



To: CAHAN San Diego Participants  
Date: February 15, 2018  
From: Public Health Services, Epidemiology and Immunizations Services Branch

### Update #8: Hepatitis A Virus Outbreak in San Diego County

On January 23, 2018, the County Board of Supervisors ended the local health emergency due to the hepatitis A virus (HAV) outbreak in the county. The outbreak continues with occasional cases being reported. This health advisory updates local healthcare providers about the outbreak and provides updated recommendations and resources on HAV.

#### Key messages:

- 580 HAV cases, including 20 deaths, have been reported since November 2016.
- The outbreak is being transmitted person-to-person and is primarily affecting homeless people and injection and non-injection illicit drug users.
- Vaccination and soap and water hand hygiene are the best prevention against HAV.
- In addition to illicit drug users and other individuals who are recommended by the Centers for Disease Control and Prevention (CDC) Advisory Committee on Immunization Practices (ACIP) to get HAV vaccine, the County Public Health Officer recommends HAV vaccination of homeless individuals, food handlers, and anyone who works on a frequent, ongoing basis with those at-risk for HAV.
- Single-antigen HAV vaccine supply should meet the anticipated local demand in 2018.
- 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 to the San Diego Public Health Laboratory for genotype testing on any patient suspected of having HAV.
- Appropriate post-exposure prophylaxis (PEP) should be given to close contacts of known cases. Immune globulin dosing for PEP is 0.1 mL/kg.

#### Situation

As of February 8, 2018, 580 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 January 18, 2018. Three hundred and ninety-eight (69%) of the cases have been hospitalized, and 20 patients (3.4%) have died. The cases range in age from 5 to 96 years (median = 43 years), and 396 (68%) are male, with 14 (3.6% of male cases) self-identifying as men who have sex with men (MSM). Two pediatric cases have been reported, and both were unimmunized.

One hundred ninety-six (34%) of the HAV cases are homeless and reported injection or non-injection illicit drug use, 89 (15%) were homeless only, 73 (13%) were illicit drug users only, 165 (28%) were neither homeless nor drug users, and 57 (10%) had an unknown status for homelessness and drug use. Of the cases with test results available for review, 81 of 468 (17.3%) had chronic hepatitis C infection, and 24 of 482 (5.0%) had chronic hepatitis B infection. Despite the fact that 53% 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. More recent cases have been noted in the North Coastal and North Inland regions of the county. Seven healthcare workers have contracted HAV in this outbreak, as have 21 food handlers, although to date, only two secondary cases have resulted from the individuals working in these sensitive occupations.

HAV RNA has been confirmed in serum samples of 500 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](#), however the main outbreak strains in San Diego are identical to those causing ongoing HAV outbreaks in [Kentucky](#) and [Utah](#).

Investigations of the confirmed and probable cases, as well as three suspect cases, are ongoing. Not included in the local outbreak totals are 44 HAV cases reported in 2017 that were travel-related or have non-outbreak genotypes. Of note, four HAV genotype 1A infections have been diagnosed in MSM with travel histories within the United States and to Europe. Viral sequence analysis in these cases indicated that the HAV strains 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, especially those with [relapsing](#) or cholestatic hepatitis.

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.
  - 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](#), or call 619-692-8499 (Monday-Friday, 8 AM-5 PM), or 858-565-5255 (after hours, during weekends, and on County-observed holidays).
  - Providers are urged to contact the Epidemiology Program while suspected cases are still at the healthcare facility. This 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 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.
- 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 [increased](#) in 2017 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. Vaccinate homeless individuals and illicit drug users, and people who have frequent, ongoing close contact with these two groups. Vaccinate patients with chronic liver diseases, MSM, other at-risk people, and food handlers who are not already immunized.**

- The County Public Health Officer recommends HAV vaccination for all homeless and transiently housed individuals. People with ongoing, close contact with homeless and illicit drug using individuals due to employment or volunteer work should also be immunized. Vaccination is also recommended 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.
- All groups recommended to get HAV vaccine by ACIP should also be immunized. This includes illicit drug users, 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.
- Although there has been an increased national demand for HAV vaccine, supply of adult single-antigen HAV vaccine (Havrix®, Vaqta®) is adequate in San Diego County.
- 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. When selecting vaccines for those at risk, 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.
- Providers who do not have available vaccine may direct patients to call 2-1-1 San Diego to locate the nearest [County Public Health Center](#), clinic, or pharmacy that can provide the vaccine.
- Homeless individuals and illicit drug users are 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.
- HAV outbreaks associated with MSM are currently 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: handwashing with soap and running water for at least 20 seconds after providing care for an HAV patient, before eating, and after using a restroom; using employee-designated restrooms when available; not eating in patient care areas; and cleaning 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](#)

Thank you for your participation.

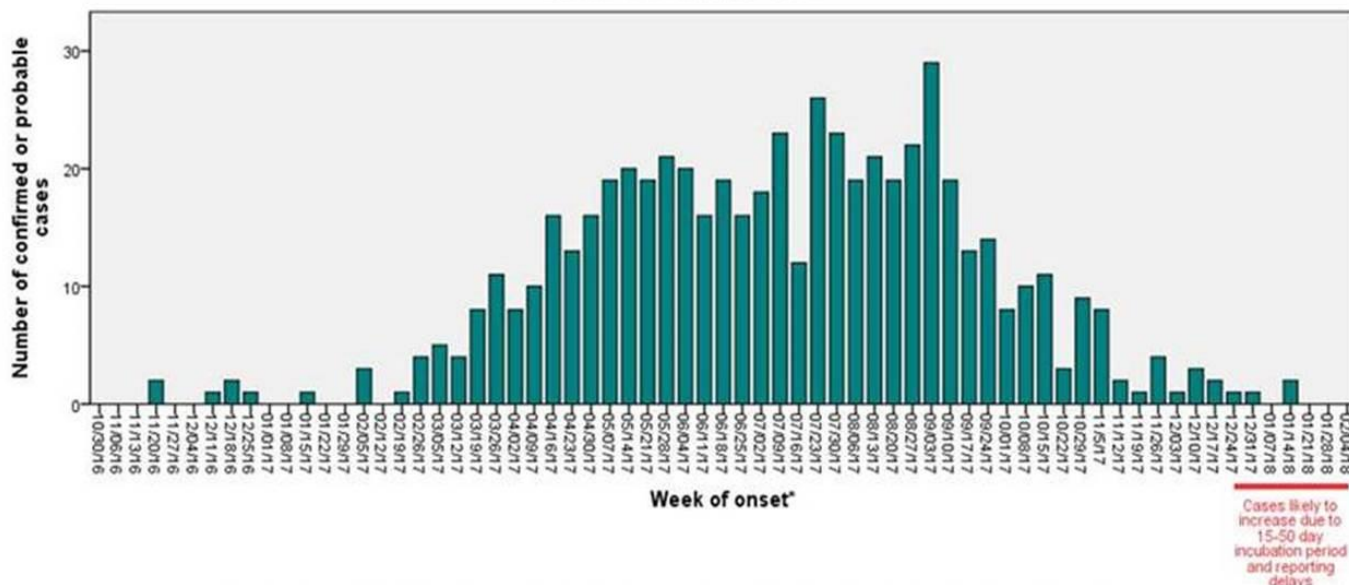
**CAHAN San Diego**

County of San Diego Health & Human Services Agency  
 Epidemiology and Immunization Services Branch  
 Phone: (619) 692-8499  
 Fax: (858) 715-6458

E-mail: [cahan@sdcounty.ca.gov](mailto:cahan@sdcounty.ca.gov)  
 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**

11/1/2016-2/8/2018, N = 580\*



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