



# Infectious Disease Epidemiology Report



## Acute Hepatitis B in Maine, 2009

### Background

Hepatitis B is caused by a virus that attacks the liver. Hepatitis B virus (HBV) can cause lifelong infection, cirrhosis (scarring) of the liver, liver cancer, liver failure, and death. HBV can be transmitted through exposure to blood from an infected person (needle sticks and other sharps exposures, sharing hypodermic syringes for drug injection), through sexual contact with an infected person, or from an infected mother to her child during childbirth. Sexual transmission is especially common among men who have sex with men (MSM).

### Methods

Acute Hepatitis B infections in Maine are reportable immediately upon recognition or strong suspicion of disease. Symptoms of acute Hepatitis B include tiredness, loss of appetite, nausea, abdominal discomfort, dark urine, clay-colored bowel movements, yellowing of the skin and eyes (jaundice), and elevated serum aminotransferase levels. Serum IgM antibody to hepatitis B core antigen (anti-HBc) and positive hepatitis B surface antigen (HBsAg) provide laboratory confirmation.

Reported cases are investigated by Field Epidemiologists to determine the exposure, identify case contacts, and provide education. Field Epidemiologists also make recommendations for prophylaxis, follow up testing, and vaccination. Confirmed cases are reported to the U.S. Centers for Disease Control and Prevention (CDC) via the National Electronic Disease Surveillance System (NEDSS).

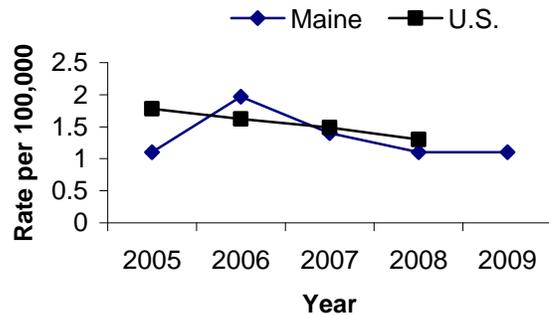
### Results

In 2009, the case rate in Maine was 1.1 cases per 100,000 persons (Figure 1). This is lower than the most recent national rate of 1.3 in 2008 and follows Maine CDC's increased efforts to educate populations at risk. Consistent with the national strategy for the elimination of HBV transmission in the United States, Maine CDC provides safe sex materials to populations at risk, delivers materials to locations where sex is solicited, posts educational materials on internet sites known for

solicitation, and continues to provide education and vaccination information to individuals with acute and chronic Hepatitis B and their close contacts.

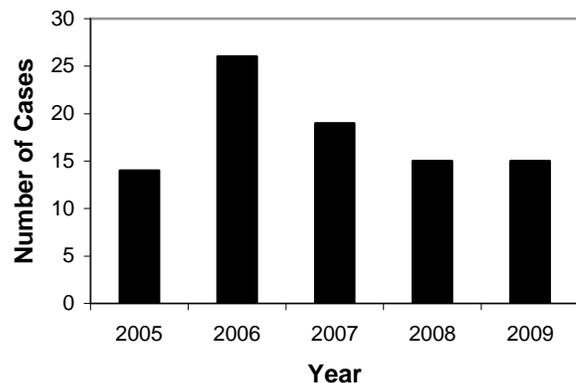
The 2008 U.S. rate is the lowest ever recorded. It represents a decline of 89% since 1985, when the U.S. rate was 11.5 cases per 100,000 persons. The majority of U.S. cases occurred among adults, and injection-drug use was the most common risk factor.

Figure 1. Acute Hepatitis B by Year, Maine and U.S., 2005-2009



There were fifteen cases of acute Hepatitis B in Maine in 2009 (Figure 2). All of the cases were males and the average age was fifty years old.

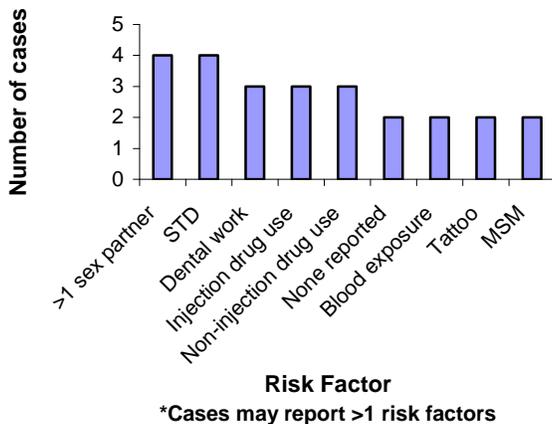
Figure 2. Acute Hepatitis B Cases, Maine, 2005 - 2009



## Acute Hepatitis B – Maine, 2009

Two cases reported no risk factors at all. Two cases each reported blood exposure, tattoo, and MSM. Three cases each reported having a dental procedure within 6 weeks of symptom onset, and both injection and non-injection drug use. Four cases each reported multiple sex partners and having been treated for an STD during their lifetime. Cases may report more than one risk factor (Figure 3).

**Figure 3. Reported Risk Factors\*  
Acute Hepatitis B, Maine 2009**



## Discussion

In 1991, a national strategy for the elimination of HBV transmission in the United States was developed. The four elements of the strategy are 1) universal vaccination of infants beginning at birth, 2) prevention of mother-to-infant HBV infection through routine screening of all pregnant women for HBV infection and the provision of vaccine to infants born to infected women or to women of unknown infection status, 3) routine vaccination of previously unvaccinated children and adolescents, and 4) vaccination of adults at increased risk for infection, including health care workers, dialysis patients, household contacts and sex partners of persons with chronic HBV infection, recipients of certain blood products, persons with a recent history of multiple sex partners, injection drug users, persons with a sexually transmitted disease (STD), or men who have sex with men (MSM).

Nationwide, the universal vaccination of children against Hepatitis B has reduced disease incidence substantially among younger age groups. Higher rates of Hepatitis B continue among adults, particularly males aged 25–44 years, reflecting the need to vaccinate adults at risk for HBV infection.

In addition to following the national strategy for the elimination of HBV transmission, the Maine CDC continues to focus on prevention, education, evaluation and surveillance. Outreach efforts to populations at risk seem to be having a positive impact.

A statewide registry has been established for pregnant women who are infected with Hepatitis B to assist primary care providers, hospital infection control professionals, and labor and delivery unit managers. The goal of the registry is to help assure universal childhood immunization for hepatitis B. All newborn infants are immunized prior to discharge and complete the Hepatitis B vaccine series by 18 months of age. The routine screening of all pregnant women for HBV infection and the provision of vaccine to infants born to infected women is routinely practiced within the State's hospitals and obstetrical practices. The vaccination of previously unvaccinated children and adolescents, and adults at risk is widely recommended.

Acute Hepatitis B cases are required to be reported to Maine CDC by calling 1-800-821-5821. Information about Hepatitis B is available online at <http://www.maine.gov/dhhs/boh/ddc/epi/hepatitis/B.shtml> and <http://www.cdc.gov/hepatitis>.

## References

Centers for Disease Control and Prevention. Surveillance for Acute Viral Hepatitis-United States, 2007. MMWR 2009; 58(No. SS-3):1-27.

Centers for Disease Control and Prevention. Final 2007 Reports of Nationally Notifiable Infectious Diseases. MMWR 2008; 57(No. 33): 901-913.