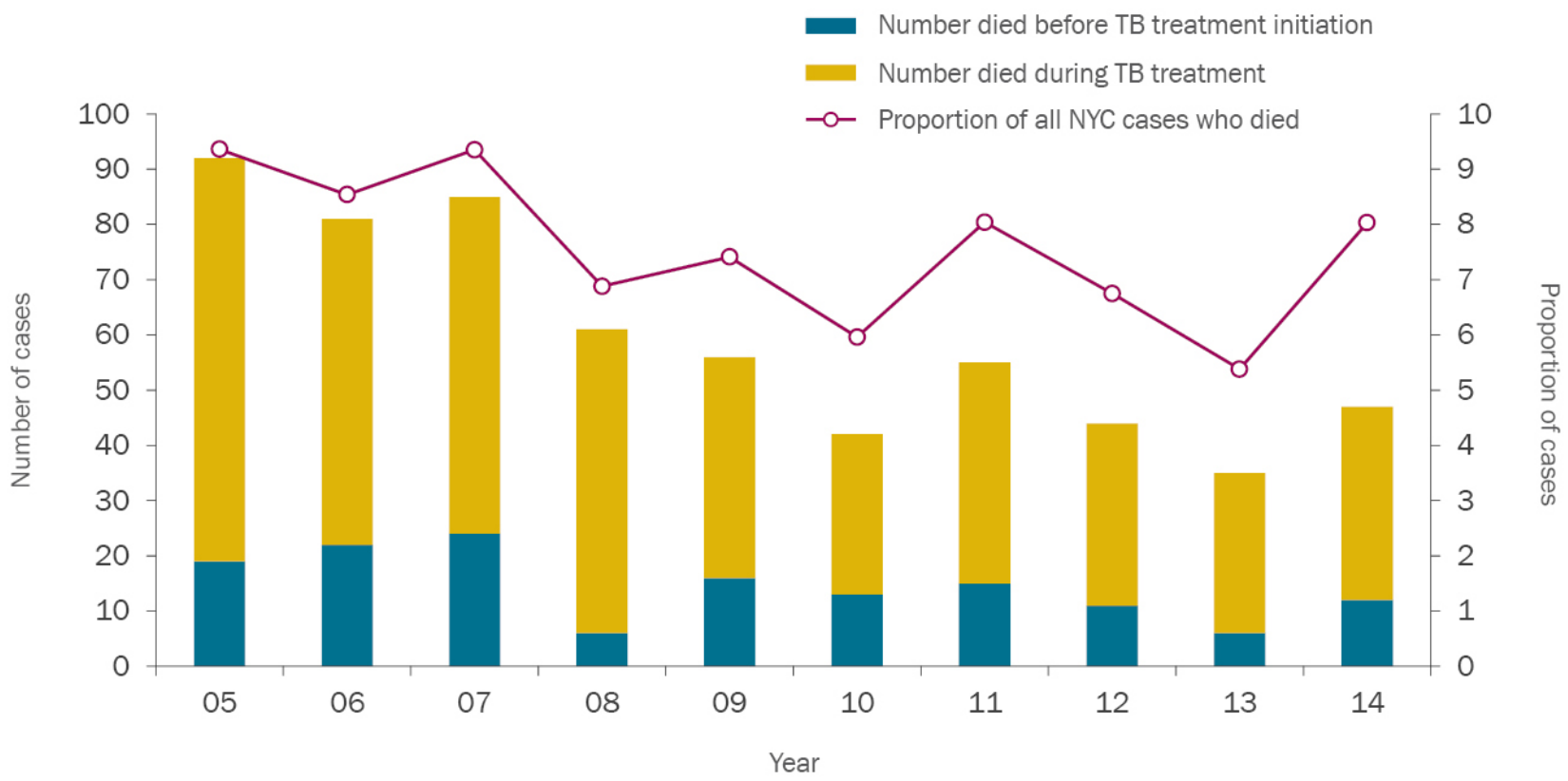
TREATMENT OUTCOMES FOR TUBERCULOSIS CASES COUNTED IN 2013[1] WHO WERE ELIGIBLE TO COMPLETE TREATMENT WITHIN 365 DAYS,[2] NEW YORK CITY (N=545)



Treatment outcome	n
Completed treatment within 365 days	515
Currently on treatment	9
Completed treatment after 365 days	6
Lost to follow-up	6
Refused	3
Discontinued due to adverse event	6

1. Treatment outcomes are not reported for the current year to allow sufficient time for follow-up.
2. Excludes patients who never started on anti-TB medications, those who died or moved outside of the U.S. within 365 days of treatment initiation, those with any rifampin resistance, those with meningeal TB, and children 14 years of age or younger with disseminated TB.

NUMBER AND PROPORTION OF TUBERCULOSIS CASES WHO DIED[1] BEFORE OR DURING TREATMENT, NEW YORK CITY, 2005-2014



1. A death is defined as any case who died before or during TB treatment, regardless of the cause of death. This excludes any case who died after the completion of TB treatment.

TABLES

Select demographic characteristics among tuberculosis cases by birth in the United States (U.S),[1] New York City, 2013-2014

Characteristics	2013						2014					
	U.S.-born		Foreign-born		Total[2]		U.S.-born		Foreign-born		Total[2]	
	n	%	n	%	n	%	n	%	n	%	n	%
Age group (years)												
0-17	13	13	12	2	25	4	11	13	16	3	27	5
18-44	30	30	281	51	311	48	24	28	222	45	246	42
45-64	40	40	140	26	181	28	31	36	146	29	178	30
65+	17	17	116	21	133	20	20	23	113	23	134	23
Sex												
Female	49	49	214	39	263	40	32	37	179	36	211	36
Male	51	51	335	61	387	60	54	63	318	64	374	64
Race/ethnicity												
White Non-Hispanic	17	17	26	5	43	7	11	13	25	5	37	6
Black Non-Hispanic	52	52	80	15	132	20	41	48	86	17	127	22
Hispanic	26	26	137	25	164	25	23	27	123	25	147	25
Asian	5	5	296	54	301	46	8	9	234	47	242	41
Multiple/other	0	0	10	2	10	2	2	2	30	6	32	5

1. U.S.-born includes individuals born in the U.S. and U.S. territories. 2. One case in 2013 and two cases in 2014 had unknown country of birth. As such, totals may not equal the sum of US-born and Foreign-born.

NYC Health

Select demographic characteristics among tuberculosis cases by birth in the United States (U.S),[1] New York City, 2013-2014

Characteristics	2013						2014					
	U.S.-born		Foreign-born		Total[2]		U.S.-born		Foreign-born		Total[2]	
	n	%	n	%	n	%	n	%	n	%	n	%
Borough of residence[3]												
Manhattan	21	21	72	13	93	14	22	26	50	10	72	12
Bronx	19	19	70	13	89	14	18	21	80	16	99	17
Brooklyn	45	45	150	27	196	30	30	35	162	33	192	33
Queens	14	14	229	42	243	37	13	15	199	40	212	36
Staten Island	1	1	24	4	25	4	3	3	6	1	10	2
Time in the U.S.												
Less than 1 year	n/a	n/a	81	15	81	15	n/a	n/a	70	14	70	14
1-5 years	n/a	n/a	120	22	120	22	n/a	n/a	108	22	108	22
Greater than 5 years	n/a	n/a	348	63	348	63	n/a	n/a	319	64	319	64
Unknown	n/a	n/a	0	0	0	0	n/a	n/a	0	0	0	0

1. U.S.-born includes individuals born in the U.S. and U.S. territories. 2. One case in 2013 and two cases in 2014 had unknown country of birth. As such, totals may not equal the sum of US-born and Foreign-born. 3. There were two cases in 2013 with addresses that could not be geocoded and two cases with non-NYC addresses. As such, totals may not equal the sum of US-born and Foreign-born.

NYC Health

Select clinical characteristics among tuberculosis cases by birth in the United States (U.S),[1] New York City, 2013-2014

Characteristics	2013						2014					
	U.S.-born		Foreign-born		Total[2]		U.S.-born		Foreign-born		Total[2]	
	n	%	n	%	n	%	n	%	n	%	n	%
Ever respiratory smear positive	41	41	232	42	273	42	26	30	226	45	252	43
Sputum smear positive	35	85	223	96	258	95	24	92	219	97	243	96
NAA positive[3]	0	0	5	14	5	12	3	33	8	35	11	34
Culture positive	66	66	406	74	473	73	57	66	397	80	456	78
Disease site												
Pulmonary-only	65	65	334	61	400	62	54	63	333	67	387	66
Extra-pulmonary only	24	24	126	23	150	23	18	21	89	18	109	19
Both pulmonary and extrapulmonary	11	11	89	16	100	15	14	16	75	15	89	15
Cavitary chest x-ray[4]	18	24	117	28	135	27	18	26	74	18	92	19

1. U.S.-born includes individuals born in the U.S. and U.S. territories. 2. One case in 2013 and two cases in 2014 had unknown country of birth. As such, totals may not equal the sum of US-born and Foreign-born. 3. Among patients with negative culture and NAA performed.
4. Percent is among patients with a pulmonary site of disease.

NYC Health

Select clinical characteristics among tuberculosis cases by birth in the United States (U.S),[1] New York City, 2013-2014

Characteristics	2013						2014					
	U.S.-born		Foreign-born		Total[2]		U.S.-born		Foreign-born		Total[2]	
	n	%	n	%	n	%	n	%	n	%	n	%
Multidrug resistance[3]	0	0	7	2	7	2	1	2	8	2	9	2
Extensive drug resistance[4]	0	0	0	0	0	0	0	0	0	0	0	0
Non-MDR INH resistance[3]	7	11	35	9	42	9	5	9	36	9	41	9
Non-MDR INH resistance[3]	0	0	1	0	1	0	0	0	0	0	0	0
History of prior TB disease	4	4	35	6	39	6	5	6	32	6	37	6
HIV status												
Infected	17	17	21	4	38	6	12	14	27	5	39	7
Not infected	61	61	439	80	500	77	53	62	374	75	428	73
Refused	20	20	75	14	95	15	17	20	75	15	92	16
Not offered/done or unknown	2	2	14	3	17	3	4	5	21	4	26	4

1. U.S.-born includes individuals born in the U.S. and U.S. territories. 2. One case in 2013 and two cases in 2014 had unknown country of birth. As such, totals may not equal the sum of U.S.-born and Foreign-born. 3. Multidrug resistance is defined as resistant to at least isoniazid and rifampin. Percent is among those with positive culture and susceptibility done; one case with MDR TB in 2014 did not have a positive culture. 4. 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.

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Select social characteristics[1] among tuberculosis cases by birth in the United States (U.S),[2] New York City, 2013-2014

Characteristics	2011						2012					
	U.S.-born		Foreign-born		Total[3]		U.S.-born		Foreign-born		Total[3]	
	n	%	n	%	n	%	n	%	n	%	n	%
Homeless	7	7	8	1	16	2	6	7	10	2	16	3
Employed[4]	26	30	246	46	272	44	21	28	221	46	242	43
Health care worker[4]	3	12	32	13	35	13	4	19	20	9	24	10
Drug use	13	13	13	2	26	4	13	15	9	2	22	4
Excessive alcohol use	4	4	5	1	9	1	2	2	10	2	13	2

1. In the 12 months before TB diagnosis. 2. U.S.-born includes individuals born in the U.S. and U.S. territories. 3. One case in 2013 and two cases in 2014 had unknown country of birth. As such, totals may not equal the sum of U.S.-born and Foreign-born. 4. Among patients 18 years of age and older.

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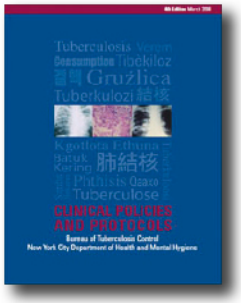
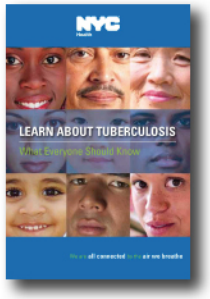
EDUCATIONAL RESOURCES FOR HEALTHCARE PROVIDERS AND THE PUBLIC



CLINICAL POLICIES AND PROTOCOLS

4th Edition.

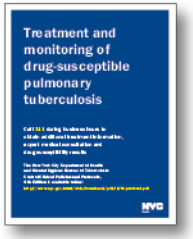
Describes policies, protocols and recommendations for the prevention, treatment and control of TB



PATIENT BROCHURE

Learn About Tuberculosis: What Everyone Should Know

General information in easy-to-read format for all audiences. Available in English, Spanish, Chinese, Korean, French and Haitian Creole



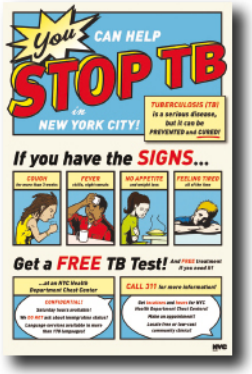
POCKET-SIZED REFERENCE GUIDE FOR PROVIDERS

Treatment and monitoring of drug-susceptible pulmonary tuberculosis

Provides concise information about treatment and monitoring for pulmonary TB

TB EPIQUERY

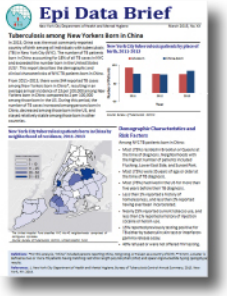
Data on TB cases reported to the BTBC from 2001 to 2012 are now available on TB EpiQuery. EpiQuery is an interactive, user-friendly system designed to guide users through basic data analyses. Reported TB cases and case rates are available by select demographic and geographic characteristics. On a citywide level, select characteristics that are important to the epidemiology of TB are also available, including country of birth and HIV infection. To access TB EpiQuery, go to: http://nyc.gov/health/epiquery



EDUCATIONAL POSTER

Provides basic TB information and includes illustrations with captions. Available in English, Spanish, French, Haitian Creole, Hindu, Urdu, Bengali, Tibetan, Tagalog and Chinese.

To request information or posters in hard copy or digital formats, please email *tbtraining@health.nyc.gov*



NYC HEALTH EPI DATA BRIEFS:

Epi Data Briefs are short publications that highlight data findings from varying Health Department programs and projects. For more information and to access recently-published reports, go to: http://www.nyc.gov/html/doh/html/data/epidata.shtml

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