



To: CAHAN San Diego Participants
Date: October 31, 2017
From: Public Health Services, Epidemiology and Immunizations Services Branch

Update #7: Hepatitis A Virus Outbreak in San Diego County

On September 1, 2017, the San Diego County Public Health Officer declared a local public health emergency due to the ongoing hepatitis A virus (HAV) outbreak in the county. The County Board of Supervisors [ratified](#) and [extended](#) this declaration three times, most recently on October 24, 2017. This health advisory updates local healthcare providers about the outbreak and provides updated recommendations and resources on HAV.

Key messages:

- 536 cases, including 20 deaths, have been reported since November 2016.
- The outbreak is being transmitted person-to-person and is primarily affecting homeless people, injection and non-injection illicit drug users, and individuals in dense living conditions with shared restrooms.
- Vaccination and soap and water hand hygiene are the best prevention against HAV.
- Suspect cases should be reported to public health, while the patient is still at the treatment facility so individuals can be interviewed and are not lost to follow-up.
- Any patient who is potentially contagious with HAV should be instructed on preventing the spread of the disease and should not be discharged to the street.
- Providers should send serum specimens on any patients suspected of having HAV to the San Diego Public Health Laboratory for genotype testing.
- Single antigen HAV vaccine supply may be constrained until early 2018; however, supplies are expected to meet the anticipated demand in San Diego County. Vaccinations may need to be prioritized to at-risk groups.
- Appropriate post-exposure prophylaxis (PEP) should be given to close contacts of known cases. Immune globulin dosing for PEP has increased to 0.1 mL/kg.
- Providers should check the [San Diego Immunization Registry](#) to see if patients are already vaccinated and note any vaccinations given.

Situation

As of October 26, 2017, 536 confirmed or probable HAV cases have been reported in an ongoing local outbreak in San Diego County. The cases had symptom onsets between November 22, 2016 and October 14, 2017. Three hundred and sixty-nine (69%) of the cases have been hospitalized, and 20 patients (3.7%) have died. The cases range in age from 5 to 96 years (median = 43 years), and 363 (68%) are male, with ten (2.9%) self-identifying as MSM. The only pediatric case is an unimmunized 5-year-old who was exposed by an ill family member.

One hundred and seventy-two (32%) of the HAV cases are homeless and reported injection or non-injection illicit drug use, 87 (16%) were homeless only, 64 (12%) were illicit drug users only, 152 (28%) were neither homeless nor drug users, and 61 (11%) had an unknown status for homelessness and drug use. Of the 418 cases with test results available for review, 74 (18%) have chronic hepatitis C infection, and 22 (5%) have chronic hepatitis B infection.

Despite the fact that the majority of the cases in this outbreak had a [known indication](#) for HAV immunization, none had been fully vaccinated prior to becoming ill. Most outbreak cases have been from downtown San Diego and from El Cajon, Santee, La Mesa, and the adjacent unincorporated areas; however, cases have been confirmed in [all parts of the county](#). There are several clusters of epidemiologically associated cases, although no specific common food, beverage, or drug sources have been identified. Case clusters have been reported in individuals who have used the same homeless services providers and in the following locations with shared restrooms: jails, single room occupancy hotels, residential drug treatment facilities, group homes, and assisted living facilities. Six healthcare workers have contracted HAV in this outbreak, as have 17 food handlers, although only two secondary cases have resulted to date from the individuals working in these sensitive occupations.

The Centers for Disease Control and Prevention (CDC) has confirmed HAV RNA in serum samples of 369 outbreak cases. Viral sequencing indicates that 16 unique, closely related strains of HAV genotype 1B are involved. These strains are different than those associated with the 1B strains in an ongoing HAV [outbreak in Southeastern Michigan](#) and the multi-state outbreaks, including California, linked to [frozen strawberries in 2016](#) and [pomegranate arils in 2013](#). The main outbreak strain in San Diego is identical to those causing ongoing HAV outbreaks in [Santa Cruz County](#) and [Utah](#).

Investigations of the confirmed and probable cases, as well as 32 suspect cases, are ongoing. Not included in the local outbreak totals are 24 HAV cases reported this year that are travel-related or have non-outbreak genotypes. Of note, three cases with symptomatic HAV infection has been diagnosed in MSM with travel histories within the United States and to Europe, and viral sequence analysis indicated that the HAV strain causing these infections match those causing outbreaks among MSM in [France](#) and [New York City](#).

Background

Person-to-person transmission through the fecal-oral route is the primary means of HAV transmission in the United States. Most infections result from close personal contact with an infected household member or sexual partner, or their fecally contaminated environment. [Contaminated hands may play a significant role](#) in the direct and indirect spread of HAV. Common-source outbreaks and sporadic cases can also occur from exposure to fecally contaminated food or water. According to CDC, individuals are infectious from up to two weeks before symptom onset to one week after. However, some data suggest that individuals may be infectious for longer.

Individuals with increased risk for HAV infection include: travelers to [countries with high or intermediate endemic rates of HAV](#), MSM, users of injection and non-injection illicit drugs, persons with clotting factor disorders, and persons working with nonhuman primates. HAV outbreaks have been reported among drug users and the homeless, who have a [higher morbidity and mortality](#), when compared with the general population, and an [increased risk of infection](#) due to poor living conditions. Individuals with chronic liver conditions, such as hepatitis B or C, are also [recommended](#) to get HAV vaccination because of their increased morbidity and mortality risks should they contract HAV.

Recommendations for Providers

1. Consider HAV infection in individuals, especially homeless individuals and those who use illicit drugs, with discrete symptom onset and jaundice or elevated liver function tests.

- Symptoms of concern include nausea, vomiting, diarrhea, anorexia, fever, malaise, dark urine, light-colored stool, and abdominal pain.
- [Relapsing hepatitis](#) can occur after apparent recovery from initial illness in up to 20% of cases. Patients experiencing relapsing hepatitis can be contagious and multiple relapses can occur up to six months after initial infection. Cholestatic hepatitis mimicking gallbladder disease can also occur up to 5% of cases, and they should be considered potentially contagious throughout their symptomatic period.
- A complete serology panel with testing for hepatitis A, B, and C is recommended in symptomatic patients. HIV testing is also recommended for those with an undocumented HIV-status.
- Serologic testing for HAV infection is not recommended in asymptomatic individuals or as screening before vaccination.

2. Promptly report all suspected and confirmed HAV cases to the Epidemiology Program.

- Please fax [Confidential Morbidity Report \(CMRa\)](#), or call 619-692-8499 (Monday-Friday, 8 AM-5 PM), or 858-565-5255 (after hours, during weekends, and on County-observed holidays).
- Since this outbreak involves homeless individuals, **providers are urged to contact the Epidemiology Program while suspected cases are still at the healthcare facility.** This action will ensure that a public health investigator can interview the patient by phone for a risk history.
- Patients who are potentially contagious should be discharged from a facility only after being given [clear instructions](#) on how to prevent the spread of the disease. Infectious people who are homeless may be provided temporary shelter with a private restroom by contacting the Epidemiology Program at the above numbers.

3. Submit serum specimens on all suspected HAV cases to the San Diego County Public Health Laboratory (SDPHL) for genotyping and viral sequence analysis.

- Two 5 cc serum specimens, stored and transported at 4°C, are needed for HAV nucleic acid amplification testing and viral sequencing. Serum should be sent within one day. Contact the SDPHL for longer storage or transport advice.
- The test may be ordered using the SDPHL form found [here](#). Contact SDPHL at 619-692-8500, option #1 for questions, assistance or instructions.

4. Provide post-exposure prophylaxis (PEP) for close contacts of confirmed HAV cases.

- Susceptible people exposed to HAV should receive a dose of single-antigen HAV vaccine intramuscular (IM), immune globulin (IG) (0.1 mL/kg), or both, as soon as possible within 2 weeks of last exposure. The PEP dosage of IG was [recently increased](#) and is higher than that noted in the package insert.
- The efficacy of combined HAV/Hepatitis B virus (HBV) vaccine (Twinrix®) for PEP has not been evaluated, so it is not recommended for PEP.
- Detailed information on PEP may be found on the California Department of Public Health (CDPH) [Hepatitis A PEP Guidance Quicksheet](#) (updated July 2017) and the [CDPH Hepatitis A PEP IG Administration Quicksheet](#) (updated August 2017).

5. Prioritize HAV vaccine to homeless individuals and illicit drug users, and to people who have frequent, ongoing close contact with these two groups. Based on available supply, vaccinate patients with chronic liver diseases, MSM, other at-risk people, and food handlers who are not already immunized.

- Due to increased national demand for HAV vaccine, supply of adult single-antigen HAV vaccine (Havrix®, Vaqta®) may be constrained until early 2018. It is anticipated that there will be adequate supply in San Diego County; however, providers may need to prioritize vaccination to the groups at greatest risk in this outbreak.
- The highest priority groups for HAV vaccination are homeless and transiently housed individuals and injection and non-injection illicit drug users. People with ongoing, close contact with homeless and illicit drug using individuals due to employment or volunteer work should also be immunized.
- Based on available supply, all groups recommended to get HAV vaccine by the Advisory Committee on Immunization Practices (ACIP) should also be immunized. This includes patients with chronic liver disease, MSM, and other at-risk individuals. The ACIP recommendations may be found [here](#).
- ACIP recommends HAV vaccination “for any person wishing to obtain immunity.” This recommendation is intended to facilitate vaccination of at-risk individuals who may not wish to disclose their at-risk behaviors, not to encourage vaccination of the general public.
- The County Public Health Officer recommends HAV vaccination for local food handlers catering to adults. Food handlers are not at higher risk for contracting HAV, so this recommendation is intended to reduce the risk of potential exposure of the general public during this outbreak. Food handlers in schools do not need vaccination since children are well immunized in San Diego County. It is expected that vaccine supply will be available to immunize food handlers, but at-risk groups should be given priority if local supply is constrained.
- The first dose of single-antigen HAV vaccine appears to protect more persons than the first dose of the combined HAV/HBV (Twinrix®) vaccine (see [table 3 package insert](#)), but efficacy is comparable after completion of the respective series. Providers should consider supply, short-term risks of exposure to HAV, the

likelihood of follow-up to complete immunization, and the need for protection from HBV when selecting vaccines for those at risk.

- The single-antigen HAV vaccines are recommended as a two-dose series, with the second shot given at least six months after the first. The second shot of the series may be delayed until increased supply is available.
- Providers with insured patients who do not have available vaccine may direct patients to call 2-1-1 San Diego to locate the nearest pharmacy that can provide the vaccine. Providers with uninsured patients who do not have available vaccine may also direct patients to call 2-1-1 San Diego to locate the nearest [County Public Health Center](#) or community clinic.
- Providers who care for homeless and/or drug-using individuals may contact the [Immunization Program](#) at 619-692-5607 (Monday-Friday, 8 AM-5 PM) to learn how to obtain HAV vaccine for use during this outbreak.
- Homeless individuals and illicit drug users are also at higher risk for other vaccine preventable diseases and should be brought up-to-date with recommended vaccines per the relevant [CDC immunization schedule](#).
- Providers should check the [San Diego Immunization Registry](#) to see if patients are already vaccinated and note any vaccinations given.
- Under the [Affordable Care Act](#), HAV vaccines are covered as preventive care without a deductible or copay.
- Adult HAV vaccination is [covered by Medi-Cal](#) without prior authorization. Billing information is available [here](#) (see page 3).

6. Encourage those who are planning an international trip to check the [CDC Travelers' Health website](#) and to obtain recommended vaccinations before travel.

- High-risk areas for HAV include parts of Africa and Asia, and moderate-risk areas include Central and South America, Eastern Europe, and parts of Asia.
- There are currently HAV outbreaks associated with MSM occurring in [New York City](#), [Colorado](#), and [Western Europe](#), notably France, Portugal, and Spain. MSM should be vaccinated against HAV, especially prior to travel, and be instructed on prevention measures for HAV and other sexually transmitted illnesses.

7. Ensure that all healthcare workers use standard precautions in patient care to protect themselves against HAV.

HAV, like norovirus, is a non-enveloped virus, and it may be similarly difficult to inactivate in the environment. Alcohol-based hand rubs and typically-used surface disinfectants [may not be effective](#). Therefore, additional precautions to take include:

- Wash hands with soap and running water for at least 20 seconds after providing care for an HAV patient.
- Use contact precautions in the care of diapered or incontinent HAV patients.
- Wash hands with soap and running water for at least 20 seconds before eating and after using a restroom.
- Use employee-designated restrooms when available; do not touch door handles when exiting restrooms.
- Do not eat in patient care areas and never share food, drink or cigarettes with patients.
- Perform environmental cleaning in areas housing HAV patients with [bleach products or other products effective against norovirus](#).

Additional Resources

Centers for Disease Control and Prevention

[Multi-Jurisdictional Hepatitis A Outbreak](#)

[Hepatitis A for Health Professionals](#)

[Hepatitis A General Fact Sheet](#)

[Hepatitis A Q&A for the Public](#)

[Hepatitis A Vaccine Information Statement](#)

[Viral Hepatitis Fact Sheet for Gay and Bisexual Men](#)

California Department of Public Health

[Hepatitis A Outbreak](#)

[All Facilities Notification 17-13 on Hepatitis A](#)

[All Facilities Notification 17-21 on Hepatitis A](#)

[Hepatitis A Website](#)

[Quicksheet: Hepatitis A](#)

[Viral Hepatitis Resources](#)

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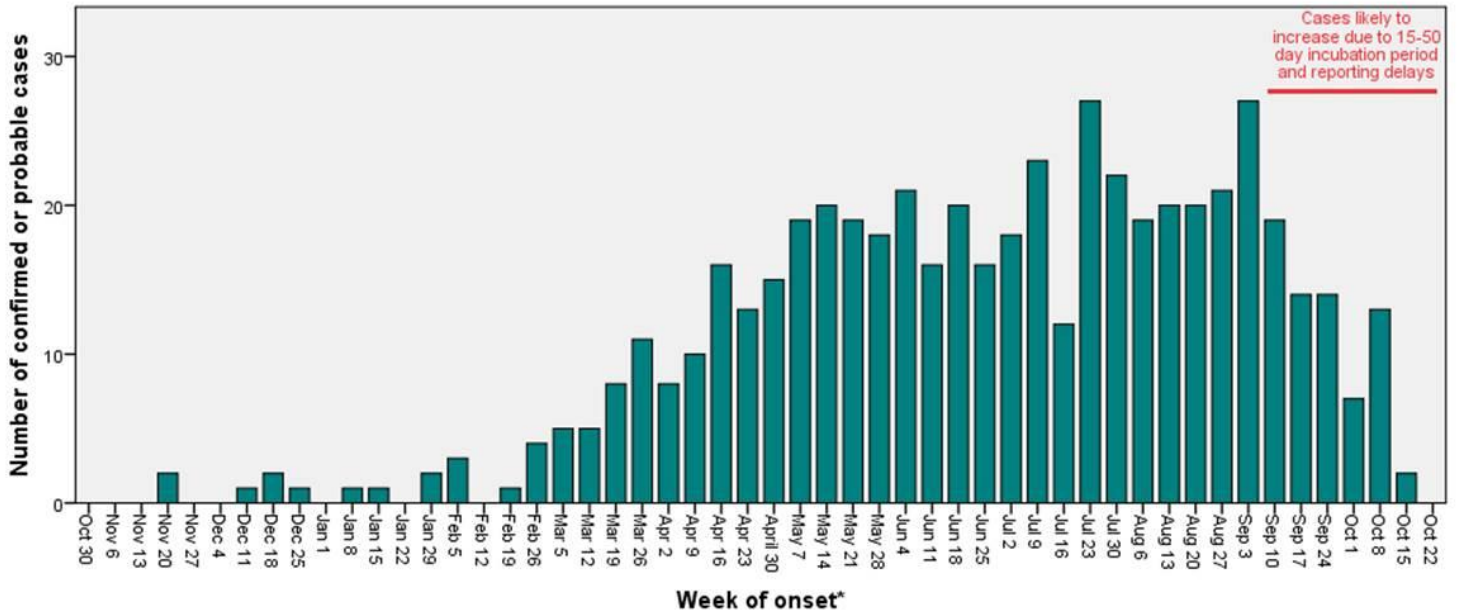
Secure Website: <http://cahan.ca.gov>

Public-Access Website: <http://www.cahansandiego.com>

Urgent Phone for pm/weekends/holidays: (858) 565-5255

Outbreak-associated Hepatitis A cases by onset week

11/1/2016-10/26/2017, N = 536*



*Date of specimen collection or report used if onset date unknown; dates may change as information becomes available