

# Leptospirosis Outbreak Toolbox

Updated: May 2019



## Key reference documents

- [Human leptospirosis: Guidance for diagnosis, surveillance and control](#) (Geneva: World Health Organization; 2003).
- [Leptospirosis information page](#) (Geneva: World Health Organization).
- [Leptospirosis information page](#) (Washington (DC): Pan American Health Organization).
- [Leptospirosis fact sheet](#) (New Delhi: WHO Regional Office for South-East Asia).



## Case definitions

### WHO suggested outbreak case definition

#### Suspected case:

- evocative epidemiological context;<sup>1</sup> **and**
- clinical signs and symptoms consistent with leptospirosis: abrupt onset of fever, chills, conjunctival suffusion, headache, myalgia, jaundice, cardiac or renal failure, and pulmonary haemorrhage.

#### Probable case:

- suspected case **and** the presence of *Leptospira* immunoglobulins type M (IgM) in one serum sample detected by serology (e.g. Immunoglobulin M (IgM) enzyme-linked immunosorbent assay (ELISA)).

#### Confirmed case:

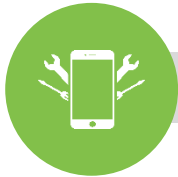
- a suspected case confirmed by laboratory test as follows:
  - seroconversion or a four-fold or higher rise in titre detected by serological techniques (e.g. microscope agglutination technique (MAT)<sup>2</sup> or IgM ELISA) in consecutive serum samples; **or**
  - detection of *Leptospira* DNA from a clinical specimen by polymerase chain reaction (PCR); **or**
  - demonstration of *Leptospira* spp. in tissue.

<sup>1</sup> e.g. Cyclone and/or flooding, exposure events such as adventure sports.

<sup>2</sup> Sampling: Two consecutive samples of 3 ml of blood or serum in a regular sterile tube. First sample 10–12 days after onset of symptoms; second sample (control) 10 days after the first sample.

## WHO surveillance case definition

- [Human leptospirosis: Guidance for diagnosis, surveillance and control](#) (Geneva: World Health Organization; 2017):
  - Suspect:
    - patients presenting with symptoms such as fever, severe headache, prostration, aching muscles or conjunctival suffusion; **or**
    - signs of aseptic meningitis, adult respiratory distress syndrome with pulmonary haemorrhage, kidney failure or jaundice.
  - For surveillance purposes, isolation of bacteria followed by typing for information about which *Leptospira spp.* are circulating in the area is important. Molecular characterization will be an asset.



### Data collection tools

- Case investigation form(s): Not Available.
- Line list(s): Not available.
- Electronic tools: Not available.



### Laboratory confirmation

- [Human leptospirosis: Guidance for diagnosis, surveillance and control](#) (Geneva: World Health Organization; 2003 (pp. 9–16)).



### Training

- [Leptospirosis: Introduction](#) (online course).



### Other resources

- [Global leptospirosis environmental action network \(GLEAN\)](#).
- [Managing epidemics: key facts about major deadly diseases](#) (Geneva: World Health Organization; 2018).