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The Epidemiology of Hepatitis A — Alaska, 1973–2016

Background

Hepatitis A was once a common, cyclically-occurring disease associated with large outbreaks in Alaska. The highest rates of infection occurred among Alaska Native (AN) children aged <14 years living in rural areas. Since 1995, effective hepatitis A vaccines have been available nationally. The Section of Epidemiology began offering hepatitis A vaccine for all children in 1996; hepatitis A vaccination became an Alaska requirement for daycare and K-12 school attendance in 2001. This *Bulletin* provides an update on the epidemiology of hepatitis A in Alaska and prevention recommendations.

Methods

Hepatitis A reports received by the Section of Epidemiology (SOE) during 1973–2016 were reviewed. A confirmed case was defined as an acute illness with discrete onset of clinically compatible symptoms (e.g., fever, headache, malaise, anorexia, nausea/vomiting, diarrhea, and abdominal pain), with IgM antibody to hepatitis A virus (HAV) and either a) jaundice, or b) elevated serum alanine aminotransferase or aspartate aminotransferase. Annual rates were calculated using Alaska Census data. Vaccine coverage estimates were obtained from the National Immunization Survey (NIS).

Results

During 1973–2016, SOE received 6,488 hepatitis A case reports (range: 1–1,469; Figure). Most (3,430, 53%) cases were in males; the average age of HAV-infected persons was 17 years (range: <1–86 years). Of the 5,945 persons for whom race data were available, 4,229 (71%) were AN people, 1,619 (27%) were white, and 97 (2%) were another race.

The incidence of hepatitis A decreased after HAV vaccine was recommended as a routine childhood vaccine and after it was required for school entry (Tables 1 and 2). During 2002–2016, 56 cases of HAV infection were reported to SOE; the average number of cases per year was 3.7 (range: 1–12), and the average age was 42.5 years (range: 0.9–82). Of the 56 cases, 54 (96%) were known to be in unvaccinated persons and 23 (41%) were known to be travel associated. The 2015 NIS 19–35 month coverage for 1+ dose of HAV vaccine in Alaska and the U.S. were 83.5±4.9 and 85.8±1.1, respectively.¹

Discussion

The key role of HAV vaccines in decreasing the incidence of HAV has been well described.^{2,3} In Alaska, the 1995–1996 recommendation to vaccinate all children through 18 years of age and persons in groups at increased risk for infection was followed by a precipitous decline in HAV incidence statewide. High childhood vaccine coverage through routine childhood vaccination coupled with mandatory immunization policies for daycare and school entry has nearly eliminated domestic transmission of HAV infection in Alaska. Since 2002, reported cases of HAV have primarily occurred among unvaccinated adults with a recent international travel history.

Table 1. Hepatitis A Incidence by Time Period — Alaska, 1973–2016

1973–1995 (pre-vaccine era)	74.7 cases*
1996–2001 (routine childhood vaccine era)	4.4 cases*
2002–2016 (school vaccine requirement era)	0.6 cases*

*Rate per 100,000 population

Table 2. Hepatitis A Cases and Incidence Rates by Age Group and Time Period — Alaska, 1973–2016

Age (Years)	1973–1995 (N=5,994) # (%); Rate*	1996–2016 (N=203) # (%); Rate*
0–14	3,350 (56%); 106.4	25 (12%); 0.8
15–24	1,123 (19%); 53.0	20 (10%); 0.1
25–44	1,266 (21%); 26.5	98 (48%); 2.6
45+	255 (4%); 13.3	60 (30%); 1.3

*Rates are per 100,000 population

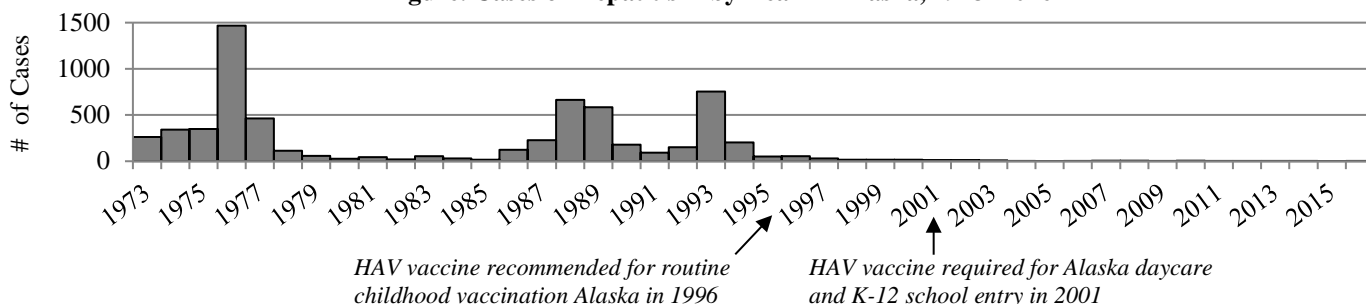
Recommendations

1. Health care providers should ensure that all children aged ≤18 years receive 2 doses of hepatitis A vaccine. The vaccine series should be initiated at age 12 months; separate the 2 doses by 6–18 months.⁴
2. Vaccinate persons aged ≥1 year who are traveling to or working in countries where they would have risk of hepatitis A virus.⁵ Refer to *The Yellow Book* or CDC's *Traveler's Health* online resources for pre-travel consultations, including vaccine recommendations.
3. Vaccinate household members and close personal contacts of adopted children newly arriving from countries with high or intermediate HAV endemicity.⁶
4. Follow CDC's guidelines for post-exposure prophylaxis for unvaccinated persons exposed to HAV.⁵
5. Report suspected and confirmed cases of acute hepatitis A to SOE (7 AAC 27.005 and .007). Reports must be made by phone 907-269-8000 or fax 907-561-4239.

References

1. CDC. ChildVaxView for Hepatitis A vaccination coverage among children 19-35 months of age, National Immunization Survey, 2013 through 2015. Available at: <https://www.cdc.gov/vaccines/imz-managers/coverage/childvaxview/data-reports/hepa/trend/index.html>
2. Singleton RJ, et al. Impact of statewide childhood vaccine program in controlling HAV infections in Alaska. *Vaccine* 2010;28:6298-6304.
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6. CDC. Updated recommendations from the ACIP for use of hepatitis A vaccine in close contacts of newly arriving international adoptees. *MMWR* 2009;58(36):1006-7. Available at: <https://www.cdc.gov/mmwr/preview/mmwrhtml/mm5836a4.htm>

Figure. Cases of Hepatitis A by Year — Alaska, 1973–2016



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