

GASTROENTERITIS; PROTOZOA-RELATED

Includes Amebiasis and Giardiasis; For Helminth- Related Infections; see “Helminthiases” 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 cases of protozoa-related 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

Protozoa are microscopic, one-celled organisms that can be free-living or parasitic in nature. Some protozoa are able to multiply in humans, contributing to their survival and also allowing serious infections to develop from just a single organism.² Transmission typically occurs through a fecal-oral route (e.g., by eating or drinking food or water that has been contaminated with feces from infected animals or humans). Symptoms vary widely depending on the type of parasite and health of the host. Common symptoms include diarrhea, gas, abdominal cramping, and bloating. In the United States the most common foodborne protozoa parasites are *Cryptosporidium* and *Giardialamblia (intestinalis)*. Diagnosis is based on clinical symptoms and laboratory testing of stool specimens. Treatment is with antibiotics. Prevention depends upon avoidance of contaminated food and water.³

Case Definition and Incidence Rules

For surveillance purposes, a case of protozoa-related gastroenteritis is defined as:

- *One hospitalization or outpatient medical encounter* with any of the case defining diagnoses of protozoa-related gastroenteritis (see ICD9 and ICD10 code lists below) in the *primary or secondary* diagnostic position.
- *One record of a reportable medical event (RME)* of a *confirmed* case of protozoa-related 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 protozoa-related 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 <http://www.cdc.gov/parasites/about.html>

³ Centers for Disease Control and Prevention (CDC). Foodborne, Waterborne, and Environmental Diseases (DFWED). <http://www.cdc.gov/ncezid/dfwed/index.html>; accessed March 2016.



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
Protozoa - related gastroenteritis	<i>A06 (amebiasis)</i>	<i>006 (amebiasis)</i>
	- A06.0 (acute amebic dysentery)	006.0 (acute amebic dysentery without mention of abscess)
	- A06.1 (chronic intestinal amebiasis)	006.1 (chronic intestinal amebic dysentery without mention of abscess)
	- A06.2 (amebic nondysenteric colitis)	006.2 (amebic nondysenteric colitis)
	- A06.3 (ameboma of intestine)	006.8 (amebic infection of other sites)
	A06.9 (amebiasis, unspecified)	006.9 (amebiasis, unspecified)
	<i>A07 (other protozoal intestinal diseases)</i>	<i>007 (other protozoal intestinal diseases)</i>
	- A07.0 (balantidiasis)	007.0 (balantidiasis)
	- A07.1 (giardiasis [lambliasis])	007.1 (giardiasis)
	- A07.2 (cryptosporidiosis)	007.4 (cryptosporidiosis)
	- A07.3 (isosporiasis)	007.2 (coccidiosis)
	- A07.4 (cyclosporiasis)	007.5 (cyclosporiasis)
	- A07.8 (other specified protozoal intestinal diseases)	007.3 (intestinal trichomoniasis)
		007.8 (other specified protozoal intestinal disease; includes blastocystitis)
	- A07.9 (protozoal intestinal disease, unspecified)	007.9 (unspecified protozoal intestinal disease)

Development and Revisions

- In April 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 that included those caused by parasites.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 uses a 60-day “gap in care” incidence rule to define a new incident case of protozoa-related gastroenteritis. Use of this methodology presumes that medical encounters for protozoa-related 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 protozoa-related gastroenteritis may want to consider the implications of these case finding criteria on the individual conditions.

Code Set Determination and Rationale

- This code set is used to identify cases of protozoa-related gastroenteritis and includes only those codes that specify or imply intestinal infection. As a reference, related codes associated with non-enteric infection, nonspecific protozoa-related infections, or gastroenteritis in the past are included in the “Comments” section. When data are available, these codes will be further analyzed to determine if they indicate protozoa-related gastroenteritis.
- Codes ICD9 136.8 (other specified infectious and parasitic disease) / ICD10 B60.8 (other specified protozoal diseases) and B99.8 (other infectious disease) are not included in the code set. The ICD9 136.8 refers to candiru infection, a rare (if ever) type of fish parasitism. The ICD10 code B60.8 specifies only infection with microsporidia, which is now regarded as a fungus rather than a protozoan. B99.8 is also too vague.

Reports

AFHSB reports on protozoa-related gastroenteritis in the following reports:

- Monthly: AFHSC 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

Apr 2016	Case definition reviewed and adopted by the AFHSC Surveillance Methods and Standards (SMS) working group.
Feb 2013	Case definition reviewed and adopted by the AFHSC MSMR staff.



Comments

The intent of the 2013 MSMR article was to investigate gastrointestinal infections in the U.S. Armed Forces. The analysis was not specific for parasitic 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 parasitic infections that begin in the gastrointestinal tract, the specific diagnoses do not necessarily imply the simultaneous presence of gastroenteritis.⁴ Investigators wishing to investigate all illnesses due to these organisms may want to include the codes for the corresponding GI-related conditions and the codes below.

Condition	ICD-10-CM Codes	ICD-9-CM Codes
Amoebic-related infections	A06.4 (amebic liver abscess)	006.3 (amebic liver abscess)
	A06.5 (amebic lung abscess)	006.4 (amebic lung abscess)
	A06.6 (amebic brain abscess)	006.5 (amebic brain abscess)
	A06.7 (cutaneous amebiasis)	006.6 (amebic skin ulceration)
	A06.8 (amebic infection of other sites)	006.8 (above)
	- A06.81 (amebic cystitis)	
	- A06.82 (other amebic genitourinary infections)	
	- A06.89 (other amebic infections)	

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.

