



Epi Data Tables

New York City Department of Health and Mental Hygiene

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Neighborhood Poverty and Infectious Diseases: Health Disparities in New York City

Data Tables

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Data Sources

2007-2013 HIV/AIDS surveillance data, DOHMH Bureau of HIV/AIDS Prevention and Control; 2006-2013 surveillance data for 33 diseases, Bureau of Communicable Disease (BCD) (see table 1 for list); 2006-2013 chlamydia, gonorrhea, and syphilis surveillance data, Bureau of STD Prevention and Control; 2006-2013 tuberculosis (TB) data, Bureau of TB Control. Rates were calculated using DOHMH-developed intercensal census tract-based population estimates by poverty level. Census tract-based poverty levels were created using American Community Survey (ACS) five-year estimates, following standard DOHMH guidelines: ACS estimates for 2006-2010, 2007-2011, 2008-2012, and 2009-2013 were used for surveillance data years 2006-2008, 2009, 2010, and 2011-2013, respectively. Variations in data between this report and other DOHMH publications may be due to reporting delays, the availability of census data, corrections of errors, and refinements in data processing.

To access the related Epi Data Brief, go to www1.nyc.gov/assets/doh/downloads/pdf/epi/databrief68.pdf

Table 1. Diseases included in analysis of neighborhood poverty, by New York City Department of Health and Mental Hygiene (DOHMH) surveillance programs, 2006-2013

DOHMH Program	Disease
Communicable Disease	Acute hepatitis B
	Amebiasis
	Anaplasmosis, human granulocytic
	Babesiosis
	Campylobacteriosis
	Chronic hepatitis B
	Chronic hepatitis C
	Cryptosporidiosis
	<i>Cyclospora</i>
	Dengue fever
	Ehrlichiosis, human monocytic
	Giardiasis
	Group A <i>Streptococcus</i>
	Group B <i>Streptococcus</i>
	<i>Haemophilus influenzae</i>
	Hepatitis A
	Influenza (laboratory-confirmed)
	Legionellosis
	Listeriosis
	Lyme disease
	Malaria
	<i>Neisseria meningitidis</i>
	Paratyphoid fever
	Respiratory syncytial virus
	<i>Salmonella</i>
	Shiga toxin-producing <i>E. coli</i>
	Shigellosis
	<i>Streptococcus pneumoniae</i>
	Transmissible spongiform encephalopathy
	Typhoid fever
	Vibrio species (non-cholera)
	West Nile neuroinvasive disease
	Yersiniosis
HIV/AIDS Prevention and Control	HIV/AIDS
STD Prevention and Control	Chlamydia
	Gonorrhea
	Syphilis
Tuberculosis Control	Tuberculosis

Table 2. Association between diseases and neighborhood poverty:^a number of disease events and rate ratios (RR) with 95% confidence intervals (CI), New York City, 2006–2013

Sources: NYC DOHMH HIV/AIDS, Communicable Disease, STD, and TB surveillance data 2006–2013, and American Community Survey 5-year estimates, 2006–2010, 2007–2011, 2008–2012, and 2009–2013

Disease	Number of disease events included in analysis	Rate ratio comparing very high with low poverty neighborhoods (95% CI)	Is disease associated with residing in very high or low poverty neighborhood?
Malaria	1,573	3.56 (3.04, 4.16)	
Chronic hepatitis B*	65,632	3.50 (3.42, 3.59)	
Chronic hepatitis C*	64,487	3.48 (3.41, 3.56)	
Gonorrhea	80,823	3.46 (3.39, 3.54)	
Chlamydia	372,274	3.41 (3.38, 3.45)	
HIV/AIDS*	18,978	3.35 (3.21, 3.50)	
Tuberculosis	5,970	3.23 (2.98, 3.51)	
Syphilis (all stages)	30,485	2.77 (2.68, 2.87)	
<i>Streptococcus pneumoniae</i>	5,366	2.69 (2.49, 2.90)	
Group A <i>Streptococcus</i>	1,573	2.56 (2.23, 2.94)	
Shigellosis	3,050	2.54 (2.28, 2.83)	Very high
<i>Neisseria meningitidis</i>	208	2.18 (1.48, 3.22)	
Group B <i>Streptococcus</i>	4,270	2.15 (1.72, 2.68)	
Legionellosis	1,586	2.15 (1.88, 2.45)	
Acute hepatitis B	666	2.09 (1.68, 2.61)	
Respiratory syncytial virus [†]	24,514	1.95 (1.88, 2.02)	
<i>Haemophilus influenzae</i>	790	1.89 (1.57, 2.28)	
Cryptosporidiosis	828	1.80 (1.48, 2.19)	
Dengue fever	635	1.71 (1.37, 2.13)	
<i>Salmonella</i>	9,208	1.36 (1.29, 1.44)	
Influenza (laboratory-confirmed) [#]	35,355	1.33 (1.29, 1.36)	
Typhoid fever	379	1.27 (0.90, 1.79)	
Listeriosis	275	1.10 (0.79, 1.54)	
Amebiasis	3,420	1.06 (0.96, 1.17)	
Campylobacteriosis	9,277	1.05 (0.99, 1.11)	No association
Yersiniosis	141	0.94 (0.58, 1.55)	
Hepatitis A	729	0.91 (0.73, 1.14)	
Paratyphoid fever ^{&}	64	0.83 (0.35, 1.97)	
Giardiasis	6,793	0.93 (0.87, 0.99)	
Shiga toxin-producing <i>E. coli</i>	535	0.59 (0.46, 0.76)	
Lyme disease	9,685	0.37 (0.34, 0.39)	
<i>Cyclospora</i>	139	0.29 (0.15, 0.53)	
Transmissible spongiform encephalopathy	40	0.26 (0.08, 0.87)	Low
<i>Vibrio</i> species (non-cholera)	127	0.24 (0.12, 0.48)	
Babesiosis	322	0.23 (0.15, 0.36)	
West Nile neuroinvasive disease	100	0.20 (0.08, 0.52)	
Ehrlichiosis, human monocytic	79	0.13 (0.05, 0.33)	
Anaplasmosis, human granulocytic	163	0.08 (0.03, 0.20)	

Notes: Numbers presented are events among non-incarcerated NYC residents with a geocodable address and do not represent all diagnosed and reported events during the time period. Percent of disease events geocoded by disease ranged from 80 to 99%.

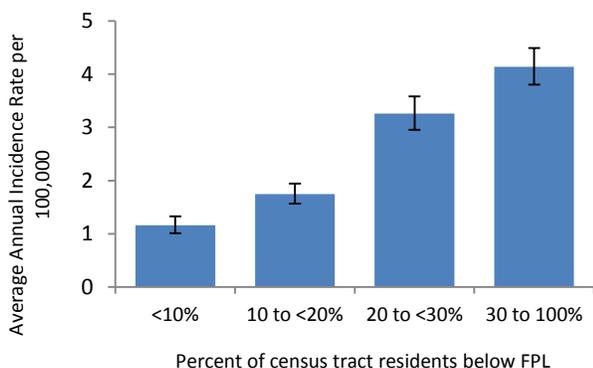
^aNeighborhood poverty (based on census tract) defined as percent of residents with income below the Federal Poverty Level (FPL), per American Community Survey (very high is $\geq 30\%$ below FPL; low is $< 10\%$ below FPL).

*Data for HIV/AIDS and chronic hepatitis B and C reflect cases newly reported during the study period, not incidence or prevalence rates. Study period for HIV/AIDS was 2007–2013. [†]Study period for respiratory syncytial virus was 2008–2013. [#]Influenza only reflects laboratory-confirmed influenza, which is an underestimate of influenza incidence. [&]Study period for paratyphoid fever was 2009–2013.

Figures 1-6. Average annual rates of malaria, chronic hepatitis B and C, gonorrhea, chlamydia, and syphilis by neighborhood poverty level,[^] New York City, 2006-2013.

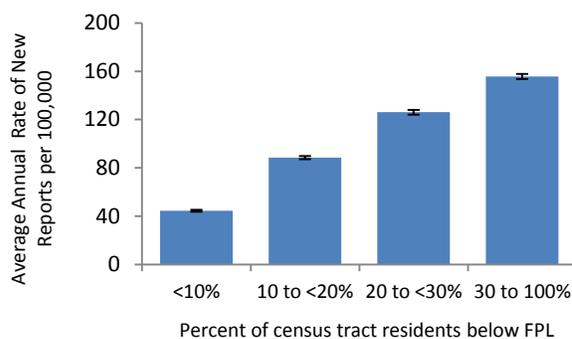
Sources: NYC DOHMH HIV/AIDS, Communicable Disease, STD, and TB surveillance data 2006-2013 as noted below each figure, and American Community Survey 5-year estimates, 2006-2010, 2007-2011, 2008-2012, and 2009-2013

Figure 1. Average annual incidence rate of malaria by poverty level, New York City, 2006-2013



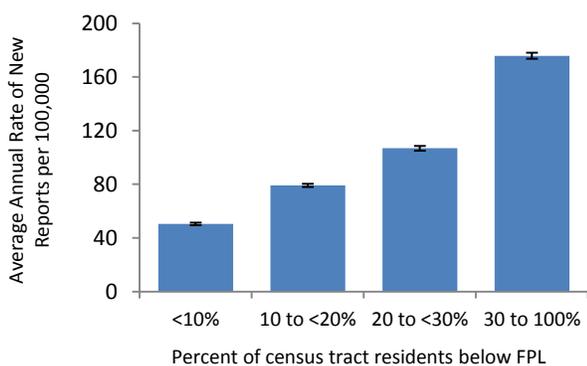
Sources: BCD surveillance data and ACS 5-year estimates, 2006-2010, 2007-2011, 2008-2012, and 2009-2013

Figure 2. Average annual rate of new reports of chronic hepatitis B by poverty level, New York City, 2006-2013



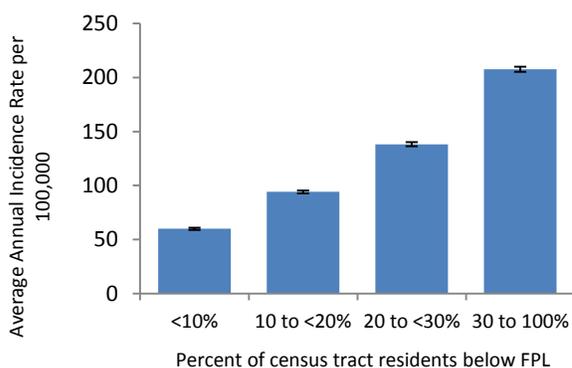
Sources: BCD surveillance data and ACS 5-year estimates, 2006-2010, 2007-2011, 2008-2012, and 2009-2013

Figure 3. Average annual rate of new reports of chronic hepatitis C by poverty level, New York City, 2006-2013



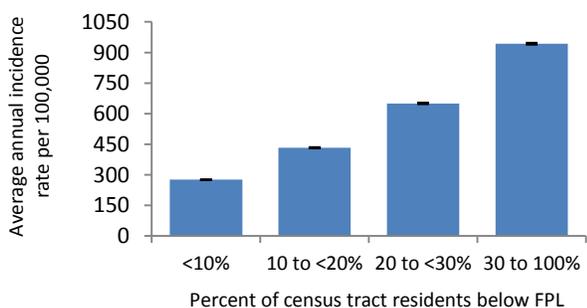
Sources: BCD surveillance data and ACS 5-year estimates, 2006-2010, 2007-2011, 2008-2012, and 2009-2013

Figure 4. Average annual rate of new reports of gonorrhea by poverty level, New York City, 2006-2013



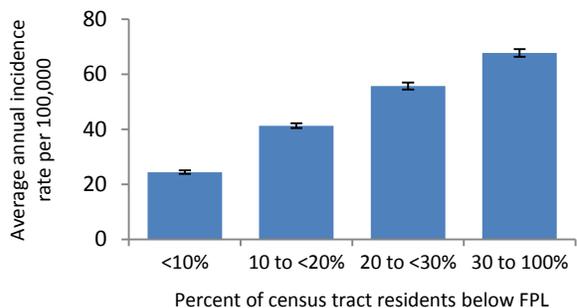
Sources: STD surveillance data and ACS 5-year estimates, 2006-2010, 2007-2011, 2008-2012, and 2009-2013

Figure 5. Average annual rate of new reports of chlamydia by poverty level, New York City, 2006-2013



Sources: STD surveillance data and ACS 5-year estimates, 2006-2010, 2007-2011, 2008-2012, and 2009-2013

Figure 6. Average annual rate of new reports of syphilis by poverty level, New York City, 2006-2013



Sources: STD surveillance data and ACS 5-year estimates, 2006-2010, 2007-2011, 2008-2012, and 2009-2013

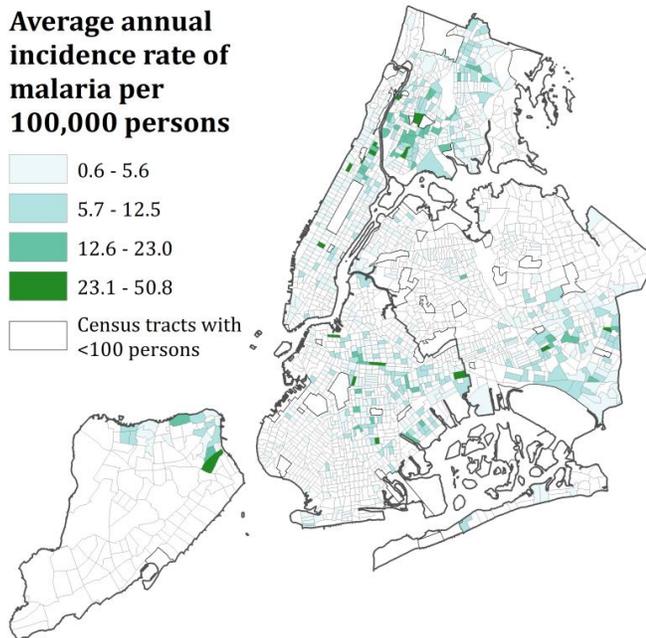
[^]Neighborhood poverty (based on census tract) defined as percent of residents with income below the Federal Poverty Level (FPL), per ACS.

Notes: Bars represent 95% confidence intervals, which are an estimate of precision. A smaller bar indicates a more precise estimate. Rates were age-adjusted to the 2000 US standard population.

Maps 1-8. Average annual rates of malaria, chronic hepatitis B and C, gonorrhea, chlamydia, HIV/AIDS, tuberculosis, and syphilis by census tract, New York City, 2006-2013.

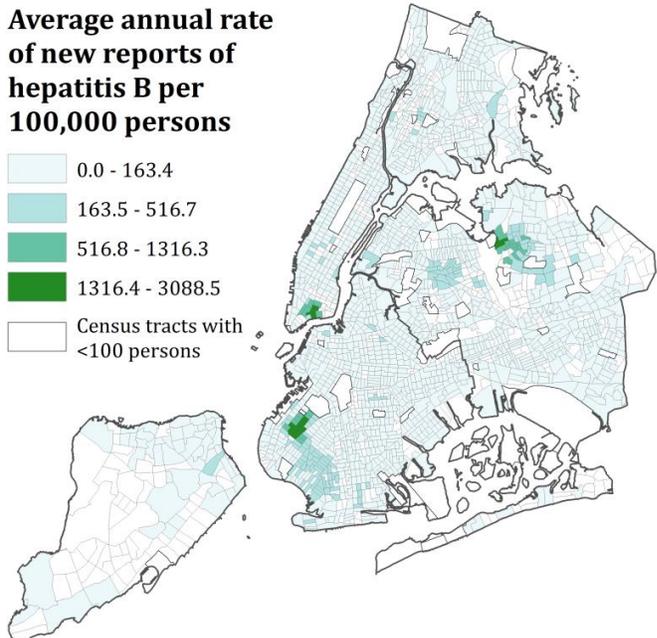
Sources: NYC DOHMH HIV/AIDS, Communicable Disease, STD, HIV/AIDS and TB surveillance data 2006-2013 as noted below each figure, and Census 2010
 Methodology: For maps, age-adjusted average annual rates per 100,000 population were calculated in each NYC census tract for each of the eight diseases most strongly associated with residing in very high poverty neighborhoods. Population estimates for rate calculations were from the 2010 Census, and the US 2000 standard population was used for age adjustment. Homeless individuals who were not geocoded to a census tract and incarcerated individuals are not included in rates shown on maps.

Map1. Average annual incidence rate of malaria by census tract in New York City, 2006-2013



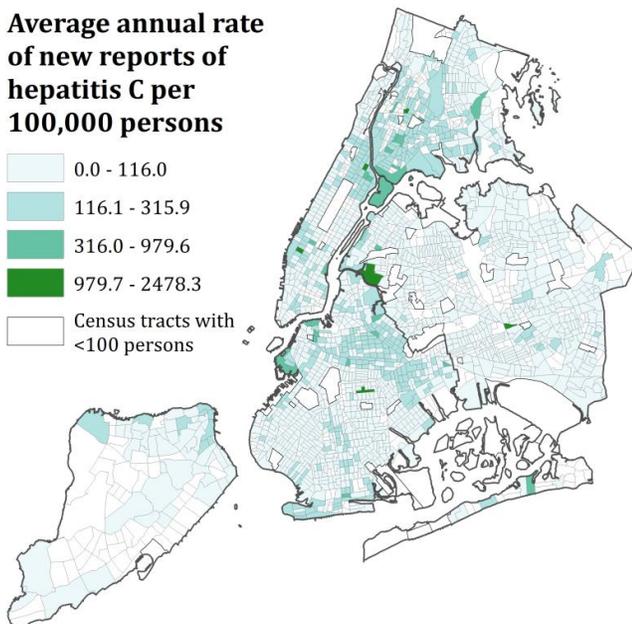
Sources: BCD surveillance data and Census 2010

Map2. Average annual rate of new reports of chronic hepatitis B by census tract in New York City, 2006-2013



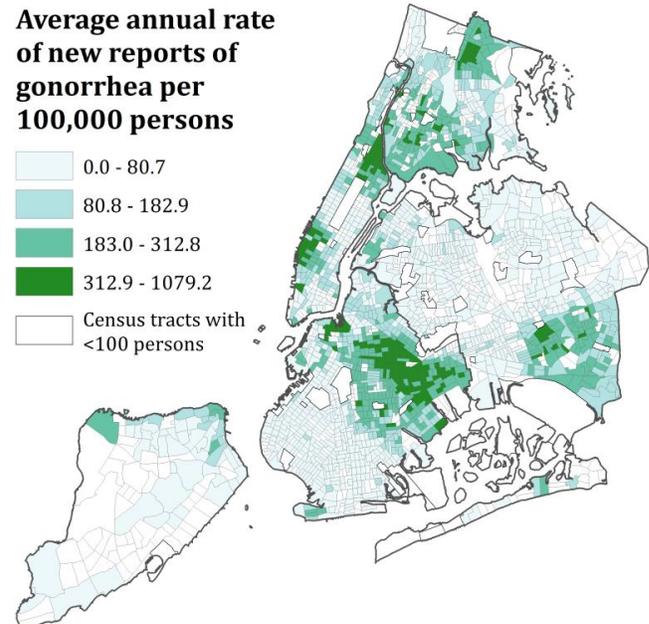
Sources: BCD surveillance data and Census 2010

Map 3. Average annual rate of new reports of chronic hepatitis C by census tract in New York City, 2006-2013



Sources: BCD surveillance data and Census 2010

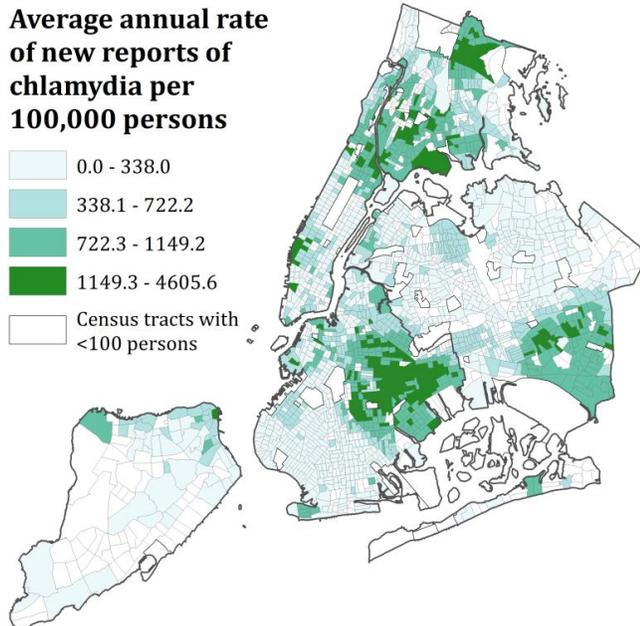
Map 4. Average annual rate of new reports of gonorrhea by census tract in New York City, 2006-2013



Sources: STD surveillance data and Census 2010

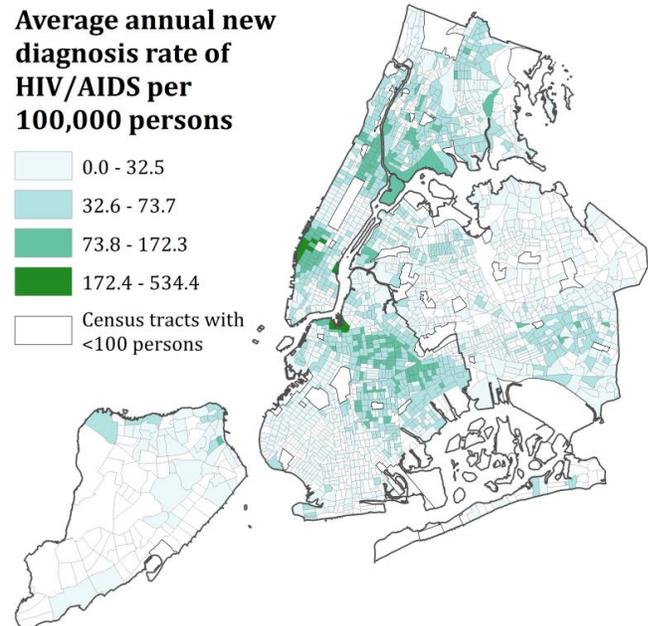
Maps 1-8 (continued). Average annual rates of malaria, chronic hepatitis B and C, gonorrhea, chlamydia, HIV/AIDS, tuberculosis, and syphilis by census tract, New York City, 2006-2013.

Map 5. Average annual rate of new reports of chlamydia by census tract in New York City, 2006-2013



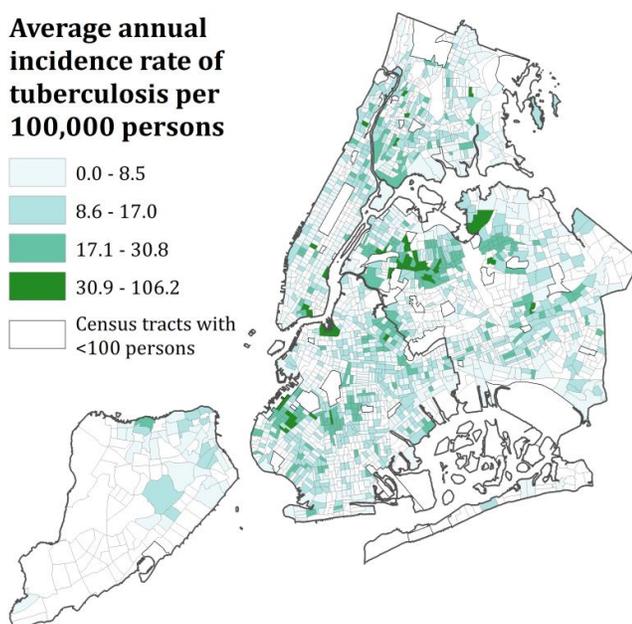
Sources: STD surveillance data and Census 2010

Map 6. Average annual new diagnosis rate of HIV/AIDS by census tract in New York City, 2007-2013



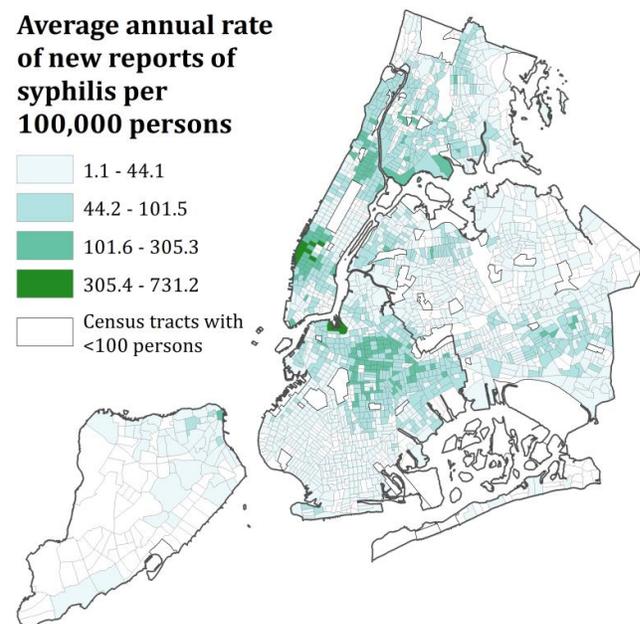
Sources: HIV/AIDS surveillance data and Census 2010

Map 7. Average annual incidence rate of tuberculosis by census tract in New York City, 2006-2013



Sources: TB surveillance data and Census 2010

Map 8. Average annual rate of new reports of syphilis by census tract in New York City, 2006-2013



Sources: STD surveillance data and Census 2010