

Hepatitis A, B and C Surveillance Report

New York City, 2008 and 2009

New York City Department of Health and Mental Hygiene
Division of Disease Control
Bureau of Communicable Diseases



Preface

This report from the New York City Department of Health and Mental Hygiene summarizes 2008 and 2009 routine surveillance data for people newly reported with hepatitis A, B and C in New York City:

- The report includes cases that were diagnosed in 2008 and 2009.
- All rates were calculated using 2008 intercensal estimates.
- Differences in data between this report and previous reports may be due to factors such as delays in disease reporting, correction of errors and refinements in data processing (for example, the removal of duplicate disease reports).
- See the Appendix for details on the United Hospital Fund (UHF) neighborhoods.
- Rates based on small numerators may not be reliable and should be interpreted with caution.
- A note on Rikers Island data: The jail at Rikers Island is part of the borough of the Bronx, although it has a Queens ZIP code (11370). (Note that ZIP code 11370 includes parts of mainland Queens and Rikers Island.) Therefore:
 - For numbers and rates presented by borough, Rikers cases are included with other Bronx cases.
 - For numbers and rates presented by ZIP code, Rikers is included in ZIP code 11370.
 - For numbers and rates presented by UHF neighborhood, Rikers is included in the UHF neighborhood of West Queens.

Questions? Need more information? Call the DOHMH's Bureau of Communicable Diseases at (212) 788-9830 or visit nyc.gov/health

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Hepatitis A

When interpreting New York City's hepatitis A surveillance data, keep the following in mind:

- Health care providers and laboratories are required to report hepatitis A cases to the Health Department, including positive results for hepatitis A IgM antibody.
- The data represent patients who meet the Centers for Disease Control and Prevention/ Council of State and Territorial Epidemiologists (CDC/CSTE) case definition, which includes symptoms consistent with hepatitis A. For more information, visit: www.cdc.gov/osels/ph_surveillance/ndss/casedef/case_definitions.htm
- Many people with hepatitis A have no symptoms or only mild symptoms. As a result, some patients with hepatitis A may not be diagnosed and reported to the Health Department. Therefore, the data may under-represent the true incidence of hepatitis A in New York City.

Table 1. Hepatitis A in New York City Residents, 2008 and 2009.

Group	2008			2009		
	Number	Percentage (%) of each group	Rate per 100,000 people	Number	Percentage (%) of each group	Rate per 100,000 people
Overall	116	n/a	1.4	88	n/a	1.1
Sex						
Male	68	58.6	1.7	56	63.6	1.4
Female	47	40.5	1.1	32	36.4	0.7
Unknown	1	0.8	n/a	0	0	n/a
Age (in years)						
0–4	2	1.7	0.4	3	3.4	0.5
5–9	9	7.8	1.7	3	3.4	0.6
10–19	17	14.7	1.6	16	18.2	1.5
20–29	29	25.0	2.5	32	36.4	2.7
30–39	25	21.6	1.9	17	19.3	1.3
40–49	18	15.5	1.4	10	11.4	0.8
50–59	7	6.0	0.7	3	3.4	0.3
60 +	8	6.9	0.6	4	4.5	0.3
Unknown	1	0.8	n/a	0	0	n/a
Race/Ethnicity						
Hispanic	25	21.6	1.1	33	37.5	1.4
White, non-Hispanic	29	25.0	1.0	13	14.8	0.4
Black, non-Hispanic	13	11.2	0.7	9	10.2	0.5
Asian, non-Hispanic	35	30.2	3.5	20	22.7	2.0
Other	6	5.2	4.5	3	3.4	2.3
Unknown	8	6.9	n/a	10	11.4	n/a
Borough of Residence						
Bronx	5	4.3	0.3	14	15.9	0.9
Brooklyn	35	30.2	1.3	15	17.0	0.7
Manhattan	33	28.4	2.0	11	12.5	0.7
Queens	36	31.0	1.6	42	47.7	1.8
Staten Island	7	6.0	1.4	6	6.8	1.2
Risk Factors (mutually exclusive)*						
International travel	56	48.3	n/a	51	58.0	n/a
Contact with a case	5	4.3	n/a	3	3.4	n/a
Men who have sex with men	4	3.4	n/a	1	1.1	n/a
Injection drug use	0	0	n/a	2	2.3	n/a
Unknown	51	44.0	n/a	31	35.2	n/a

* Mutually exclusive indicates that each patient is represented by the risk factor, among risks reported, that posed the highest risk of hepatitis A infection. A person who reported international travel and injection drug use during the exposure period, for example, is represented only once, in the "International travel" row. Risk factors are shown from highest to lowest risk.

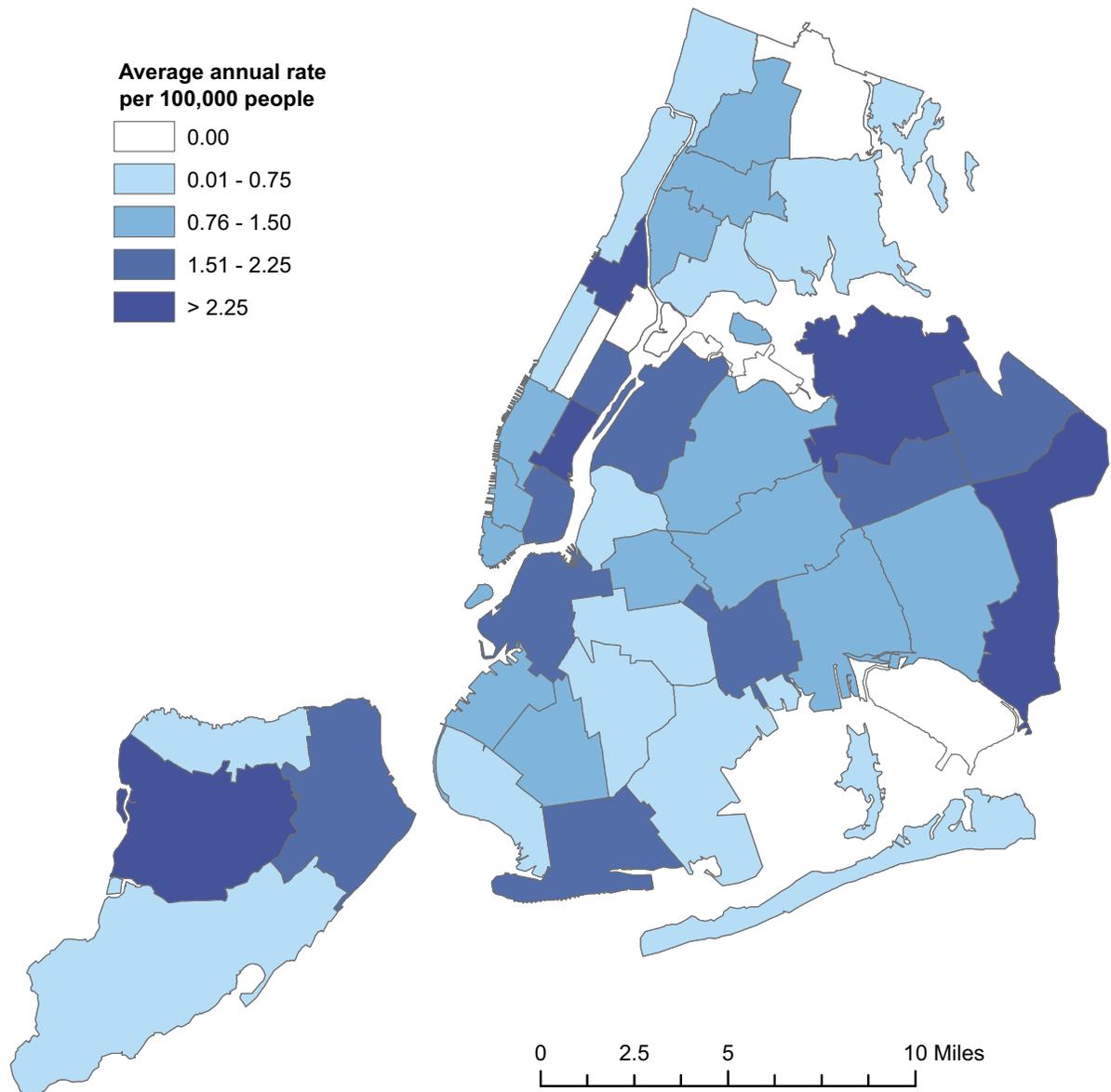
Table 2. Hepatitis A in New York City Residents, by United Hospital Fund Neighborhood, 2008 and 2009.

Borough/UHF Neighborhood	2008		2009	
	Number	Rate per 100,000 people	Number	Rate per 100,000 people
Overall	116	1.4	88	1.1
Bronx				
Kingsbridge-Riverdale	1	1.2	0	0
Northeast Bronx	0	0	0	0
Fordham-Bronx Park	1	0.4	3	1.2
Pelham-Throgs Neck	1	0.3	2	0.7
Crotona-Tremont	0	0	5	2.4
High Bridge-Morrisania	1	0.5	3	1.5
Hunts Point-Mott Haven	1	0.7	1	0.7
Brooklyn				
Greenpoint	2	1.5	0	0
Downtown-Heights-Slope	4	1.8	3	1.3
Bedford Stuyvesant-Crown Heights	1	0.3	0	0
East New York	2	1.1	5	2.8
Sunset Park	1	0.8	1	0.8
Borough Park	5	1.4	2	0.6
East Flatbush-Flatbush	1	0.3	2	0.6
Canarsie-Flatlands	0	0	1	0.5
Bensonhurst-Bay Ridge	3	1.4	0	0
Coney Island-Sheepshead Bay	10	3.3	1	0.3
Williamsburg-Bushwick	6	3	0	0
Manhattan				
Washington Heights-Inwood	2	0.8	0	0
Central Harlem-Morningside Heights	7	4.9	0	0
East Harlem	0	0	0	0
Upper West Side	2	0.8	1	0.4
Upper East Side	8	3.2	3	1.2
Chelsea-Clinton	1	0.7	3	2.1
Gramercy Park-Murray Hill	5	3.7	2	1.5
Greenwich Village-SoHo	1	1.1	1	1.1
Union Square-Lower East Side	6	2.8	1	0.5
Lower Manhattan	1	2.7	0	0

Table 2. Hepatitis A in New York City Residents, by United Hospital Fund Neighborhood, 2008 and 2009 (continued).

Borough/UHF Neighborhood	2008		2009	
	Number	Rate per 100,000 people	Number	Rate per 100,000 people
Queens				
Long Island City-Astoria	5	2.2	4	1.8
West Queens	8	1.6	7	1.4
Flushing-Clearview	4	1.4	11	4
Bayside-Little Neck	2	2.2	1	1.1
Ridgewood-Forest Hills	2	0.8	4	1.7
Fresh Meadows	2	2.1	2	2.1
Southwest Queens	4	1.5	4	1.5
Jamaica	4	1.4	2	0.7
Southeast Queens	4	2	7	3.5
Rockaway	1	0.9	0	0
Staten Island				
Port Richmond	1	1.4	0	0
Stapleton-St. George	3	2.3	1	0.8
Willowbrook	2	2.2	3	3.3
South Beach-Tottenville	1	0.5	2	1

Map 1. Hepatitis A in New York City Residents, by United Hospital Fund Neighborhood, 2008 and 2009.



Acute Hepatitis B

When interpreting New York City's acute hepatitis B surveillance data, keep the following in mind:

- Health care providers and laboratories are required to report hepatitis B cases to the Health Department, including positive results for hepatitis B core IgM antibody.
- The Health Department investigates all positive hepatitis B core IgM antibody reports. The agency also investigates other positive hepatitis B reports that include significantly elevated liver function tests.
- The data represent patients who meet the Centers for Disease Prevention and Control/ Council of State and Territorial Epidemiologists' (CDC/CSTE) case definition, which includes symptoms consistent with acute hepatitis. For more information, visit www.cdc.gov/osels/ph_surveillance/nndss/casedef/case_definitions.htm
- Many people with acute hepatitis B have no symptoms or only mild symptoms. As a result, the infection may not be diagnosed or reported to the Health Department. If there is a positive hepatitis B surface antigen test but no hepatitis B core IgM antibody test result, the agency does not generally investigate the report (due to the high number of hepatitis B surface antigen test reports reported). The data may under-represent, therefore, the true incidence of acute hepatitis B in New York City.
- Acute hepatitis B rates are very low among children because of high vaccination levels:
 - Since 1992, infants have been routinely vaccinated.
 - Since 2000, vaccination has been required before a student can start middle school in New York City.
- Consider the following when interpreting risk factor data: Patients are interviewed about risk factors by telephone and may be reluctant to discuss sensitive risk factors, such as sexual behavior or drug use. In addition:
 - In some cases, risk factor information is also obtained from clinical records.
 - It can be difficult to determine how a new hepatitis B infection occurred; since the exposure period is long (up to 150 days), patients may report more than one risk behavior or may not reveal all risk behaviors.

Table 3. Acute Hepatitis B in New York City Residents, 2008 and 2009.

Group	2008			2009		
	Number	Percentage (%) of each group	Rate per 100,000 people	Number	Percentage (%) of each group	Rate per 100,000 people
Overall	98	n/a	1.2	73	n/a	0.9
Sex						
Male	64	65.3	1.6	44	60.3	1.1
Female	34	34.7	0.8	29	39.7	0.7
Age (in years)						
0–19	1	1.0	0.1	2	2.7	0.1
20–29	20	20.4	1.7	5	6.9	0.4
30–39	25	25.5	1.9	16	21.9	1.2
40–49	32	32.7	2.5	22	30.1	1.8
50–59	12	12.2	1.2	17	23.3	1.6
60 +	8	8.2	0.6	11	15.1	0.8
Race/Ethnicity						
Hispanic	31	31.6	1.3	13	17.8	0.6
White, non-Hispanic	20	20.4	0.7	22	30.1	0.7
Black, non-Hispanic	35	35.7	1.8	27	37.0	1.4
Asian, non-Hispanic	11	11.2	1.1	10	13.7	1.0
Other	0	0.0	0.0	0	0.0	0.0
Unknown	1	1.0	n/a	1	1.4	n/a
Borough of Residence						
Bronx	15	15.3	1.1	9	12.3	0.7
Brooklyn	33	33.7	1.3	32	43.8	1.3
Manhattan	27	27.6	1.7	14	19.2	0.9
Queens	19	19.4	0.8	14	19.2	0.6
Staten Island	4	4.1	0.8	4	5.5	0.8

Table 3. Acute Hepatitis B in New York City Residents, 2008 and 2009 (continued).

Group	2008			2009		
	Number	Percentage (%) of each group	Rate per 100,000 people	Number	Percentage (%) of each group	Rate per 100,000 people
Risk Factors (not mutually exclusive)*						
Injection Drug Use	3	3.1	n/a	3	4.1	n/a
Contact with hepatitis B-infected individual	5	5.1	n/a	4	5.5	n/a
Men who have sex with men	11	11.2	n/a	9	12.3	n/a
Heterosexual contact (multiple partners)	21	21.4	n/a	12	16.4	n/a
Heterosexual contact (one partner)	47	48.0	n/a	29	39.7	n/a
Health care-related exposure	8	8.2	n/a	10	13.7	n/a
Dental Care	14	14.3	n/a	7	9.6	n/a
Occupational risk	1	1.0	n/a	3	4.1	n/a
Other	21	21.4	n/a	14	19.2	n/a
Unknown	12	12.2	n/a	17	23.3	n/a
Risk Factors (mutually exclusive)*						
Injection drug use	3	3.1	n/a	3	4.1	n/a
Contact with hepatitis B-infected individual	5	5.1	n/a	4	5.5	n/a
Men who have sex with men	11	11.2	n/a	9	12.3	n/a
Heterosexual contact (multiple partners)	18	18.4	n/a	11	15.1	n/a
Heterosexual contact (one partner)	44	44.9	n/a	23	31.5	n/a
Health care-related exposure	1	1.0	n/a	4	5.5	n/a
Dental care	1	1.0	n/a	1	1.4	n/a
Occupational risk	1	1.0	n/a	1	1.4	n/a
Other	2	2.0	n/a	0	0.0	n/a
Unknown	12	12.2	n/a	17	23.3	n/a

*In this table, risk factor information is presented in two ways:

1. "Not mutually exclusive," meaning that all reported risk factors are shown, bringing the total to more than 100%. A person who injected drugs and had surgery during the exposure period, for example, will be represented in both the "Healthcare-related" and the "Injection drug use" rows.
2. "Mutually exclusive," meaning that each patient is represented by the risk factor, among risks reported, that poses the highest risk of hepatitis B infection. The Table shows risk factors from highest to lowest risk. A person who injected drugs and had surgery during the exposure period, for example, will be represented only once, in the "Injection drug use" row.

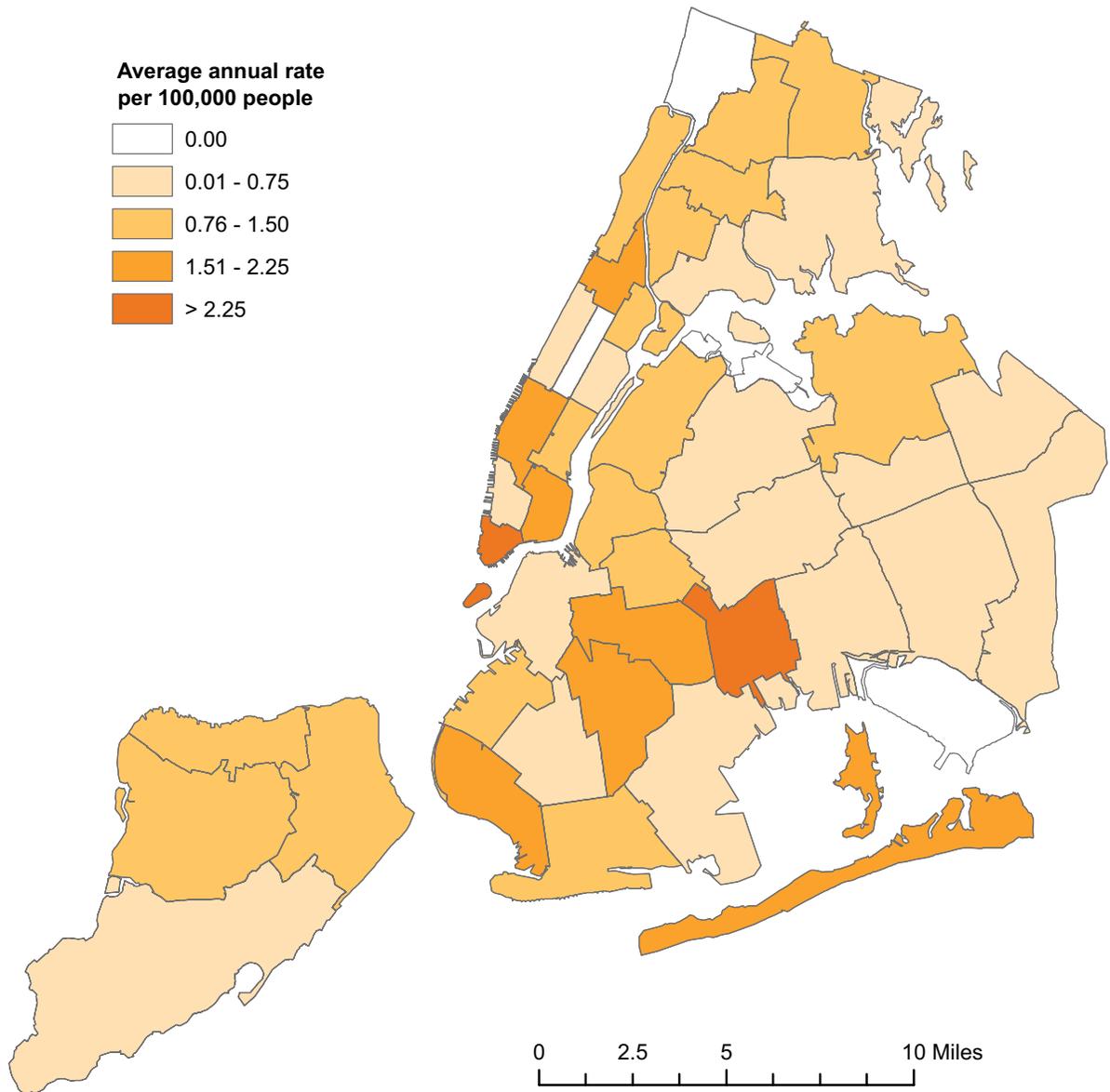
Table 4. Acute Hepatitis B in New York City Residents, by United Hospital Fund Neighborhood, 2008 and 2009.

Borough/UHF Neighborhood	2008		2009	
	Number	Rate per 100,000 people	Number	Rate per 100,000 people
Bronx				
Kingsbridge-Riverdale	0	0.0	0	0.0
Northeast Bronx	4	2.1	0	0.0
Fordham-Bronx Park	3	1.2	3	1.2
Pelham-Throgs Neck	1	0.3	1	0.3
Crotona-Tremont	3	1.4	2	0.9
High Bridge-Morrisania	3	1.5	3	1.5
Hunts Point-Mott Haven	1	0.7	0	0.0
Brooklyn				
Greenpoint	2	1.5	1	0.7
Downtown-Heights-Slope	2	0.9	0	0.0
Bedford Stuyvesant-Crown Heights	7	2.2	7	2.2
East New York	7	3.9	3	1.7
Sunset Park	1	0.8	1	0.8
Borough Park	1	0.3	3	0.9
East Flatbush-Flatbush	5	1.6	5	1.6
Canarsie-Flatlands	1	0.5	0	0.0
Bensonhurst-Bay Ridge	2	1.0	5	2.4
Coney Island-Sheepshead Bay	2	0.7	4	1.3
Williamsburg-Bushwick	3	1.5	3	1.5
Manhattan				
Washington Heights-Inwood	3	1.2	1	0.4
Central Harlem-Morningside Heights	4	2.8	2	1.4
East Harlem	2	1.9	1	0.9
Upper West Side	2	0.8	1	0.4
Upper East Side	3	1.2	0	0.0
Chelsea-Clinton	5	3.6	2	1.4
Gramercy Park-Murray Hill	2	1.5	2	1.5
Greenwich Village-SoHo	0	0.0	1	1.1
Union Square-Lower East Side	5	2.3	3	1.4
Lower Manhattan	1	2.7	1	2.7

Table 4. Acute Hepatitis B in New York City Residents, by United Hospital Fund Neighborhood, 2008 and 2009 (continued).

Borough/UHF Neighborhood	2008		2009	
	Number	Rate per 100,000 people	Number	Rate per 100,000 people
Queens				
Long Island City-Astoria	2	0.9	3	1.4
West Queens	6	1.2	1	0.2
Flushing-Clearview	2	0.7	4	1.5
Bayside-Little Neck	1	1.1	0	0.0
Ridgewood-Forest Hills	2	0.8	1	0.4
Fresh Meadows	1	1.1	0	0.0
Southwest Queens	0	0.0	2	0.7
Jamaica	2	0.7	1	0.4
Southeast Queens	1	0.5	0	0.0
Rockaway	2	1.8	2	1.8
Staten Island				
Port Richmond	1	1.4	1	1.4
Stapleton-St. George	0	0.0	2	1.5
Willowbrook	1	1.1	1	1.1
South Beach-Tottenville	2	1.0	0	0.0

Map 2. Acute Hepatitis B in New York City Residents, by United Hospital Fund Neighborhood, 2008 and 2009.



Chronic Hepatitis B

When interpreting New York City chronic hepatitis B surveillance data, keep the following in mind:

- Health care providers and laboratories are required to report hepatitis B cases to Health Department, including positive results for:
 - Hepatitis B surface antigen
 - Hepatitis B e antigen
 - Hepatitis B Nucleic Acid Test
- This report includes chronic hepatitis B patients newly reported to the Health Department in 2008 and 2009. Most have chronic hepatitis B; however, a small percentage may have had acute hepatitis B and are no longer infected or had a false-positive test result.
- Some people with chronic hepatitis B have never been tested or diagnosed. These individuals, therefore, have not been reported to the Health Department and are not included in this report.
- The agency often receives more than one report for each person with chronic hepatitis B and uses automatic de-duplication methods to identify repeat reports based on name, date of birth and other information. Only the first report is counted in the data presented here.
- The Health Department's de-duplication methods may be imperfect. As a result, some people inadvertently may be counted more than once (e.g., if there is a name or birth date discrepancy), resulting in an overestimation of the number of people with chronic hepatitis B.
- The rates presented are the rates of people newly reported with chronic hepatitis B. They are not prevalence rates or incidence rates.
- The data include patients diagnosed with hepatitis B (or who had a specimen collection) for the first time in 2008 or 2009.
- The Health Department does not routinely investigate hepatitis B reports because of the large volume. Therefore:
 - It is difficult to determine when people with hepatitis B were first infected. Most were probably infected a while ago.
 - Risk factor information is not available.
 - Address information is missing for some patients, but most probably reside in NYC.
- DOHMH's educational booklet, *Hepatitis B: The Facts*, is sent to people newly reported with hepatitis B. The booklet:
 - Was designed to help those infected learn more about hepatitis B so they can stay healthy.
 - Is available at nyc.gov/html/doh/downloads/pdf/cd/cd-hepb-bro.pdf
 - Can be ordered free of charge, in bulk, in English, Chinese, Korean, Spanish and French. Please call 311 or visit nyc.gov/html/doh/html/cd/cdhepc-hcp4.shtml

Table 5. People Newly Reported with Chronic Hepatitis B in New York City, 2008 and 2009.

Group	2008			2009		
	Number	Percentage (%) of each group	Rate per 100,000 people	Number	Percentage (%) of each group	Rate per 100,000 people
Overall	13,126	n/a	156.9	11,589	n/a	138.6
Sex						
Male	7,276	55.4	182.1	6,433	55.5	161.0
Female	5,496	41.9	125.8	4,811	41.5	110.1
Unknown	354	2.7	n/a	345	3.0	n/a
Age (in years)						
0–19	596	4.5	27.8	550	4.7	25.7
20–29	3,141	23.9	266.6	2,633	22.7	223.5
30–39	3,274	24.9	248.2	2,723	23.5	206.4
40–49	2,577	19.6	204.7	2,211	19.1	175.6
50–59	1,797	13.7	173.3	1,571	13.6	151.5
60 +	1,194	9.1	83.7	1,064	9.2	74.6
Unknown	547	4.2	n/a	837	7.2	n/a
Borough of Residence						
Bronx	1,355	10.3	97.4	1,223	10.6	87.9
Brooklyn	4,441	33.8	173.7	3,932	33.9	153.8
Manhattan	2,764	21.1	169.1	2,156	18.6	131.9
Queens	3,351	25.5	146.1	3,001	25.9	130.9
Staten Island	262	2.0	53.8	213	1.8	43.7
Unknown	953	7.3	n/a	1,064	9.2	n/a

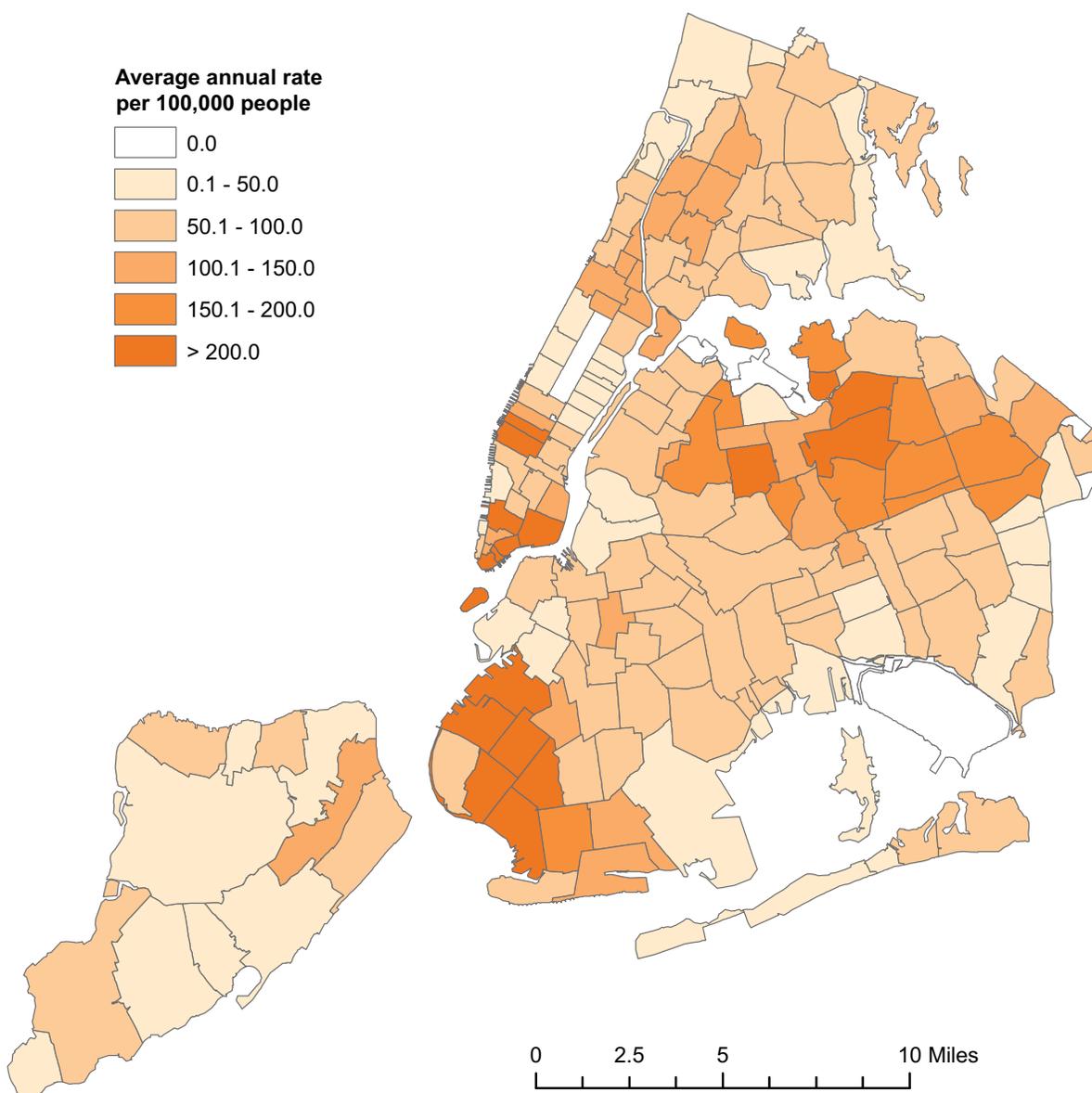
Table 6. People Newly Reported with Chronic Hepatitis B in New York City, by United Hospital Fund Neighborhood, 2008 and 2009.

Borough/UHF Neighborhood	2008		2009	
	Number	Rate per 100,000 people	Number	Rate per 100,000 people
Unknown	1,006	n/a	1,136	n/a
Bronx				
Kingsbridge-Riverdale	48	55.6	34	39.4
Northeast Bronx	108	57.3	111	58.9
Fordham-Bronx Park	281	108.3	264	101.8
Pelham-Throgs Neck	208	69.9	185	62.2
Crotona-Tremont	260	122.5	257	121.1
High Bridge-Morrisania	260	126.2	209	101.4
Hunts Point-Mott Haven	108	79.2	101	74.1
Brooklyn				
Greenpoint	52	38.2	45	33.1
Downtown-Heights-Slope	118	52.3	91	40.3
Bedford Stuyvesant-Crown Heights	345	109.9	225	71.7
East New York	152	84.8	133	74.2
Sunset Park	1,481	1157.1	1,494	1167.2
Borough Park	788	227.6	710	205.1
East Flatbush-Flatbush	289	93.0	227	73.1
Canarsie-Flatlands	124	62.3	103	51.7
Bensonhurst-Bay Ridge	413	197.4	334	159.6
Coney Island-Sheepshead Bay	463	151.4	382	124.9
Williamsburg-Bushwick	202	99.7	171	84.4
Manhattan				
Washington Heights-Inwood	189	72.8	147	56.6
Central Harlem-Morningside Heights	188	131.6	155	108.5
East Harlem	118	110.5	113	105.8
Upper West Side	97	39.6	85	34.7
Upper East Side	77	31.2	62	25.1
Chelsea-Clinton	164	116.5	138	98.0
Gramercy Park-Murray Hill	88	64.4	87	63.6
Greenwich Village-SoHo	292	309.6	203	215.2
Union Square-Lower East Side	1,426	657.9	1,058	488.1
Lower Manhattan	110	296.0	84	226.0

Table 6. People Newly Reported with Chronic Hepatitis B in New York City, by United Hospital Fund Neighborhood, 2008 and 2009 (continued).

Borough/UHF Neighborhood	2008		2009	
	Number	Rate per 100,000 people	Number	Rate per 100,000 people
Queens				
Long Island City-Astoria	184	82.6	146	65.6
West Queens	961	187.9	851	166.4
Flushing-Clearview	1,103	399.4	1,052	380.9
Bayside-Little Neck	132	146.9	100	111.3
Ridgewood-Forest Hills	281	118.5	262	110.5
Fresh Meadows	182	192.2	136	143.6
Southwest Queens	169	61.4	141	51.2
Jamaica	222	76.8	198	68.5
Southeast Queens	103	51.6	89	44.6
Rockaway	73	66.6	58	52.9
Staten Island				
Port Richmond	34	46.1	40	54.2
Stapleton-St. George	121	92.1	86	65.5
Willowbrook	32	35.4	33	36.5
South Beach-Tottenville	74	38.6	53	27.6

Map 3. People Newly Reported with Chronic Hepatitis B in New York City, by ZIP Code, 2008 and 2009.



Chronic Hepatitis B: Enhanced Surveillance

Annually, the Health Department receives 11,000 to 13,000 reports of people who newly test positive for markers of chronic hepatitis B. Due to the large volume, investigation of these reports is not routine; hence information on this patient population is limited, as only patient date of birth, address, sex, and hepatitis B test type and test date are typically reported.

In September 2008, in an effort to learn more about patients with chronic hepatitis B, the agency launched an ongoing enhanced surveillance project. Every two months, staff randomly selects a sample of 20 newly reported patients and collects more detailed information from their health care providers.

When interpreting New York City's enhanced surveillance chronic hepatitis B data, please keep the following in mind:

- The data from this enhanced surveillance effort was collected from health care providers, not patients.
- Patients' hepatitis A immunity status is of interest because national guidelines recommend hepatitis A vaccination for people with chronic hepatitis B, to prevent further liver damage.
- It is difficult to determine when people with hepatitis B were first infected. Most were probably infected a while ago.
- This report includes patients newly reported to the Health Department and diagnosed with hepatitis B for the first time in 2008 and 2009. Most have chronic hepatitis B, but a small percentage may have had acute hepatitis B and are no longer infected, or had a false-positive test result.

Table 7. People Newly Reported with Chronic Hepatitis B in New York City Included in Enhanced Surveillance, 2008 and 2009

2008 and 2009		
Group	Number	Percentage (%) in each group
Overall	156	n/a
Country of Birth		
United States	14	9.0
China	87	55.8
Other	34	21.8
Unknown	21	13.5
Risk Factors for Hepatitis B Infection (not mutually exclusive)		
Perinatal exposure	11	7.1
Heterosexual contact	11	7.1
Household contact	10	6.5
Other	38	24.4
Unknown	30	19.6
None reported	106	67.9
Reason for Testing (not mutually exclusive)		
Born in high prevalence country	42	26.9
Routine screening – no risk factors	29	18.6
Risk factors for chronic hepatitis B	28	18.0
Follow-up to previously detected hepatitis marker	28	18.0
Elevated liver function tests	19	12.2
Prenatal screening	10	6.4
Hepatitis symptoms	3	1.9
Hepatitis A Status		
Immune due to natural infection	41	26.3
Received hepatitis A vaccine	8	5.1
Susceptible	10	6.4
Unknown	97	62.2
Currently Seeing a Physician for Hepatitis B Care		
Yes	90	57.7
No	32	20.5
Unknown	34	21.8

Hepatitis B in Pregnancy

When interpreting NYC surveillance data on hepatitis B in pregnancy, keep the following in mind:

- Hepatitis B infection during pregnancy poses the risk of transmission of the virus from the mother to the infant during birth (perinatal transmission).
- Without appropriate preventative measures, there is up to a 90% chance of the newborn becoming infected. In addition, the risk of developing chronic infection for newborns infected perinatally is 90%, compared to 6%-10% for those infected as adults. The risk of perinatal hepatitis B transmission can be reduced by more than 90% if newborns are given appropriate post-exposure prophylaxis.
- Post-exposure prophylaxis entails administering hepatitis B immune globulin and hepatitis B vaccine within 12 hours of birth (and appropriate completion of the hepatitis B vaccination series).
- New York State Law mandates that all pregnant women be tested for hepatitis B surface antigen (HBsAg), and that both providers and laboratories report hepatitis B infection identified during pregnancy to the Health Department. Providers are also required to forward prenatal HBsAg test results to birthing facilities to assure appropriate medical management at the time of delivery.
- The Health Department's Perinatal Hepatitis B Prevention Program is responsible for surveillance of hepatitis B infection among pregnant women. This program provides case management, including:
 - Educating mothers with Hep B about the infection
 - Working with these mothers and pediatric providers to assure that their newborns receive appropriate post-exposure prophylaxis
 - Assuring newborns complete the hepatitis B vaccination series and are tested after vaccination
 - Referring the mother's household contacts and sex partners for screening and vaccination

Table 8. Hepatitis B in Pregnancy, New York City Residents, 2008 and 2009.*

Group	2008			2009		
	Number	Percentage (%) of each group	Rate per 100,000 pregnancies	Number	Percentage (%) of each group	Rate per 100,000 pregnancies
Overall	2,062	1.0	982	1,783	0.8	849
Borough of Residence						
Bronx	200	9.7	456	187	10.5	426
Brooklyn	869	42.1	1,188	785	44.0	1,073
Manhattan	405	19.6	1,159	281	15.8	804
Queens	529	25.7	1,091	478	26.8	985
Staten Island	43	2.1	464	48	2.7	517
Unknown	16	0.8		4	0.2	
Race/Ethnicity						
Hispanic	51	2.5		49	2.7	
White Non-Hispanic	104	5.0		95	5.3	
Black Non-Hispanic	315	15.3		303	17.0	
Asian/Pacific Islander	1,388	67.3		1,226	68.8	
Unknown	204	9.9		110	6.2	
Birthplace						
United States	73	3.5		62	3.5	
China	1,205	58.4		1,014	56.9	
Other Foreign Country	499	24.2		509	28.5	
Unknown	285	13.8		198	11.1	

* Based on 210,072 pregnancies (Vital Statistics Report, 2008; nyc.gov/html/doh/downloads/pdf/vs/2008sum.pdf)

Table 9. Hepatitis B Test Results for Infants Born in 2007 and 2008 to New York City Mothers with Hepatitis B

Infants Tested	2007 Births*		2008 Births*	
	Number	Percentage (%)**	Number	Percentage (%)**
Total	1,290	n/a	1,135	n/a
Infected	21	1.6	13	1.1
Immune	1,172	90.9	1,055	93.0
Susceptible	71	5.5	42	3.7
Indeterminate	26	2.0	25	2.2
Unknown	685		680	
Total Infants Born, 2007–2008	1,975		1,815	

* Infants are tested between 9–16 months of age, so the reporting period for infants is one year before the reporting period for mothers.

**Excludes infants with unknown results

Acute Hepatitis C

Since acute hepatitis C infection is difficult to identify, New York City acute hepatitis C surveillance data are not included in this report. Acute hepatitis C infection is difficult to identify because:

- There are no symptoms with most acute hepatitis C infections; as a result, it may not be diagnosed at the time of infection.
- There is no laboratory test that is specific for acute hepatitis C.
- When a patient is first diagnosed with hepatitis C, it is difficult to determine when they first became infected.

Data on new hepatitis C infections are essential for planning effective prevention programs; therefore, the Health Department asks that clinicians report acute hepatitis C cases by phone, mail or online according to the instructions below:

- By phone, call the agency's Bureau of Communicable Diseases at (212) 788-9830.
- Online, use Reporting Central at nyc.gov/nycmed. Call the Provider Access Line (866) 692-3641 for assistance.
- By mail, download a paper copy the Universal Reporting Form at nyc.gov/html/doh/html/hcp/hcp-urf.shtml
- For more information about reporting acute hepatitis C cases, visit: nyc.gov/html/doh/downloads/pdf/cd/cdhepc_reporting.pdf

Chronic Hepatitis C

When interpreting NYC chronic hepatitis C surveillance data, keep the following in mind:

- Health care providers and laboratories are required to report hepatitis C cases to the Health Department, including positive results for:
 - Enzyme-linked immunosorbent assay (EIA) antibody test with a high signal-to-cutoff value
 - Recombinant immunoblot assay (RIBA), an accurate test for antibodies to hepatitis C virus.
 - Nucleic acid test (e.g., polymerase chain reaction [PCR] test)
- Many patients with chronic hepatitis C are asymptomatic; as a result, many cases are not diagnosed and reported. These data, therefore, may not represent the true level of chronic hepatitis C in New York City.
- Individuals may have a positive antibody test and no longer have the virus, but are included in the data in this report. Based on studies, less than 15% fall into this category.
- The Health Department often receives more than one laboratory report per person with chronic hepatitis C and therefore uses automatic de-duplication methods to identify repeat reports based on name, date of birth and other information. Only the first report is included in the data presented here.
- The agency's de-duplication methods may be imperfect and as a result, certain cases may inadvertently be counted more than once (e.g., if there is a discrepancy in the person's name or date of birth), resulting in an overestimation of the number of people with chronic hepatitis C.
- The rates in this report are the rates of people newly reported with chronic hepatitis C and are not prevalence rates or incidence rates.
- The data include positive hepatitis C results reported to the Health Department for the first time with a hepatitis C diagnosis date (or specimen collection date) in 2008 or 2009.
- The Health Department does not routinely investigate hepatitis C reports (because of the large volume); therefore:
 - Data on race or ethnicity are not available.
 - It is difficult to determine when people with chronic hepatitis C were first infected; most were probably infected a while ago.
 - Risk factor information is not available. Most people with hepatitis C were probably infected through injection drug use or a blood transfusion before 1992 (in 1992, an accurate blood test became available and blood donor screening started).
- The Health Department's educational booklet, *Hepatitis C: The Facts*, is sent to people newly reported with hepatitis C and:
 - Was designed to help people with chronic hepatitis C learn how to stay healthy
 - Is available at nyc.gov/html/doh/downloads/pdf/cd/cd-hepc-bro.pdf
 - Can be ordered free of charge, in bulk, in English, Russian, Spanish Arabic and Urdu; call 311 or visit nyc.gov/html/doh/html/cd/cdhepc-hcp4.shtml

Table 10. People Newly Reported with Chronic Hepatitis C in New York City, 2008 and 2009.

Group	2008			2009		
	Number	Percentage (%) of each group	Rate per 100,000 people	Number	Percentage (%) of each group	Rate per 100,000 people
Overall	13,932	n/a	166.6	10,846	n/a	129.7
Sex						
Male	8,952	64.3	224.1	6,901	63.6	172.7
Female	4,866	34.9	111.4	3,889	35.9	89.0
Unknown	114	0.8	n/a	56	0.5	n/a
Age (in years)						
0–19	152	1.1	7.1	130	1.2	6.1
20–29	875	6.3	74.3	744	6.9	63.1
30–39	1,746	12.5	132.4	1,417	13.1	107.4
40–49	3,437	24.7	273.0	2,479	22.9	196.9
50–59	4,793	34.4	462.3	3,570	32.9	344.4
60–69	1,819	13.1	264.1	1,620	14.9	235.2
70–79	718	5.1	168.1	549	5.1	128.5
80+	364	2.6	117.3	315	2.9	101.5
Unknown	28	0.2	n/a	22	0.2	n/a
Borough of Residence						
Bronx	3,011	21.6	216.3	2,363	21.8	169.8
Brooklyn	3,629	26.1	141.9	2,970	27.4	116.2
Manhattan	2,686	19.3	164.3	1,956	18.0	119.6
Queens	2,964	21.3	129.3	2,536	23.4	110.6
Staten Island	497	3.6	102.0	381	3.5	78.2
Unknown	1,145	8.2	n/a	640	5.9	n/a

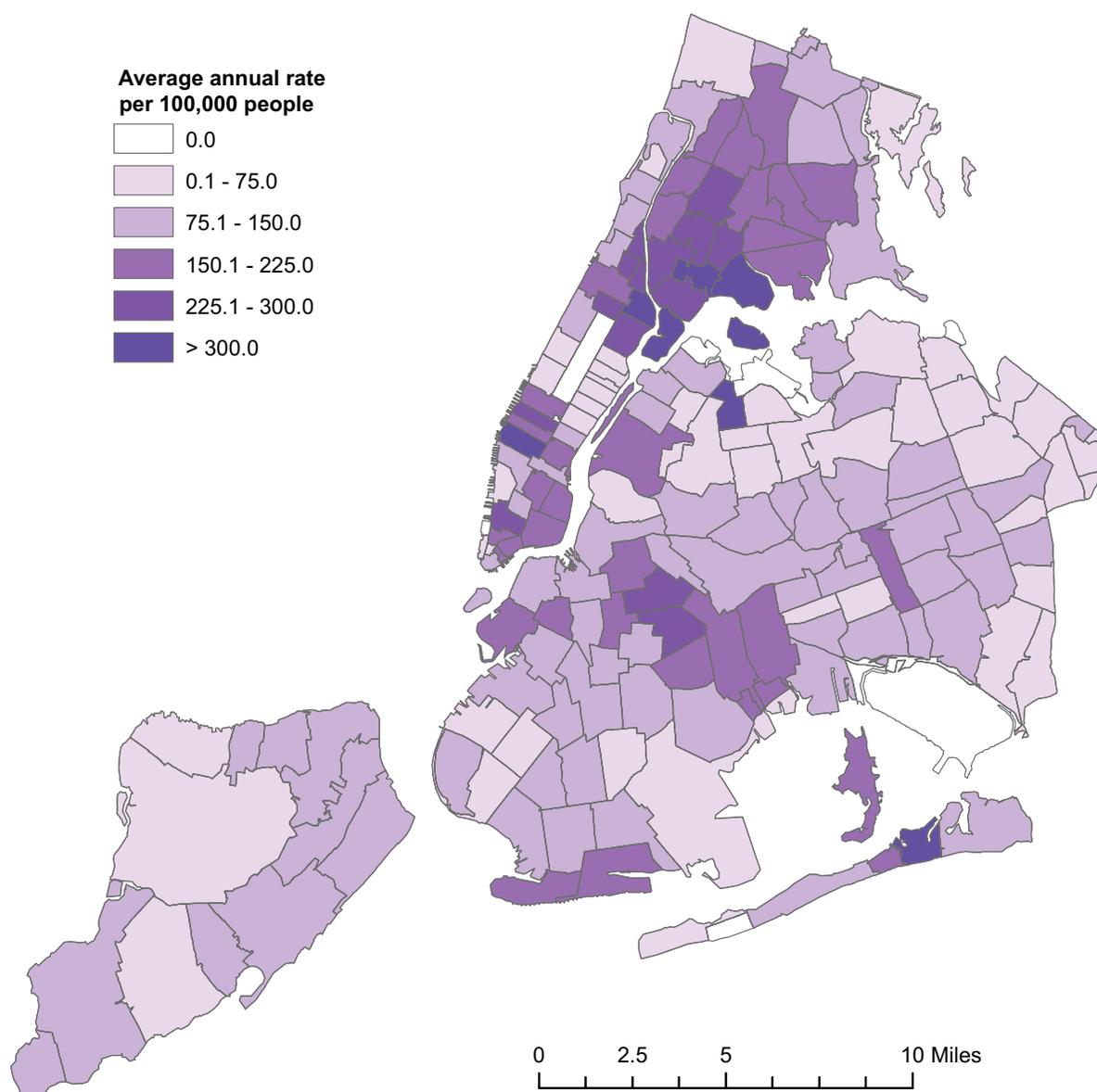
Table 11. People Newly Reported with Chronic Hepatitis C in New York City, by United Hospital Fund Neighborhood, 2008 and 2009.

Borough/UHF Neighborhood	2008		2009	
	Number	Rate per 100,000 people	Number	Rate per 100,000 people
Overall	13,932	166.6	10,846	129.7
Unknown	1,230	n/a	711	n/a
Bronx				
Kingsbridge-Riverdale	82	95.0	80	92.7
Northeast Bronx	251	133.2	193	102.4
Fordham-Bronx Pk	571	220.1	496	191.2
Pelham-Throgs neck	403	135.4	379	127.4
Crotona-Tremont	596	280.7	418	196.9
High Bridge-Morrisania	595	288.8	414	200.9
Hunts Point-Mott Haven	511	374.8	375	275.0
Brooklyn				
Greenpoint	134	98.5	103	75.7
Downtown-Heights-Slope	325	144.0	276	122.3
Bedford Stuyvesant-Crown Heights	638	203.3	522	166.3
East New York	358	199.8	293	163.5
Sunset Park	118	92.2	99	77.3
Borough Park	332	95.9	265	76.5
East Flatbush-Flatbush	325	104.6	296	95.3
Canarise-Flatlands	182	91.4	140	70.3
Bensonhurst-Bay Ridge	222	106.1	181	86.5
Coney Island-Sheepshead Bay	479	156.6	427	139.6
Williamsburg-Bushwick	470	231.9	342	168.7
Manhattan				
Washington Heights-Inwood	295	113.6	197	75.9
Central Harlem-Morningside Heights	394	275.7	313	219.0
East Harlem	449	420.4	333	311.8
Upper West Side	226	92.2	166	67.7
Upper East Side	139	56.2	123	49.8
Chelsea-Clinton	333	236.5	227	161.2
Gramercy Park-Murray Hill	184	134.6	128	93.6
Greenwich Village-SoHo	145	153.7	116	123.0
Union Square-Lower East Side	461	212.7	290	133.8
Lower Manhattan	41	110.3	44	118.4

Table 11. People Newly Reported with Chronic Hepatitis C in New York City, by United Hospital Fund Neighborhood, 2008 and 2009 (continued).

Borough/UHF Neighborhood	2008		2009	
	Number	Rate per 100,000 people	Number	Rate per 100,000 people
Queens				
Long Island City-Astoria	197	88.5	209	93.9
West Queens	1,169	228.5	896	175.1
Flushing-Clearview	210	76.0	189	68.4
Bayside-Little Neck	59	65.7	28	31.2
Ridgewood-Forest Hills	238	100.4	213	89.8
Fresh Meadows	111	117.2	60	63.3
Southwest Queens	258	93.8	232	84.3
Jamaica	387	133.9	392	135.6
Southeast Queens	169	84.6	121	60.6
Rockaway	155	141.4	181	165.1
Staten Island				
Port Richmond	81	109.8	66	89.4
Stapleton-St. George	170	129.5	125	95.2
Willowbrook	57	63.1	58	64.2
South Beach-Tottenville	182	94.8	129	67.2

Map 4. People Newly Reported with Chronic Hepatitis C in New York City, by ZIP Code, 2008 and 2009.



Appendix: United Hospital Fund Neighborhoods.

Borough/UHF Neighborhood	ZIP Codes
Manhattan	
Washington Heights-Inwood	10031, 10032, 10033, 10034, 10040
Central Harlem-Morningside Heights	10026, 10027, 10030, 10037, 10039
East Harlem	10029, 10035
Upper West Side	10023, 10024, 10025
Upper East Side	10021, 10028, 10044, 10128
Chelsea-Clinton	10001, 10011, 10018, 10019, 10020, 10036
Gramercy Park-Murray Hill	10010, 10016, 10017, 10022
Greenwich Village-SoHo	10012, 10013, 10014
Union Square-Lower East Side	10002, 10003, 10009
Lower Manhattan	10004, 10005, 10006, 10007, 10038, 10280
Bronx	
Kingsbridge-Riverdale	10463, 10471
Northeast Bronx	10466, 10469, 10470, 10475
Fordham-Bronx Park	10458, 10467, 10468
Pelham-Throgs Neck	10461, 10462, 10464, 10465, 10472, 10473
Crotona-Tremont	10453, 10457, 10460
High Bridge-Morrisania	10451, 10452, 10456
Hunts Point-Mott Haven	10454, 10455, 10459, 10474
Brooklyn	
Greenpoint	11211, 11222
Williamsburg-Bushwick	11206, 11221, 11237
Downtown, Heights, Slope	11201, 11205, 11215, 11217, 11231
Bedford Stuyvesant-Crown Heights	11212, 11213, 11216, 11233, 11238
East New York	11207, 11208
Sunset Park	11220, 11232
Borough Park	11204, 11218, 11219, 11230
East Flatbush-Flatbush	11203, 11210, 11225, 11226
Canarsie-Flatlands	11234, 11236, 11239
Bensonhurst-Bay Ridge	11209, 11214, 11228
Coney Island-Sheepshead Bay	11223, 11224, 11229, 11235

Appendix: United Hospital Fund Neighborhoods (continued).

Borough/UHF Neighborhood	ZIP Codes
Queens	
Long Island City-Astoria	11101, 11102, 11103, 11104, 11105, 11106
West Queens	11368, 11369, 11370, 11372, 11373, 11377, 11378
Flushing-Clearview	11354, 11355, 11356, 11357, 11358, 11359, 11360
Bayside-Littleneck	11361, 11362, 11363, 11364
Ridgewood-Forest Hills	11374, 11375, 11379, 11385
Fresh Meadows	11365, 11366, 11367
Southwest Queens	11414, 11415, 11416, 11417, 11418, 11419, 11420, 11421
Jamaica	11412, 11423, 11432, 11433, 11434, 11435, 11436
Southeast Queens	11004, 11005, 11411, 11413, 11422, 11426, 11427, 11428, 11429
Rockaway	11691, 11692, 11693, 11694, 11697
Staten Island	
Port Richmond	10302, 10303, 10310
Stapleton-St. George	10301, 10304, 10305
Willowbrook	10314
South Beach-Tottenville	10306, 10307, 10308, 10309, 10312

Map 5. United Hospital Fund Neighborhoods.

