



2.7 Identifying severe arboviral disease

Dengue, chikungunya, Zika and yellow fever have unique WHO case definitions, and not all are accompanied by a classification of severity. The dengue severity classification outlined in the 2009 WHO Dengue guidelines for diagnosis, treatment, prevention, and control includes categories of non-severe (with or without warning signs) and severe dengue (33). The case definitions for chikungunya proposed by an expert panel convened by WHO in 2015 included definitions for acute disease and severe acute disease (34). The proposed case WHO case definitions for Zika and the surveillance case definition for yellow fever do not include categorization into severe and non-severe disease: for Zika, because severe disease manifestations are rare outside of congenital disease and neurological syndromes (which have their own case definitions) (35); and for yellow fever because the case definition includes organ dysfunction (hepatic) resulting in jaundice that implies severe disease (36). The Pan American Health Organization recently issued updated dengue, chikungunya and Zika case definitions and dengue severity classification for the Americas based on the systematic review of clinical features differentiating arboviral infections conducted in 2022 (12).

Definitions of non-severe and severe arboviral disease in this guideline

The heterogeneity in available case definitions and classifications across viral diseases and variations in case definitions and classifications across Regions and WHO Member States necessitated the development of a working definition for the purposes of evaluating evidence and developing clinical recommendations. Consequently, for the purposes of clarity in this guideline, the following terminology is used.

Severe disease: those patients who clinicians assess as requiring hospitalization based on a clinical evaluation which includes assessment for the presence of warning signs and existing complications.

Non-severe disease: those who do not have features of severe disease and can be managed on an out-patient basis.

Based on the literature review from the 2022 Pan American Health Organization guidelines, the following criteria were identified that might encourage clinicians to hospitalize patients with dengue.

- Dengue with warning signs:
 - abdominal pain: progressive until it is continuous or sustained and intense, and at the end of the febrile stage
 - sensory disorder: irritability, drowsiness, and lethargy
 - mucosal bleeding: bleeding gums, epistaxis, vaginal bleeding not associated with menstruation or more menstrual bleeding than usual and haematuria
 - hepatomegaly: more than 2 cm below the costal margin and abrupt onset