



Infectious Disease Epidemiology Report



Hepatitis B in Maine, 2016

Background

Hepatitis B is a liver infection caused by a virus. Infection with the hepatitis B virus (HBV) can be lifelong, causing cirrhosis (liver scarring), liver cancer, liver failure, and death. It can be transmitted through exposure to blood from an infected person, such as from sharing needles in injection drug use (IDU), sexual contact, or from an infected mother to her child during childbirth. Sexual transmission is common among men who have sex with men (MSM).

Symptoms of acute hepatitis B include fatigue, loss of appetite, nausea, abdominal discomfort, dark urine, clay-colored stool, jaundice, and elevated liver enzyme levels. Acute hepatitis B is confirmed by serology. Symptoms are not always apparent but usually appear six weeks to six months after exposure. Hepatitis B can lead to chronic infection if the virus is not cleared within the first six months of infection.

Methods

Both acute and chronic hepatitis B are reportable conditions in Maine. Reported cases are investigated by Maine CDC epidemiologists to determine the exposure, identify close contacts, provide education, and make recommendations for prevention, follow up testing, and vaccination.

Results

Acute hepatitis B

In 2016, there were 53 cases of acute hepatitis B in Maine, compared to 9 in 2015; a 489% increase. The 2016 Maine rate was 4.0 cases per 100,000 persons, compared to 0.7 cases per 100,000 persons in 2015. The US rates for 2016 were not available, however the 2015 U.S. rate was 1.1 (Figure 1). The median age was 37 years with a range from 23 to 72 years. The majority of cases (64%) were male (Figure 2). Cases were reported in thirteen of Maine's sixteen counties, including Androscoggin (3), Aroostook (3), Cumberland (4), Hancock (6), Kennebec (3), Knox (2), Lincoln (1), Oxford (1), Penobscot (20), Waldo (1), Washington (3), and York (5).

All acute cases were symptomatic and had positive serology (HBsAg). Nearly all (51) cases had

alanine aminotransferase (ALT) levels of over 100 IU/L, 37 (69.8%) cases were jaundiced, and 29 (54.7%) cases were hospitalized. 24 (45.3%) cases were co-infected with hepatitis C virus.

Figure 1. Rate of acute hepatitis B, Maine and U.S., 2012-2016

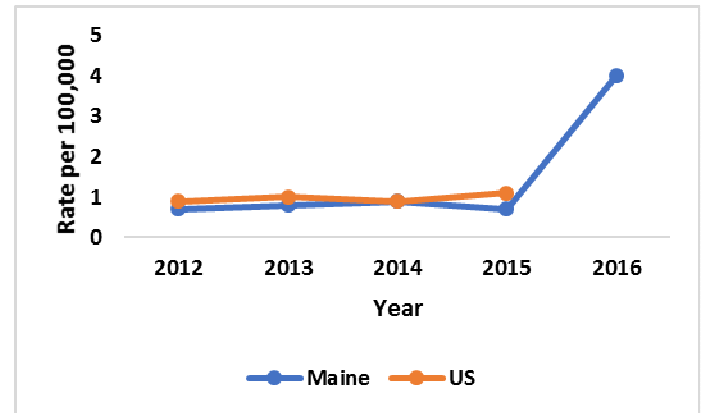


Figure 2. Acute hepatitis B cases by sex and age group, Maine, 2016

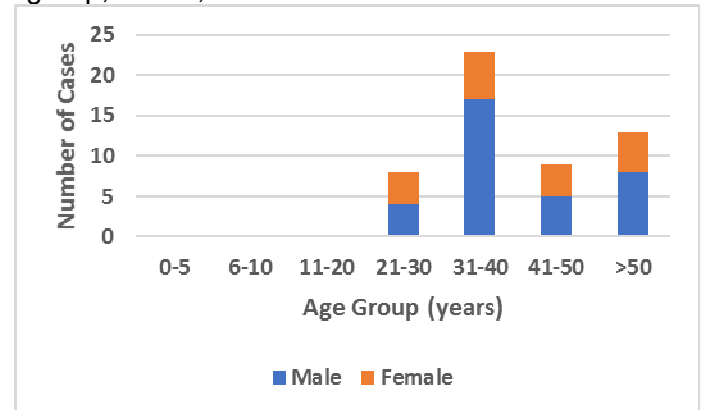
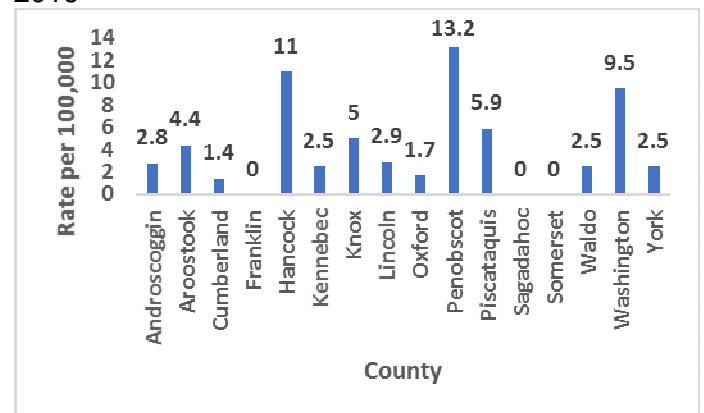


Figure 3. Rate of acute hepatitis B by county, Maine, 2016



The most important risk factors for acute hepatitis B in Maine during 2016 were injection (45.3%) and non-injection (30.2%) drug use. Ten cases reported multiple (>1) sex partners, ten cases reported being

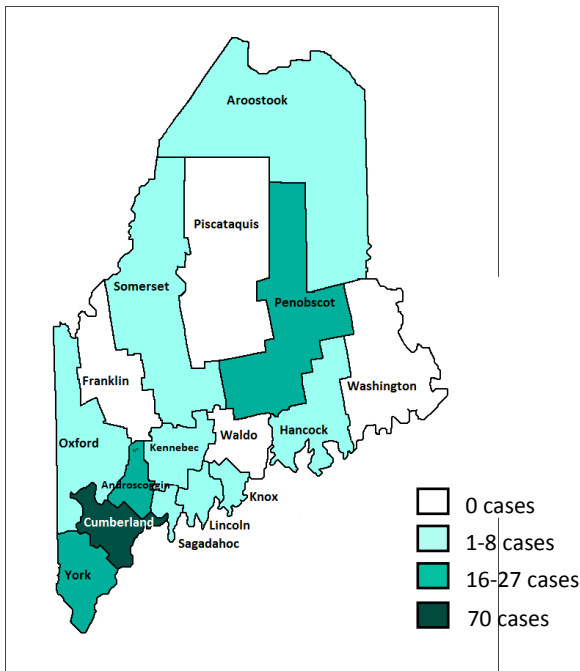
Hepatitis B – Maine, 2016

incarcerated for six months or more and three cases reported receiving a home tattoo as a risk factor. Three cases were contacts of a case of hepatitis B in the six weeks to six months prior to onset of symptoms. Cases could report more than one risk factor. All cases were born in the United States and 98% were unvaccinated.

Chronic HBV

In 2016, there were 157 cases of probable and confirmed chronic hepatitis B, compared to 107 cases in 2015; a 46.7% increase. The 2016 rate of chronic hepatitis B in Maine was 11.8 cases per 100,000 persons; the U.S. rate was unavailable.

Figure 4. Case Counts of chronic hepatitis B, Maine, 2016



The median age of chronic cases was 39 years with a range from 6 to 79 years. The majority (60%) of cases in 2016 were male. The chronic cases were reported from 13 of Maine's 16 counties (Figure 4). Risk factor data is not collected for chronic hepatitis B cases.

Discussion

Maine's rate of acute hepatitis B increased by 489% from 2015-2016, and the rate increased in all counties except for Franklin, Sagadahoc and

Somerset. The largest rate increases were seen in Hancock (+5.5), Penobscot (+11.9), Piscataquis (+5.9) and Washington (+6.3) Counties. Hepatitis B cases were reported year-round. The 5-year median for acute hepatitis B is eleven cases.

The primary risk factors for acute hepatitis B in 2016 were injection and non-injection drug use.

Prevention messages should include the use of clean drug preparation equipment in addition to clean needles. HBV can remain viable on surfaces for up to seven days. It is 10 times more infectious than hepatitis C virus and 100 times more infectious than HIV. Forty-five percent of all acute hepatitis B cases reported in 2016 were co-infected with hepatitis C. Providers are urged to vaccinate cases of hepatitis C for hepatitis A and hepatitis B.

Hepatitis B is vaccine-preventable. Adults at risk for acute hepatitis B should receive hepatitis B vaccine. Cases should be vaccinated for hepatitis A, as well, and taught ways to protect their liver. Adults at increased risk include:

- Health care workers
- Dialysis patients
- Household contacts and sex partners of persons with chronic hepatitis B
- Recipients of blood products
- Persons with multiple sex partners
- Injection drug users
- Persons with a sexually transmitted infection
- Men who have sex with men (MSM)

Federal CDC also recommends hepatitis B vaccine for adults age 19-59 years with diabetes mellitus.

Maine CDC's Maine Immunization Program provides hepatitis A and B vaccine at no charge for high risk individuals who are uninsured and 19 years or older.

Acute hepatitis B must be reported immediately to Maine CDC by calling 1-800-821-5821. Chronic hepatitis B must be reported by telephone, fax, or mail within 48 hours of recognition or strong suspicion of disease.

More information about hepatitis B is available online at:

- www.maine.gov/idepi
- www.cdc.gov/hepatitis