State of Alaska Epidemiology

Bulletin

Department of Health and Social Services
Valerie J. Davidson, Commissioner

3601 C Street, Suite 540
Anchorage, Alaska 99503 http://dhss.alaska.gov/dph/Epi

Division of Public Health
Jay C. Butler, MD, Chief Medical Officer and Director
Local (907) 269-8000
24 Hour Emergency (800) 478-0084

Editors:
Joe McLaughlin, MD, MPH
Louisa Castrodale, DVM, MPH

Bulletin No. 30 December 14, 2016

The Epidemiology of Acute Hepatitis B Infections — Alaska, 1980–2015

Background

While the incidence of hepatitis B has decreased considerably in the United States since hepatitis B vaccines were first licensed in the 1980s, nearly 20,000 acute cases were estimated to have occurred nationally in 2014.[1] Moreover, >2 million persons in the United States have chronic hepatitis B virus infection,[1,2] and at least 15% of these persons will likely die prematurely from cirrhosis or liver cancer.[3] This *Bulletin* examines the recent epidemiology of hepatitis B in Alaska.

Methods

Acute hepatitis B reports received by the Alaska Section of Epidemiology (SOE) during 1980–2015 were reviewed. A case was defined as an acute onset of illness compatible with hepatitis (e.g., fever, headache, nausea/vomiting, diarrhea, and abdominal pain) with either a) jaundice, or b) serum alanine aminotransferase levels >100 IU/L, and HBsAg-positive and IgM-anti-HBc-positive laboratory test results. Case reports from 2011–2015 were reviewed to identify risk factors for infection. Rates were calculated using Alaska Department of Labor & Workforce Development population estimates.

Results

During 1980–2015, SOE received 972 acute hepatitis B case reports; the median number of cases reported annually was 13 (range: 1–125; Figure). Most (550 or 57%) of the cases were in males; the average age was 38 years (range: <1–94 years). Race data were available for 789 (82%) persons; of those, 406 (51%) were white, 286 (36%) were Alaska Native people, 49 (6%) were black, 41 (5%) were Asian/Pacific Islanders, and 7 (1%) were another race. The average annual incidence and the age distribution changed considerably over this time period (Tables 1 and 2). Since 2011, no cases of acute hepatitis B infection occurred among persons aged <30 years.

Of the 11 cases for which risk factors were reported during 2011–2015, 6 (55%) had a history of injection drug use (IDU), 3 (27%) had a history of incarceration, 2 (18%) had a history of multiple sex partners and unprotected sex, 2 (18%) had HIV co-infection, and 2 (18%) were homeless.

Discussion

During 1980–2015, Alaska's annual rate of acute hepatitis B cases declined substantially from 22.7 to 0.4 cases per 100,000 persons in 1986 and 2015, respectively. By comparison, the national rate in 2014 was 0.9 cases per 100,000 persons.[1] The important role of hepatitis B vaccines in the declining incidence of hepatitis B nationally has been well described.[3,4] In Alaska, the 1991 recommendation to universally vaccinate newborns and children against hepatitis B was followed by a substantial decline in incidence statewide. The Alaska Native Tribal Health Consortium began offering HBV vaccine to Alaska Native infants starting in 1984;[5] the Alaska Division of Public Health began offering state-supplied HBV vaccine for all newborns and infants starting in 1993.[6]

Table 1. Annual Case Rate by Time Period — Alaska, 1980–2015

Time Period	Rate
1980–1986 (pre-vaccine era)	12.1 cases
1991–2001 (routine childhood vax)	2.7 cases
2002–2015 (AK school vax requirement)	0.9 cases

Table 2. Ages of Persons Reported with Acute Hepatitis B by Time Period — Alaska, 1980–2015

Age Group (Years)	1980–1990	1991–2015
0–19	14%	5%
20–39	66%	59%
40–59	15%	31%
60+	3%	5%

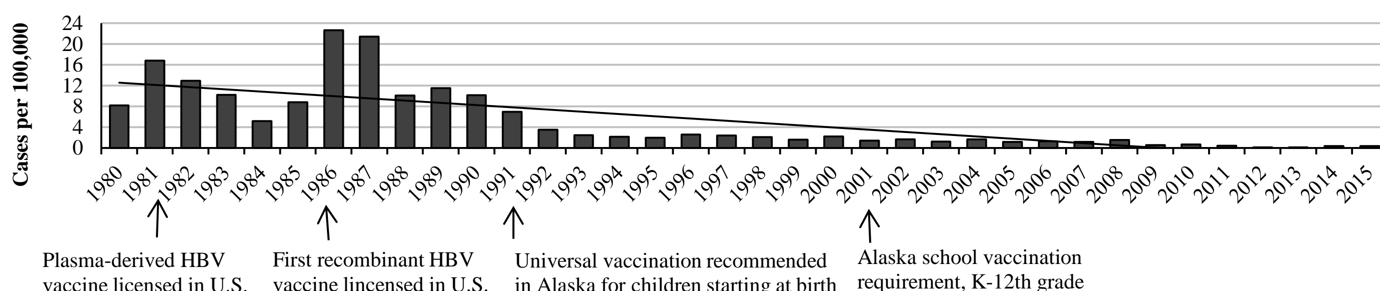
Recommendations

1. Health care providers should ensure that children receive 3 doses of hepatitis B vaccine beginning at birth.[3]
2. Screen pregnant females for HBsAg during each pregnancy and report HBsAg-positive pregnant women to the Alaska Perinatal Hepatitis B Prevention Program to ensure that newborns receive hepatitis B immune globulin and vaccine prophylaxis at birth, subsequent doses of vaccine, and post-vaccination serologic testing.[7]
3. Test unvaccinated persons at risk for hepatitis B infection for immunity; vaccinate susceptible persons. Persons at risk include those born in countries with high or moderate rates of hepatitis B, persons having at least one parent who was born in a high-incidence country, and household contacts and sexual partners of people with hepatitis B.[8] Persons at risk for or infected with HBV should be tested for HIV.
4. Follow the CDC guidelines for post-exposure prophylaxis for persons exposed to blood or body fluids.[9]
5. Report suspected and confirmed cases of acute hepatitis B to SOE (7 AAC 27.005 and .007) by phone 907-269-8000 or fax 907-561-4239 using the appropriate report form.

References

1. CDC. Hepatitis B Surveillance Statistics. Available at: http://www.cdc.gov/hepatitis/statistics/index.htm
2. Kowdley KV, et al. Prevalence of chronic hepatitis B among foreign-born persons living in the US by country of origin. *Hepatology* 2012;56:422–33.
3. CDC. Recommendations of the ACIP Part 2: Immunization of Adults. *MMWR*, 2006;55(RR16);1-25. Available at: http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5516a1.htm
4. CDC. Recommendations of the ACIP Part 1: Immunization of Infants, Children and Adolescents. *MMWR* 2005;54(RR16);1-23. Available at: http://www.cdc.gov/Mmwr/preview/mmwrhtml/rr5416a1.htm
5. McMahon BJ, et al. Elimination of hepatocellular carcinoma and acute hepatitis B in children 25 years after a hepatitis B newborn and catch-up immunization program. *Hepatology* 2011;54:801-807.
6. Alaska Epidemiology *Bulletin*. "Universal Infant Hepatitis B Immunization." No. 11, May 9, 1994. Available at: http://www.epi.alaska.gov/bulletins/docs/b1994_11.pdf
7. Alaska Perinatal Hepatitis B Prevention Manual. 2015. Available at: http://dhss.alaska.gov/dph/Epi/iz/Documents/hbv/2015PerinatalHepatitisBManual.pdf
8. CDC. Viral Hepatitis – Recommendations for Specific Populations and Settings. Available at: http://www.cdc.gov/hepatitis/populations/api.htm
9. CDC. Viral Hepatitis – Hepatitis B Information, Postexposure Prophylaxis. Available at: http://www.cdc.gov/hepatitis/hbv/pep.htm

Figure. Incidence Rate of Acute Hepatitis B by Year — Alaska, 1980–2015



(Contributed by Stephanie Massay, MPH, Infectious Disease Program, Section of Epidemiology.)