

Section 8. Viral Hepatitis

Hepatitis is a medical condition characterized by the inflammation of the liver. Often times initially occurring with limited or no symptoms, many individuals remain unaware of their infection status until more chronic sequelae of hepatitis develop including cirrhosis and liver cancer. Hepatitis A, hepatitis B, and hepatitis C viral infections are the most common causes of hepatitis in the United States and provide the focus for the current section.

Under District of Columbia Municipal Regulations (DCMR), laboratories and health care providers are required to report positive hepatitis test results to the Department of Health. These test results are maintained in a registry as a means of monitoring and assessing infection patterns among District residents. Based on reported laboratory and clinical information, hepatitis cases are assigned to one of three case statuses as defined by the Centers for Disease Control and Prevention (CDC), including confirmed, probable, or suspect. Locally, confirmed chronic hepatitis B or C cases include a complete series of labs. A probable case of chronic hepatitis B or C is a combination of reported lab results that are an incomplete series and don't include all results necessary to confirm a diagnosis. A suspect case of chronic hepatitis C includes a single positive lab result indicative of possible chronic infection. For this report, unless otherwise noted "Chronic Hepatitis B" refers to confirmed or probable cases; "Chronic Hepatitis C" refers to a confirmed, probable, or suspect case; and "Acute Hepatitis A" refers to a laboratory confirmed case.

The data presented in the current section is limited to individuals with one or more reported positive hepatitis test results occurring between 2008 and 2012. The majority of the subsequent tables and graphs focus solely on newly reported hepatitis cases (i.e., individuals without laboratory evidence of hepatitis diagnosis prior to 2008); however, some information is presented concerning both newly reported and previously diagnosed chronic hepatitis C cases tested between 2008 and 2012 in order to better characterize the magnitude of the epidemic. When interpreting the information presented, consideration should be given to the fact that individuals infected with hepatitis that have not been tested are not represented in the current analysis. Additionally, individual diagnosis dates are based on the earliest date for which a positive laboratory test result was reported and are not necessarily indicative of the date on which an individual became infected.

Chronic Hepatitis B

Hepatitis B virus is transmitted through contact with bodily fluids from an infected person; fluids include blood, semen, and vaginal fluid. Chronic hepatitis B begins as an acute infection, but in some people the immune system fails to clear the infection and it becomes chronic.

According to the CDC, among persons exposed to hepatitis B virus, the risk for chronic infection varies according to age at infection and is greatest among young children. Approximately 90% of infants and 25 to 50% of children less than 5 years of age remain chronically infected with hepatitis B. By contrast, approximately 95% of adults recover completely from acute infection and do not develop chronic disease.

Pediatric cases of hepatitis B are reported to HAHSTA and case investigation falls under the jurisdiction of the DOH Division of Immunizations. Pediatric cases of chronic hepatitis B reported from 2008 to 2012 are incorporated into the data presented here.

Table 11. Newly Reported Chronic Hepatitis B Cases by Sex, Race/Ethnicity, Age at Diagnosis, and Year of Diagnosis ^{1,2,3}
District of Columbia, 2008-2012

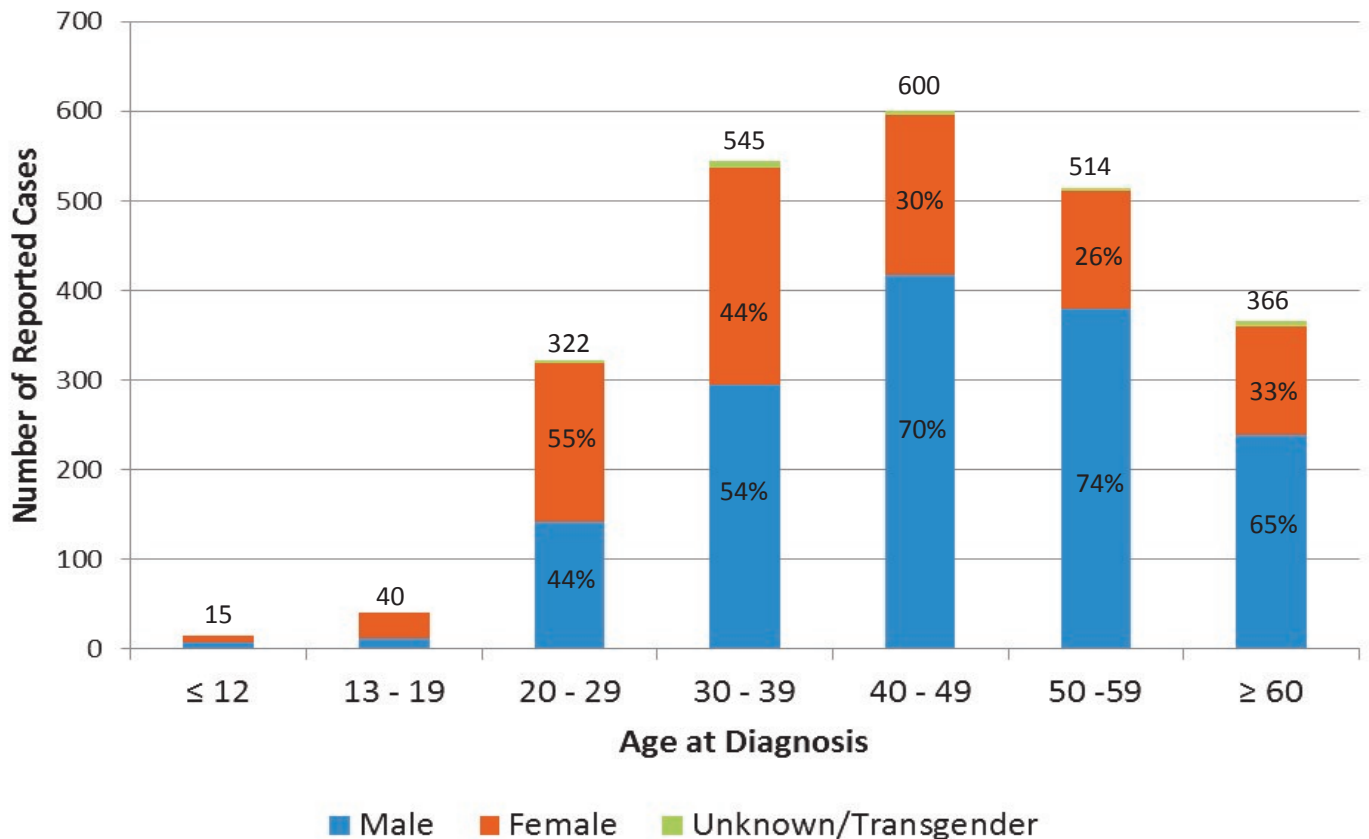
Chronic Hepatitis B Cases		
	N	%
Gender		
Male	1,490	62.0
Female	888	37.0
Unknown/Transgender	24	1.0
Total	2,402	100.0
Race/Ethnicity		
Black	526	21.9
White	81	3.4
Hispanic	25	1.0
Asian/Pacific Islander	75	3.1
American Indian	3	0.1
Unknown	1,692	70.4
Total	2,402	100.0
Age at Diagnosis		
0 - 12	15	0.6
13 - 19	40	1.7
20 - 29	322	13.4
30 - 39	545	22.7
40 - 49	600	25.0
50 - 59	514	21.4
≥60	366	15.3
Total	2,402	100.0
Year of Diagnosis ²		
2008	509	21.2
2009	521	21.7
2010	562	23.4
2011	464	19.3
2012	346	14.4
Total	2,402	100.0

¹ Cases with a reported residential address outside of the District of Columbia at the time of diagnosis are excluded from analysis.

² Diagnosis year based on date of first reported positive hepatitis B laboratory result indicative of a confirmed or probable chronic case as defined by CDC guidelines

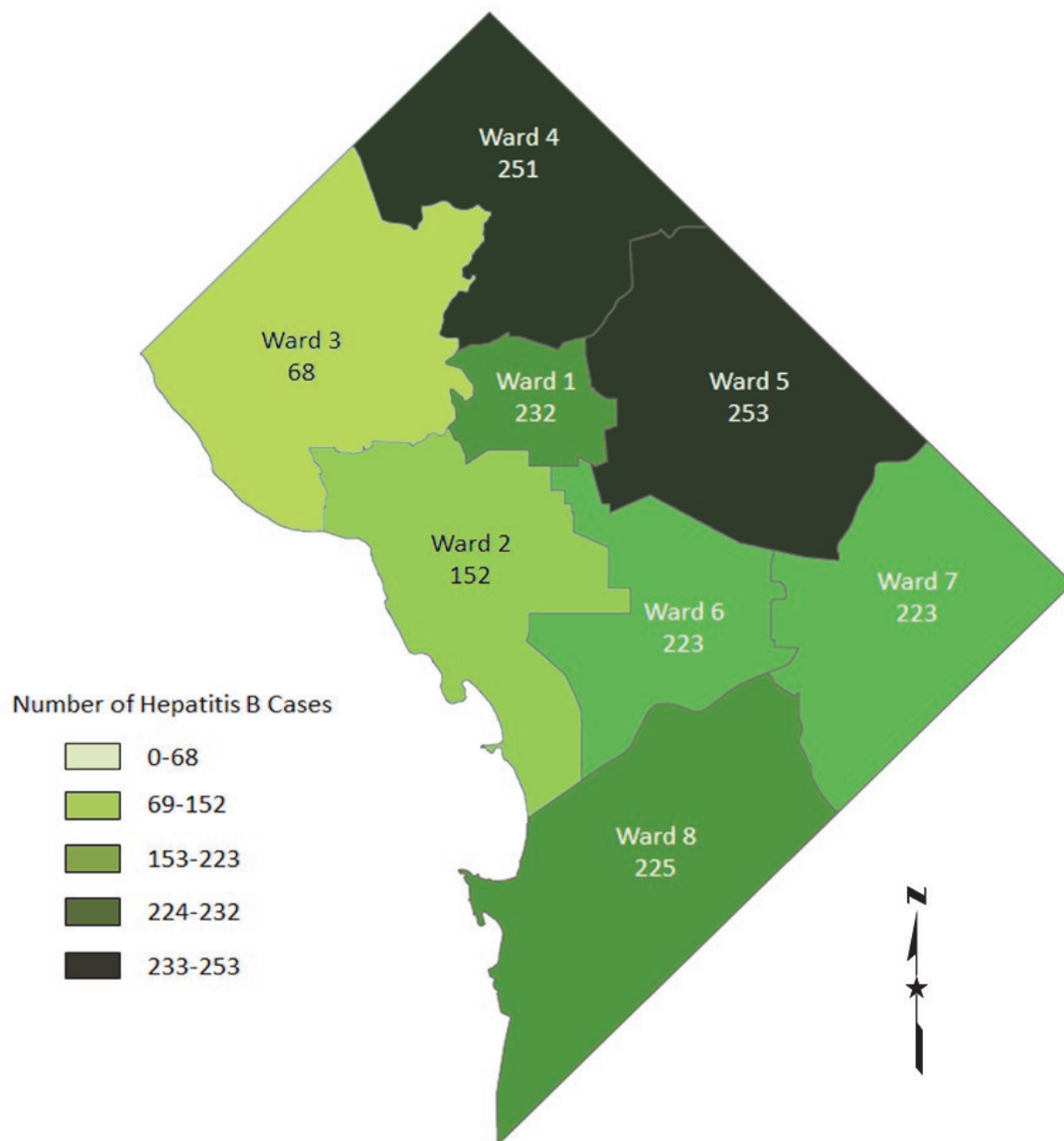
³ Numbers may differ from previous publications due to additional record matching and/or data cleaning efforts.

Figure 35. Newly Reported Chronic Hepatitis B Cases by Age at Diagnosis & Sex, District of Columbia 2008-2012



- Between 2008 and 2012, 2,402 individuals were newly reported with chronic hepatitis B infections in the District.
- A decline in the number of newly reported chronic hepatitis B cases among District residents has been observed in recent years, ranging from 562 confirmed or probable cases in 2010 to 346 in 2012.
- Despite the fact that the majority (74%) of reported chronic hepatitis B cases with a known race/ethnicity are Black, the high overall percentage of chronic hepatitis B cases with an unknown (70%) race/ethnicity prevents a valid assessment of racial/ethnic differences in the occurrence of chronic hepatitis B infections within the District.
- Overall, men accounted for approximately 62% of newly reported chronic hepatitis B cases from 2008 through 2012; however, women comprise the majority (57%) of cases reported among those under 30 years of age.
- Individuals aged 40 to 49 years of age (25%) represent the largest age group among those newly reported with chronic hepatitis B from 2008 through 2012, followed by individuals 30 to 39 years of age (23%), and individuals 50 to 59 years of age (21%).

Map 6. Number of Newly Reported Chronic Hepatitis B Cases by Ward
District of Columbia, 2008-2012



- Address and ward information was available for 68% of newly reported chronic hepatitis B cases.
- The largest number of newly reported chronic hepatitis B cases from 2008 to 2012 was observed in wards 5 (n=253) and 4 (n=251).
- Ward 3 had the lowest number of chronic hepatitis B cases reported between 2008 and 2012 (n=68).
- Approximately 110 newly reported chronic hepatitis B cases between 2008 and 2012 were among individuals reportedly incarcerated at the time of diagnosis and 42 cases were among individuals identified as homeless.

Chronic Hepatitis C

Hepatitis C is transmitted through blood and the most common mode of transmission is sharing contaminated injection drug equipment, needles, or syringes. Hepatitis C is also transmitted through sexual contact with an infected person, needle sticks, and from pregnant women to their children, although these modes occur less frequently than through contaminated injection drug equipment.

Table 12. All Positive Chronic Hepatitis C Cases by Sex, Race/Ethnicity, Age at Diagnosis, Case Classification, and Diagnosis Type ^{1,2}
District of Columbia, 2008-2012

Chronic Hepatitis C Cases		
	N	%
Gender		
Male	10,495	65.9
Female	5,330	33.5
Unknown/Transgender	90	0.6
Total	15,915	100.0
Race/Ethnicity		
Black	5,358	33.7
White	311	2.0
Hispanic	71	0.4
Asian/Pacific Islander	77	0.5
American Indian	2	<0.1
Unknown	10,096	63.4
Total	15,915	100.0
Age at Diagnosis		
0 - 12	34	0.2
13 - 19	45	0.3
20 - 29	416	2.6
30 - 39	667	4.2
40 - 49	2,999	18.8
50 - 59	8,172	51.3
60-69	2,911	18.3
≥ 70	659	4.1
Unknown	12	0.1
Total	15,915	100.0
Case Classification ³		
Confirmed	12,885	81.0
Probable	120	0.8
Suspect	2,910	18.3
Total	15,915	100.0
Diagnosis Type ²		
Newly Reported	9,819	61.7
Previously Reported	6,096	38.3
Total	15,915	100.0

¹ Cases with a reported residential address outside of the District of Columbia at the time of testing are excluded from analysis.

² "All chronic hepatitis C cases" is inclusive of newly reported cases testing positive for the first time between 2008 and 2012, as well as previously reported cases with both a positive test result between 2008 and 2012 and ≥ 1 positive laboratory report for chronic hepatitis C prior to 2008. Counts represent the number of unduplicated individuals testing positive for chronic hepatitis C between 2008 and 2012 regardless of previous diagnosis history.

³ Case classification based on CDC guidance.

As indicated in the previous table, approximately 15,915 residents had a positive laboratory report for chronic hepatitis C in the District between 2008 and 2012, 81% of which met the criteria outlined by the CDC for being a confirmed case. While this number provides some insight concerning the magnitude of chronic hepatitis C within the District, it should not be interpreted as a prevalence estimate given the exclusion of previously diagnosed individuals without subsequent testing during the specified timeframe, as well as the exclusion of infected individuals that remain undiagnosed.

Table 13. Newly Reported Chronic Hepatitis C Cases by Sex, Race/Ethnicity, Age at Diagnosis, and Year of Diagnosis ^{1, 2, 3}
District of Columbia, 2008-2012

Chronic Hepatitis C Cases		
	N	%
Gender		
Male	6,558	66.8
Female	3,173	32.3
Unknown/Transgender	88	0.9
Total	9,819	100.0
Race/Ethnicity		
Black	2,244	22.9
White	217	2.2
Hispanic	44	0.4
Asian/Pacific Islander	39	0.4
American Indian	2	<0.1
Unknown	7,273	74.1
Total	9,819	100.0
Age at Diagnosis		
0 - 12	32	0.3
13 - 19	41	0.4
20 - 29	377	3.8
30 - 39	555	5.7
40 - 49	1,945	19.8
50 - 59	4,701	47.9
60 - 69	1,678	17.1
≥ 70	479	4.9
Unknown	11	0.1
Total	9,819	100.0
Year of Diagnosis ²		
2008	2,196	22.4
2009	2,035	20.7
2010	2,078	21.2
2011	2,015	20.5
2012	1,495	15.2
Total	9,819	100.0

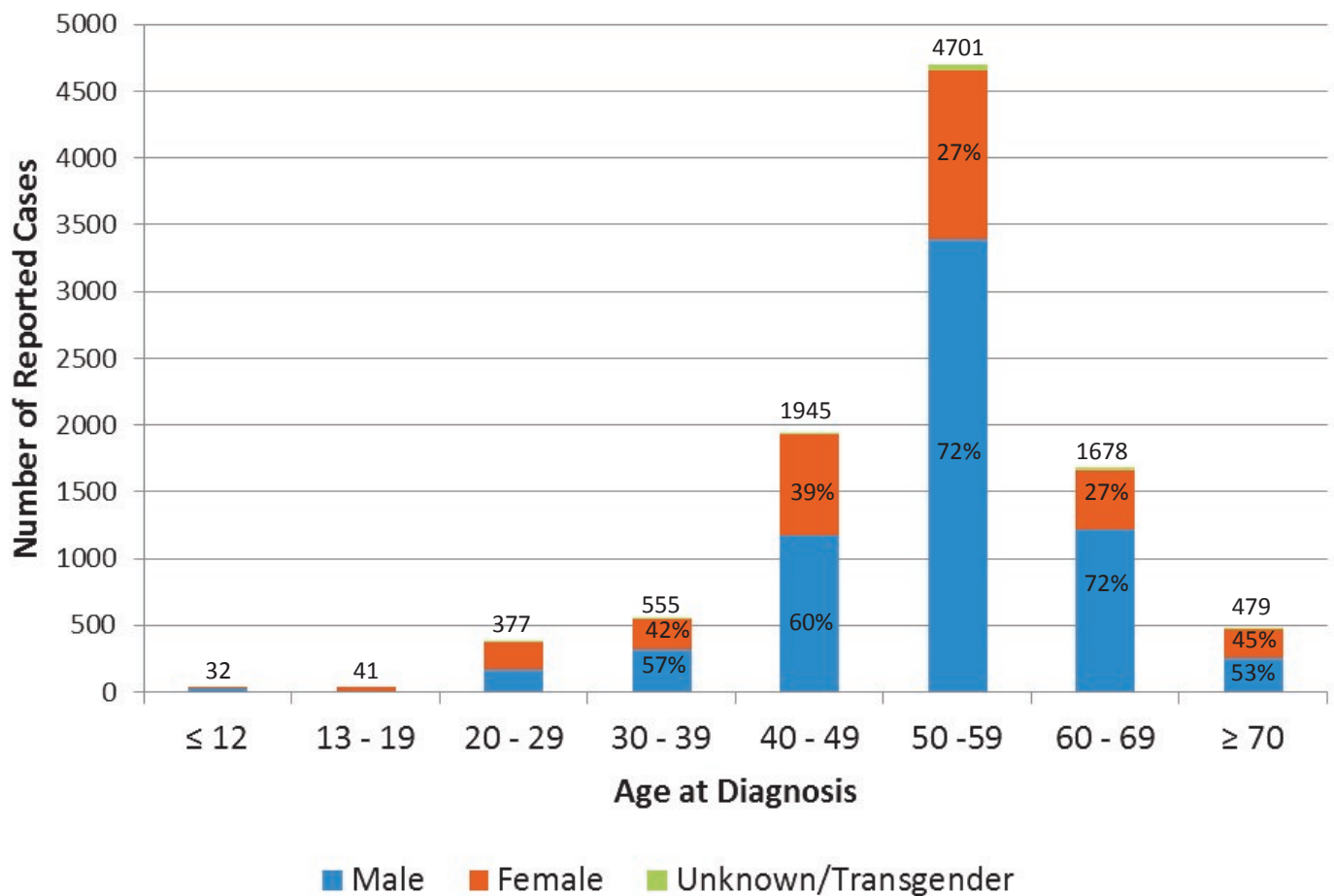
¹ Cases with a reported residential address outside of the District of Columbia at the time of diagnosis are excluded from analysis.

² Diagnosis year based on date of first reported chronic Hepatitis C positive laboratory report meeting the CDC confirmed, probable, or suspect case definition.

³ Numbers may differ from previous publications due to additional record matching and/or data cleaning efforts.

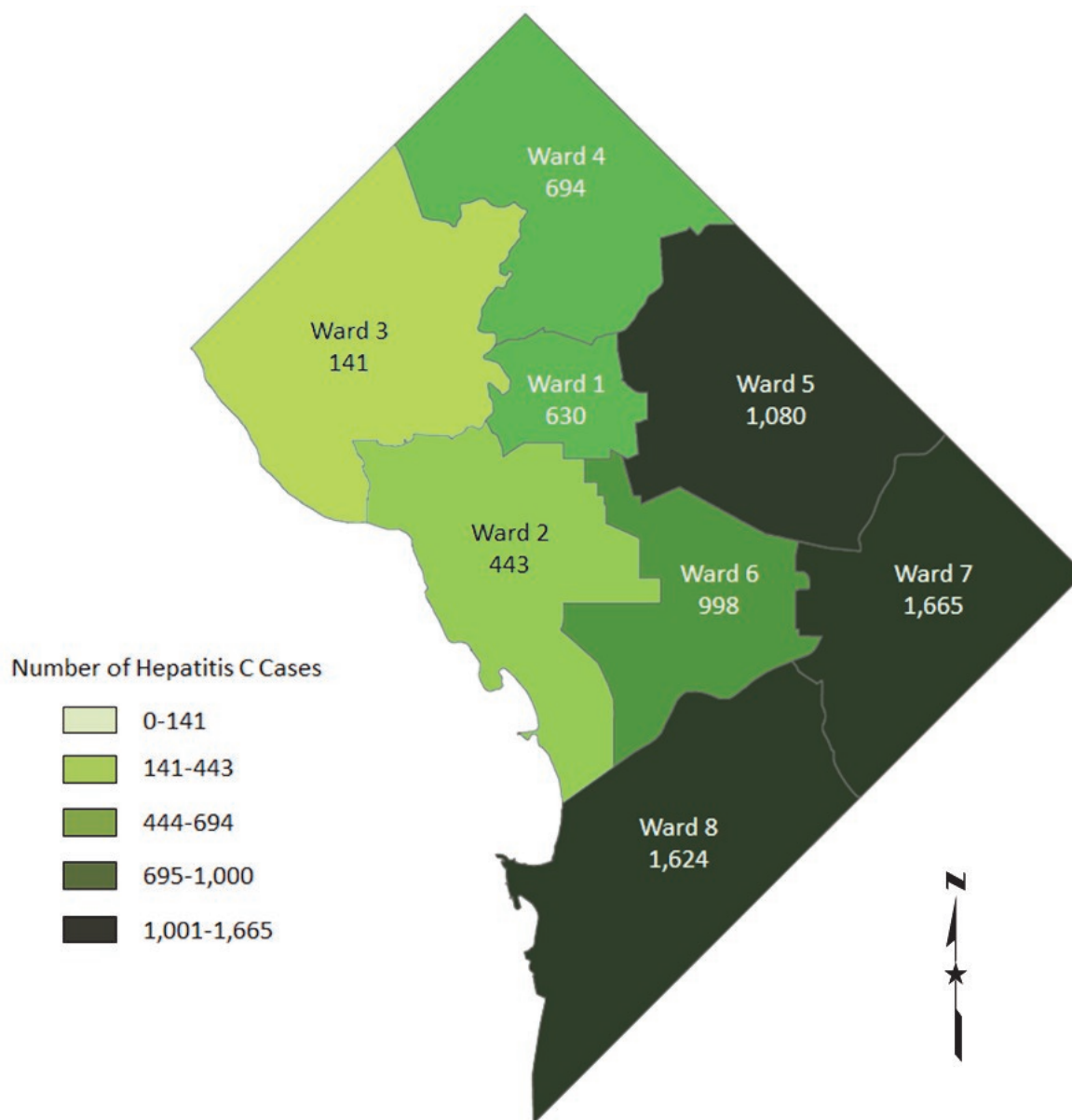
- There were approximately 9,819 newly reported confirmed, probable, or suspect cases of chronic hepatitis C among DC residents between 2008 and 2012, with a decline in the annual number of newly reported cases observed only in the latter part of the specified timeframe.
- While the majority (88%) of newly reported chronic hepatitis C cases with a known race/ethnicity are black, the high overall percentage of chronic hepatitis C cases with an unknown (74%) race/ethnicity prevents a valid assessment of racial/ethnic differences in the occurrence of chronic hepatitis C infections within the District.

Figure 36. Newly Reported Chronic Hepatitis C Cases by Age at Diagnosis & Sex, District of Columbia 2008-2012



- Nearly all (90%) newly reported chronic hepatitis C cases were diagnosed among persons 40 years of age or older between 2008 and 2012, with the largest percentage (48%) of newly reported diagnoses among persons 50 to 59 years of age.
- The total number of newly reported cases of chronic hepatitis C from 2008 to 2012 among those aged 50 to 59 years of age (n=4,701) was over twice that observed in any other age group.
- Men accounted for the overall majority (67%) of newly reported chronic hepatitis C cases between 2008 and 2012. While this trend remains consistent across older age categories, women (56%) comprised the majority of cases documented among those under 30 years of age during the same timeframe.

Map 7. Number of Newly Reported of Chronic Hepatitis C Cases by Ward
District of Columbia, 2008-2012



- Address and ward information was available for 74% of newly reported chronic hepatitis C cases.
- Ward 7 had the highest number of newly reported chronic hepatitis C cases between 2008 and 2012 (n=1,665) followed by Wards 8 and 5.
- Ward 3 had the lowest number of newly reported chronic hepatitis C cases between 2008 and 2012 (n=141).
- Approximately 718 newly reported chronic hepatitis C cases between 2008 and 2012 were among individuals reportedly incarcerated at the time of diagnosis and 219 cases were among individuals identified as homeless.

Acute Hepatitis A

Hepatitis A infection is an acute or newly occurring liver disease, which can last from a few weeks to several months. The majority of people with hepatitis A are able to clear the infection from their bodies and their symptoms improve without treatment. Once exposed to hepatitis A either by vaccination or natural infection, a person develops lifelong antibodies that will protect them against the virus should they be exposed again. Hepatitis A is spread by ingesting fecal matter contaminated by the hepatitis A virus. Common modes of transmission include direct contact with objects, foods, or drinks that have been handled by an infected individual, engaging in oral-anal sexual activity (rimming) with an infected person, eating contaminated produce, or eating raw or undercooked mollusks from contaminated waters.

Table 14. Newly Reported Acute Hepatitis A Cases by Sex, Race/Ethnicity, Age at Diagnosis, Year of Diagnosis^{1, 2, 3}
District of Columbia, 2007-2011

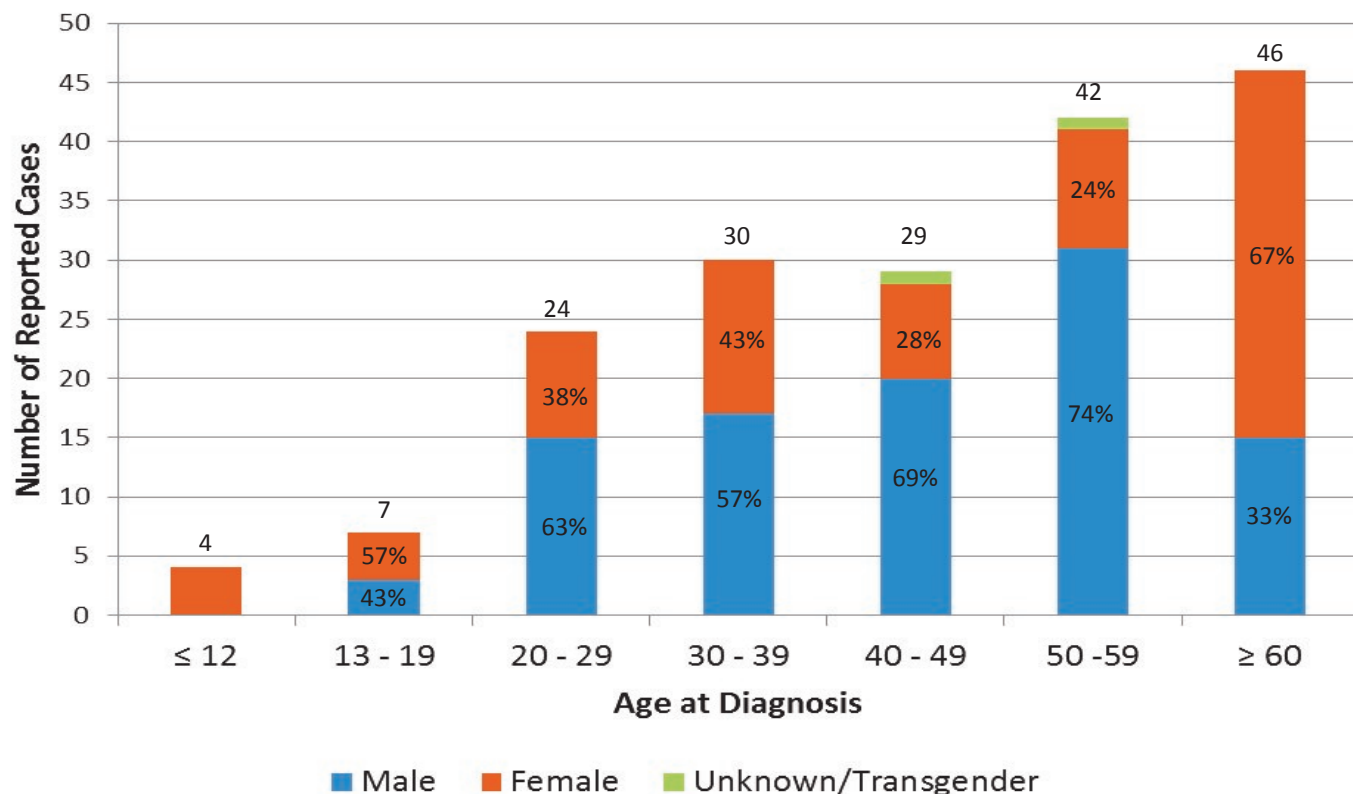
Acute Hepatitis A Cases		
	N	%
Gender		
Male	101	55.5
Female	79	43.4
Unknown/Transgender	2	1.1
Total	182	100.0
Race/Ethnicity		
Black	47	25.8
White	11	6.0
Hispanic	3	1.6
Asian/Pacific Islander	3	1.6
American Indian	1	0.5
Unknown	117	64.3
Total	182	100.0
Age at Diagnosis		
0 - 12	4	2.2
13 - 19	7	3.8
20 - 29	24	13.2
30 - 39	30	16.5
40 - 49	29	15.9
50 - 59	42	23.1
≥60	46	25.3
Total	182	100.0
Year of Diagnosis²		
2008	36	19.8
2009	48	26.4
2010	33	18.1
2011	25	13.7
2012	40	22.0
Total	182	100.0

¹ Cases with a reported residential address outside of the District of Columbia at the time of diagnosis are excluded from analysis.

² Diagnosis year based on date of first reported positive hepatitis A laboratory result indicative of a confirmed case as defined by CDC guidelines

³ Numbers may differ from previous publications due to additional record matching and/or data cleaning efforts.

Figure 37. Newly Reported Acute Hepatitis A Cases by Age at Diagnosis & Sex, District of Columbia 2008-2012



- There were 182 cases of acute hepatitis A reported in the District from 2008 to 2012.
- Despite the fact that the majority (72%) of reported acute hepatitis A cases with a known race/ethnicity are black, the high overall percentage of acute hepatitis A cases with an unknown (64%) race/ethnicity prevents a valid assessment of racial/ethnic differences in the occurrence of acute hepatitis A infections within the District .
- While men accounted for the majority (55%) of acute hepatitis A cases reported from 2008 to 2012 overall, women accounted for the majority of cases documented among those under the age of 20 and those 60 years of age and older.