Shifting Hepatitis A Epidemiology Requires Renewed Vaccination Efforts

Person-to-person transmission of hepatitis A has contributed to widespread US outbreaks since 2016, reflecting a dramatic shift in the epidemiology of the infection, according to a CDC analysis.

Widespread routine vaccination of children starting in 1995 slashed US hepatitis A infection rates by 97% between 1995 and 2015, according to the authors. Before the vaccine was available, human-to-human spread occurred mostly among children infected through the fecal-oral route, and racial and ethnic minority groups were disproportionately affected.

Since 2016, the CDC has documented about 45,000 hepatitis A cases linked to outbreaks in 37 states predominantly among adults. To better understand the shifting epidemiology of hepatitis A infections, CDC scientists analyzed interim data from about 38,000 cases documented between August 1, 2016, and December 31, 2020, in 33 outbreak-affected states.

Most of these cases occurred among White men aged 30 years to 49 years. More than half of the outbreak-associated cases occurred among individuals using injection or noninjection drugs, 14% were among people experiencing homelessness, 12% were among people recently incarcerated, 3% were among individuals with recent international travel, and 5% were among men who have sex with men. Nearly one-third of individuals were co-infected with hepatitis C or B. Sixty-one percent of people with outbreak-associated cases required hospitalization, and 1% died. The authors attributed the more severe outcomes in recent cases to patients’ older ages and increased likelihood of comorbid conditions.

As of September 2022, the number of states experiencing active outbreaks had decreased to 13. The CDC’s Advisory Committee on Immunization Practices recommends hepatitis A vaccinations for children aged 12 months to 23 months and catch-up vaccinations for those aged 2 years to 18 years. It also recommends vaccinations for individuals who are at risk of infection. This includes people who use injection drugs, are experiencing homelessness, are incarcerated, or are at risk of severe disease such as those with chronic liver disease.

“Increased hepatitis A vaccination coverage, particularly through the implementation of successful, nontraditional vaccination strategies among disproportionately affected populations, is needed to continue progress in halting current outbreaks and preventing similar outbreaks in the future,” the authors wrote.

Second COVID-19 Booster Increases Protection for Nursing Home Patients

Receiving a second COVID-19 booster increased protection against severe outcomes, including hospitalization and death, by 74%, a multi-institution team of researchers found.

The investigators analyzed data from about 9,600 residents at 196 nursing homes operated by Genesis Health Care in 19 states. The authors compared outcomes in a subset of 1,902 residents who received 2 doses of an mRNA vaccine against SARS-CoV-2 and 2 booster doses and a matched set of controls who received the original vaccine series and 1 booster dose. All patients in the 4-dose group received their second booster dose between March 29, 2022, and June 15.
Vaccine efficacy against SARS-CoV-2 infection was about 26% at 60 days after the second booster. Vaccine efficacy against hospitalization alone was about 60% and death alone was about 90%. The results were similar to a study conducted in Israel that found a 34% reduction in SARS-CoV-2 infections, a 64% to 67% reduction in hospitalizations, and a 72% reduction in death among long-term care residents who received 4 mRNA vaccine doses compared with 3 doses.

According to the authors, the new study adds valuable evidence about the benefits of a second booster for nursing home residents after the Omicron strains, including BA.4 and BA.5, became predominant. "The results support the importance of continued efforts to ensure the nursing home population is up to date on recommended COVID-19 vaccine booster doses, including the newly authorized bivalent COVID-19 vaccine," the authors wrote.

**Single Monkeypox Vaccine Dose Provides Some Protection**

Unvaccinated individuals exposed to the monkeypox virus are 14 times more likely to become infected than individuals who received a first vaccine dose at least 2 weeks before exposure, according to a CDC study. The CDC recommends 2 doses of the JYNNEOS vaccine 4 weeks apart for individuals at high risk of infection because of confirmed or presumed exposure to an infected person. To assess the effects of vaccination efforts, the authors analyzed the vaccination status of 5402 individuals with monkeypox infections between July 31, 2022, and September 3, 2022. As of September 28, 2022, too few at-risk individuals had completed the series to assess the effects of 2 doses.

About 85% of the cases occurred among unvaccinated individuals; only 1.4% occurred among individuals who received at least 1 dose of the vaccine at least 14 days prior to illness, 5% occurred among those who received at least 1 dose 13 or fewer days before illness, and about 8% occurred among individuals with unknown vaccination status.

"Durability of immunity after a single dose is not yet known, and because vaccine effectiveness and duration of protection are anticipated to be better after 2 doses, it remains important that all vaccinated persons receive their second dose," the authors wrote. — Bridget M. Kuehn, MSJ

**Note:** Source references are available through embedded hyperlinks in the article text online.