Shift in Factors Driving Hepatitis A Outbreaks Requires New Approach to Curb Spread

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Widespread outbreaks of hepatitis A virus (HAV) infections in the US since 2016 involving person-to-person spread reveal a shift in the disease’s epidemiology that requires a new approach to curb transmission, according to a new report from the US Centers for Disease Control and Prevention (CDC).

Hepatitis A is transmitted mainly through the fecal-oral route, through consumption of contaminated food or water or close person-to-person contact (including sexual contact) with an infected person. In the past, the most frequently reported risk factors for HAV infection in the US were international travel and exposure to foodborne outbreaks.

In the new report, CDC investigators found that the majority of infections from 2016 to 2020 occurred almost exclusively among adults and were related to drug use or homelessness.

Before hepatitis A vaccines became available in the US, illness caused by HAV disproportionately affected racial and ethnic minority populations, and viral transmission was driven largely by spread from asymptomatically infected children, the authors noted. Introduction of hepatitis A vaccines in the US in 1995 and 1996 was a game changer, and widespread use of these vaccines in children led to a 97% decline in HAV infection in the US, from 12.0 cases per 100,000 population in 1995 to 0.4 cases per 100,000 population in 2015.

However, since 2016, widespread HAV outbreaks associated with person-to-person transmission have been reported in 37 states, with approximately 44,650 cases. These outbreaks have resulted in more than 27,000 hospitalizations and more than 400 deaths as of September 30, 2022.

The CDC researchers noted that a report on early outbreaks in 2017 in California, Kentucky, Michigan, and Utah revealed that most infections were among individuals who reported using injected or noninjected drugs or who reported homelessness. These findings “signaled a shift in HAV infection epidemiology from point-source outbreaks associated with contaminated food to large community outbreaks associated with person-to-person transmission,” they said.

In the new analysis, to investigate whether such a shift had continued, the researchers examined interim data from 33 states that reported hepatitis A outbreaks involving approximately 37,500 cases occurring during August 2016 through December 2020, taking note of demographic characteristics, risk factors, and outcomes among those with information available on these elements. The majority of cases occurred among males (62%), White individuals (81%), and those aged 30 to 49 years (about 58%). Fewer than 2% of cases occurred among children and teens.

The investigators found that more than half (56%) of those with hepatitis A infection reported using illicit injected or noninjected drugs, 14% reported experiencing homelessness, and 12% reported recent incarceration.

Among persons infected with hepatitis A with available information about hospitalization and deaths, approximately 61% were hospitalized (with 415 deaths) during the study period, the authors noted. In contrast, a substantially lower rate of hospitalization (42%) was historically reported in the National Notifiable Diseases Surveillance System in 2016.

The older age of patients in outbreaks since 2016 and corresponding increased likelihood of other illnesses—including coinfection with hepatitis B or hepatitis C virus in nearly one-third of cases—“likely contributed to the higher prevalence of hospitalization observed in the recent and
ongoing hepatitis A outbreaks,” the researchers said, noting that hospitalization and death from HAV infection occur more frequently among adults compared with children.

Because the most effective way to prevent outbreaks of hepatitis A is through vaccination, recent efforts targeting affected groups has helped reduce HAV infections. In 2019, the Advisory Committee on Immunization Practices, which makes recommendations to the CDC regarding use of vaccines for effective control of vaccine-preventable diseases in the US civilian population, outlined recommendations for vaccination of individuals experiencing homelessness and reaffirmed existing recommendations regarding HAV vaccination for persons who use illicit drugs.

“Persons experiencing homelessness might have difficulty implementing recommended nonvaccine strategies to protect themselves from exposure (eg, access to clean toilet facilities, regular handwashing, and avoidance of crowded living conditions),” noted a 2020 report on the committee’s recommendations. Transmission of HAV among individuals who use drugs also generally occurs through the fecal-oral route because of factors such as lack of sanitation or poor hygiene habits, although infection also might be introduced during injected drug use.

In addition, HAV transmission within jails and prisons can be increased by drug use within incarcerated populations, overcrowded living conditions, and shared hygiene facilities. Furthermore, individuals with a history of illicit drug use or homelessness often cycle between correctional facilities and the community. Because of these issues, vaccination is the most reliable protection from HAV infection for people who use drugs or experience homelessness or incarceration.

To curb the ongoing outbreaks associated with person-to-person transmission, the CDC, working with state and local health departments, launched a large-scale, multifaceted response in 2017, targeting HAV vaccination to populations most affected by the outbreaks. In addition, health departments partnered with organizations with long-standing, trusted relationships with persons at risk for HAV infection to overcome barriers to vaccination, such as mistrust, stigma, and vaccine hesitancy, the authors noted.

These efforts included holding satellite vaccination clinics at locations such as jails and prisons, substance use treatment centers, syringe services programs, and homeless shelters, and expanding the scope of health care professionals approved to administer vaccines. As a result of these focused efforts, in September 2022, 24 states officially declared their HAV outbreaks were over, the report said. Currently, outbreaks remain active in 13 states, although these states report decreased case counts.

“Increased hepatitis A vaccination coverage, through implementation of nontraditional vaccination strategies to reach disproportionately affected populations, along with improved universal and catch-up childhood vaccination, will be necessary to respond to the current hepatitis A outbreaks and prevent similar outbreaks in the future,” the researchers wrote.