

## Current major event

### Meningitis in Yemen

The Ministry of Health in Yemen, in collaboration with WHO, are closely monitoring the epidemiological pattern of the ongoing reported cases of meningitis in Yemen. Since the beginning of the year up to 8 July 2017 (Epidemiological week 27), a total of 2,146 suspected cases have been reported through the electronic early warning surveillance system (eDEWS) in the country (*Please see the graph*).

### Editorial note

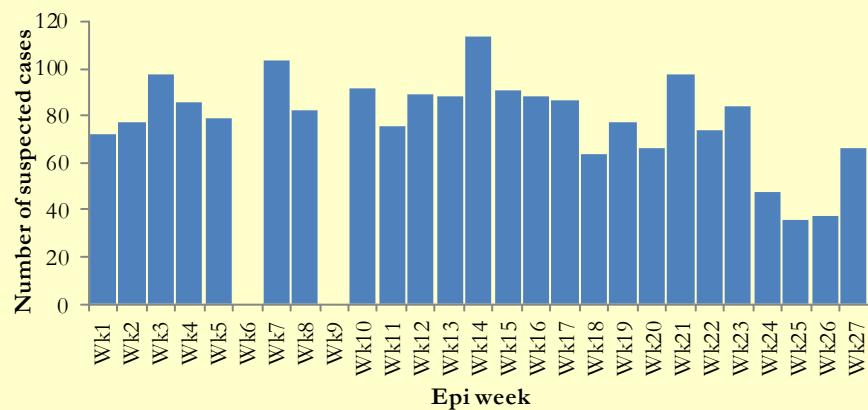
In 2017, cases of suspected meningitis have been reported in nearly all governorates of Yemen. Nearly two-thirds of the total number of reported suspected meningitis cases, 1413 are in the under five year age group compared to 733 in the over five year age group. The highest number of cases have been reported in Amana, Taiz, Al Hodeida governorates. This has been attributed to the fact that these leading governorates have referral hospitals that received most suspected meningitis cases including referrals from other sites in the country.

Even though the number of suspected meningitis cases in the first half of 2017 is coming close to the total number of reported suspected cases in 2016 (2,649 reported cases of meningitis in Yemen in 2016) (*Please see the table*), this maybe due to the fact that eDEWS population coverage has increased by nearly two-thirds from 700 sites in 2016 to 1,982 reporting sites currently.

A total of 920 cerebrospinal fluid samples have been tested by gram stain and culture; 5 samples have tested positive for Streptococcus Pneumoniae; 2 for Neisseria Meningitidis; and 11 samples were positive for other bacteria. The low number of CSF samples that have tested positive could be due to excessive self medication with antibiotics given restricted access to health care due to insecurity; and possibly due to sample handling and limited capacity of local laboratory capacity given the current status of health infrastructure in the country.

Previous studies on meningitis in Yemen

Number of suspected meningitis cases in Yemen, Epi week 1-27/2017



Year	Number of suspected cases
2015	-
2016	2,649
2017 (up to 8 July)	2,146

have shown that Streptococcus Pneumoniae is the leading cause of bacterial meningitis followed by Neisseria Meningitidis among adults older than 15 years old (Abdulrab 2010); while *Haemophilus Influenza type-B* is the second leading cause among children less than 15 years old (Khorasani 2006).

Yemen introduced *Haemophilus Influenza type-B* vaccine into the routine national immunization programme in 2005 and this may explain why *Haemophilus Influenza type-B* meningitis has not been isolated. However given that most cases are occurring among under fives, Streptococcus Pneumoniae is the most isolated pathogen in CSF samples. Though Pneumococcal vaccine was introduced in Yemen in 2011, questions are raised about access to routine immunization.

Despite the challenges of the humanitarian crisis, the occurrence of meningitis in Yemen has not reached unexpected levels and the risk of spread to neighboring countries remains low. This situation may change at any time; therefore surveillance must be enhanced to ensure effective monitoring and preparedness and response capacities should be strengthened at all levels.

### Update on outbreaks

in the Eastern Mediterranean Region

MERS-CoV in Saudi Arabia; Cholera in Somalia; Cholera in Yemen; Chikungunya in Pakistan.

### Current public health events of international concern

[cumulative N° of cases (deaths), CFR %]

#### Avian Influenza: 2006-2017

Egypt (A/H5N1) [359 (122), 34%]  
 Egypt (A/H9N2) [3 (0)]

#### Chikungunya: 2016-2017

Pakistan [6,618 (0)]

#### MERS-CoV: 2012-2017

Saudi Arabia [1,675 (659), 39.3%]

#### Cholera: 2016-2017

Somalia [71,663 (1,098), 1.5%]  
 Yemen [402,484 (1,880), 0.5%]

#### Lassa Fever: 2017

Nigeria [549 (109), 19.9%]

#### Avian Influenza A (H7N9): 2013-2017

China [1,533 (592), 38.6%]

#### Dengue fever: 2017

Côte d'Ivoire [623 (2), 0.3%]

#### Wild poliovirus: 2014-2017

Pakistan [383 (0)]  
 Afghanistan [66 (0)]

#### Zika Virus Infection: 2015-2017

84 countries and territories have reported transmission so far.