

Zika virus disease

Annual Epidemiological Report for 2021

Key facts

- For 2021, three EU/EEA countries reported seven cases of Zika virus (ZIKV) disease, the lowest number ever reported since the start of the EU/EEA surveillance in 2016.
- All the cases were associated with travel outside the EU/EEA.

Introduction

Zika virus (ZIKV) disease is a mosquito-borne disease caused by a virus of the Flaviviridae family. The disease most frequently presents an acute, febrile illness with myalgia, skin rash, arthralgia, and neurological signs. Subclinical and asymptomatic cases are common. The Zika virus was first recognised in Uganda in 1947. Sero-epidemiological evidence suggests wide distribution in Africa [1]. In 2007, the virus emerged in Micronesia, followed by outbreaks in other countries and territories in the Pacific (2013–2014). In 2015, the virus caused an epidemic of unprecedented magnitude in the Americas, leading to the recognition of teratogenic effects of ZIKV to the developing foetal brain [2,3].

Methods

This report is based on data for 2021 retrieved from The European Surveillance System (TESSy) on 25 October 2022. TESSy is a system for the collection, analysis, and dissemination of data on communicable diseases.

For a detailed description of the methods used to produce this report, refer to the 'Methods' chapter in the 'Introduction to the Annual Epidemiological Report' [4].

An overview of the national surveillance systems is available online [5].

A subset of the data used for this report is available through ECDC's online 'Surveillance Atlas of Infectious Diseases' [6].

Twenty-five EU/EEA countries reported data on ZIKV disease for 2021 (Bulgaria, Denmark, Poland, Sweden, and Iceland did not report any data). Fourteen countries used the EU case definition, eight used an alternative case definition, and three countries did not specify which case definition they used. Reporting was compulsory in most countries, unknown in two countries (Croatia and Malta), and voluntary in Slovenia. Surveillance was mostly comprehensive and passive in reporting countries.

Suggested citation: European Centre for Disease Prevention and Control. Zika virus disease. In: ECDC. Annual Epidemiological Report for 2021. Stockholm: ECDC; 2023.

Stockholm, June 2023

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Epidemiology

For 2021, three EU/EEA countries reported seven cases of ZIKV disease, five (71%) of which were confirmed, while 22 countries reported no cases. The cases were reported by Spain (n=4), Germany (n=2) and Luxembourg (n= 1) (Table 1, Figure 1).

Table 1. Number of cases of Zika virus disease by country and year, EU/EEA, 2017–2021

Country	2017	2018	2019	2020	2021
	Number	Number	Number	Number	Number
Austria	8	0	0	1	0
Belgium	42	2	1	0	0
Bulgaria	ND	ND	ND	ND	ND
Croatia	0	0	0	0	0
Cyprus	ND	ND	ND	ND	0
Czechia	4	2	1	1	0
Denmark	6	0	2	ND	ND
Estonia	0	0	0	0	0
Finland	2	0	2	1	0
France	28	10	16	3	0
Germany	68	18	11	6	2
Greece	1	2	0	0	0
Hungary	0	1	1	0	0
Iceland	ND	ND	ND	ND	ND
Ireland	4	0	0	2	0
Italy	25	2	4	4	0
Latvia	0	0	0	0	0
Liechtenstein	ND	ND	ND	ND	0
Lithuania	0	0	0	0	0
Luxembourg	1	0	0	0	1
Malta	0	0	1	0	0
Netherlands	6	3	0	0	0
Norway	4	0	2	0	0
Poland	ND	ND	ND	ND	ND
Portugal	1	0	0	1	0
Romania	0	0	0	0	0
Slovakia	0	0	0	0	0
Slovenia	0	0	0	0	0
Spain	44	9	23	0	4
Sweden	16	0	0	3	ND
United Kingdom ¹	14	2	6	1	ND
EU/EEA	274	51	70	23	7

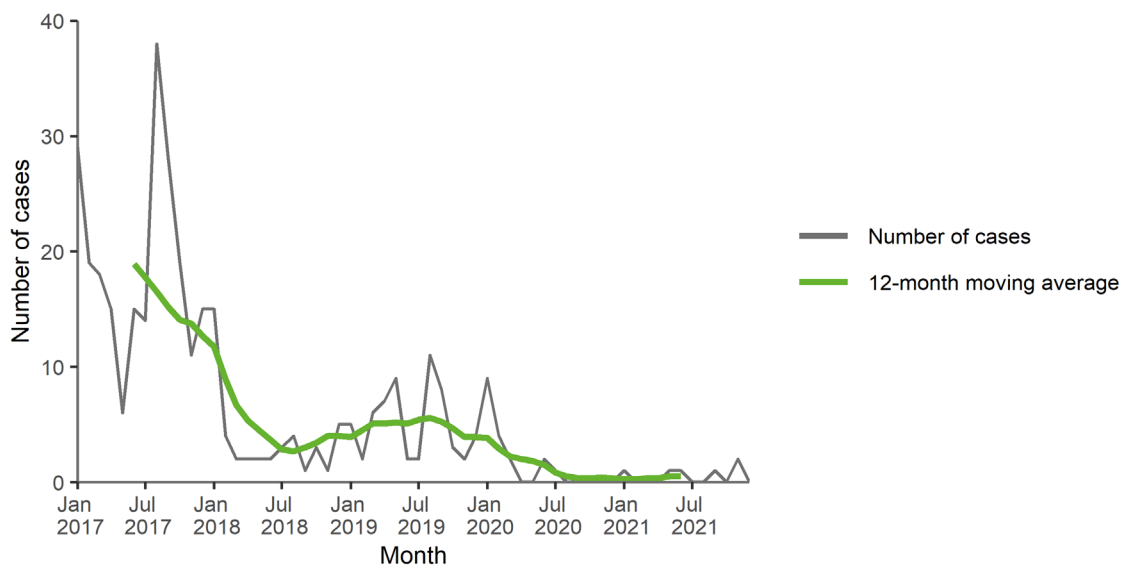
Source: country reports

ND: no data reported.

¹ The United Kingdom (UK) was a former Member State of the European Union (EU). The UK withdrew from the EU on 31 January 2020.

The number of cases of ZIKV disease reported by EU/EEA countries decreased in 2021 compared with 2020 (n=22; without the UK) and 2016 where the highest number of notifications was observed (n=1 925) in connection with the global epidemic of Zika. Among the cases reported in 2021, two were reported in January, two between May and June, and three from September to November.

Figure 1. Number of cases of Zika virus disease by month, EU/EEA, 2017–2021



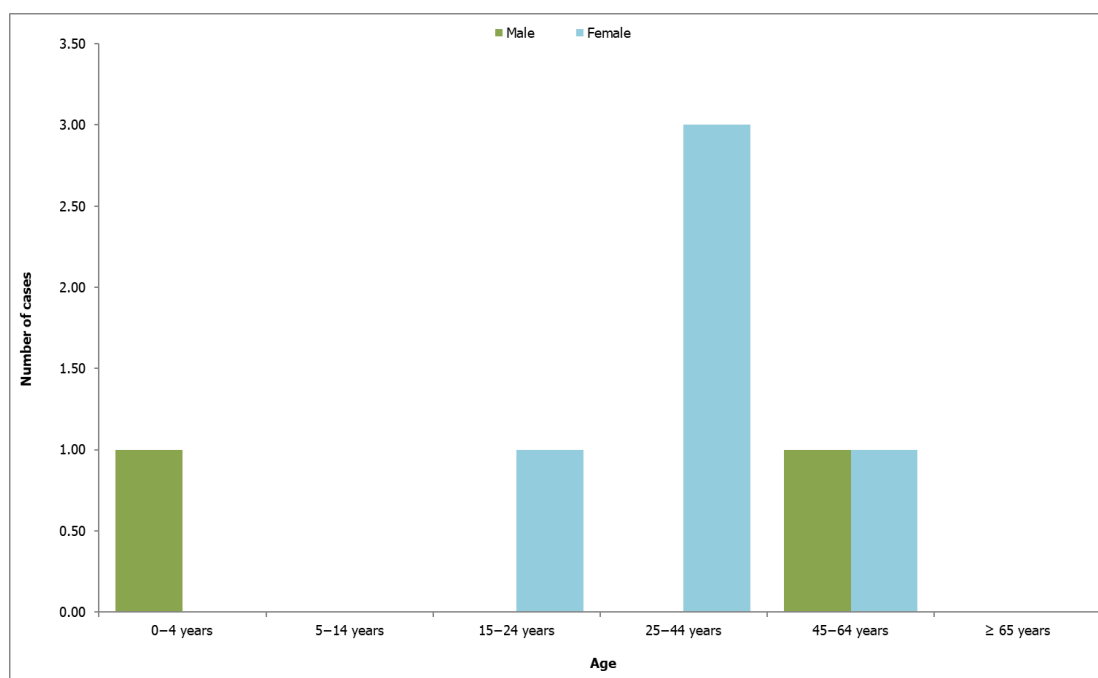
Source: Country reports from Austria, Belgium, Croatia, Czechia, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Portugal, Romania, Slovakia, Slovenia, and Spain.

Gender was reported for all the cases. The majority were female (n=5; 71%), and the overall male-to-female ratio was 0.2:1. Age was specified for all the cases. Case notifications were the most frequent among those aged 25–44 years (n=3; 43%), followed by 45–64-year-olds (n=2; 29%).

The pregnancy status was known for four female cases (80%), of whom one was pregnant and had a healthy live birth.

For 2021, all the cases were imported from outside the EU/EEA. The place of infection was known for six cases (86%): two occurred in Cameroon, one in Benin, one in Sierra Leone, one in Cuba, and one in Thailand.

Figure 2. Number of cases of Zika virus disease, by age and gender, EU/EEA, 2021



Discussion

The large ZIKV disease outbreak in South America in 2016 led to an increased concern of the virus getting introduced in Europe and potential local transmission in areas where the *Aedes albopictus* mosquito is present. In March 2016, the surveillance of ZIKV disease started with the main objectives of detecting the locally acquired cases in the EU/EEA early, and timely reporting of travel-associated cases, particularly those residing in areas in the EU/EEA where the *Aedes albopictus* is established (receptive areas), to trigger appropriate control measures [7].

After 2016, the number of imported cases of ZIKV disease in EU/EEA countries decreased (Figure 1). This was most likely reflective of the decreasing levels of transmission in the countries visited by European travellers. Additionally, the travelling restrictions due to the COVID-19 pandemic probably contributed to the lower numbers in 2020 and 2021 [8].

In 2019, France reported three autochthonous vector-borne cases of ZIKV disease in the Var department (Provence-Alpes-Côte d'Azur). In response to the detection of these cases, national and local health authorities carried out active case finding, entomological investigations, vector-control activities, and awareness campaigns. These were the first reported autochthonous cases of ZIKV disease acquired via vector-borne transmission in the EU/EEA [9,10]. In 2021, no autochthonous cases were reported.

Several imported cases in 2021 originated from sub-Saharan Africa, suggesting ongoing transmission in the region.

Public health implications

The impact of ZIKV disease in Europe has been mainly limited to returning travellers, a few sporadic locally acquired cases due to sexual transmission, and for the first time in 2019, three autochthonous vector-borne transmissions.

The World Health Organization (WHO) advises against any restriction of travel to, or trade with countries, areas, and territories with Zika virus transmission. WHO recommends that pregnant women avoid travelling to areas with Zika virus transmission, particularly during outbreaks, based on the increased risk of microcephaly and other severe congenital malformations [11,12]. All residents of, and travellers to areas with ongoing or historical ZIKV transmission should be mindful of preventing mosquito bites, and be able to make informed decisions on whether to abstain from sex, practise safer sex, or avoid/delay pregnancy. Pregnant women and their partners, and anyone planning pregnancy should be provided with comprehensive information about the risks associated with ZIKV infection, especially before travelling. Ideally, this information should also address other infectious agents that can have significant impact on pregnancy and cause foetal development disorders, such as the so-called TORCH agents (e.g. toxoplasmosis, others (syphilis, hepatitis B), rubella, cytomegalovirus, herpes simplex) that have worldwide distribution [11,12].

Despite the evidence of the limited competence of European *Aedes albopictus* populations in transmitting Zika virus, continued surveillance, which also focuses on returning travellers, is warranted to allow for the early detection of risk areas and outbreaks, as well as an efficient public health response.

Travellers who visit areas endemic for *Aedes*-borne diseases (e.g. chikungunya virus disease, dengue, Zika virus disease) and reside in areas of mainland EU/EEA where *Aedes albopictus* and/or *Aedes aegypti* mosquitoes are established, should continue to apply personal protective measures after their return for a period of about two weeks. This is to avoid infecting local mosquitoes, which could result in autochthonous transmission within mainland EU/EEA.

There is no licensed vaccine against Zika virus disease; prevention is based on protection against mosquito bites. Personal protective measures focus principally on protection against mosquito bites. *Aedes* mosquitoes have diurnal biting activities in both indoor and outdoor environments. Personal protective measures should therefore be applied all-day long and especially during the hours of highest mosquito activity (mid-morning, and late afternoon to twilight). Personal protective measures to reduce the risk of mosquito bites include: using mosquito bed nets (preferably insecticide-treated nets), sleeping or resting in screened or air-conditioned rooms, wearing clothes that cover most of the body, and using mosquito-repellents in accordance with the instructions indicated on the product label.

In addition, local authorities may consider conducting preventive vector-control measures around imported cases in areas where outbreaks may occur.

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