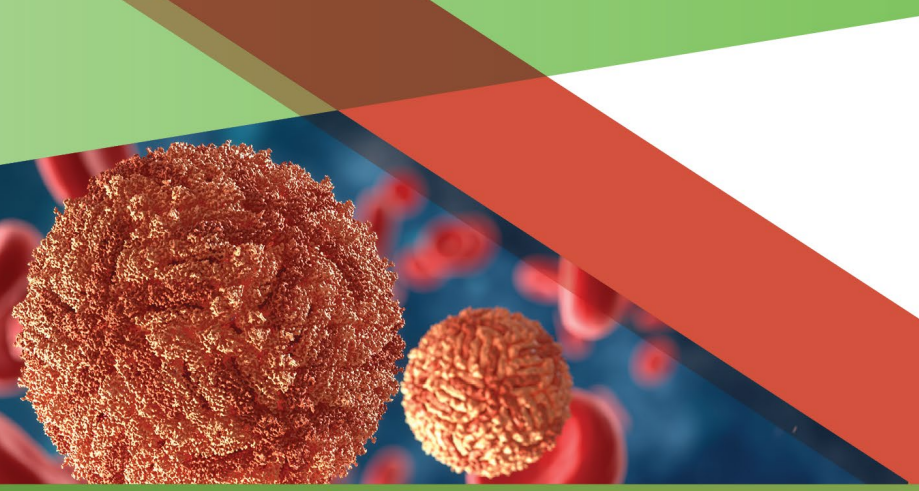


SURVEILLANCE REPORT

Zika virus disease

Annual Epidemiological Report for 2017

Key facts

- In 2017, the outbreak of Zika virus (ZIKV) disease in the Caribbean and the Americas (2015–2016) subsided, leading to a significant decrease in the number of travel-associated infections in EU/EEA countries.
- A total of 274 cases were reported in 2017 in EU/EEA countries, with an overall notification rate of 0.1 per 100 000 persons.
- No autochthonous vector-borne cases of ZIKV were reported in the EU/EEA in 2017.
- There was only one case of sexual and two cases of vertical transmission of ZIKV in 2017.

Methods

This report is based on data for 2017 retrieved from The European Surveillance System (TESSy) on 11 December 2018. TESSy is a system for the collection, analysis and dissemination of data on communicable diseases. For a detailed description of methods used to produce this report, refer to the *Methods* chapter [1].

An overview of the national surveillance systems is available online [2].

A subset of the data used for this report is available through ECDC's online *Surveillance atlas of infectious diseases* [3].

Twenty-six EU/EEA countries reported data on Zika virus disease in 2017. Ten countries (Croatia, Estonia, Hungary, Latvia, Lithuania, Luxembourg, Malta, Romania, Slovakia and Slovenia) reported no cases. No data were reported by Bulgaria, Cyprus, Iceland, Liechtenstein and Poland.

Zika virus disease data for 2017 were reported according to an interim case definition that was agreed on by the Health Security Committee of the European Union in March 2016 [4]. However, official case definitions for Zika and congenital Zika virus disease have since been adopted with Dec 2018/945/EC and are currently in effect [5,6]. Countries reported only confirmed cases in TESSy.

Information on the surveillance system type was provided by 26 countries and all reported having comprehensive surveillance systems. Reporting is compulsory in 16 countries, voluntary in three (Luxembourg, Slovenia and Sweden) and reported as 'other' in the United Kingdom [2]. Data reporting is case-based in all countries.

Suggested citation: European Centre for Disease Prevention and Control. Zika virus disease. In: ECDC. Annual epidemiological report for 2017. Stockholm: ECDC; 2019.

Stockholm, July 2019

Epidemiology

In 2017, 16 countries reported 274 cases (Table 1), resulting in a notification rate of 0.1 per 100 000 inhabitants. The largest number of cases were reported by Germany (n=69), Spain (n=44) and Belgium (n=42; Table 1, Figure 1).

Table 1. Distribution of Zika virus disease cases by country, EU/EEA, 2015–2017

Country	2015	2016	2017
	Reported cases	Reported cases	Reported cases
Austria	1	41	8
Belgium	1	120	42
Bulgaria	.	.	.
Croatia	.	.	0
Cyprus	.	.	.
Czech Republic	.	13	4
Denmark	.	8	6
Estonia	.	0	0
Finland	1	6	2
France	.	1 141	28
Germany	.	.	69
Greece	.	2	1
Hungary	.	2	0
Iceland	.	.	.
Ireland	1	15	4
Italy	.	101	25
Latvia	0	0	0
Liechtenstein	.	.	.
Lithuania	.	.	0
Luxembourg	.	2	0
Malta	.	2	0
Netherlands	11	98	6
Norway	.	8	4
Poland	.	.	.
Portugal	.	18	1
Romania	.	3	0
Slovakia	.	3	0
Slovenia	.	7	0
Spain	10	301	44
Sweden	1	34	16
United Kingdom	3	194	14
EU/EEA	29	2 119	274

Source: country reports.
': no data reported.

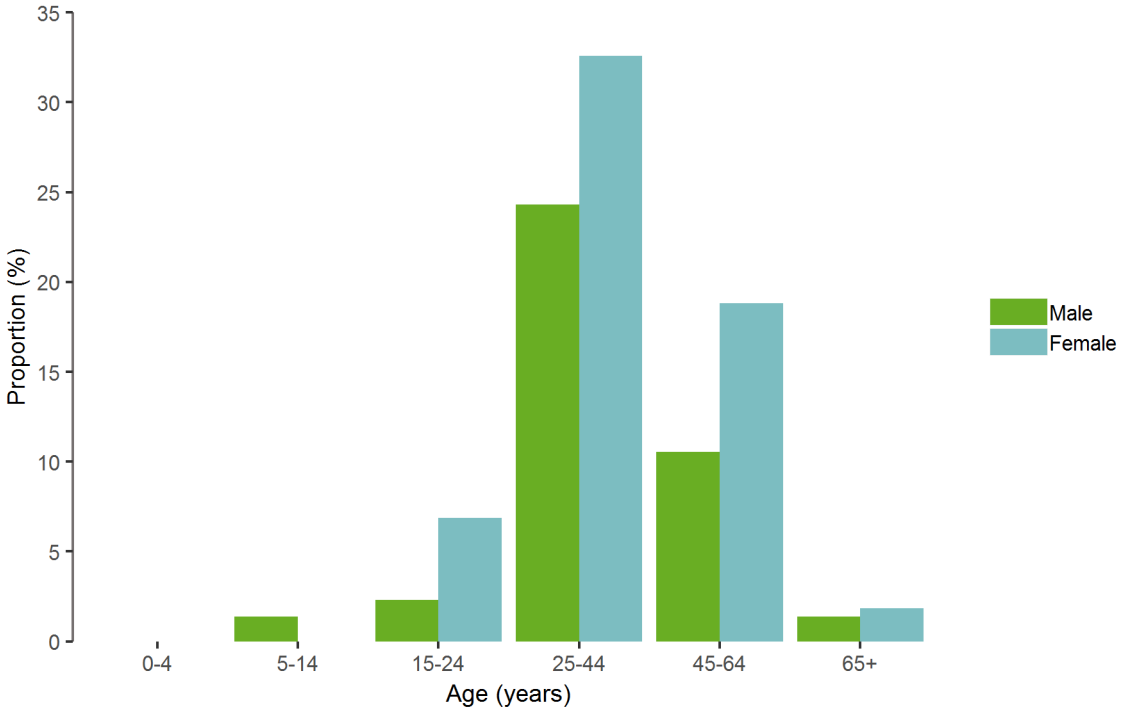
Figure 1. Distribution of Zika virus disease cases by country, EU/EEA, 2017

Among cases where gender was reported (n=231), the majority were female (n=142, 61%). Age was reported for 84% of cases (n=230) and cases were most frequently reported among 25–44 (56%) and 45–64-year-olds (28%). The mean age was 37.6 years for both genders. There was a higher proportion of females compared with males in all age groups except 5–14-year-olds (Figure 2). The overall male-to-female ratio overall was 0.6:1.

Pregnancy status was known for 77 female confirmed cases (54%). Of these, 23 (16%) were known to be pregnant. The outcome of pregnancy was known for eight pregnant women: five were reported to have had live births, of which one infant was born with microcephaly, and in three, the pregnancies were terminated.

Importation status was reported for 264 cases (96%). Of these, 261 were imported cases in returning travellers thought to have been infected through mosquito bites and three were locally acquired: one was acquired through sexual transmission and two were vertically transmitted from mother to infant. There was no autochthonous vector-borne transmission of ZIKV reported in the EU/EEA during 2017. The place of infection was known for 206 (78%) of the imported cases and most acquired the infection in the Caribbean (63%), the majority of which in Cuba (55%), followed by South America (15%) and Asia and Central America (10% each).

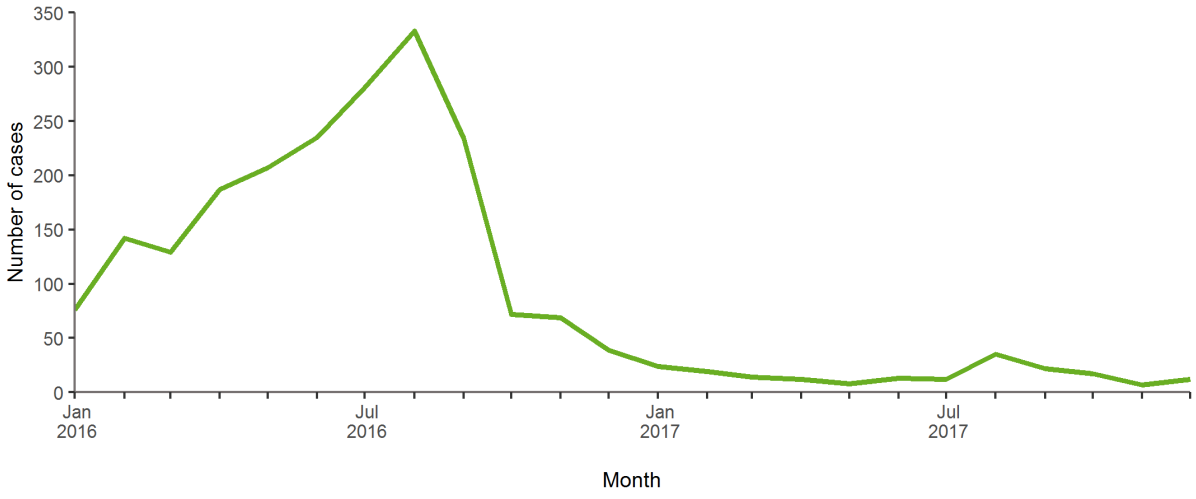
Figure 2. Distribution of Zika virus infection cases by age and gender, EU/EEA, 2017



Trend

Compared with 2016, the number of reported Zika virus disease cases presented a much smaller peak from August–October, which coincided with the peak of cases reported as infected in the Caribbean, and decreased drastically after that.

Figure 3. Distribution of Zika virus disease cases by month, EU/EEA, 2016–2017



Source: Country reports from Austria, Belgium, Denmark, Estonia, Finland, France, Greece, Ireland, Italy, Latvia, Malta, Norway, Portugal, Romania, Slovenia, Spain, Sweden and the United Kingdom.

Discussion

Zika virus disease emerged in 2007, causing an outbreak in Micronesia, followed by other countries and territories in the Pacific (2013–2014). In 2015, it caused an outbreak of unprecedented magnitude in the Americas at the same time as an increase in the number of infants born with microcephaly [7]. From February–November 2016, the World Health Organization (WHO) declared the cluster of microcephaly cases and other neurological disorders

in Brazil as a public health emergency of international concern (PHEIC), encouraging an investigation to confirm the association with congenital infection of ZIKV [8]. The association with microcephaly was confirmed, with more than 3 700 confirmed cases reported in the Americas [9,10].

The large outbreak in South America in 2016 led to increased concern in Europe about the importation of cases and potential local transmission in areas where *Aedes albopictus* and *Ae. aegypti* are present. In March 2016, surveillance of Zika virus disease started with the main objectives of early detection of locally acquired cases in the EU/EEA and timely reporting of travel-associated cases, particularly those residing in areas in the EU/EEA where *Ae. albopictus* or *Ae. aegypti* are established (receptive areas), to trigger appropriate control measures [11].

In 2017, as the ZIKV outbreaks in the Caribbean and the Americas subsided, possibly due to growing immunity in the local populations, the number of imported Zika virus disease cases in EU/EEA countries plummeted, most likely reflecting the low levels of transmission in the countries of origin. The proportions of cases associated with travel reflect the travel pattern of European residents, with the largest percentage related to the Caribbean [12].

Despite the continued detection of imported cases in returning travellers to areas where *Ae. albopictus* is endemic, no autochthonous vector-borne transmission in the EU/EEA has been reported [11]. Investigators have established that *Ae. albopictus* in Europe are competent vectors of Zika virus, but taking into consideration the variations of local populations and a short window for transmission in the summer months in the northern hemisphere, the capability for a sustained transmission remains limited [13–15]. However, *Ae. albopictus* was implicated in an urban outbreak of ZIKV in 2007 in Gabon, as shown in a retrospective study of human sera and mosquitoes [16].

Public health implications

The impact of Zika virus in Europe has been limited to returning travellers and a few sporadic sexually transmitted cases.

WHO advises against any restriction of travel to or trade with countries, areas and territories with Zika virus transmission. However, WHO recommends that pregnant women avoid travel to areas with Zika virus transmission, particularly during outbreaks, based on the increased risk of microcephaly and other severe congenital malformations. Pregnant women and their partners and couples planning pregnancy should be provided with comprehensive information about the risk associated with ZIKV infection, especially before travelling, along with information on other infectious agents that can impact the pregnancy and cause foetal development disorders, such as the so-called TORCH agents (e.g. rubella virus, cytomegalovirus and *Toxoplasma gondii*) that are distributed worldwide [17,18].

Despite the evidence of limited competence of European *Ae. albopictus* populations in transmitting Zika virus infection, continued surveillance is warranted to allow for the early detection of outbreaks and an efficient public health response.

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