

# Hepatitis B and C Annual Report

New York City Department of Health and Mental Hygiene

# 2014

Published January 2016



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## EXECUTIVE SUMMARY

Viral hepatitis B and C are bloodborne pathogens that are prevalent in New York City. If untreated, they can lead to severe liver disease and death. An estimated 1.2 percent of all New Yorkers (about 100,000 people) have hepatitis B, and 2.4 percent of New Yorkers 20 years of age and older (about 146,000 people) have hepatitis C.

Key findings from the 2014 hepatitis B and C annual report are below.

### Hepatitis B Surveillance

- Rates of acute hepatitis B remain low among children and young adults because of successful infant and childhood vaccination strategies.
- The most commonly reported risk factor for acute hepatitis B, at 31.6 percent, is heterosexual sex.
- Neighborhoods with the highest chronic hepatitis B rates were Sunset Park, Brooklyn and Flushing, Queens.
- Two-thirds of people newly reported with chronic hepatitis B were 20 to 49 years of age.

### Perinatal Hepatitis B Prevention

- The majority of hepatitis B-positive women who gave birth in 2014 resided in Brooklyn (44 percent), followed by Queens (30 percent). The most common country of birth among hepatitis B-positive women who gave birth in 2014 was China (60 percent).
- Among 1,607 infants born in 2013 to hepatitis B-positive mothers, 99.1 percent received post-exposure prophylaxis with hepatitis B immune globulin and the first dose of hepatitis B vaccine at the time of delivery, 88.4 percent completed both post-exposure prophylaxis and a valid three-dose hepatitis B vaccine series, and 78.2 percent had post-vaccination serologic testing.

### Hepatitis B Vaccination

In 2014, the Health Department administered over 24,000 hepatitis B vaccine doses in its immunization and STD clinics and in New York City correctional health facilities.

### Hepatitis C Surveillance

- Of those newly reported with chronic hepatitis C in 2014, 52.7 percent were born between 1945 and 1965 – the “baby boomer” generation.
- Neighborhoods with the highest rate of newly reported chronic hepatitis C were East Harlem, Manhattan and Hunts Point/Morrisania, Bronx.
- Staten Island had the highest rate (34.7 per 100,000 people) of newly reported hepatitis C in people 0 to 29 years of age.
- The highest rate of chronic hepatitis C was seen in the New York City incarcerated population at 814.4 per 100,000 people.
- Enhanced hepatitis C surveillance conducted from June to November 2014 showed that the most common barrier to hepatitis C treatment reported by patients and providers was the presence of comorbid conditions.
- From 2013 to 2014, Medicaid recipients treated for hepatitis C more than doubled. Sofosbuvir accounted for nearly two-thirds of the hepatitis C prescribed treatments.

### Hepatitis C virus RNA Confirmation Project

The Health Department found that 33 percent of individuals with positive hepatitis C antibody results did not have the recommended RNA test to confirm infection status. To increase RNA confirmation, the Health Department launched a project to remind providers to order RNA tests for their antibody-positive/RNA-unknown patients. Letters were mailed to clinicians on behalf of over 2,175 patients to request RNA test (if it had not already been done).

## EXECUTIVE SUMMARY *(cont'd)*

### **Negative Hepatitis C RNA Reporting**

As of July 2014, the New York City Health Code requires laboratories to report negative hepatitis C RNA test results as part of routine surveillance, in addition to already reported positive results, thus enabling estimates on:

1. Individuals who did not receive the recommended RNA test.
2. Individuals on hepatitis C treatment and cured of hepatitis C.
3. Individuals linked or not linked to care.

### **Check Hep B NYC Program**

In 2014, the New York City Council allocated funding to three community health programs and one hospital to provide hepatitis B patient navigation. The funding was used to establish the Check Hep B Program, which provides free linkage to care and clinical care coordination to people with chronic hepatitis B.

### **Check Hep C NYC Program**

In 2014, the Health Department enrolled 389 individuals in the Check Hep C patient navigation program, which provides free patient navigation for people with chronic hepatitis C. Of those deemed hepatitis C treatment candidates, 94 percent initiated treatment.

### **Injection Drug User Health Alliance Hepatitis C Peer Navigation Program**

In 2014, the New York City Council allocated funding to establish the Injection Drug User Health Alliance Hepatitis C Peer Navigation Program, which supported hepatitis C peer navigation at all New York City syringe exchange programs.

### **Correctional Health Services**

In June 2013, Correctional Health Services started systematic hepatitis C screening at intake for inmates born between 1945 and 1965. Routine screening more than doubled the number of hepatitis C antibody tests performed.

### **Hepatitis B and C Education Materials**

The Health Department developed and disseminated educational materials for providers, patients and the general public in 2014. Provider education materials included a “Dear Colleague” letter and a Hep C City Health Information (CHI) bulletin. Patient education materials included “Hepatitis B: The Facts” booklet, “Hepatitis C: The Facts” booklet, poster, risk assessment checklist, hepatitis B vaccine pocket card, a video public service announcement, an NYC Liver Health App and more. To learn more about hepatitis B and C education materials, visit [www.HepFree.NYC](http://www.HepFree.NYC).

### **Community Capacity-Building and Awareness**

The Hep Free NYC Network organizes coalitions of professionals and advocates from a wide range of organizations. In 2014, the Hep Free NYC Network held 11 in-person meetings, with more than 700 total attendees. To learn more about the network, visit [www.HepFree.NYC](http://www.HepFree.NYC).

### **Hepatitis B and C Training and Outreach**

The Health Department conducts regular outreach to organizations serving people affected by hepatitis B and C, by providing training, presentations and participating in related community coalitions and networks. In 2014, the Health Department trained approximately 800 service providers.

## HEPATITIS B AND C SURVEILLANCE DATA

### Acute Hepatitis B

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

- 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.
- This report includes data on patients who meet the Centers for Disease Control and Prevention (CDC)/Council of State and Territorial Epidemiologists' case definition, which includes symptoms consistent with acute hepatitis. For more information, please visit [www.cdc.gov/osels/ph\\_surveillance/nndss/casedef/case\\_definitions.htm](http://www.cdc.gov/osels/ph_surveillance/nndss/casedef/case_definitions.htm).
- Many people with acute hepatitis B have no symptoms or mild symptoms. As a result, the infection may not be diagnosed or reported to the Health Department. Also, if there is a positive hepatitis B surface antigen test but no hepatitis B core IgM antibody test result, the Department does not generally investigate the report. Therefore, the data in this report may under-represent the true incidence of acute hepatitis B in New York City.
- Health Department staff interview patients about risk factors by telephone. Therefore, some patients may be reluctant to disclose sensitive information, such as sexual behavior or drug use.

In addition:

- ▶ In some cases, risk factor information is also obtained from clinicians or medical records.
- ▶ It can be difficult to determine how a new hepatitis B infection occurred; since the incubation period is long (up to 150 days), patients may report more than one risk behavior or may not recall all risk behaviors.

#### Highlights

- Rates of acute hepatitis B are lower among children and young adults because of successful infant and childhood vaccination strategies.
- In 2014, heterosexual sex was the most commonly reported risk factor (31.6 percent) among people with acute hepatitis B.
- In 2014, a substantial proportion of acute hepatitis B cases (21.1 percent) occurred among men who have sex with men.



**Table 1. Acute Hepatitis B among New York City Residents, 2014**

Group	Number	Percentage of Each Group	Rate Per 100,000 People
<b>Overall</b>	<b>57</b>	<b>N/A</b>	<b>0.7</b>
<b>Sex</b>			
Male	43	75.4	1.1
Female	14	24.6	0.3
<b>Age at Time of Report (in years)</b>			
0-19	0	0.0	0.0
20-29	9	15.8	0.6
30-39	15	26.3	1.1
40-49	19	33.3	1.7
50-59	10	17.5	0.9
60+	4	7.0	0.3
<b>Year of Birth</b>			
2000-2014	0	0.0	0.0
1990-1999	2	3.5	0.2
1980-1989	14	24.5	1.0
1970-1979	20	35.1	1.7
1960-1969	14	24.6	1.3
<1960	7	12.3	0.4
<b>Race/Ethnicity</b>			
Latino	9	15.8	0.4
White, non-Latino	16	28.1	0.6
Black, non-Latino	23	40.3	1.2
Asian, non-Latino	9	15.8	0.8
<b>Borough of Residence</b>			
Bronx	15	26.3	1.1
Brooklyn	17	29.8	0.7
Manhattan	15	26.3	0.9
Queens	9	15.8	0.4
Staten Island	1	1.8	0.2
<b>Risk Factors (mutually exclusive<sup>1</sup>)</b>			
Injection Drug Use	2	3.5	N/A
Household Contact With Hepatitis B-Infected Individual	2	3.5	N/A
Men Who Have Sex With Men	12	21.0	N/A
Heterosexual Contact (multiple partners)	6	10.5	N/A
Heterosexual Contact (one partner)	12	21.1	N/A
Health Care-Related Exposure	2	3.5	N/A
Other	5	8.8	N/A
Unknown	16	28.1	N/A

<sup>1</sup> "Mutually exclusive" means 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 in order from highest to lowest risk. For example, a person who injected drugs and had health care-related exposure is represented only once, in the "Injection Drug Use" row.

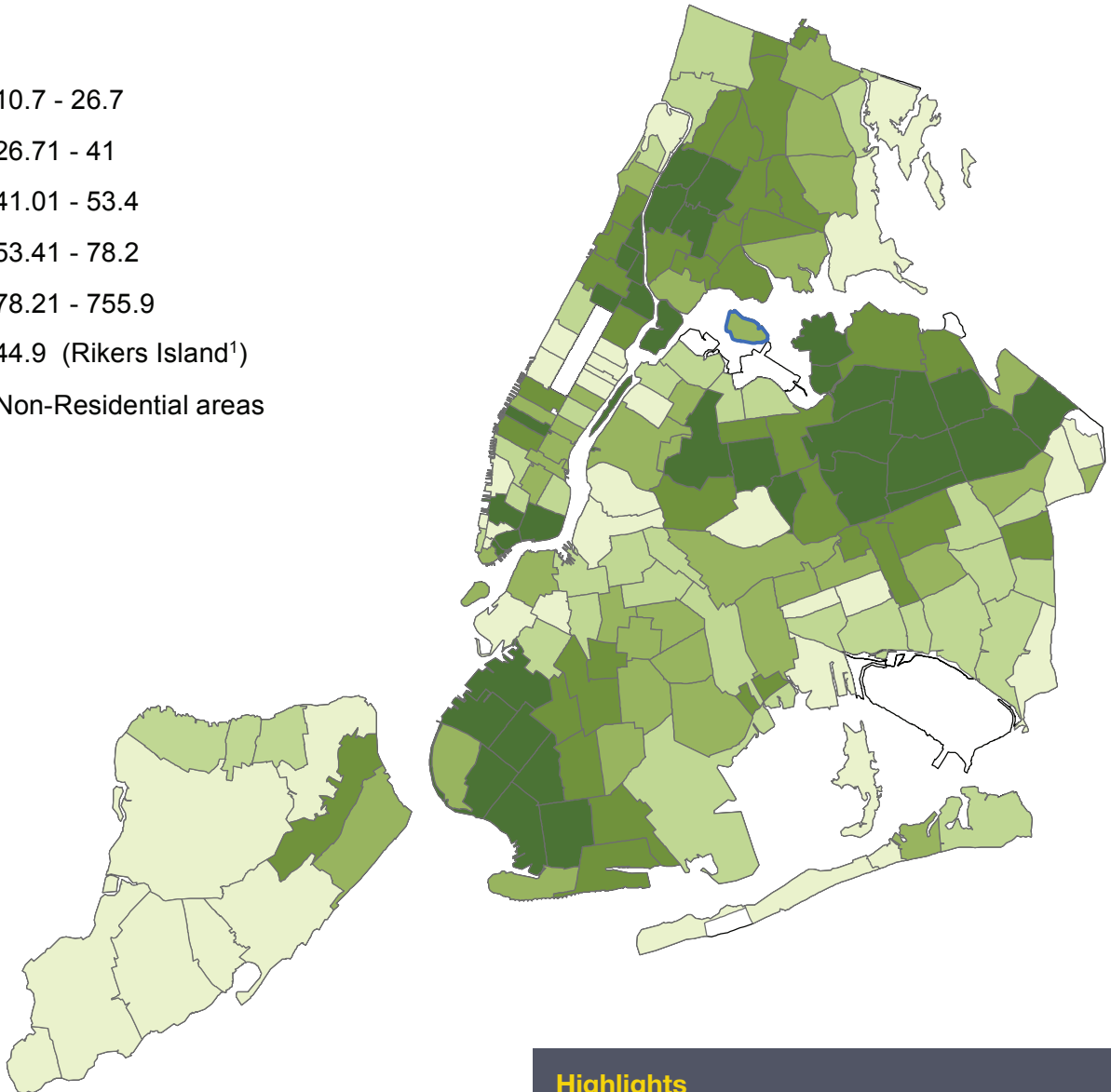
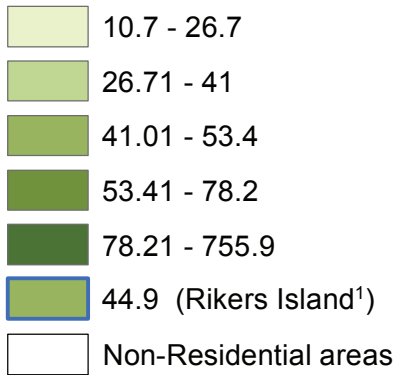
## Chronic Hepatitis B

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

- Laboratories are required to report hepatitis B cases to the Health Department, including positive results for:
  - ▶ Hepatitis B surface antigen
  - ▶ Hepatitis B e antigen
  - ▶ Hepatitis B nucleic acid test
  - ▶ Hepatitis B genotype
- The Health Department does not interview all chronic hepatitis B cases, so only minimal information from lab reports is available, i.e. patient name, residence, date of birth.
- This report includes people reported to the Health Department with positive results for one of the tests listed above and no evidence of acute hepatitis B.
- Most people with a positive result 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 Health Department 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 define people newly reported with chronic hepatitis B. They are not prevalence rates or incidence rates.
- The Health Department sends its educational booklet "Hepatitis B: The Facts" 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. It is available in English, Spanish, Chinese, Korean and French. The booklet is available at [nyc.gov/html/doh/downloads/pdf/cd/cd-hepb-bro.pdf](http://nyc.gov/html/doh/downloads/pdf/cd/cd-hepb-bro.pdf) and can be ordered free of charge by calling 311.

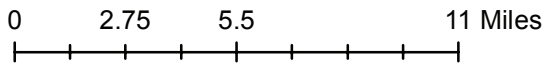
# Map 1. People Newly Reported with Chronic Hepatitis B in New York City by Zip Code, 2013-2014

Average Annual Rate Per 100,000 People



### Highlights

- Neighborhoods with the highest chronic hepatitis B rates were Sunset Park, Brooklyn and Flushing, Queens.
- Neighborhoods with the lowest prevalence of chronic hepatitis B were Willowbrook and South Beach – Tottenville in southern Staten Island.



<sup>1</sup> All people reported from a New York City correctional facility have been aggregated to Rikers Island

**Table 2. People Reported with Chronic Hepatitis B in New York City, 2014**

	People Newly Reported in 2014			Total of All People Reported 2011-2014, Regardless of Year of Initial Report	
	Number	Percentage of Each Group	Rate Per 100,000 People	Number	Percentage of Each Group
<b>Overall</b>	<b>7,459</b>	<b>N/A</b>	<b>88.7</b>	<b>83,494</b>	<b>N/A</b>
<b>Sex</b>					
Female	3,089	41.4	70.3	37,372	44.8
Male	4,343	58.2	108.3	45,837	54.9
Transgender	2	0.0	N/A	2	0.0
Unknown	25	0.3	N/A	283	0.3
<b>Age at Time of First Report (in years)</b>					
0-19	190	2.5	9.6	4,967	5.9
20-29	1,585	21.2	113.2	21,189	25.4
30-39	1,928	25.8	147.1	22,489	26.9
40-49	1,447	19.4	128.1	17,253	20.7
50-59	1,301	17.4	121.9	10,884	13.0
60-69	716	9.6	91.5	4,807	5.8
70-79	206	2.8	47.0	1,418	1.7
80+	86	1.2	29.3	487	0.6
<b>Year of Birth</b>					
1900-1934	98	1.3	33.4	1,306	1.6
1935-1944	211	2.8	48.1	3,275	3.9
1945-1954	748	10.0	95.6	9,761	11.7
1955-1964	1,320	17.7	123.7	17,065	20.4
1965-1974	1,446	19.4	128.0	19,628	23.5
1975-1984	1,996	26.8	152.3	21,503	25.8
1985-1994	1,471	19.7	105.0	9,890	11.8
1995-2014	169	2.3	8.5	1,066	1.3
<b>Borough of Residence<sup>1</sup></b>					
Bronx	994	13.3	70.1	8,111	9.7
Brooklyn	2,597	34.8	100.2	29,739	35.6
Manhattan	1,276	17.1	78.5	18,418	22.1
Queens	2,094	28.1	91.2	23,723	28.4
Staten Island	152	2.0	32.2	1,587	1.9
Unknown	346	4.6	N/A	1,916	2.3
<b>Neighborhood Poverty Level by Zip<sup>2</sup></b>					
Low (<10% below poverty)	644	8.6	38.8	7,546	9.0
Medium (10 to <20%)	2,521	33.8	83.9	28,402	34.0
High (20 to <30%)	2,662	35.7	124.9	33,548	40.2
Very High (>=30%)	1,256	16.8	78.1	11,837	14.2
Unknown	376	5.0	N/A	2,161	2.6

<sup>1</sup> The Bronx includes people in Rikers Island facilities. In 2014, 17 people were reported from Rikers Island.

<sup>2</sup> Neighborhood poverty based on zip code was defined as the percentage of residents with incomes below 100 percent of the Federal Poverty Level, per American Community Survey data from 2008 to 2012. Excludes 24 people incarcerated at time of report.

**Highlights**

- Two-thirds of people newly reported with chronic hepatitis B were 20 to 49 years of age.
- Surveillance data only describe the demographics of people recently diagnosed with hepatitis B; the data do not describe the demographics of everyone currently living with hepatitis B in New York City.
  - ▶ As a proxy, the last two columns describe everyone reported from 2011 to 2014, regardless of when they were initially reported.
  - ▶ The data for the cases diagnosed from 2011 to 2014 are an imperfect, but reasonable, proxy for the demographic characteristics of everyone currently living with hepatitis B in New York City.

## Perinatal Hepatitis B

Hepatitis B can be transmitted from a hepatitis B-infected mother to her newborn, resulting in a perinatal hepatitis B infection. Transmission occurs primarily during childbirth. Among infants infected perinatally, 90 percent develop chronic hepatitis B infection, compared with six to 10 percent for those infected after 5 years of age.

- Infants born to hepatitis B-infected mothers should receive post-exposure prophylaxis within 12 hours of birth, consisting of the first dose of hepatitis B vaccine and hepatitis B immune globulin.
- Post-exposure prophylaxis followed by timely completion of the hepatitis B three-dose vaccination series is 85 percent to 95 percent effective at preventing perinatal hepatitis B infections.
- Children born to hepatitis B-infected mothers should be tested for both hepatitis B surface antibody and hepatitis B surface antigen to confirm immunity or detect infection.
- New York State law requires testing of all pregnant women for hepatitis B surface antigen and reporting of positive cases to the local health department. The New York City Health Department's Perinatal Hepatitis B Prevention Program receives reports and provides case management to help prevent perinatal hepatitis B infections. The program's main objectives are to:
  - ▶ Conduct disease surveillance to identify cases of hepatitis B during pregnancy and cases of perinatal hepatitis B infection.
  - ▶ Educate infected pregnant and post-partum women about the health risks associated with hepatitis B, the importance of medical care for hepatitis, the mechanisms of hepatitis B transmission to others and the need for hepatitis B vaccination and testing of their newborns and other children.
  - ▶ Track and provide case management to ensure that newborns and other children living with hepatitis B-infected mothers complete their three-dose hepatitis B vaccination series and post-vaccination testing in accordance with the recommended schedules.
  - ▶ Refer sex partners and other adult household members for screening and vaccination if needed.

**Highlights**

- In 2014, 1,625 hepatitis B-positive pregnant women delivered a live birth in New York City (1,497 per 100,000 live births.)
- The majority of hepatitis B-positive women who gave birth in 2014 resided in Brooklyn (44 percent), followed by Queens (30 percent).
- The most common race/ethnicity among hepatitis B-positive women who gave birth in 2014 was Asian/Pacific Islander (70 percent).
- The most common country of birth among hepatitis B-positive women who gave birth in 2014 was China (60 percent).

**Table 3. Hepatitis B-Positive Women in New York City Who Delivered a Live Birth, 2014**

Group	Number	Percentage of Each Group	Rate Per 100,000 Live Births
<b>Overall</b>	<b>1,625</b>	<b>N/A</b>	<b>1,497</b>
<b>Borough of Residence</b>			
Bronx	200	12.3	1,019
Brooklyn	710	43.7	1,778
Manhattan	185	11.4	1,042
Queens	489	30.1	1,871
Staten Island	36	2.2	700
Unknown	5	0.3	N/A
<b>Race/Ethnicity</b>			
Latino	57	3.5	169
White, Non-Latino	138	8.5	415
Black, Non-Latino	260	16.0	1,161
Asian/Pacific Islander	1,142	70.3	6,377
Other	26	1.6	N/A
Unknown	2	0.1	N/A
<b>Country of Birth</b>			
China	977	60.1	13,334
USA	64	3.9	124
Uzbekistan	56	3.4	6,034
Dominican Republic	41	2.5	555
Ghana	40	2.5	5,722
Guinea	29	1.8	8,123
Haiti	27	1.7	1,880
Mali	24	1.5	10,084
Albania	23	1.4	8,333
Nigeria	20	1.2	3,165
Other	315	19.4	N/A
Unknown	9	0.6	N/A
<b>Region of Birth<sup>1</sup></b>			
China	977	60.1	13,334
Africa	221	13.6	4,871
USA	64	3.9	124
West/Central Asia	64	3.9	4,255
Caribbean (excl. Haiti)	57	3.5	484
East Asia (excl. China)	45	2.8	2,888
South Asia	40	2.5	826
Southeast Asia	37	2.3	2,953
Eastern Europe	30	1.8	979
Haiti	27	1.7	1,880
Southern Europe	27	1.7	2,778
South America	15	0.9	242
Middle East	8	0.5	340
Mexico And Central America	2	0.1	25
Northern And Western Europe	2	0.1	139
Unknown	9	0.6	139

Source: Case counts were based on women reported to the Health Department with at least one live birth in 2014. Denominators for rates were from the Health Department Office of Vital Statistics, based on 2013 data.

<sup>1</sup>Excludes regions that were not reported as a region of birth for any case (Australia/Oceania, Pacific Islands and Canada)

**Highlights**

- Among 1,607 infants born in 2013 to hepatitis B-positive mothers, 99.1 percent received post-exposure prophylaxis with hepatitis B immune globulin and the first dose of hepatitis B vaccine at the time of delivery, 88.4 percent completed both post-exposure prophylaxis and a valid three dose hepatitis B vaccine series, and 78.2 percent had post-vaccination serologic testing.
- Among 1,256 infants with post-vaccination serologic testing results, 0.6 percent were infected, 95.8 percent were immune, 1.8 percent were susceptible and 1.9 percent had indeterminate results.

**Table 4. Hepatitis B Vaccination and Testing for Infants Born to Mothers with Hepatitis B in New York City, 2013**

Group	Number	Column Percent	Row Percent
<b>Overall</b>	<b>1,607</b>	<b>N/A</b>	<b>N/A</b>
<b>Vaccination Status</b>			
Post-Exposure Prophylaxis <sup>1</sup>	1,592	N/A	99.1
Vaccine Series Completion <sup>2</sup>	1,431	N/A	89.0
Post-Exposure Prophylaxis and Vaccine Series Completion	1,421	N/A	88.4
<b>Testing Status</b>			
Tested	1,256	78.2	N/A
Not Tested	351	21.8	N/A
<b>Test Results (among those tested)</b>			
Infected	7	0.6	N/A
Immune	1,203	95.8	N/A
Susceptible	22	1.8	N/A
Indeterminate	24	1.9	N/A

Source: Based on data reported to the Health Department for infants born in 2013.

<sup>1</sup> Post-exposure prophylaxis was defined as the administration of hepatitis B immune globulin and the first dose of the hepatitis B vaccine series within one day of life.

<sup>2</sup> Vaccine series completion was defined as receiving all three doses of hepatitis B vaccine with final dose given at age greater than or equal to 164 days of age.

In 2014, the Health Department identified 2,134 household contacts of hepatitis B positive pregnant women; of these, the program obtained documentation for hepatitis B vaccination and testing for 800 (82.4 percent) of the children and 345 (29.6 percent) of the adults.

**Table 5. Hepatitis B Status for Adult Contacts of Hepatitis B-Positive Pregnant Women, 2014**

Adult Contacts (n=345)	Number	Percent
Immune	180	52.2
Infected	120	34.8
Re-vaccinate	27	7.8
Inconclusive	17	4.9

In 2014, the Health Department surveyed 39 delivery facilities in New York City about administration of the hepatitis B birth dose. The survey had a response rate of 100 percent; 23 (59 percent) facilities provided hepatitis B birth dose coverage estimate, 32 (82.1 percent) have a procedure to administer hepatitis B vaccine birth dose to all newborns, and 28 (71.8 percent) facilities have a written policy to administer a hepatitis B birth dose to all newborns. New York City birth dose coverage estimates for the 2012 and 2013 birth cohorts were 67.3 percent and 67.4 percent, respectively, calculated based on reports to the Citywide Immunization Registry. Hospital-specific hepatitis B birth dose coverage estimates were posted on the Health Department website. Additional information on birth dose coverage can be found at:

[nyc.gov/html/doh/downloads/pdf/hcp/birth-dose-coverage-2012.pdf](http://nyc.gov/html/doh/downloads/pdf/hcp/birth-dose-coverage-2012.pdf)  
[nyc.gov/html/doh/downloads/pdf/hcp/birth-dose-coverage-2013.pdf](http://nyc.gov/html/doh/downloads/pdf/hcp/birth-dose-coverage-2013.pdf)

Of the 39 birthing facilities in New York City, 14 were recognized in 2014 by the Immunization Action Coalition’s Birth Dose Honor Roll. The honor roll acknowledges hospitals and birthing centers that have attained high coverage rates (more than 90 percent) for administering hepatitis B vaccine at birth. The honorees can be viewed at: [www.immunize.org/honor-roll/birthdose/honorees.asp#ny](http://www.immunize.org/honor-roll/birthdose/honorees.asp#ny).

## Acute Hepatitis C

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 specific laboratory test to identify acute hepatitis C.
- When a patient is diagnosed with hepatitis C, it is difficult to determine when the patient became infected.

The Health Department identifies fewer than 20 acute cases each year; this is a vast underestimate of the true number of acute hepatitis C infections. Therefore, acute hepatitis C surveillance data are not included in this report.

Data on acute hepatitis C infections are useful for planning effective prevention programs; therefore, the Health Department asks that health care providers report acute hepatitis C cases.

- By phone: Call the Health Department's Bureau of Communicable Diseases at 347-396-2600.
- Online: Use Reporting Central at [nyc.gov/html/doh/html/hcp/hcp-urfl.shtml](http://nyc.gov/html/doh/html/hcp/hcp-urfl.shtml). If you need assistance, call the Provider Access Line at 866-692-3641.

## Chronic Hepatitis C

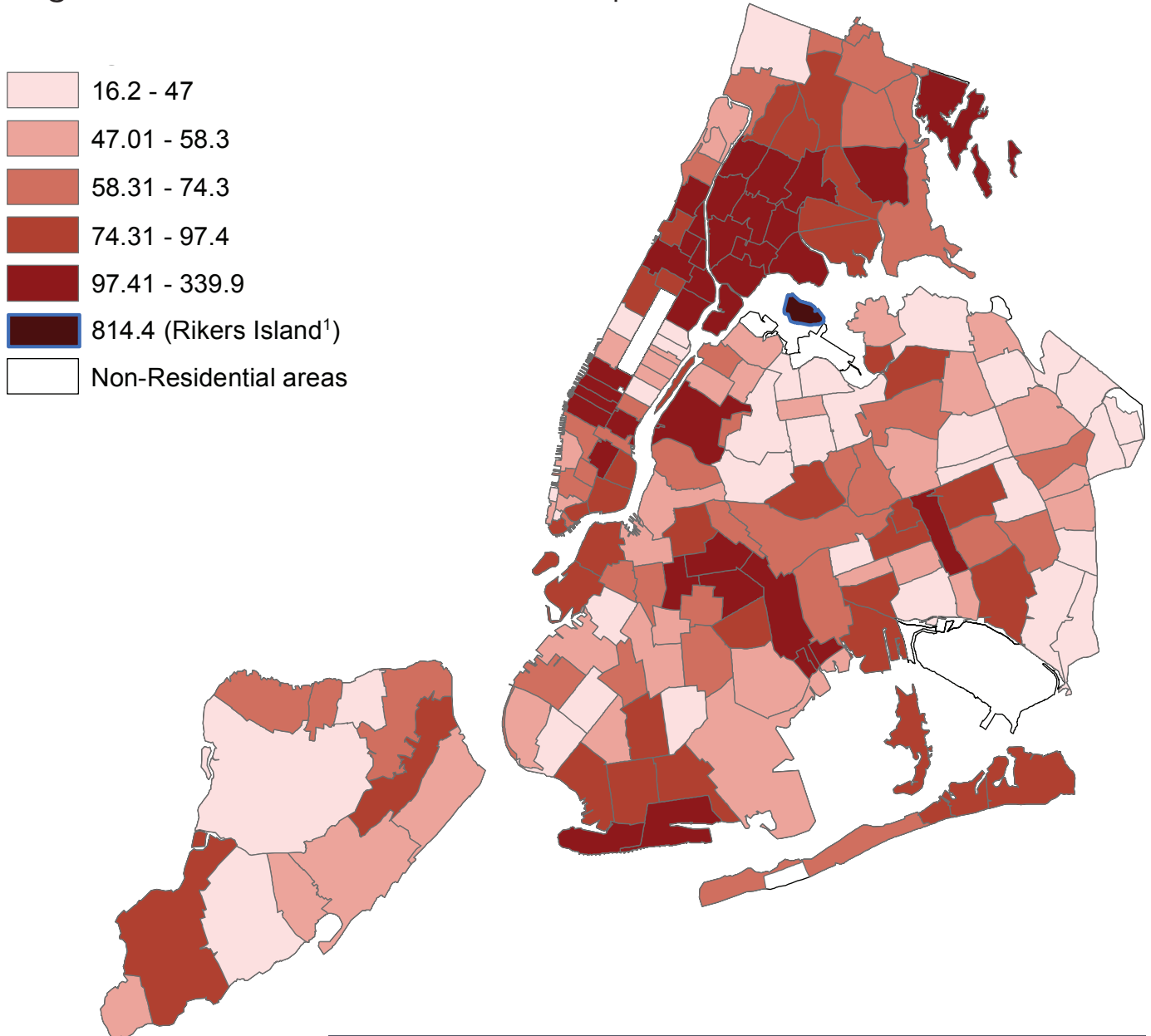
When interpreting New York City chronic hepatitis C surveillance data, keep the following in mind:

- Laboratories are required to report hepatitis C test results to the Health Department, including:
  - ▶ Positive results for antibody test with a high signal-to-cutoff value
  - ▶ Positive results for nucleic acid tests (RNA)
  - ▶ Negative results for nucleic acid tests (RNA), beginning July 2014
  - ▶ Genotype results
- The Health Department does not interview all chronic hepatitis C cases, so only minimal information from lab reports is available, i.e. patient name, residence, date of birth.
- Many patients with chronic hepatitis C are asymptomatic; as a result, many cases are not diagnosed and reported. Therefore, data underestimates 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, 15 to 20 percent may fall into this category.
- It is difficult to determine when people newly diagnosed with chronic hepatitis C were first infected; most were probably infected many years before their diagnosis.
- The rates reflect people reported with chronic hepatitis C and are not prevalence rates or incidence rates.
- The Health Department often receives more than one hepatitis C laboratory report per person and, therefore, uses automatic methods to link together multiple laboratory reports for the same person. These methods may be imperfect. 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).



## Map 2. People Newly Reported with Chronic Hepatitis C in New York City by Zip Code, 2013-2014

Average Annual Rate Per 100,000 People



### Highlights

- The highest rate of chronic hepatitis C was seen in the New York City incarcerated population at 814.4 per 100,000 people.
- Neighborhoods with the highest chronic hepatitis C rates were East Harlem, Manhattan and Hunts Point/Morrisania, Bronx.

0 2.75 5.5 11 Miles

<sup>1</sup> All people reported from a New York City correctional facility have been aggregated to Rikers Island.

**Table 6. People Reported with Chronic Hepatitis C in New York City, 2014**

	People Newly Reported in 2014			Total of All People Reported 2011-2014, Regardless of Year of Initial Report	
	Number	Percentage of Each Group	Rate Per 100,000 People	Number	Percentage of Each Group
<b>Overall</b>	<b>7,691</b>	<b>N/A</b>	<b>91.5</b>	<b>93,579</b>	<b>N/A</b>
<b>Sex</b>					
Female	3,049	39.6	69.4	33,972	36.3
Male	4,641	60.3	115.7	59,150	63.2
Transgender	1	0.0	N/A	1	0.0
Unknown	0	0.0	N/A	456	0.5
<b>Age at Time of First Report (in years)</b>					
0-19	92	1.2	4.6	866	0.9
20-29	747	9.7	53.3	6,109	6.5
30-39	1,102	14.3	84.1	14,116	15.1
40-49	1,218	15.8	107.8	27,492	29.4
50-59	2,075	27.0	194.4	29,003	31.0
60-69	1,754	22.8	224.2	11,585	12.4
70-79	486	6.3	110.9	3,232	3.5
80+	217	2.8	74.0	1,176	1.3
<b>Year of Birth</b>					
1900-1944	736	9.6	100.6	10,044	10.7
1945-1965	4,053	52.7	206.9	60,727	64.9
1966-1983	2,006	26.1	92.4	19,040	20.3
1984-2014	896	11.6	25.3	3,768	4.0
<b>Borough of Residence</b>					
Bronx <sup>1</sup>	1,824	23.7	128.6	25,008	26.7
Brooklyn	2,046	26.6	78.9	26,036	27.8
Manhattan	1,695	22.0	104.2	21,130	22.6
Queens	1,427	18.6	62.1	15,730	16.8
Staten Island	312	4.1	66.0	3,925	4.2
Unknown	387	5.0	N/A	1,750	1.9
<b>Neighborhood Poverty Level by Zip<sup>2</sup></b>					
Low (<10% below poverty)	984	13.7	59.2	10,962	12.4
Medium (10 to <20%)	2,303	32.1	76.7	27,290	30.8
High (20 to <30%)	1,781	24.9	83.5	23,122	26.1
Very High (>=30%)	1,659	23.1	103.1	25,235	28.4
Unknown	440	6.1	N/A	2,119	2.4

**Table 6 (cont'd). People Reported with Chronic Hepatitis C in New York City, 2014**

	People Newly Reported in 2014			Total of All People Reported 2011-2014, Regardless of Year of Initial Report	
	Number	Percentage of Each Group	Rate Per 100,000 People	Number	Percentage of Each Group
<b>RNA Result Reported<sup>3</sup></b>					
<b>Yes</b>	5,313	69.1	N/A	75,925	81.1
<b>No</b>	2,378	30.9	N/A	17,654	18.9
<b>Among Cases with a Reported RNA Result, Most Recent RNA Result<sup>3</sup></b>					
<b>Positive/Detected</b>	3,529	66.4	N/A	58,005	76.4
<b>Negative/Not Detected</b>	1,707	32.1	N/A	16,919	22.3
<b>Indeterminate</b>	77	1.4	N/A	1,001	1.3
<b>RNA Result Reported Within Three Months of Initial Report</b>					
<b>Yes</b>	4,257	55.4	N/A	N/A	N/A
<b>No</b>	3,434	44.6	N/A	N/A	N/A
<b>Hepatitis C Genotype Reported<sup>3</sup></b>					
<b>Yes</b>	2,592	33.7	N/A	47,398	50.7
<b>No</b>	5,099	66.3	N/A	46,181	49.3
<b>Among Cases with a Reported Genotype<sup>3</sup></b>					
<b>1a</b>	1,142	44.1	N/A	22,826	48.2
<b>1b</b>	613	23.6	N/A	11,017	23.2
<b>1 unspecified or other</b>	137	5.3	N/A	4,003	8.4
<b>2</b>	286	11.0	N/A	4,124	8.7
<b>3</b>	278	10.7	N/A	3,716	7.8
<b>4</b>	101	3.9	N/A	1,309	2.8
<b>5</b>	0	0.0	N/A	9	0.0
<b>6</b>	26	1.0	N/A	202	0.4
<b>Mixed</b>	9	0.3	N/A	192	0.4

<sup>1</sup> The Bronx includes people in Rikers Island facilities. In 2014, 403 people were reported from Rikers Island.

<sup>2</sup> Neighborhood poverty based on zip code was defined as the percentage of residents with incomes below 100 percent of the Federal Poverty Level, per American Community Survey data from 2008 to 2012. Excludes 524 people incarcerated at time of report.

<sup>3</sup> Reported as of June 5, 2015. Reporting negative RNA results to the Health Department was mandated July 21, 2014. As of December 2014, most, but not all, laboratories were reporting negative RNA results.

### Highlights

- Most people with newly reported chronic hepatitis C are male (60.3 percent) and/or members of the “baby boomer” generation, i.e. born between 1945 and 1965 (52.7 percent).
- Surveillance data only describe the demographics of people recently diagnosed with hepatitis C; the data do not describe the demographics of everyone currently living with hepatitis C in New York City.
  - ▶ As a proxy, the last two columns included describe everyone reported from 2011 to 2014, regardless of when they were initially reported.
  - ▶ The data for the cases diagnosed from 2011 to 2014 are an imperfect, but reasonable, proxy for the demographic characteristics of everyone currently living with hepatitis C in New York City.

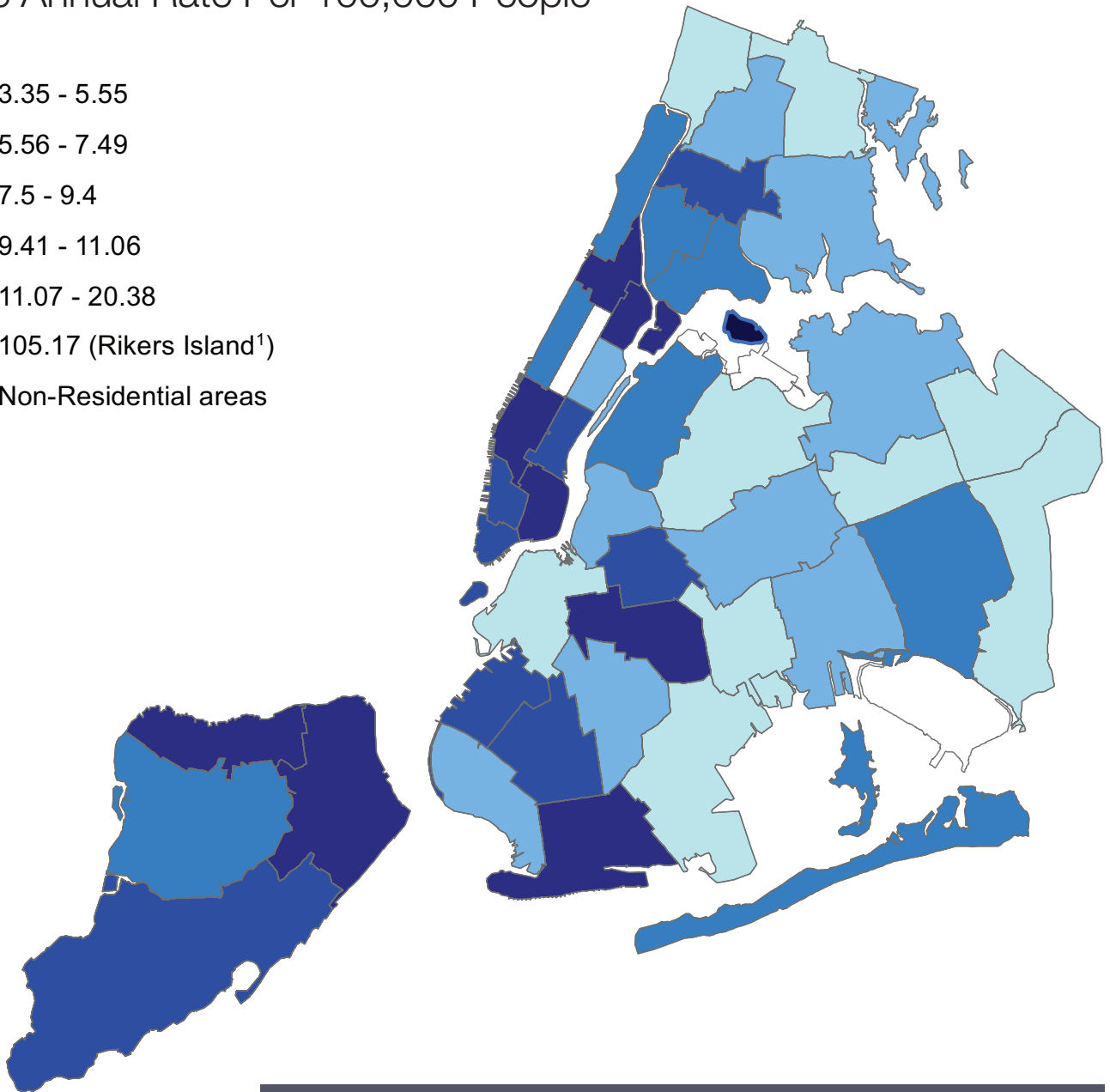
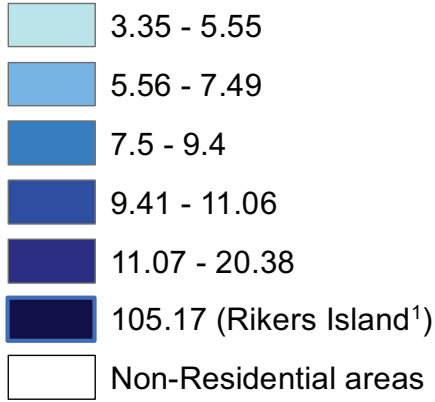
## Chronic Hepatitis C—People 0 to 29 Years of Age

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

- Hepatitis C infections have been increasing among youth and young adults across several jurisdictions in the U.S.
- Identifying new hepatitis C infections is challenging because they are usually asymptomatic. As an alternate measure, the Health Department tracks newly reported cases among people 0 to 29 years of age.
  - ▶ Young people newly reported with hepatitis C are more likely to have been recently infected than older people who are newly reported. Thus, young age is a useful proxy for recent hepatitis C infection.
  - ▶ Understanding the characteristics of this population can guide the Health Department's hepatitis C prevention strategies.
- For general information on interpreting hepatitis C surveillance data, please refer to page 14.

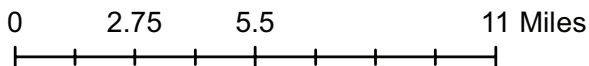
### Map 3. People 0 to 29 Years of Age Newly Reported with Hepatitis C in New York City by Zip Code, 2013-2014

Average Annual Rate Per 100,000 People



**Highlights**

- The highest rate of newly reported hepatitis C in people 0 to 29 years of age is seen in the New York City incarcerated population at 105.17 per 100,000 people.
- Neighborhoods with the highest rates of newly reported hepatitis C in youth are Port Richmond and Stapleton-Fort George (Staten Island), East Harlem, Central Harlem, Chelsea/Clinton and the Lower East Side (Manhattan) and Bedford-Stuyvesant and Coney Island (Brooklyn).



<sup>1</sup> All people reported from a New York City correctional facility have been aggregated to Rikers Island.

**Table 7. People 0 to 29 Years of Age Newly Reported with Hepatitis C in New York City, 2014**

	Number	Percentage of Each Group	Rate Per 100,000 People
<b>Overall</b>	<b>839</b>	<b>N/A</b>	<b>24.8</b>
<b>Sex</b>			
<b>Female</b>	412	49.1	24.3
<b>Male</b>	427	50.9	25.3
<b>Borough of Residence</b>			
<b>Bronx<sup>1</sup></b>	184	21.9	28.7
<b>Brooklyn</b>	223	26.6	20.3
<b>Manhattan</b>	204	24.3	34.2
<b>Queens</b>	141	16.8	16.2
<b>Staten Island</b>	63	7.5	34.7
<b>Unknown</b>	24	2.9	N/A

<sup>1</sup>The Bronx includes people in Rikers Island facilities. In 2014, 71 people 0 to 29 years of age were reported from Rikers Island.

### Highlights

- In 2014, rates of newly reported hepatitis C in people 0 to 29 years of age were similar for males and females.
- Among all boroughs in 2014, Staten Island had the highest rate (34.7 per 100,000 people) of newly reported hepatitis C in people 0 to 29 years of age.

## EpiQuery: New York City Interactive Health Data

EpiQuery is a web-based, user-friendly system that provides health data from a variety of sources.

EpiQuery modules are based on health data sets with varying topics and indicators for different New York City populations, and the system runs analyses for users at the click of the mouse. The data presented in the Communicable Disease Surveillance Data EpiQuery module include all confirmed and probable cases of hepatitis B and C reported since 2006 among New York City residents. Reported cases, crude rates and age-adjusted rates are available by select demographic (age group, sex) and geographic (borough, neighborhood) characteristics.

Users can run their own data queries using the Health Department’s EpiQuery module available at [nyc.gov/health/epiquery](http://nyc.gov/health/epiquery).

## HEPATITIS B AND C—RESEARCH AND ANALYSIS PROJECTS

### Chronic Hepatitis C: Enhanced Surveillance - Barriers to Hepatitis C Treatment Among New York City Residents

From June to November 2014, the Health Department investigated a sample of 300 patients between 31 and 70 years of age infected with chronic hepatitis C to investigate barriers to accessing and initiating antiviral treatment. Department staff interviewed 208 patients.

**Table 8. Characteristics of Patients with Current Hepatitis C Infection, Enhanced Surveillance, June 2014 to November 2014**

	Number	Percentage of Each Group
<b>Total</b>	<b>208</b>	<b>100.0</b>
<b>Sex</b>		
Male	138	66.3
Female	70	33.7
<b>Age</b>		
Birth Cohort (1945-1965)	158	76.0
Other	50	24.0
<b>Insurance</b>		
Medicaid	102	49.0
Private	51	24.5
Medicare	14	6.7
Medicaid and Medicare	14	6.7
Other	2	1.0
None	6	2.9
Unknown/Unspecified	19	9.1
<b>Provider Discussed Hepatitis C Treatment with Patient</b>		
Yes	153	73.6
No	47	22.6
Unknown	8	3.8

## Chronic Hepatitis C: Enhanced Surveillance - Barriers to Hepatitis C Treatment Among New York City Residents *(cont'd)*

**Table 9.** Barriers to Initiating Hepatitis C Treatment Experienced by New York City Patients with Current Hepatitis C Infection, as Reported by Providers and Patients, June 2014 to November 2014

Barrier <sup>1</sup> to Hepatitis C Treatment	Provider Reports (179 patients)	Patient Self-Reports (87 patients)
	Percentage of Each Group	Percentage of Each Group
Comorbid Condition	41.3	33.7
Currently Drinks Alcohol or Uses Drugs	24.0	3.4
Medical Condition	20.7	19.5
Mental Health Issue	19.0	12.6
Not Keeping Follow-Up or Referral Appointments <sup>2</sup>	27.9	N/A <sup>3</sup>
Provider Does Not Prescribe Hepatitis C Medications, Refers For Treatment <sup>4</sup>	22.3	N/A <sup>3</sup>
Concern Over Side Effects	14.0	29.9
Doesn't Feel Sick	N/A <sup>5</sup>	23.6
Waiting For Better Treatment Regimen	12.8	17.2
Concerns Over Cost or Insurance Problems	3.9	13.5
Too Many Responsibilities	N/A <sup>5</sup>	7.9
History of Non-Adherence to Medications	7.8	N/A <sup>3</sup>
Disease Not Advanced Enough	5.6	6.7
No Barriers to Treatment <sup>2</sup>	6.1	11.5

<sup>1</sup> Categories are not mutually exclusive. Barriers reported by more than five percent of patients or providers are shown.

<sup>2</sup> Received as a write-in response from patients or providers and standardized for inclusion in table. All other responses were selected from a checklist.

<sup>3</sup> Not asked of patients

<sup>4</sup> Forty-one percent of the providers were primary care/internal medicine doctors. Sixty-five percent of affirmative responses for this barrier were from primary care/internal medicine providers.

<sup>5</sup> Not asked of providers

### Highlights

- The most common barriers to hepatitis C treatment reported by **patients** were comorbid conditions (34 percent) and concern about hepatitis C treatment side effects (30 percent).
- The most common barrier to hepatitis C treatment reported by **providers** was comorbid conditions (41 percent). Providers also reported that patients often do not keep referrals to specialists and follow-up appointments, and are potentially lost to care.



## Medicaid Data

The Health Department queried Medicaid claims data reported for New York City residents between April 2005 and June 2015. This table summarizes hepatitis C antiviral medications prescribed to New York City patients diagnosed with hepatitis C who have Medicaid coverage.

**Table 10. New York City Medicaid Recipients with Hepatitis C Diagnosis Prescribed Hepatitis C Medications, 2011-2014**

Medication	Prescription Year								Total 2011-2014	
	2011		2012		2013		2014			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<b>Interferon-Based Treatments<sup>1</sup></b>	2,260	100.0	2,229	100.0	1,368	95.0	323	9.0	6,180	65.0
<b>Sovaldi (sofosbuvir)</b>					79	5.0	2,764	79.0	2,843	30.0
<b>Harvoni (sofosbuvir/ledipasvir)</b>							418	12.0	418	4.0
<b>Total</b>	<b>2,260</b>	<b>100.0</b>	<b>2,229</b>	<b>100.0</b>	<b>1,447</b>	<b>100.0</b>	<b>3,505</b>	<b>100.0</b>	<b>9,441</b>	<b>100.0</b>

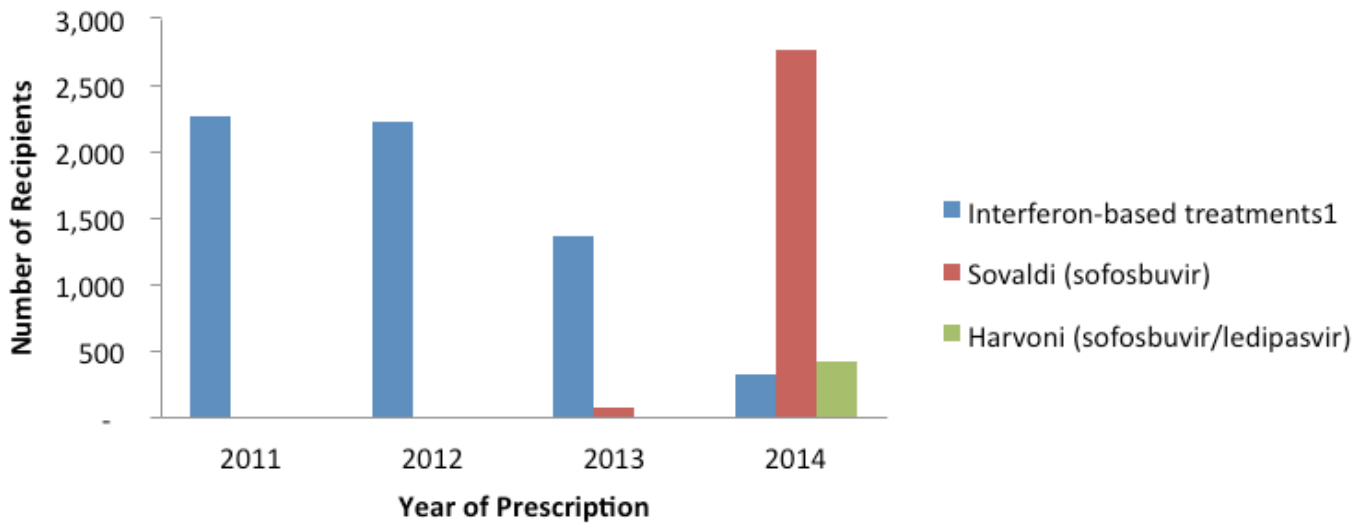
<sup>1</sup> Includes Pegasys, Peg-Intron, Intron A, Sylatron and Infergen

Source: New York City Medicaid Claims Data, April 2005-June 2015

**Note:** Of the 79 people who were prescribed Sovaldi in 2013, 46 people were also prescribed an interferon-based treatment. Of the 2,764 people prescribed Sovaldi in 2014, 1,055 were also prescribed an interferon-based treatment. These people with dual prescriptions are counted under Sovaldi and have been subtracted from Interferon-based treatment counts to avoid duplication.

## Medicaid Data (cont'd)

**Figure 1. New York City Medicaid Recipients with Hepatitis C Prescribed Hepatitis C Medications, 2011-2014**



### Highlights

- More than twice as many people were treated for hepatitis C in 2014 as in 2013.
- Before 2014, nearly all medications prescribed contained interferon.
- In 2014, Sovaldi accounted for nearly 80 percent of hepatitis C prescribed treatments.
- Harvoni, while available for only three months of 2014, accounted for over 10 percent of prescriptions.

## Community Health Survey Data – History of Hepatitis C Test

The Health Department’s Community Health Survey is an annual telephone survey that provides data on the health of New Yorkers, including neighborhood, borough and citywide estimates on a broad range of chronic diseases and behavioral risk factors. All data collected are self-reported.

More information about the survey is available at [nyc.gov/html/doh/html/data/survey.shtml](http://nyc.gov/html/doh/html/data/survey.shtml).

In 2013, for the first time, the survey asked, “Have you ever had a Hepatitis C test? Do not count any test you might have had a part of a blood donation.”

**Table 11. Prevalence of Ever Having a Hepatitis C Test Among Adults 18 Years of Age and Older in New York City**

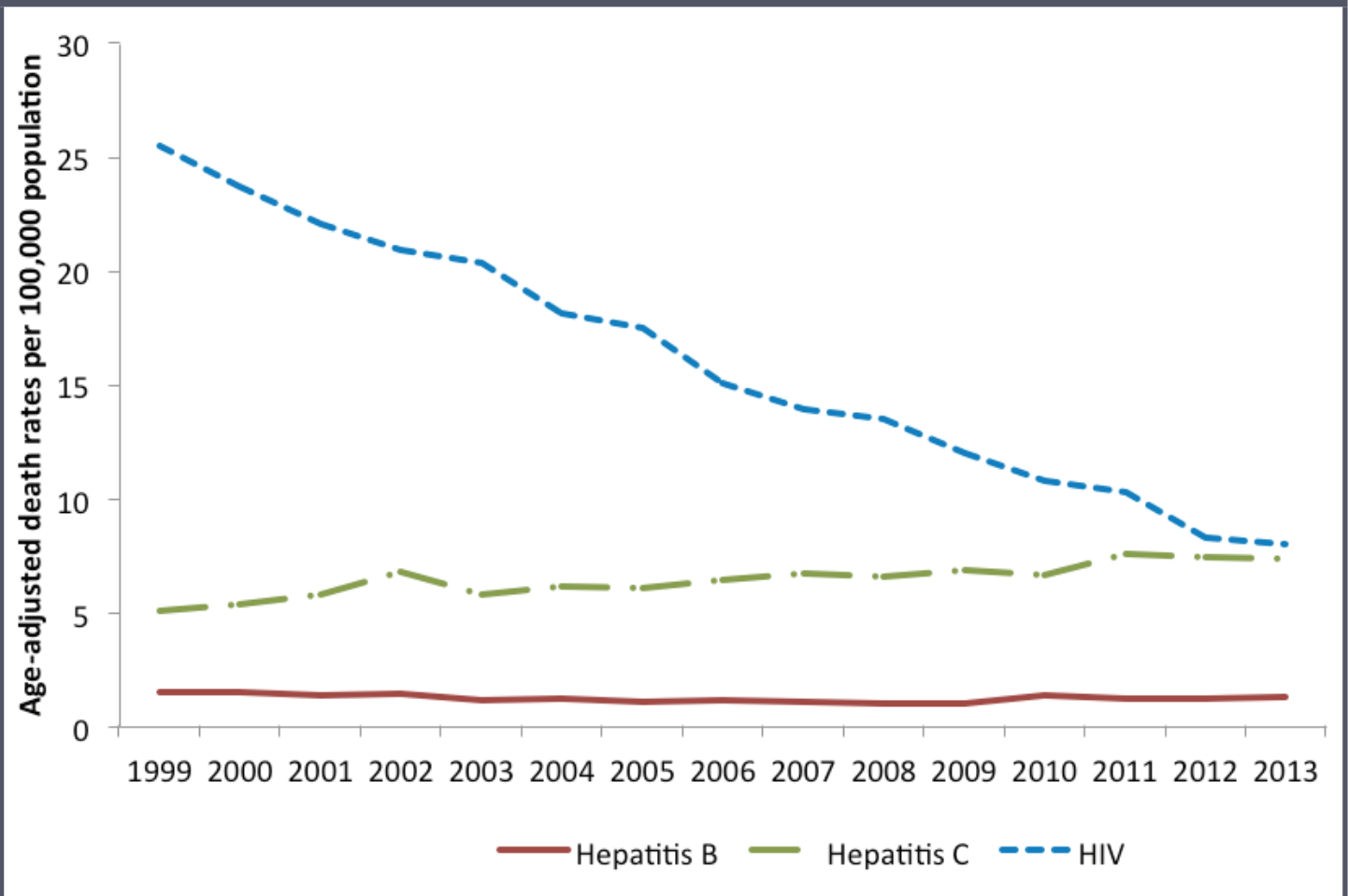
	Prevalence of Ever Having a Hepatitis C Test, by Self-Report	
	Percentage of Each Group	95% Confidence Interval
<b>Overall</b>	<b>41.0</b>	<b>40-43</b>
<b>Age Range (years)</b>		
<b>18-47</b>	49.0	47-52
<b>48-68<sup>1</sup></b>	36.0	34-39
<b>69 and older</b>	20.0	17-24

<sup>1</sup> Age 48-68 years was used to approximate the group born from 1945 to 1965

## Hepatitis B and C Deaths

Nationwide, hepatitis C-related deaths now surpass HIV-related deaths. The Health Department estimates that hepatitis C-related deaths increased 46 percent from 1999 to 2013, while hepatitis B-related deaths remained fairly stable as shown in figure 2. In 2013, there were 122 hepatitis B-related deaths (44 with hepatitis B listed as the underlying cause and 78 with hepatitis B listed as a contributing cause) and 657 hepatitis C-related deaths (306 underlying cause and 351 contributing cause).

**Figure 2. Age-Adjusted Death Rates of Hepatitis B, Hepatitis C and HIV in New York City, 1999-2013**



Source: Bureau of Vital Statistics, New York City Department of Health and Mental Hygiene

## Hepatitis B and C Deaths (*cont'd*)

**Table 12. Deaths Associated with Hepatitis B or Hepatitis C as Underlying or Contributing Cause of Death, New York City Residents, 2013**

	Hepatitis B			Hepatitis C		
	Number	Percentage of Each Group	Age-Adjusted Rate Per 100,000	Number	Percentage of Each Group	Age-Adjusted Rate Per 100,000
<b>Total</b>	<b>122</b>	<b>N/A</b>	<b>1.4</b>	<b>657</b>	<b>N/A</b>	<b>7.3</b>
Age at Death	Number	Percentage of Each Group	Age-Specific Rate per 100,000	Number	Percentage of Each Group	Age-Specific Rate per 100,000
0-24	0	0.0	0.0	1	0.2	0.0
25-44	10	8.2	0.4	23	3.5	0.9
45-64	61	50.0	3.0	388	59.1	18.8
65-84	48	39.3	5.2	218	33.2	23.7
>=85	3	2.5	1.9	27	4.1	17.5
Sex	Number	Percentage of Each Group	Age-Adjusted Rate Per 100,000	Number	Percentage of Each Group	Age-Adjusted Rate Per 100,000
Female	43	35.2	0.9	238	36.2	4.8
Male	79	64.8	2.0	419	63.8	10.5
Race/Ethnicity	Number	Percentage of Each Group	Age-Adjusted Rate Per 100,000	Number	Percentage of Each Group	Age-Adjusted Rate Per 100,000
Black, Non-Latino	28	23.0	1.4	206	31.4	9.8
White, Non-Latino	17	13.9	0.5	176	26.8	5.2
Asian or Pacific Islander	48	39.3	4.2	27	4.1	2.4
Latino	28	23.0	1.3	229	34.9	10.6
Other/Unknown	1	0.8	N/A	19	2.9	N/A

Source: Bureau of Vital Statistics, New York City Department of Health and Mental Hygiene

### Highlights

- The hepatitis C death rate (7.3 per 100,000 people) is higher than the hepatitis B death rate (1.4 per 100,000 people).
- For both hepatitis B and hepatitis C deaths, over half occurred in people younger than 65 years of age.
  - ▶ For hepatitis B, 71 (58.2 percent) deaths occurred in people younger than 65 years of age.
  - ▶ For hepatitis C, 412 (62.8 percent) of deaths occurred in people younger than 65 years of age.
- The hepatitis B death rate was highest among Asians, while the hepatitis C death rate was highest among Latinos and Black, non-Latinos.

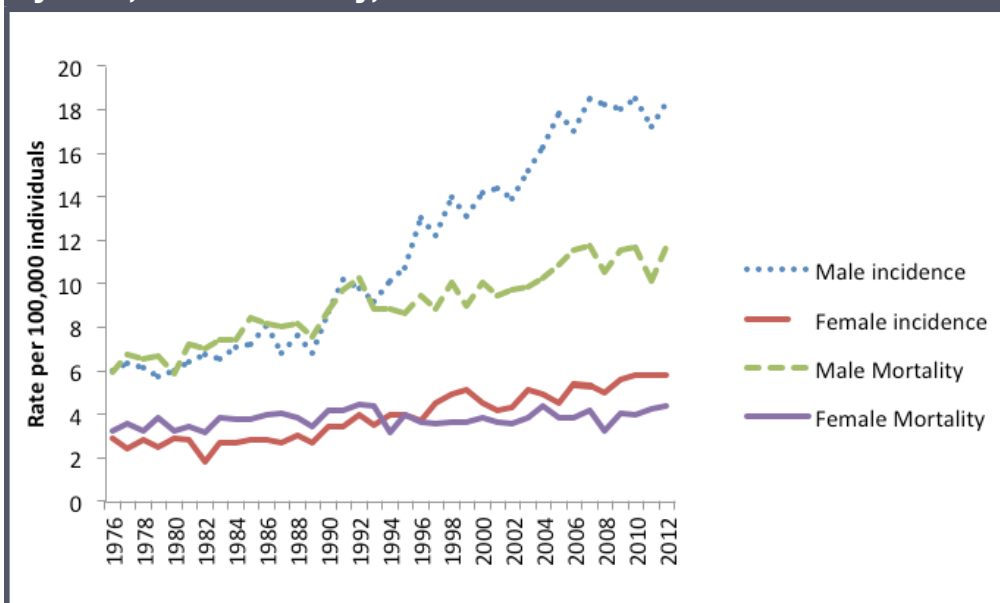
## Hepatocellular Carcinoma

Hepatocellular carcinoma, the most common type of liver cancer, is often caused by chronic hepatitis B or hepatitis C. Table 13 and Figure 3 show data from the New York State Cancer Registry. Hepatocellular carcinoma incidence and mortality data from the New York State Cancer Registry include cases of intrahepatic bile duct cancer. In 2012, there were 718 cases of hepatocellular carcinoma among males (rate 18.3 per 100,000) and 290 cases among females (rate 5.8 per 100,000).

**Table 13. Hepatocellular Carcinoma Incidence and Mortality in New York City, by Borough, 2008-2012**

	Incidence				Mortality			
	Males		Females		Males		Females	
	Average Annual Cases	Rate Per 100,000 Males	Average Annual Cases	Rate Per 100,000 Males	Average Annual Deaths	Rate Per 100,000 Males	Average Annual Deaths	Rate Per 100,000 Females
<b>New York City (Total)</b>	<b>639.6</b>	<b>16.8</b>	<b>230.0</b>	<b>4.7</b>	<b>353.0</b>	<b>9.6</b>	<b>139.8</b>	<b>2.8</b>
<b>Bronx</b>	147.0	26.1	52.0	7.0	78.0	14.4	26.8	3.5
<b>Brooklyn</b>	166.0	15.0	63.2	4.4	94.2	8.8	43.2	3.0
<b>Manhattan</b>	134.8	17.3	47.0	4.7	77.8	10.3	28.2	2.7
<b>Queens</b>	155.6	14.0	55.6	4.0	82.0	7.6	32.4	2.3
<b>Staten Island</b>	36.2	14.5	12.2	4.2	21.0	9.1	9.2	3.1

**Figure 3. Hepatocellular Carcinoma Incidence and Mortality by Year, New York City, 1976-2012**



Source: Bureau of Vital Statistics, New York City Department of Health and Mental Hygiene

### Highlights

- Hepatocellular carcinoma incidence and mortality rates were much higher in men than in women, across all New York City boroughs.
- Hepatocellular carcinoma incidence and mortality rates:
  - ▶ Were highest in the Bronx, for both men and women.
  - ▶ Have increased over time, especially among men.

## Hepatocellular Carcinoma and Hepatitis B and C

The goal of this project was to better understand the contribution of hepatitis B and C to hepatocellular carcinoma. Hepatocellular carcinoma cases in the New York State Cancer Registry diagnosed in New York City from 2001 to 2012 were matched to the New York City hepatitis B and C surveillance database (1999 to 2012). The median age of hepatocellular carcinoma diagnosis for individuals with chronic hepatitis B was 55 years. For those with chronic hepatitis C, it was 61 years, and for those with both infections, it was 57 years. Among individuals with neither chronic hepatitis B nor C, the median age at hepatocellular carcinoma diagnosis was 68 years. Other characteristics for New York City residents with hepatocellular carcinoma are described in table 14.

**Table 14. New York City Residents with Hepatocellular Carcinoma, Diagnosed Between 2001-2012, by Viral Hepatitis Status**

	Hepatitis B (and no Hepatitis C)		Hepatitis C (and no Hepatitis B)		Hepatitis B and Hepatitis C		No Hepatitis B or C		Total	
	Number	Percent of Each Group	Number	Percent of Each Group	Number	Percent of Each Group	Number	Percent of Each Group	Number	Percent of Each Group
<b>Number of Individuals</b>	<b>1,577</b>	<b>17.9</b>	<b>3,392</b>	<b>38.4</b>	<b>197</b>	<b>2.2</b>	<b>3,661</b>	<b>41.5</b>	<b>8,827</b>	<b>N/A</b>
<b>Sex</b>										
<b>Male</b>	1,344	85.2	2,526	74.5	163	82.7	2,574	70.3	6,607	74.8
<b>Female</b>	233	14.8	866	25.5	34	17.3	1,087	29.7	2,220	25.2
<b>Race/Ethnicity</b>										
<b>White, Non-Latino</b>	155	9.8	987	29.1	53	26.9	1,337	36.5	2,532	28.6
<b>Black, Non-Latino</b>	283	18.0	1,022	30.1	44	22.3	691	18.9	2,040	23.1
<b>Asian/Pacific Islander</b>	997	63.2	178	5.3	41	20.8	440	12.0	1,656	18.8
<b>Latino</b>	139	8.8	1,187	35.0	57	28.9	1,170	32.0	2,553	28.9
<b>Other/Unknown</b>	3	0.2	18	0.5	2	1.0	23	0.6	46	0.5
<b>Neighborhood Poverty Level<sup>1</sup></b>										
<b>Low (&lt;10 percent below poverty)</b>	211	13.4	461	13.6	28	14.2	745	20.4	1,445	16.4
<b>Medium (10 to &lt;20 percent)</b>	552	35.0	1,039	30.6	73	37.1	1,202	32.8	2,864	32.5
<b>High (20 to &lt;30 percent)</b>	548	34.8	964	28.4	50	25.4	932	25.5	2,492	28.2
<b>Very high (≥30 percent)</b>	265	16.8	933	27.5	46	23.4	781	21.3	2,023	22.9

<sup>1</sup> Neighborhood poverty level (based on zip code at the time of hepatocellular carcinoma diagnosis) defined as percent of residents with incomes below 100 percent of the Federal Poverty Level, per American Community Survey. Survey year used depends on year of hepatocellular carcinoma diagnosis (U.S. Census used for 2000-2004).

## Hepatocellular Carcinoma and Hepatitis B and C (Cont'd)

The mortality rate in this population was high (85 percent), and was highest among those with hepatitis C infection and among those with no viral hepatitis. However, those with viral hepatitis tend to die at a younger age, with a much higher proportion of dying prematurely (younger than 65 years of age) than those without viral hepatitis.

**Table 15. Mortality Statistics of New York City Residents with Hepatocellular Carcinoma Diagnosed 2001-2012, by Hepatitis Infection Status**

	Hepatitis B (and no Hepatitis C), n=1,664	Hepatitis C (and no Hepatitis B), n=3,439	Hepatitis B and Hepatitis C, n=191	No Hepatitis B or C, n=3,661	Total, n=8,955
<b>Age at Death, Median (IQR)</b>	57.0 (48-66)	62.0 (56-70)	58.0 (51-64.5)	70.0 (60-79)	64.0 (56-75)
<b>Premature Death<sup>1</sup>, n (%)</b>	658 (70.6)	1,485 (59.9)	103 (75.2)	1,020 (34.8)	3,246 (50.5)
<b>Mortality Incidence (%)<sup>2</sup></b>	69.8	89.0	85.7	88.3	84.6
<b>Median Survival Time After Diagnosis, months (95% CI)<sup>2</sup></b>	22.3 (17.7-26.3)	13.1 (12.2-14.5)	14.9 (9.9-22.9)	6.9 (6.3-7.5)	10.9 (10.3-11.5)

<sup>1</sup>Premature death defined as death before 65 years of age

<sup>2</sup>Estimated from Kaplan-Meier survival analysis

### Highlights

- Among people with hepatocellular carcinoma diagnosed in New York City, 60 percent have a reported viral hepatitis infection.
- Individuals with hepatitis B infection are diagnosed with hepatocellular carcinoma at the youngest age; those with no hepatitis infection are diagnosed at the oldest age.
- Mortality is high among those with hepatocellular carcinoma (85 percent). It is highest among those with neither infection (89 percent) and lowest among those with hepatitis B infection (70 percent).



## HEPATITIS B AND C PROGRAMS

### Immunization – Hepatitis B Vaccination

The Health Department provides hepatitis B vaccinations to at-risk patients in its Bureau of Sexually Transmitted Disease (STD) clinics, Bureau of Correctional Health facilities and to patients 4 years of age and older in Bureau of Immunization clinics. In 2014, the Health Department provided thousands of hepatitis B vaccine doses.

- 3,216 doses to children and young adults 4 to 18 years of age in immunization clinics (Fort Greene, Corona and Tremont).
- 5,876 doses at immunization clinics to adults 19 years of age or older.
  - ▶ Of these, 1,829 were the third of the three-dose series.
- 11,456 doses in STD clinics in Central Harlem, Chelsea, Corona, Crown Heights, Fort Greene, Jamaica, Morrisania and Riverside facilities.
  - ▶ Of these, 2,212 were the third of the three-dose series.
- 1,261 Hepatitis A/B combined vaccine doses in STD clinics.
  - ▶ Of these, 228 were the third of the three-dose series.
- 2,469 doses to patients at New York City correctional health facilities.
  - ▶ Of these, 251 were the third of the three-dose series.

Health care providers are required to report vaccine doses administered to children and young adults 0 to 18 years of age to the Citywide Immunization Registry. In 2014, providers reported administering the following number of hepatitis B vaccines:

- 441,763 doses to children and young adults 0 to 18 years of age (includes vaccination in Health Department clinics).
  - ▶ Of these, 115,776 were the third of the three-dose series.

## **Hepatitis B Screening and Linkage to Care**

### **Check Hep B**

In 2014, City Council allocated funding to three community health programs and one hospital to provide hepatitis B patient navigation. This established the Check Hep B Program, which provides culturally and linguistically appropriate linkage to care and clinical care coordination to people with chronic hepatitis B. In addition, programs provided in-person and media outreach, hepatitis B screening and hepatitis B vaccination services.

More information about Check Hep B is available at: <http://hepfree.nyc/checkhepb/>.

## **Hepatitis C Screening and Linkage to Care**

### **Check Hep C**

Check Hep C is a Health Department patient navigation program, which in its second year supported one Patient Navigator at three community health programs and one medical center to provide hepatitis C patient navigation, including linkage to care or clinical care coordination services for people with chronic hepatitis C.

- As of December 30, 2014, 388 patients were enrolled in the program, 239 completed hepatitis C medical evaluation, 165 were deemed hepatitis C treatment candidates, 89 initiated treatment and 66 completed treatment.
- Seventy-seven percent of participants received care coordination, and 23 percent received linkage to care at external clinical sites. For those patients receiving care coordination services, 100 percent received health promotion, and 99 percent received both liver health counseling and alcohol screening and counseling.
- The median age was 52 years; 61 percent were born between 1945 and 1965
- Sixty-four percent were Latino and 27 percent were Black, non-Latino
- Fifty percent had current chemical dependence, 30 percent had a history of intravenous drug use and 25 percent were homeless.

More information about Check Hep C is available at: <http://hepfree.nyc/checkhepc/>.

## Hepatitis C RNA Confirmation Project—It Takes Two

People who test positive for hepatitis C antibodies might be infected, or they might have resolved their infection, either naturally or after treatment. RNA testing is needed to determine current infection status. However, a Health Department study showed that 33 percent of people with a positive hepatitis C antibody result did not get the recommended RNA test, even after Department staff reminded clinicians to do it (“Half a Diagnosis” by McGibbon et al., see references section). The Department’s “It Takes Two” project was started to remind providers to order RNA tests for their antibody-positive patients.

### **In 2014:**

Letters were mailed to clinicians on behalf of over 2,175 patients to request an RNA test (if it had not already been done). The mailing included a short survey about the usefulness of the project; the response rate was 27 percent. Of those who responded to the survey:

- Fifty-four percent found the reminder helpful
- Twenty-nine percent found it unhelpful
- Seventeen percent did not reply to this question
- Forty-seven percent wanted more such reminders in the future
- Thirty-six percent did not want such reminders in the future

The mailing also included a copy of a letter from the health commissioner which included hepatitis C diagnosis, management and treatment information.

The letter is available here:

<http://hepfree.nyc/nyc-dept-health-commissioner-hep-c-dear-colleague-letter>.

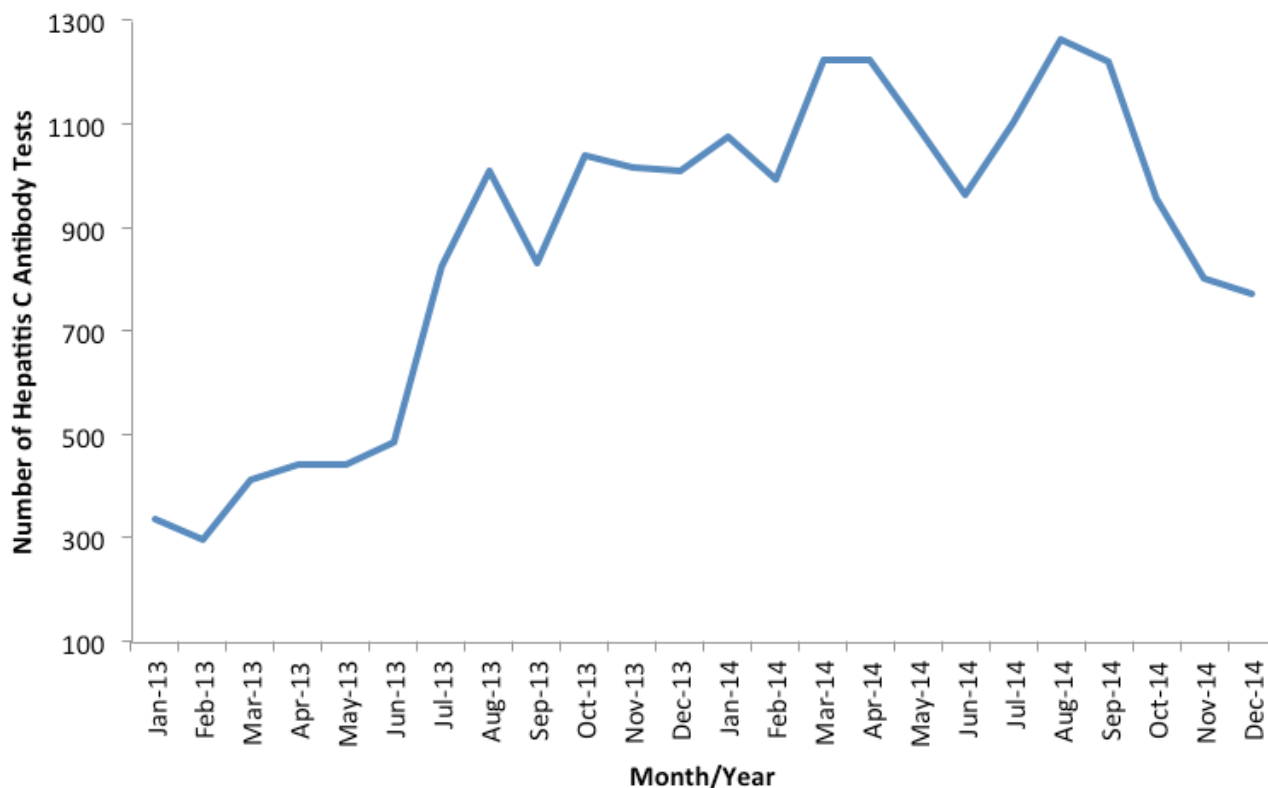
Seventy-five percent of respondents found it useful. Also in 2014, the Health Department began offering print materials for patients and providers, at grand rounds and other technical/educational assistance through this mailing.

## Correctional Health Services

The Bureau of Correctional Health Services aims to improve the health and well-being of people in the New York City jail system. In June 2013, Correctional Health Services changed its policy to systematize hepatitis C screening upon intake for inmates born between 1945 and 1965. Also starting in 2013, the Transitional Health Care Coordination program, which ensures that HIV-positive patients leaving Rikers Island are connected with outside care and services, began to provide this service to HIV/hepatitis C co-infected people who had been tested in jail and to those already on hepatitis C antiviral treatment at intake.

As shown in the figure below, routine screening more than doubled the number of hepatitis C antibody tests performed.

**Figure 4. Hepatitis C Antibody Tests, New York City Jails, 2013-2014**



Source: Bureau of Correctional Health Services, New York City Department of Health and Mental Hygiene

## **CDC Testing Grant for People Who Inject Drugs**

2014 saw the conclusion of the CDC's hepatitis C Testing and Linkage to Care for People Who Inject Drugs grant (awarded in 2012). The grant's goals were to test 4,000 injection drug users for hepatitis C, provide users with the test results and link them to care, treatment and prevention services.

In 2014, 2,017 people were tested for hepatitis C antibody, and 22 percent tested positive. Of those who tested antibody-positive, 31 percent were tested for hepatitis C RNA. Of those tested for hepatitis C RNA, 62 percent tested positive. Of those who were RNA positive, 39 percent were referred to care.

Barriers such as human staffing and financial resources, organizational capacity and competing patient psychosocial issues limited program achievement of linkage to care goals.

## **Harm Reduction Programs Hepatitis C Services and Peer Navigation Program**

New York City Council has allocated funding to the Injection Drug User Health Alliance syringe exchange and harm reduction programs annually since 2003. Funding supports harm reduction programs in offering hepatitis C services including viral hepatitis vaccination and testing, hepatitis C education, linkage to care and treatment support. In 2014, 4,223 services were provided.

For the first time in 2014, City Council allocated funding to establishing the Injection Drug User Health Alliance Hepatitis C Peer Navigation Program, which supported a stipend for one to two Peer Navigators at each of the 14 direct service Injection Drug User Health Alliance programs. Peer navigators enrolled and tracked individual patients along the continuum of care from outreach to testing and linkage to care. Peers provided hepatitis C prevention services, health counseling and accompaniment to hepatitis C testing and medical care. In addition, Harm Reduction Coalition was funded to provide training and technical assistance to support the Peer program, and Praxis housing was funded to host hepatitis C education and linkage to care events for formerly homeless residents. The Injection Drug User Health Alliance Hepatitis C Peer Navigation Program began service delivery in December 2014. The total enrollment goal for the program is 1,400, with a goal of 100 people enrolled per site by June 30, 2015.

For more information on the Injection Drug User Health Alliance Hep C Peer Navigation Program, visit <http://hepfree.nyc/iduha/>.

## Hepatitis B and C Education Booklet Distribution to Newly Reported Patients

The Health Department sends its educational booklets “Hepatitis B: The Facts” and “Hepatitis C: The Facts” to people newly reported with these infections. The booklets were designed to help people infected with hepatitis B or C learn how to stay healthy.

The goals of the mailings are:

- To inform patients of their positive hepatitis B/hepatitis C test if not previously known.
- To provide patients with educational materials about hepatitis B and C.
- To provide information about places where patients can get medical care or vaccination.

The booklets can be ordered free of charge and in bulk. In 2014, the Health Department mailed out 7,209 Hepatitis B booklets and 6,151 hepatitis C booklets to patients.

- “Hepatitis B: The Facts” booklet is available at [nyc.gov/html/doh/downloads/pdf/cd/cd-hepb-bro.pdf](http://nyc.gov/html/doh/downloads/pdf/cd/cd-hepb-bro.pdf)  
Booklets are available in English, Chinese, Korean, Spanish and French
- “Hepatitis C: The Facts” booklet is available at [nyc.gov/html/doh/downloads/pdf/cd/hep-c-facts.pdf](http://nyc.gov/html/doh/downloads/pdf/cd/hep-c-facts.pdf)  
Booklets are available in English, Spanish, Russian, Arabic and Urdu

## Program Collaboration and Service Integration Initiative

The Program Collaboration and Service Integration Initiative aims to connect activities related to HIV, sexually transmitted diseases, tuberculosis and viral hepatitis. Staff work collaboratively with disease-specific programs, other health department partners and external stakeholders. The initiative’s aim is to coordinate these programs and other related Health Department programs serving populations at risk for HIV, STDs, tuberculosis and viral hepatitis. The aim is met by increasing data sharing and integration, connecting services for people with or at risk of the conditions listed above and strengthening collaboration and coordination among these programs. Program staff completed a data match in 2012 with HIV, STD, tuberculosis, hepatitis C, hepatitis B, mortality, diabetes (hemoglobin A1C) and vital statistics death data from 2000 to 2010. Findings are used to inform program planning, educate community partners and support funding efforts.

## **Strengthening Sexual Health Screening at Federally Qualified Health Centers**

The Program Collaboration and Service Integration Initiative collaborated with Bureau of HIV, Bureau of STD, Bureau of Communicable Disease/Viral Hepatitis Program and Primary Care Information Project to strengthen screening for selected infectious diseases in New York City. The project, in its second year, aims to help six participating Federally Qualified Health Centers increase HIV and hepatitis C testing, and increase the number of patients taking recommended treatment for gonorrhea.

Year one of the project focused on clinic-level initiatives, such as electronic health record enhancements and clinic workflow modifications. In year two, the project team is assisting the participating clinics to implement provider-level initiatives, including provider feedback report cards, so that outreach and technical assistance can be targeted to low-performing providers in order to increase screening rates. Participating clinics submit data monthly to the Health Department so that provider performance can be tracked over time, allowing for the evaluation of the quality improvement initiatives.

### **Project INSPIRE**

Project INSPIRE is a three-year project that focuses on treating New York City Medicare & Medicaid beneficiaries with chronic hepatitis C. Project INSPIRE was funded by the Center for Medicare and Medicaid Services as a Health Care Innovation Award, and started September 1, 2014. Project INSPIRE provides care coordination, patient navigation, health promotion and medication adherence counseling to support hepatitis C treatment in a primary care setting that is integrated with mental health, substance abuse and social services. Project INSPIRE aims to enroll 3,200 patients who will be supported through hepatitis C treatment while managing their co-morbidities, including their mental health and substance abuse issues. With the support of their care coordination team, Project INSPIRE enrollees are expected to achieve cure rates of 90 percent for non-cirrhotic and at least 50 percent for cirrhotic patients.

Primary care physicians working with enrollees will be supported by the care coordination team who will assist with medical case management, negotiating with managed care providers and provide health promotion and coaching. In addition, expert tele-mentoring consultation services will be available for the primary care physicians with liver disease specialists providing seminars on hepatitis C treatment and case conferencing about specific patients.

Project INSPIRE is seeking to not only achieve better health care for patients with hepatitis C but also to lower costs. They are conducting cost analysis on service utilization and will be developing a new payment model that will be implemented and tested in year three of this project. They aim to demonstrate that care coordination supports patients through cure, reduces hospitalizations and emergency room costs and reduces long-term complications of hepatitis C infection and to create a payment model that includes care coordination services. The Center for Medicare & Medicaid Services may then adopt this model of payment and care nationally.

# Hepatitis B and C Community Capacity Building and Awareness, Training, Outreach, Education

## Community Capacity Building and Awareness: Hep Free NYC

The Health Department organizes the NYC Hep C Task Force and NYC Hep B Coalition. In 2014, these two groups came together under the umbrella Hep Free NYC Network. In 2014, the network was guided by an evaluation, and an advisory board and strategic plan for each group, and community chairs were established. There were 11 general meetings with 706 participants.

The Hep Free NYC Network is supported through an online communication platform including a website ([www.hepfree.nyc](http://www.hepfree.nyc)), social media and email services. In 2014 there were:

- 12,568 visitors to the website and over 49,000 page views.
- Over 355 posts to the website on the News, Policy, Funding, Tools and Resources, Calendar and Job Boards.
- Over 400 followers on Facebook reaching over 16,000 people, over 650 Twitter followers and nearly 300 LinkedIn members.
- Sixty-two emails sent to over 2,000 subscribers, with 550 new subscribers, 11,400 unique email opens and 2,200 clicks on links in the emails.

## 2014 Hep Free NYC Network Achievements

The Hepatitis B & C Patient Navigator Network:

- Formed and met four times to tour leading hepatitis medical centers, facilitate linkage to care and share best practices.
- Held the Fifth Annual Hepatitis Health Care Access Training in partnership with Centers for Medicaid & Medicare Services with over 70 participants.
- Held the Fourth Annual Coalition Against Hepatitis in People of African Origin (CHIPO) NYC Community Forum with 42 participants.
- Held the Third Annual Hepatitis C Clinical Trials and Pharmaceutical Pipeline Training.
- Participated in the National Hep B Birth Dose Honor Roll Initiative, resulting in 12 New York City Birthing Centers being added to the Immunization Action Coalition National Hep B Birth Dose Honor Roll.
- Coordinated the National Hepatitis Testing Day and Hispanic Hepatitis Awareness Day commemorations on the steps of City Hall, with over 100 participants.
- Coordinated NYC World Hepatitis Day commemoration in concert with the global awareness day, and participated in the second annual African American Hepatitis C Action Day.
- Founded the first NYC Hepatitis B Week, recognized by a City Council Proclamation.
- Raised awareness about hepatitis B in the Asian community, 200 members of the Team HBV NYC students marched in the Chinese Lunar New Year Parade. Team HBV NYC, supported by the Health Department, is dedicated to outreach and raising awareness in schools and communities, and recruiting college and high school students to join the fight against hepatitis B.
- Testified at City Council Hearings on hepatitis B and C to advocate for funding for Check Hep B and Check Hep C patient navigation programs, the Injection Drug User Health Alliance Hepatitis C Peer Navigation Program and for clinical capacity building through the Empire Liver Foundation.



## Hepatitis B and C Training and Outreach

The Health Department conducts regular outreach to organizations serving people affected by hepatitis B and C, by providing training, presentations and participating in related community coalitions and networks.

In 2014, the Health Department trained approximately 800 service providers at:

1. Four viral hepatitis 101 trainings
2. Four hepatitis C rapid test trainings
3. Hepatitis B and C patient navigator trainings for grant-funded programs and community partners
4. Understanding hepatitis A, B and C – four-hour credentialed alcoholism and substance abuse counselor accredited training provided at New York City hepatitis community program sites
5. Three Beth Israel Methadone Program staff trainings
6. Three Ryan White Care Coordination Program Staff Trainings in Hepatitis C Testing and Linkage to Medical Care
7. Four Hep-SBIRT trainings: a standardized substance abuse brief intervention and referral for treatment training tailored for viral hepatitis patients. Information can be found at <http://hepfree.nyc/sbirt/>.
8. Annual hepatitis health care access training co-organized by the Centers for Medicaid & Medicare Services
9. Annual Hepatitis C Clinical Trials and Pharmaceutical Pipeline Training
10. Annual Hepatitis Training for Rikers Med Span HIV and Transitional Care Coordination Program Staff

If your group needs training, please contact [hep@health.nyc.gov](mailto:hep@health.nyc.gov)

As part of the Health Department's strategy to increase clinical provider knowledge and capacity, the Health Department leadership visited hospitals in New York City to encourage systemic investment in the Health Department's hepatitis C public health strategy and build a citywide Clinical Exchange Network to improve provider knowledge and practices using quality management indicators. In 2014, staff visited 11 of 39 hospitals, raising awareness and fostering collaboration around hepatitis C services across hospital divisions.

Since 2008, the Department has sent out a monthly email newsletter on hepatitis B and C, and in 2014 there were over 2,200 subscribers. The newsletter provides information on upcoming events, conferences and trainings, news, policy alerts, new tools and resources, funding opportunities, jobs, policy and advocacy updates, new publications, reports and recommendations and opportunities to provide feedback. If you would like to subscribe, please email [hep@health.nyc.gov](mailto:hep@health.nyc.gov).

## New York City Hepatitis C Research Consortium

The Health Department organized its fourth New York City Hepatitis C Research Consortium, on September 29, 2014 at Rockefeller University in New York City, with 115 attendees. The theme was integration of multidisciplinary clinical services within health care systems to improve hepatitis C testing, linkage to care and treatment. Presentations and slides can be found at <http://nycheabc.org/2014-nyc-hcv-research-consortium/>.

## Hepatitis B and C Education Materials

The Health Department developed and disseminated awareness and educational materials for providers, patients and the general public in 2014. To order any of the materials listed below, call 311.

### Provider Education Materials

- City Health Information (CHI): “Preventing and Managing Hepatitis B”  
[nyc.gov/html/doh/html/data/chi31-2\\_index.shtml](http://nyc.gov/html/doh/html/data/chi31-2_index.shtml)
- City Health Information (CHI): “Diagnosing and Managing Hepatitis C”  
[nyc.gov/html/doh/html/data/chi33-2\\_index.html](http://nyc.gov/html/doh/html/data/chi33-2_index.html)
- New York City Health Department Commissioner “Dear Colleague” Letter  
<http://hepfree.nyc/wp-content/uploads/sites/57/2014/07/NYC-DOHMH-COH-Hep-C-Dear-Colleague-Letter-2014.pdf?f90e8b>

### Patient Education Materials

- “Hepatitis B: The Facts” Booklet  
[nyc.gov/html/doh/downloads/pdf/cd/cd-hepb-bro.pdf](http://nyc.gov/html/doh/downloads/pdf/cd/cd-hepb-bro.pdf)  
Available in English, Chinese, Korean, Spanish and French
- “Hepatitis C: The Facts” Booklet  
[nyc.gov/html/doh/downloads/pdf/cd/hep-c-facts.pdf](http://nyc.gov/html/doh/downloads/pdf/cd/hep-c-facts.pdf)  
Available in English, Spanish, Russian, Arabic and Urdu
- “Your Liver Keeps You Healthy: Protect It” Health Bulletin  
[nyc.gov/html/doh/downloads/pdf/public/dohmhnews13-01.pdf](http://nyc.gov/html/doh/downloads/pdf/public/dohmhnews13-01.pdf)  
Available in English, Chinese and Spanish
- “Hepatitis C: Get Tested, Get Cured!” Poster  
[nyc.gov/html/doh/downloads/pdf/cd/hep-c-poster.pdf](http://nyc.gov/html/doh/downloads/pdf/cd/hep-c-poster.pdf)
- “Hepatitis C Risk Assessment” Checklist  
[nyc.gov/html/doh/downloads/pdf/cd/hep-c-risk-assessment.pdf](http://nyc.gov/html/doh/downloads/pdf/cd/hep-c-risk-assessment.pdf)  
Available in English and Spanish
- “Hepatitis B Vaccine: Complete the Three Dose Series” Pocket Card  
[nyc.gov/html/doh/downloads/pdf/cd/hep-b-palm-card.pdf](http://nyc.gov/html/doh/downloads/pdf/cd/hep-b-palm-card.pdf)  
Available in English, Chinese, Spanish and French
- “Hepatitis C – Get Tested. Get Cured.” Thirty-second video PSA  
<https://www.youtube.com/watch?v=heo82Htbxe4>
- “Liver Health – Hepatitis C” App (on iOS and Android)
- Text message campaign about liver health and hepatitis C

## Local Policy and Legislative Efforts

During 2014, the Health Department's viral hepatitis policy efforts included the following:

- Supported the U.S. Preventive Services Task Force Draft Recommendation Statement: Screening for Hepatitis B Virus Infection in Non-pregnant Adolescents and Adults. The recommendation is available at <http://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/hepatitis-b-virus-infection-screening-2014>.
- Met with managed care payers and private insurers to present the Hepatitis C Strategic Plan and to discuss their policies and reimbursement structures that would benefit or pose barriers to implementing hepatitis C treatment and services.
- Worked with New York City Council to allocate \$750,000 in viral hepatitis funding from City Council for fiscal year 2015 (including 16 syringe exchange programs funded for hepatitis C peer navigation, three community-based organizations funded for hepatitis B patient navigation, three community-based organizations for hepatitis C patient navigation, one hospital for both hepatitis B and C navigation and the Empire Liver Foundation funded for provider training).

The Health Department's objective is to continue pursuing hepatitis C-related policies, provide feedback to New York City providers and patients and inform the providers' decision processes as they develop new policy measures for service delivery and negotiate prices with pharmaceutical companies as new drugs are made available.

## Changes to Hepatitis B and C Reporting Requirements

Laboratories, prenatal care facilities and delivery facilities are required by law to report pregnant and post-partum hepatitis B surface antigen positive patients to the Health Department. Identifying hepatitis B positive patients during pregnancy is critical for the education of pregnant patients about hepatitis B and how to prevent passing hepatitis B to their newborns and others. Despite the reporting law, 30 to 40 percent of hepatitis B positive pregnant women are identified by the Health Department after delivery. In order to help improve prenatal reporting, the Health Department amended the Health Code §13.03(a) in 2014 to require that pregnancy status be submitted with electronic laboratory reports of hepatitis B if any indicators for a "known" or "probable" pregnancy are met. In 2014, 33 percent of confirmed cases were initially reported by a laboratory report containing pregnancy status; increased from 23 percent in 2013.

To increase reporting of post-vaccination serology testing of the children born to hepatitis B positive mothers, the Health Department amended the Health Code §13.03(a) in 2014 to require laboratory reporting of all hepatitis B test results (positive, negative and indeterminate) for hepatitis B surface antigen and hepatitis B surface antibody, both qualitative and quantitative, for children aged 0 to 5 years, when a patient's age is known. This will increase efficiency in collecting documentation and completeness of test results.

As of July 2014, the New York City Health Code was revised to require laboratories to report negative hepatitis C RNA test results as part of routine surveillance. For more information on laboratory reporting requirements, please visit <http://www.wadsworth.org/labcert/regaffairs/clinical/commdiseaseguide.pdf>.

## 2015 STRATEGIC GOALS FOR HEPATITIS B AND C

### Hepatitis C Strategic Goals

1. Increase clinical provider knowledge and capacity for hepatitis C screening, diagnosis, management and treatment.
2. Increase hepatitis C screening, diagnosis and linkage to care.
3. Use surveillance data to track progress toward diagnosis and treatment of New Yorkers with hepatitis C.
4. Promote primary prevention.
5. Enhance public awareness of hepatitis C.
6. Advance hepatitis C public health policy.

### Hepatitis B Strategic Goals

1. Monitor and report on hepatitis B health disparities, infections and epidemiological patterns.
2. Educate and develop the capacity of providers serving high-risk populations to improve hepatitis B screening and linkage to care.
3. Educate policymakers on the importance of hepatitis B and its impact on the community.
4. Promote policies and practices to eliminate perinatal transmission.
5. Promote primary prevention.
6. Seek funding for hepatitis B surveillance, programs and services for adults with hepatitis B.

## RECENT HEPATITIS B AND C PUBLICATIONS FROM THE NEW YORK CITY HEALTH DEPARTMENT

Characteristics and TB treatment outcomes in TB patients with viral hepatitis, New York City, 2000-2010.

G. Bushnell et al., *Epidemiol Infect.* 2014 Nov; 12: 1-10.

<http://www.ncbi.nlm.nih.gov/pubmed/25387450>

Duplicate hepatitis C antibody testing in New York City, 2006-2010. Tsai et al, *Public Health Reports* 2014 Nov; 129(6):491-5.

<http://www.ncbi.nlm.nih.gov/pubmed/25364050>

Estimating the prevalence of hepatitis C infection in New York City using surveillance data.

S. Balter et al, *Epidem. Infec.* 2014 Feb; 142(2): 262-9.

<http://www.ncbi.nlm.nih.gov/pubmed/23657093>

Estimating the prevalence of chronic hepatitis B virus infection—New York City, 2008.

A.M. France, et al., *J Urban Health.* 2012 Apr; 89(2): 373-83.

<http://www.ncbi.nlm.nih.gov/pubmed/22246675>

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## TECHNICAL NOTES

- Hepatitis B and C Surveillance
  - ▶ Denominators used throughout this report are intercensal estimates for 2013, except denominators for incarcerated population. The Denominators for the incarcerated population were provided by the New York City Correctional Health Services.
  - ▶ Neighborhood poverty based on zip code was defined as the percentage of residents with incomes below 100 percent of the Federal Poverty Level, per American Community Survey data from 2008-2012.
  - ▶ 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 reports).
  - ▶ For details on the United Hospital Fund (UHF) neighborhoods, please see [nyc.gov/html/doh/downloads/pdf/tracking/uhf42.pdf](http://nyc.gov/html/doh/downloads/pdf/tracking/uhf42.pdf).
  - ▶ Rates based on small numerators may not be reliable and should be interpreted with caution.
  - ▶ Veterans Affairs (VA) health care facilities do not report cases through routine surveillance, therefore, people with hepatitis who only receive health care at VA facilities are not represented in this report.
  - ▶ 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 as well as Rikers Island.) Therefore:
    - For numbers and rates presented by borough, Rikers Island cases are included with other Bronx cases.
    - For numbers and rates presented by zip code, Rikers Island is included in zip code 11370.
    - For numbers and rates presented by UHF neighborhood, Rikers Island is included in the UHF neighborhood of West Queens.
  - ▶ To protect confidentiality and avoid the publication of small numbers of diagnoses per specific geographic area, the Health Department is presenting maps containing two years of data for each disease shown, and using the larger United Hospital Fund neighborhood designation rather than zip code tabulation area, where appropriate.
- Vital Statistics
  - ▶ Note: Deaths occurring outside New York City or those of non-New York City residents are not included. Both underlying and contributing causes are included. Underlying cause of death is the disease or condition that set off the chain of events leading to death. Contributing cause of death are diseases, morbid conditions, or injuries which either resulted in or contributed to death. Causes of death were coded using ICD-10. The codes used for Hepatitis B are: B16, B170, B180, B181; Hepatitis C: B171, B182. Both acute and chronic conditions were included for Hepatitis B and Hepatitis C. Causes of death are not mutually exclusive. Age-adjustment was performed using the population age categories of 0-24, 25-44, 45-64, 65-84 and 85+ years. Rates stratified by age group are presented as age-specific rates (i.e., no age adjusting within a presented age stratum was performed).

## **Questions? Need more information?**

Call the Health Department's Bureau of Communicable Diseases at 347-396-2600, or visit [nyc.gov/health](http://nyc.gov/health).

To send feedback on this annual report, please email [hep@health.nyc.gov](mailto:hep@health.nyc.gov).

