

GASTROENTERITIS; VIRAL

For Unspecified Diarrheal Illness; See Diarrhea Case Definition

Background

This case definition was developed in 2016 by the Armed Forces Health Surveillance Branch (AFHSB) for the purpose of epidemiological surveillance of infections associated with viral gastroenteritis important to military associated populations. The definition is based on a case definition developed for a *Medical Surveillance Monthly Report (MSMR)* article on bacterial, viral, and parasitic gastrointestinal infections including diarrheal illness.¹

Clinical Description

Viral gastroenteritis is an inflammation of the stomach and intestines caused by a virus. Intestinal viruses often exhibit seasonal activity and are spread through close contact with infected persons or by eating or drinking contaminated food or beverages. Symptoms of infection include watery diarrhea, vomiting, headache, fever and abdominal cramping that may last for 1-10 days depending on the type of virus. Common illness-producing viruses include rotaviruses, adenoviruses and norovirus (the genus *Norovirus* contains only one species, known as Norwalk virus or Norwalk agent).² In military operational settings, noroviruses are most commonly implicated in outbreaks.³ Diagnosis is generally based on clinical symptoms and, rarely, laboratory testing of a stool specimen. There is no effective treatment for viral gastroenteritis so prevention through frequent hand-washing and avoidance of contaminated food is important. Management is supportive and includes rehydration, diet modification, and rest. Antibiotics are not effective.

Case Definition and Incidence Rules

For surveillance purposes, a case of viral gastroenteritis is defined as:

- *One hospitalization or outpatient medical encounter* with any of the case defining diagnoses of viral gastroenteritis (see ICD9 and ICD10 code lists below) in the *primary or secondary* diagnostic position; or
- *One record of a reportable medical event (RME) of a confirmed case* of viral gastroenteritis with a diagnosis of interest (see list of conditions below).

Incidence rules:

For individuals who meet the case definition:

- The incidence date is considered the date of the first hospitalization, outpatient medical encounter or reportable medical event that includes a defining diagnosis of viral gastroenteritis.

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¹ Armed Forces Health Surveillance Center. Gastrointestinal Infections, Active Component, U.S. Armed Forces, 2000-2012. *Medical Surveillance Monthly Report (MSMR)*. 2013 October; 20(10): 7-11.

² Centers for Disease Control and Prevention (CDC). Viral Gastroenteritis. <http://www.cdc.gov/ncidod/dvrd/revb/gastro/faq.htm>; accessed 2016

³ Sanchez JL, Gelnett J, Petrucelli BP, Defraites RF, Taylor DN. Diarrheal disease incidence and morbidity among United States military personnel during short term missions overseas. *Am J Trop Med Hyg*. 1998; 58(3):299-304.



Case Definition and Incidence Rules *(continued)*

- An individual is considered a new incident case if *at least 60 days* have passed since the last medical encounter with a case defining diagnosis of protozoa-related gastroenteritis (see explanation of “gap” rule below).

Exclusions:

- None

Codes

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

Condition	ICD-10-CM Codes	ICD-9-CM Codes
Viral gastroenteritis	A08 (viral and other specified intestinal infections)	008.6 (enteritis due to specified virus)
	A08.0 (rotaviral enteritis)	- 008.61 (enteritis due to rotavirus)
	A08.1 (acute gastroenteropathy due to Norwalk agent and other small round viruses)	--
	- A08.11 (acute gastroenteropathy due to Norwalk agent)	- 008.63 (enteritis due to Norwalk virus; norovirus)
	- A08.19 (acute gastroenteropathy due to other small round viruses)	- 008.64 (enteritis due to other small round viruses)
	A08.2 (adenoviral enteritis)	- 008.62 (enteritis due to adenovirus)
	A08.3 (other viral enteritis)	--
	- A08.31 (calicivirus enteritis)	- 008.65 (enteritis due to calicivirus)
	- A08.32 (astrovirus enteritis)	- 008.66 (enteritis due to astrovirus)
	- A08.39 (other viral enteritis)	- 008.67 (enteritis due to enterovirus, not elsewhere classified) - 008.69 (enteritis due to other viral enteritis)
	A08.4 (viral intestinal infection, unspecified)	008.8 (intestinal infection due to other organism, not elsewhere classified)
	A08.8 (other specified intestinal infections)	



Development and Revisions

- In March of 2016 the case definition was updated to include ICD10 codes.
- The definition was developed by the AFHSC *Medical Surveillance Monthly Report (MSMR)* staff for an October 2013 article on gastrointestinal infections caused by viruses.¹ The case definition was developed based on reviews of the ICD9 codes, the scientific literature, and previous AFHSC analyses.

Case Definition and Incidence Rule Rationale

- This case definition does not include gastroenteritis secondary to drugs, radiation, allergies, and diet, and does not include gastroenteritis secondary to seafood toxin or other non-bacterial food toxin ingestion.
- This case definition uses a 60-day “gap in care” incidence rule to define a new incident case of viral gastroenteritis. Use of this methodology presumes that medical encounters for viral gastroenteritis that occur within 60 days of a previous such encounter constitute follow-up care of the previously diagnosed case. The goal of the “gap in care” rule is to lessen the frequency with which encounters for follow-up care are treated as new incident cases of the condition. The “gap in care” rule differs slightly from an absolute 60-day incidence rule in which an individual may be considered an incident case once every 60 days.
- Not all of the conditions documented in this case definition are Reportable Medical Events in the Armed Forces. See <https://www.afhsc.mil/Home/ReportableEvents> for a list of reportable events. Investigators wishing to compare specific causes of viral gastroenteritis may want to consider the implications of these case finding criteria on the individual conditions.
- The AFHSC has developed a specific case definition for Hepatitis A. See <https://www.afhsc.mil/Home/CaseDefinitions>. The definition differs slightly from the one documented below (i.e., the diagnosis of interest may be listed in *any* diagnostic position and individuals may be considered an incident case once every 180 days).

Code Set Determination and Rationale

- The code set used for the October 2013 MSMR article on gastrointestinal infections did not include the following ICD9 codes. These codes are included in this document and will be included in the code set for future analyses.
 - 008.64 (other small round viruses)
 - 008.65 (calicivirus)
 - 008.66 (astrovirus)

Reports

AFHSC reports on viral gastroenteritis in the following reports:

- Monthly: AFHSB Reportable Events Monthly Report. Available on the AFHSC website at: <https://www.afhsc.mil/Home/ReportableEvents>.
- Weekly: DoD Communicable Disease Weekly Report; Summary of Communicable Reportable Events by Service; Available on the AFHSC website at: <http://www.afhsc.mil>; see “Reports and Publications”.



Review

Mar 2016	Case definition reviewed and adopted by the AFHSB Surveillance Methods and Standards (SMS) working group.
Feb 2013	Case definition reviewed and adopted by the AFHSC <i>MSMR</i> staff.

Comments

The intent of the October 2013 *MSMR* article was to investigate viral gastrointestinal infections in the U.S. Armed Forces. The analysis was not specific for viral gastroenteritis. It included a diverse set of gastrointestinal illnesses that, in general, shared both the portal of entry for the causative agents and the manner of acquisition (i.e., foodborne, waterborne, person-to-person contact and, animal contact). The infections below were included in the *MSMR* report on gastrointestinal infections but are not included here because, although they are infectious disorders that begin in the gastrointestinal tract, they generally do not produce symptoms and illnesses typically associated with gastroenteritis.⁴ Investigators wishing to investigate illness due to these organisms may want to utilize the codes for the corresponding GI-related conditions.

Condition	ICD-10-CM Codes	ICD-9-CM Codes
Hepatitis A [See <i>Case Definition and Incidence Rule Rationale</i> above]	B15 (acute hepatitis A)	--
	- 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)

Condition	ICD-10-CM Codes	ICD-9-CM Codes
Hepatitis E	B17.2 (acute hepatitis E)	070.43 (hepatitis E with hepatic coma)
		070.53 (hepatitis E w/o mention of hepatic coma)

⁴ Narayan, N, Albrecht, H. Microbiology and Immunology. University of South Carolina School of Medicine. Virology – Chapter 7; Viral Agents of Gastroenteritis: Rotaviruses, Calciviruses, Adenoviruses, Astroviruses and Others. See <http://www.microbiologybook.org/virol/rotaviruses.htm>; accessed 2016.

