

HEPATITIS A VIRUS

Background

This case definition was developed by the Armed Forces Health Surveillance Division (AFHSD) for the purpose of epidemiological surveillance of a condition important to military-associated populations. Epidemics of hepatitis A virus (HAV) threaten wartime operations, particularly in highly endemic areas and during unstable, (i.e., rapidly changing), field conditions.¹ In response, in 1995, the Department of Defense mandated screening and hepatitis A immunization of immunologically naïve individuals entering the military and for service members assigned or deployed to geographic areas of high endemicity.²

Clinical Description

Hepatitis A virus causes inflammatory liver disease in affected individuals. The virus is spread through fecal-oral transmission, often through contaminated food, drink, or objects handled by infected persons. Individuals with HAV may have no or mild symptoms or severe illness that persists for months. Hepatitis A infection does not cause chronic hepatitis and recovery from infection is associated with lifelong immunity.³

Case Definition and Incidence Rules

For surveillance purposes, a case of HAV is defined as:

- *One hospitalization* with a case defining diagnoses of HAV (see ICD9 and ICD10 code lists below) in *any* diagnostic position; or
- *Two outpatient or Theater Medical Data Store (TMDS) medical encounters*, occurring *within 14 days* of each other, with a case defining diagnoses of HAV (see ICD9 and ICD10 code lists below) in *any* diagnostic position; or
- *One record of a reportable medical event of a confirmed case of HAV*; per the *Armed Forces Reportable Medical Events Guidelines and Case Definitions*, confirmatory evidence of HAV infection includes one or more of the following:⁵
 - Clinical case epidemiologically linked to laboratory-confirmed case 15 to 50 days before the onset of symptoms.
 - Hepatitis A positive IgM antibody from serum (not otherwise ruled out by PCR/NAAT testing).

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¹ Hoke CE, Binn LN, Egan JE, DeFraitres RF. Hepatitis A in the US Army: epidemiology and vaccine development. *Vaccine*. 1992; 10(1):S75-S79.

² Armed Forces Epidemiological Board. Memorandum for the Assistant Secretary of Defense (Health Affairs) and the Surgeons General of the Army, Navy, and Air Force, subject: Recommendations regarding the use of the newly licensed hepatitis A vaccine in military personnel. Department of Defense, Falls Church, Virginia, 28 February 1995.

³ Armed Forces Health Surveillance Branch. Viral Hepatitis A, Active Component, U.S. Armed Forces, 2007-2016. *MSMR*. 2017; 24(5): 2-5.



Case Definition and Incidence Rules *(continued)*

- Hepatitis A virus nucleic acid (RNA) detected from any clinical specimen.

Incidence rules:

For individuals who meet the case definition:

- The incidence date is considered the date of the first reportable medical event, hospitalization or outpatient medical encounter that includes a case defining diagnosis of HAV.
- An individual is considered an incident case *once per lifetime*.

Exclusions:

- Outpatient medical encounter with evidence of hepatitis A immunization *within one week before or after* the case defining encounter. The following vaccine administered codes are used to identify instances of hepatitis A immunization: CVX codes: 031, 052, 083, 084, 085, 104; CPT code 90632.
- Prevalent cases, (i.e., individuals with a case-defining diagnosis of hepatitis A identified prior to the start of the surveillance period).

Codes

The following ICD9 and ICD10 codes are included in the case definition:

Condition	ICD-10-CM Codes	ICD-9-CM Codes
Hepatitis A	<i>B15 (acute hepatitis A)</i>	--
	B15.0 (hepatitis A with hepatic coma)	070.0 (viral hepatitis A with hepatic coma)
	B15.9 (viral hepatitis A without mention of hepatic coma)	070.1 (viral hepatitis A without mention of hepatic coma – infectious hepatitis)

Development and Revisions

- In June of 2014 the case definition was updated to include ICD10 codes.
- This case definition was developed in August 2011 by the Armed Forces Health Surveillance Center (AFHSC) *Medical Surveillance Monthly Report (MSMR)* staff for an article on hepatitis A.⁴ The case definition was developed based on reviews of the ICD9 codes, the scientific literature, and previous AFHSC analyses.

⁴ Armed Forces Health Surveillance Center. Viral Hepatitis A, Active Component, U.S. Armed Forces, 2000-2010. *MSMR*. 2011; 18(8): 2-4.



Case Definition and Incidence Rule Rationale

- Case finding for this definition prioritizes reportable medical events over hospitalizations over outpatient medical encounters.
- A 14-day interval between the two outpatient visits is used because individuals who present with acute illness are likely to have a follow-up visit to monitor clinical and laboratory indicators of disease within that time frame. Further, the time interval helps distinguish true cases of HAV from outpatient medical encounters for immunization, (e.g., for the combined hepatitis A and hepatitis B vaccine (Twinrix), which has a vaccine schedule of 0, 1 and 6 months).
- Outpatient medical encounters with evidence of a hepatitis A immunization *within one week, before or after* the case defining encounter are excluded from contributing to the two outpatient encounters required to define a case; these encounters may represent screening or “rule out” visits.

Code Set Determination and Rationale

- None

Reports

The AFHSD reports on HAV in the following reports:

- Periodic *MSMR* articles

Review

Jul 2023	Case definition reviewed and updated by the AFHSD Surveillance Methods and Standards (SMS) working group.
Nov 2018	Case definition reviewed and updated by the Armed Forces Health Surveillance Branch (AFHSB) SMS working group.
Jun 2014	Case definition reviewed and updated by the AFHSC SMS working group.
Oct 2011	Case definition developed by AFHSC <i>MSMR</i> staff (Aug 2011); reviewed and adopted by the AFHSC SMS working group.

Comments

- Hepatitis A virus is a reportable medical event in the *Armed Forces Reportable Medical Events* surveillance system.⁵

⁵ Armed Forces Reportable Medical Events Guidelines and Case Definitions. Armed Forces Health Surveillance Branch, Defense Health Agency, October 2022. <https://www.health.mil/Military-Health-Topics/Health-Readiness/AFHSD/Reports-and-Publications>; Accessed July 2023.

