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CDC HEALTH ADVISORY

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Outbreak of Hepatitis A Virus (HAV) Infections among Persons Who Use Drugs and Persons Experiencing Homelessness

Summary
The Centers for Disease Control and Prevention (CDC) and state health departments are investigating hepatitis A outbreaks in multiple states among persons reporting drug use and/or homelessness and their contacts. This Health Alert Network (HAN) Advisory alerts public health departments, healthcare facilities, and programs providing services to affected populations about these outbreaks of hepatitis A infections and provides guidance to assist in identifying and preventing new infections.

Background
Hepatitis A infection is a vaccine-preventable illness. The primary means of hepatitis A virus (HAV) transmission in the United States is typically person-to-person through the fecal-oral route (i.e., ingestion of something that has been contaminated with the feces of an infected person).[1] Symptoms include fever, fatigue, loss of appetite, nausea, vomiting, abdominal pain, dark urine, clay-colored bowel movements, joint pain, and jaundice. Although rare, atypical extra hepatic manifestations include rash, pancreatitis, renal disease, arthritis, and anemia.[2] Severe infections can result in cholestatic hepatitis, relapsing hepatitis, and fulminant hepatitis leading to death.[3] Average incubation of HAV is 28 days, but illness can occur up to 50 days after exposure.[4] An HAV-infected person can be viremic up to six weeks through their clinical course and excrete virus in stool for up to two weeks prior to becoming symptomatic, making identifying exposures particularly difficult.[5-7] Illness from hepatitis A is typically acute and self-limited; however, when this disease affects populations with already poor health (e.g., hepatitis B and C infections, chronic liver disease), infection can lead to serious outcomes, including death.

The best way to prevent hepatitis A infection is through vaccination with the hepatitis A vaccine. The number and timing of the doses depends on the type of vaccine administered. Vaccines containing HAV antigen that are currently licensed in the United States are the single-antigen vaccines HAVRIX® (manufactured by GlaxoSmithKline, Rixensart, Belgium) and VAQTA® (manufactured by Merck & Co., Inc., Whitehouse Station, New Jersey) and the combination vaccine TWINRIX® (containing both HAV and hepatitis B virus antigens; manufactured by GlaxoSmithKline). All are inactivated vaccines. GamaSTAN S/D (Grifols Therapeutics, Inc., Research Triangle Park, North Carolina) immune globulin (IG) for intramuscular administration is the only IG product approved for HAV prophylaxis. The efficacy of IG or vaccine when administered >2 weeks after exposure has not been established. Additionally, practicing good hand hygiene—including thoroughly washing hands after using the bathroom, changing diapers, and before preparing or eating food—plays an important role in preventing the spread of hepatitis A.

From January 2017 to April 2018, CDC has received more than 2,500 reports of hepatitis A infections associated with person-to-person transmission from multiple states. Of the more than 1,900 reports for which risk factors are known, more than 1,300 (68%) of the infected persons report drug use (injection and non-injection), homelessness, or both.[8-11] During this time, responses conducted in various states resulted in increased vaccine demand and usage, resulting in constrained supplies of vaccine. As available vaccine supply has increased and progress has been made towards controlling ongoing outbreaks in some jurisdictions, vaccine is more readily available. However, both CDC and vaccine manufacturers continue to closely monitor ongoing demand for adult hepatitis A vaccine in the United States.

During the mid-1980s, drug use was a risk factor for >20% of all hepatitis A cases reported to CDC, but no large outbreaks have occurred among persons who use drugs since adoption of the recommendation for hepatitis A vaccination of persons who use injection and non-injection drugs was made in 1996.[12,13] Outbreaks of hepatitis A infections among homeless persons have occurred in other countries, but large outbreaks among the homeless have not been described previously in the United States.[14-17]

Person-to-person transmission of HAV between persons who report drug use and/or homelessness could result from contaminated needles and other injection paraphernalia, specific sexual contact and practices, or from generally poor sanitary conditions.[13] Transience, economic instability, limited access to healthcare, distrust of public officials and public messages, and frequent lack of follow-up contact information makes this population difficult to reach for preventive services such as vaccination, use of sterile injection equipment, and case management and contact tracing. These challenges make outbreaks among these groups difficult to control.

Rapid identification, a comprehensive response, and novel public health approaches may be required to address needs unique to these populations. Urgent action is needed to prevent further HAV transmission among these risk groups.

Recommendations for Health Departments

1. Review the most recent sources of data on hepatitis A diagnoses. Attributes of communities at risk for unrecognized clusters of hepatitis A infection may include the following:
    - Recent increases in the:
        - Number of hepatitis A infections in persons who report drug use;
        - Number of hepatitis A infections in persons who report homelessness;
        - Number of hepatitis A infections in men who have sex with men; and
        - Number of hepatitis A infections in persons who report recent incarceration.
    - High rates of drug use, drug-related overdose, drug treatment admission, or drug arrests.
    - High rates of homelessness.

2. Ensure standard operating procedures to identify and interview cases, perform contact tracing for all new hepatitis A diagnoses, and provide post-exposure vaccination of contacts as soon as the diagnosis is made.

3. Ensure persons who report drug use (injection and non-injection) or are at high-risk for drug use (e.g., participating in drug substitution programs, receiving substance abuse counseling or treatment, recently or currently incarcerated) are vaccinated against hepatitis A virus, and specifically:
    - Consider programs to provide hepatitis A vaccinations in jails, syringe service programs, substance abuse treatment programs, and to at-risk persons in emergency departments, homeless shelters, warming centers, food distribution centers, and any venues where the at-risk populations may congregate or seek medical care.
        - Engage in “Participatory Planning.” Ask the facility what they feel is the best way to provide outreach to their population and what is the best way to provide vaccinations or improve vaccination uptake.
        - Have a consistent presence at the service provider if vaccinations are planned on-site. If repeat visits must occur, they should occur on scheduled days and times.
        - Adequately advertise vaccination events beforehand.
    - Engage stakeholders who care for persons who use drugs or may interact more frequently with facilities serving this population (e.g., behavioral specialists, disease intervention specialists).
    - Provide education to persons who report drug use and/or homelessness through targeted media campaigns encouraging vaccination and proper hand hygiene.

4. Remind venues that may encounter undiagnosed infections, such as emergency departments and community-based clinical practices (e.g., family medicine, general medicine) of the importance of reporting hepatitis A infections to the health department.[18]

5. Local health departments should notify their state health department and CDC (viralhepatitisoutbreak@cdc.gov) of any suspected clusters of acute hepatitis A.

Recommendations for Health Care Providers

1. Consider hepatitis A as a diagnosis in anyone with jaundice and clinically compatible symptoms.

2. Encourage persons who have been exposed recently to HAV and who have not been vaccinated to be administered one dose of single-antigen hepatitis A vaccine or immune globulin (IG) as soon as possible, **within 2 weeks after exposure**. Guidelines vary by age and health status (please see https://www.cdc.gov/hepatitis/outbreaks/InterimOutbreakGuidance-HAV-VaccineAdmin.htm for additional information).

3. Consider saving serum samples for additional testing to assist public health officials in the investigation of transmission (i.e., confirmation of antibody test, HAV RNA test, genotyping, and sequencing). Contact the public health department for assistance with submitting specimens for molecular characterization.

4. Ensure all persons diagnosed with hepatitis A are reported to the health department in a timely manner.

5. Encourage hepatitis A vaccination for homeless individuals in areas where hepatitis A outbreaks are occurring.

6. Encourage hepatitis A vaccination for persons who report drug use or other risk factors for hepatitis A.

7. CDC recommends the following groups be vaccinated against hepatitis A:
    - All children at age 1 year
    - Persons who are at increased risk for infection:
        - Persons traveling to or working in countries that have high or intermediate endemicity of hepatitis A;
        - Men who have sex with men;
        - Persons who use injection and non-injection drugs;
        - Persons who have occupational risk for infection;
        - Persons who have chronic liver disease;
        - Persons who have clotting-factor disorders;
        - Household members and other close personal contacts or adopted children newly arriving from countries with high or intermediate hepatitis A endemicity; and
        - Persons with direct contact with persons who have hepatitis A.
    - Persons who are at increased risk for complications from hepatitis A, including people with chronic liver diseases, such as hepatitis B or hepatitis C.
    - Any person wishing to obtain immunity.

For More Information

1. Centers for Disease Control and Prevention. Division of Viral Hepatitis A Outbreak Website. https://www.cdc.gov/hepatitis/outbreaks/2017March-HepatitisA.htm

2. Centers for Disease Control and Prevention's Hepatitis A Virus Website.

https://www.cdc.gov/hepatitis/hav/index.htm

3. Centers for Disease Control and Prevention. Viral Hepatitis Surveillance – United States, 2016. https://www.cdc.gov/hepatitis/statistics/2016surveillance/pdfs/2016HepSurveillanceRpt.pdf

4. Centers for Disease Control and Prevention. Hepatitis A General Information Fact Sheet. https://www.cdc.gov/hepatitis/hav/pdfs/hepageneralfactsheet.pdf

5. Centers for Disease Control and Prevention. The Pink Book. Chapter 9: Hepatitis A. https://www.cdc.gov/vaccines/pubs/pinkbook/downloads/hepa.pdf

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8. California Department of Public Health. Hepatitis A Outbreak in California. https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Immunization/Hepatitis-A-Outbreak.aspx.

9. Kentucky Department for Public Health. Acute Hepatitis A outbreak Weekly Report. https://chfs.ky.gov/agencies/dph/dehp/Documents/Acute%20Hepatitis%20A%20Outbreak%20Week%2021%20Report.pdf

10. Michigan Department of Health and Human Services. Michigan Hepatitis A 2016-2018 Outbreak Summary. https://www.michigan.gov/documents/mdhhs/HepA_Summ_County_SEMI2016_updated91517_601552_7.pdf

11. Utah Department of Health. Hepatitis A Outbreak. http://health.utah.gov/epi/diseases/hepatitisA/HAVoutbreak_2017.

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13. Villano SA, Nelson KE, Vlahov D, Purcell RH, Saah AJ, Thomas DL. Hepatitis A among homosexual men and injection drug users: more evidence for vaccination. *Clin Infect Dis* 1997; **25**(3): 726-8.

14. Cheung RC, Hanson AK, Maganti K, Keeffe EB, Matsui SM. Viral hepatitis and other infectious diseases in a homeless population. *J Clin Gastroenterol* 2002; **34**(4): 476-80.

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18. National Notifiable Diseases Surveillance System. Hepatitis A, Acute 2012 Case Definition. https://wwwn.cdc.gov/nndss/conditions/hepatitis-a-acute/case-definition/2012/

The Centers for Disease Control and Prevention (CDC) protects people's health and safety by preventing and controlling diseases and injuries; enhances health decisions by providing credible information on critical health issues; and promotes healthy living through strong partnerships with local, national, and international organizations.

Categories of Health Alert Network messages:

Health Alert	Requires immediate action or attention; highest level of importance
Health Advisory	May not require immediate action; provides important information for a specific incident or situation
Health Update	Unlikely to require immediate action; provides updated information regarding an incident or situation
HAN Info Service	Does not require immediate action; provides general public health information

##This message was distributed to state and local health officers, state and local epidemiologists, state and local laboratory directors, public information officers, HAN coordinators, and clinician organizations##