

DENGUE FEVER

Includes Dengue Hemorrhagic Fever and Classical Dengue Fever

Background

This case definition was developed by the Armed Forces Health Surveillance Center (AFHSC) for the purpose of epidemiological surveillance of a condition important to military-associated populations.

Clinical Description

Dengue fever is a mosquito-borne illness caused by one of four dengue viruses. Although most commonly transmitted by the *Aedes aegypti* mosquito in the Western hemisphere, there has been evidence of transmission by *Aedes albopictus*¹. Dengue is clinically characterized by sudden onset of fever, severe headache, myalgias and arthralgias, leucopenia, thrombocytopenia and hemorrhagic manifestations. Dengue occasionally produces shock and hemorrhage, which may lead to death.²

Case Definition and Incidence Rules

For surveillance purposes, a case of Dengue fever is defined as:

- *One hospitalization* with any of the defining diagnoses of Dengue fever (see ICD9 and ICD10 code lists below) in *any* diagnostic position; or
- *Two outpatient medical encounters*, occurring *within a 60-day period*, with any of the defining diagnoses of Dengue fever (see ICD9 and ICD10 code lists below) in *any* diagnostic position; or
- One record of a reportable medical event of a confirmed case of Dengue fever.

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 defining diagnosis of Dengue fever.
- An individual is considered an incident case only *once per 365 days*.

Exclusions:

- None

¹ "Dengue: Frequently Asked Questions." Centers for Disease Control and Prevention. <http://www.cdc.gov/Dengue/faqFacts/index.html>. Accessed on: Oct 21, 2011.

² "Dengue: Fact Sheet." Centers for Disease Control and Prevention. <http://www.cdc.gov/Dengue/faqFacts/fact.html>. Accessed on: Oct 21, 2011



Codes

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

Condition	ICD-10-CM Codes	ICD-9-CM Codes
Dengue fever	A90 (Dengue fever; classical dengue)	061 (Dengue fever)
	A91 (Dengue hemorrhagic fever)	

Development and Revisions

- In April of 2014 the case definition was updated to include ICD10 codes.
- This case definition was developed by AFHSC staff for the Annual Vector Borne Reports, which provide information on cases of vector-borne illnesses during the last 10 years, including details by Service for active component, Reserve/Guard, and other beneficiaries. The case definition was based on reviews of the ICD9 codes, the scientific literature, and previous AFHSC analyses.

Case Definition and Incidence Rule Rationale

- The specification of “*within a 60-day period*” for the two outpatient encounters is used to allow for the likelihood that “true” cases of Dengue Fever would likely have a second encounter within that interval. The interval also allows enough time to elapse for laboratory confirmation.

Code Set Determination and Rationale

- *Dengue hemorrhagic fever* is not shown in the ICD9 code list above because in the ICD9 coding system this diagnosis is subsumed under the non-specific ICD9 code 065.4 (mosquito-borne hemorrhagic fever) which may refer to cases of hemorrhagic fever caused by other pathogens. Dengue hemorrhagic fever is included in the ICD10 code list (A91) because there is a specific code for this condition. Dengue hemorrhagic fever (ICD10 A91) is also included in the case definition for “Arthropod-Borne Hemorrhagic Fever.” Investigators planning a surveillance analysis to examine both “Arthropod-Borne Hemorrhagic Fever” and “Dengue” should consider the possibility of duplicate counting of cases of dengue hemorrhagic fever and adjust analytic methods accordingly.
- Specific serotypes of dengue virus are not distinguished in the ICD9 and ICD10 coding systems so this granularity of detail cannot be conveyed using the existing administrative data source.

Reports

AFHSC reports on Dengue fever in the following reports:

- Monthly: AFHSC Reportable Events Monthly Report. Available on the AFHSC website at: <http://www.afhsc.mil>; see “Reports and Publications”.
- Annually: “Annual Dengue Fever Report” released in April of each year; Available on the AFHSC website at: <http://www.afhsc.mil>; see “Reports and Publications”.
- Weekly: “DoD Communicable Disease Weekly Report” for the various Services’ public health centers; includes only reportable medical events. Available on the AFHSC website at: <http://www.afhsc.mil>; see “Reports and Publications”.



Review

Apr 2014	Case definition reviewed and updated by the AFHSC Surveillance Methods and Standards (SMS) working group.
Nov 2011	Case definition reviewed and adopted by the AFHSC Surveillance Methods and Standards (SMS) working group.
Apr 2011	Case definition developed and reviewed by AFHSC staff.

Comments

Armed Forces Reportable Events: Dengue fever is a reportable medical event in the Armed Forces Reportable Events surveillance system under “Tropical” diseases.

