

Frequently asked questions - Zika virus expected to spread in Europe in late spring and summer: overall risk is low to moderate

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1. Can we expect an outbreak in Europe similar to that in the Americas?

The risk of a Zika virus disease outbreak in the European Region similar to that seen in the Americas is moderate to low. This is mainly because the mosquito that is known to be responsible for the outbreak in the Americas (*Aedes aegypti*) is not widely present in Europe, although it is established in limited areas, such as Madeira Island and the north-eastern Black Sea coast.

Aedes albopictus is present in 18 countries in the Region, primarily in the Mediterranean Basin; it is considered a potential vector for transmission of Zika virus. *Ae. albopictus* was the primary vector in recent arboviral outbreaks in Europe, has been shown to be able to transmit Zika virus in Africa and in laboratory settings and was found recently in Mexico to be infected with Zika virus. Nevertheless, *Ae. albopictus* is considered to have lower capacity than *Ae. aegypti* for transmitting arboviruses (viruses transmitted by insects), including Zika.

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2. From this assessment, how high is the risk in Europe?

While the risk of a Zika virus disease outbreak varies from country to country, the risk in the European Region should not be underestimated. The

likelihood that Zika virus will spread in countries where Aedes mosquitoes are present is high or moderate.

In 18 countries in the European Region (in order of likelihood (highest to lowest): France, Italy, Malta, Croatia, Israel, Spain, Monaco, San Marino, Turkey, Greece, Switzerland, Bulgaria, Romania, Slovenia, Georgia, Albania, Bosnia and Herzegovina, and Montenegro) there is a moderate likelihood of local Zika virus transmission. In limited geographical areas, namely Madeira Island (Portugal) and the north-eastern Black Sea coast, there is a high likelihood of local Zika virus transmission.

These countries and areas should prepare well in order to protect their populations from the spread of Zika virus disease and its potential neurological complications, including microcephaly and Guillain-Barré syndrome.

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3. How did you develop the risk assessment method?

Two main factors were combined to determine risk:

- the likelihood of local transmission, which is based on the presence of Zika virus-transmitting mosquitoes (*Ae. aegypti* and/or *Ae. albopictus*) in the country and factors such as a suitable climate for the establishment of mosquitoes, history of transmission of dengue or chikungunya, ship and flight connections, population density and urbanization; and
- the capacity of the country to contain transmission at an early stage with vector control, clinical surveillance, laboratory capacity and emergency risk communications.

Combining these factors provided the estimated risk for the European Region.

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4. What is the difference between likelihood and risk?

The likelihood that Zika virus will spread reflects what would happen if no measures were taken to reduce the threat. It is based on the presence of Zika virus-transmitting mosquitoes, a suitable climate for establishment of mosquitoes, a history of transmission of dengue or chikungunya, ship and flight connections, population density and urbanization.

The WHO assessment also considered capacity – namely, how fast and well a country can respond to spread of the virus. Risk is the combination of likelihood and capacity. In the European Region, the risk of an outbreak of Zika virus disease is low to moderate.

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5. How did you measure country capacity?

A country capacity score was derived by evaluating the capacity for four

factors: integrated vector management, clinical surveillance, laboratory capacity and emergency risk communication. Data on these factors were derived from responses to a questionnaire sent to all 53 countries in the Region.

Answers received from 51 Member States plus Liechtenstein concerning their capacity for rapid containment of Zika virus transmission indicated that 41 countries (79%) have good or very good capacity, although capacity for specific measures varied substantially.

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6. Why did you assess risk at regional level?

The questionnaire was sent to help countries evaluate their capacity to prevent and rapidly contain a Zika virus outbreak. Because of time constraints, it was not possible to ensure that countries interpreted all the questions in the same way; therefore, the responses cannot be compared directly at this time. Summary values can, however, be used to assess risk at a regional level and thus provide guidance on the likelihood of Zika virus transmission in individual countries.

WHO plans to follow up on how capacity improves, so that national levels of risk can be compared accurately and published.

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7. How do you evaluate countries' self-assessment of their capacity?

Countries are in the best position to assess their own level of capacity, and we are confident that they will use this risk assessment to design tailored interventions on the basis of the combination of the likelihood and risk of spread and their capacity to prevent and/or contain a Zika virus disease outbreak.

WHO plans to ensure that the appropriate gaps and needs for preparedness and response are addressed.

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8. Why do you provide recommendations based on the likelihood of virus spread?

WHO guidance for vector control, clinical surveillance, laboratory diagnosis and emergency risk communication with respect to Zika virus does not depend on country capacity but on the likelihood of local Zika virus transmission.

Countries in the same category of likelihood of transmission should follow the same set of recommendations and evaluate the extent to which those recommendations have already been followed. In particular, countries at higher risk should closely follow WHO guidance to prevent and rapidly contain local Zika virus transmission. Some countries already have such measures in place, which lowers their overall risk for an outbreak.

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9. Why wasn't sexual transmission part of the assessment?

The available evidence on Zika virus disease shows that the main transmission route is through mosquitoes, including in the current outbreak in the Americas.

In light of the scarcity of data on the role of sexual transmission in disease spread, this mode of transmission could not be taken into account. As soon as more evidence on sexual transmission of Zika virus becomes available, WHO will update the risk assessment accordingly.

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10. Why are you taking into account imported cases?

As of 15 April 2016, the European Centre for Disease Prevention and Control had recorded 409 imported cases in 17 European Union (EU), European Economic Area (EEA) countries, including 23 in pregnant women. While imported cases were not included in the risk assessment, they are important to note, as they account for introduction of the virus into the European Region.

No case of local Zika virus transmission had been reported in the WHO European Region as of 15 April 2016. However, travellers returning to the region in late spring and summer who are infected with Zika virus could initiate local transmission in the presence of active Zika-transmitting mosquitoes.

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11. Are there limitations to the risk assessment?

Every scientific project has inherent limitations. In the case of Zika virus, these limitations mainly concern the current state of knowledge and the lack of validated models for predicting its transmission in the WHO European Region.

- Although published sources were used to determine the presence of *Aedes* mosquitoes, surveillance of mosquitoes is weak in some areas.
- As data were available only at country level, countries were categorized as a whole, while it is likely that vectors and capacity vary within countries.
- Validation of country responses to the questionnaire on capacity was beyond the scope of this assessment.

WHO considers that transparency about the limitations in this risk assessment allows for better interpretation of the results. It will also bring them to the attention of other researchers and partners, so that they can take them into consideration in designing further assessments and models.

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12. If more evidence emerges, will this risk assessment still be valid?

This risk assessment is based on the currently available evidence. To the best of our knowledge, it captures all the evidence on the risk for a Zika virus disease outbreak in the WHO European Region.

Bearing in mind that risk assessments change as situations evolve, WHO will update this work as new data become available.

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13. Now that you have assessed the risk for Europe, how will you support countries in preventing or controlling Zika virus from spreading?

This assessment is an important step as it will inform and target preparedness in countries of the Region, guiding them in prioritizing activities to prevent a large outbreak. To address the threat of Zika virus spread, we at WHO are consolidating our efforts to help in:

- strengthening vector control plans to avoid introduction of mosquitoes, detect mosquitoes at points of entry, prevent their spread and reduce their density;
- providing guidance to strengthen vector control plans in coordination with other sectors;
- strengthening clinical and disease surveillance to detect early transmission of Zika virus disease (including early warning systems for clusters of fever and rash);
- facilitating shipment of samples to WHO reference laboratories or delivering diagnostic tools for local testing;
- encouraging community participation to reduce mosquito breeding sites and to protect individuals, particularly those at highest risk, from mosquito bites; and
- supporting European countries in the field in case of Zika virus disease outbreaks

WHO will convene a regional consultation in Portugal in June 2016 to take stock of the conclusions of the risk assessment and identify countries' needs to prevent and respond to Zika virus disease.

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14. What are other regions doing to prepare?

WHO's support to countries to prepare for and respond to health risks is a key aspect of the reform of WHO's work on emergencies at the three levels of the Organization: global, regional and country.

Other WHO regions are preparing for potential spread of Zika virus, in regional meetings, country missions and capacity assessments. The WHO regional offices for the Eastern Mediterranean and Africa are working with their member countries, and headquarters is leading global coordination.

The newly released risk assessment for the European Region is an important piece of work, as it also provides a solid method for use in other

parts of the Organization for conducting similar studies. Such studies will support countries both within and outside the Region to better prepare to prevent and/or contain the spread of Zika virus.

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