Zika virus: Evaluating the risk to individual travellers

Factors to consider when assessing risk of Zika virus

Background

Zika virus is primarily spread by daytime biting *Aedes* mosquitoes. A small number of cases have also been spread by sexual contact.

The infection often occurs without symptoms but can also cause an illness similar to dengue or chikungunya (which are also spread by *Aedes* mosquitoes).

Illness associated with Zika Virus infection is usually mild and short-lived; serious complications and deaths from Zika virus are not common. However, Zika virus infection during pregnancy is a cause of congenital (birth defect) brain abnormalities, including microcephaly (often called Congenital Zika Syndrome); and Zika virus is a trigger of neurological complications such as Guillain-Barré syndrome (GBS) [1].

Risk assessment prior to travel

A comprehensive risk assessment should be carried out with any traveller going to destinations with Zika virus transmission.

The following factors should be considered for each traveller and will help travellers understand their potential risks.

Individual factors

Is the traveller:

- Pregnant or the male partner of a woman who is pregnant.
- Planning to become pregnant prior to travel, during travel, or during the 3 months following return from a Zika virus risk area.
- The male partner of a woman planning pregnancy.
- Immunosuppressed or do they have any co-morbidities.

A. Pregnant travellers and their partners

1. In view of the risks of congenital abnormalities associated with infection during pregnancy, where there is evidence of a past or current outbreak of Zika virus, pregnant women should discuss the suitability of travel (and the potential risk that Zika virus may present to them and their pregnancy)

with their health care provider.

Advice on the level of risk and specific recommendations for the affected areas, countries or territories can be found in the 'Other Risks' section of the Country Information pages.

In general, if there is evidence of a current ongoing outbreak at their destination pregnant women should consider postponing non-essential travel until after their pregnancy. In other situations, a detailed discussion with their health care provider will allow the pregnant women to make a decision about travel, taking into account their personal circumstance.

2. Regardless of the level of risk, if a pregnant woman plans to travel to an area where there have been recent outbreaks, re-introduction of Zika virus or endemic transmission but no current outbreak, she and her partner should be made fully aware of the risks Zika virus may present. They should be scrupulous with mosquito bite avoidance measures both indoors and outside during daytime and night-time hours.

The UK Health Security Agency (UKHSA) and NaTHNaC have produced an information leaflet and video: mosquito bite avoidance for travellers.

3. Pregnant women who have travelled in an area with a risk of Zika virus transmission should seek advice from their GP or midwife on their return to the UK, even if they have not been unwell. This advice does not apply to destinations considered to be at very low or negligible risk of Zika virus.

4. Pregnant women who develop symptoms suggestive of Zika virus infection in or soon after travel to an area rated as very low risk or negligible risk should also seek medical advice and contact their GP on return.

5. Zika virus is known to be present in semen and vaginal secretions. The virus persists longer in semen than in the female genital tract, but the viral RNA detected is not necessarily infectious. Cases of sexual spread are occasionally reported [2].

6. Consistent and correct use of condoms (or other barrier methods) for vaginal, anal and oral sex is advised for the duration of the pregnancy; if the couple both travelled, or if just the male partner travelled. This applies even in the absence of any symptoms.

B. Couples planning a pregnancy prior to, during or within 6 months after travel

1. It is recommended that couples planning pregnancy should check the Zika virus risk for their destination before booking travel and consider any travel and sexual transmission advisories.

2. Screening of symptom free (asymptomatic) travellers for Zika virus is not available on the NHS. Therefore, couples planning pregnancy in the very near future should consider whether they should avoid travel to a country or area with risk of Zika virus, rather than delay conception for the

recommended period (see below) after travel. This particularly includes couples in assisted fertility programmes.

3. Couples planning pregnancy who are travelling to an area with risk of Zika virus should be advised to delay conception to reduce the risk of the developing fetus being exposed to Zika virus. This advice does not apply to destinations considered to be at very low risk or negligible risk of Zika virus.

4. You should ensure that both partners are fully aware of the risks Zika virus may present. They should be scrupulous with mosquito bite avoidance measures both indoors and outside during daytime and night-time hours.

The UK Health Security Agency (UKHSA) and NaTHNaC have produced an information leaflet and video: mosquito bite avoidance for travellers.

5. Zika virus is known to be present in semen and vaginal secretions. The virus persists longer in semen than in the female genital tract, but the viral RNA detected is not necessarily infectious. Most cases of Zika virus are acquired via mosquito bites, but sexual transmission of Zika virus is occasionally reported [2].

6. Couples planning pregnancy who intend to travel to an area with a risk of Zika virus, should follow guidance on prevention of sexual transmission of Zika virus. This includes consistent use of effective contraception and condoms (or other barrier methods) for vaginal, anal and oral sex during and after travel.

These measures should be used even in the absence of symptoms while travelling and if:

- Both partners travelled, for 3 months after return or after last possible Zika virus exposure.*
- Male partner travelled only, for 3 months after return or after last possible Zika virus exposure.*
- Female partner travelled only, for 2 months after return or after last possible Zika virus exposure.*

***Footnote: Last possible Zika virus exposure is defined as the date of leaving an area with Zika virus risk, or the date on which unprotected sexual contact with a potentially infectious partner took place.**

This advice does not apply to destinations considered to be at very low risk or negligible risk of Zika virus.

7. If a woman develops symptoms compatible with Zika virus infection, it is recommended she avoids becoming pregnant for 2 months following symptom onset.

C. Preventing sexual transmission in other travellers

The implications of sexual transmission of Zika virus are greatest for pregnant women. If couples,

(when the woman is not pregnant or considering pregnancy) are worried about sexual transmission of Zika virus, this can be prevented by correct and consistent use of condoms (or other barrier methods) during vaginal, anal and oral sex.

For those wanting to reduce the risk of sexual transmission, consistent use of barrier methods during sexual contact should begin while travelling to Zika virus risk areas, countries or territories, and continue to be used for the period of time, as stated for couples planning pregnancy above, depending on gender.

D. Travellers with co-morbidities, immunosuppression or at extremes of age

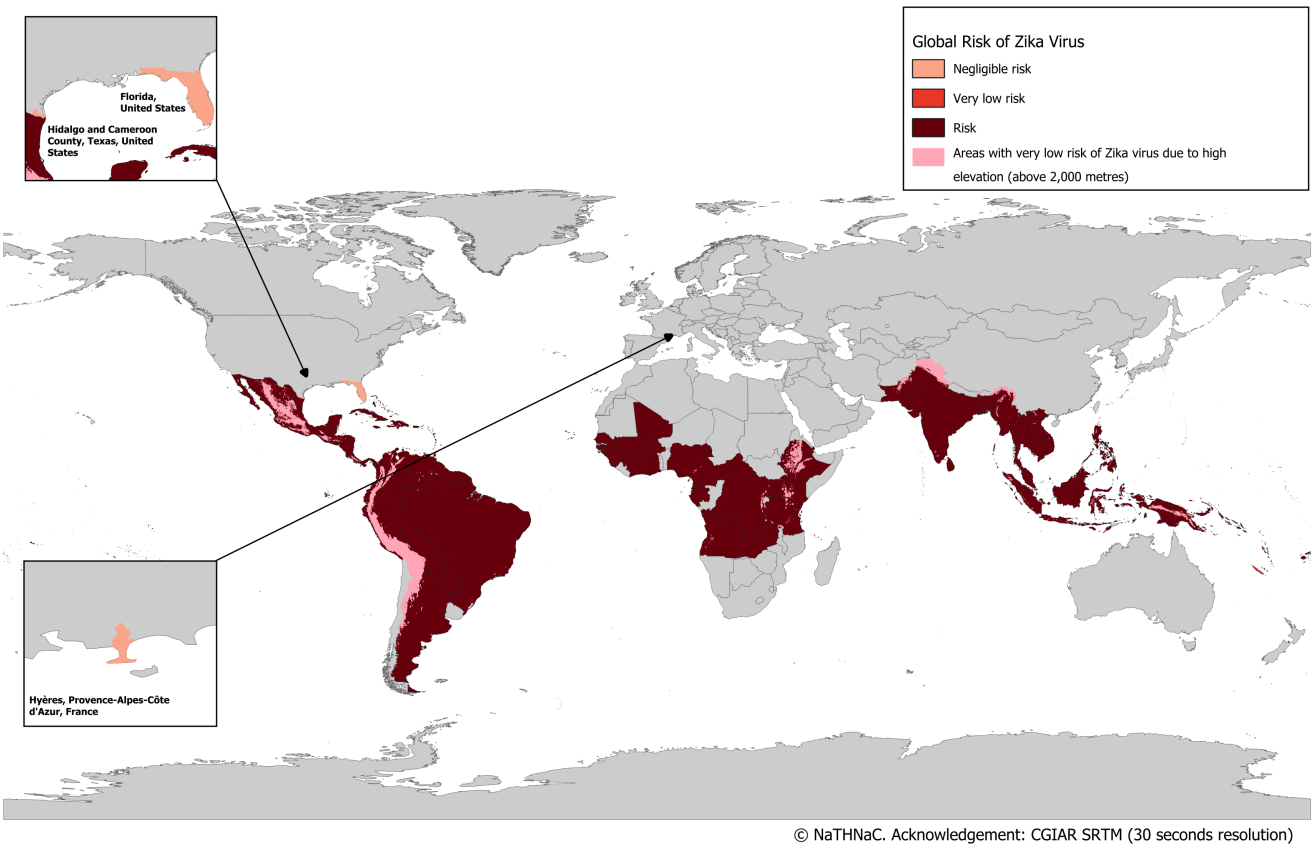
These travellers should be offered advice regarding the likely impact of any travel related infection on them. More information on Zika virus infection and immunosuppression is available from UKHSA.

Destination related factors

Information and advice for travellers is available from our Country Information pages (information is found in the 'Other Risks' section for affected areas).

See Figure 1 and 2 for an overview of countries, areas or territories with Zika virus risk. Please note these maps will be updated whenever there is a change in country risk; always check our Country Information pages for up to date risk information.

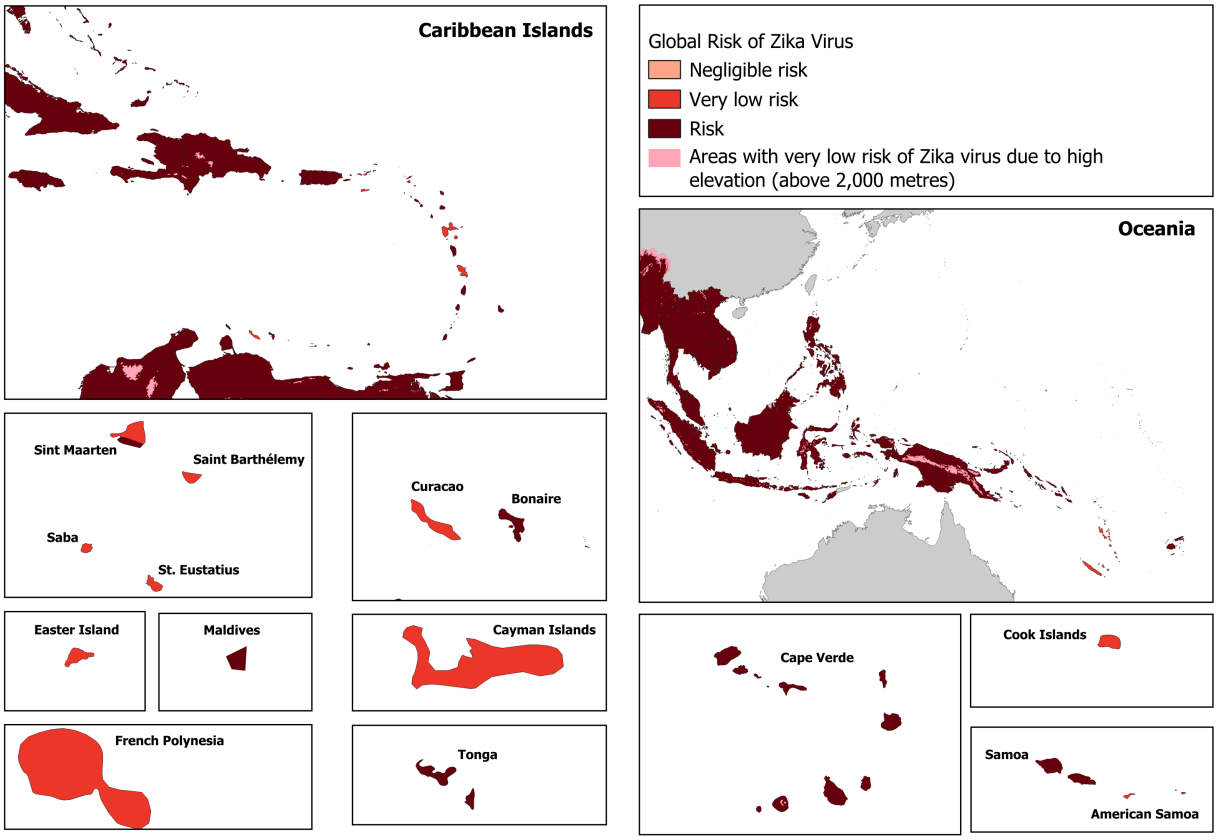
Figure 1: Global risk of Zika virus July 2024



- Click on map to open in a new window

Figure 2: Risk of Zika virus for small islands

Risk of Zika Virus for Small Islands



- Click on map to open in a new window

The maps show the following categories:

Risk: Angola, Anguilla, Antigua and Barbuda, Argentina, Aruba, Bangladesh, Bahamas, Barbados, Belize, Bolivia, Bonaire, Brazil, Brazilian Island, British Virgin Islands, Burkina Faso, Burundi, Cambodia, Cameroon, Cape Verde, Central African Republic, Colombia, Costa Rica, Cuba, Democratic Republic of the Congo, Djibouti, Dominica, Dominican Republic, Ecuador, El Salvador, Equatorial Guinea, Ethiopia, Fiji, French Guiana, Gabon, Ghana, Grenada, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, India, Indonesia, Ivory Coast, Jamaica, Kenya, Laos, Malaysia, Maldives, Mali, Mexico, Montserrat, Myanmar, Nicaragua, Nigeria, Pakistan, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Puerto Rico, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Samoa, Senegal, Sierra Leone, Singapore, Sint Maarten, Solomon Islands, Sri Lanka, Suriname, Tanzania, Thailand, Tonga, Trinidad and Tobago, Turks and Caicos

Islands, Uganda, Venezuela, Vietnam, Zambia

Very low risk: American Samoa, Cayman Islands, Cook Islands, Curaçao, Easter Island, French Polynesia, Guadeloupe, Martinique, Marshall Islands, New Caledonia, Micronesia, Palau, Saba, Saint Barthelemy, Saint Martin, Sint Eustatius, United States Virgin Islands, Vanuatu

Negligible risk: Florida, Hidalgo and Cameron Counties in Texas, USA and Hyères city, France

When trying to determine risk of Zika virus infection at any given destination, the following should also be considered:

Affected areas

1. The situation continues to evolve and the risk in areas, countries or territories may change.
2. The risk of Zika virus will vary within a country. Where specific information exists this will be provided in our Country Information pages.
3. In most cases, it will not be possible to identify specific risk areas within a country. In these situations, the degree of risk will be assumed to be uniform in the whole country, depending on information available.
4. If an outbreak of Zika virus has been reported, this information will be available in the outbreak surveillance section of our website and in the outbreak section of the relevant country information page.
5. Reporting systems will vary from country to country, and some countries may have more limited surveillance and reporting capacity for Zika virus.

Mosquito vector

Zika virus is mostly spread by the bite of an infected *Aedes* mosquito, most commonly *Aedes aegypti*. Other species of *Aedes* mosquitoes may also have the potential to transmit Zika virus. *Aedes* mosquitoes bite mainly during daylight hours.

These mosquitoes will bite both outdoors and indoors and throughout the day (but may also feed at night).

Aedes spp. mosquitoes commonly live in cities and urban areas, laying their eggs in small collections of water around homes, schools and workplaces. Covering buckets or any other open water containers, removing standing water in flowerpots, cleaning up rubbish and old tyres all help to reduce mosquito breeding sites [3].

Tropical *Aedes* mosquitoes:

- Favour high humidity and warmth.
- There is a lower likelihood of Zika infection at altitudes ≥ 2,000m (this may be relevant for travel to destinations at higher altitudes, particularly in parts of South and Central America.

- Are likely to be more abundant during seasonal rainfall. There may be regional variations in seasonal rainfall. Season alone however should not be relied upon as an indicator of risk.

Risk of exposure may be reduced in areas with good vector control programmes for *Aedes* infestation.

Traveller activity and behaviour factors

A traveller's risk will also be affected by their behaviour and activities:

1. A traveller who is aware of, and is scrupulous regarding bite avoidance measures, may reduce the risk of mosquito bites and therefore Zika virus infection.
2. In general, the risk of exposure to Zika virus will increase with the length of stay. Activities that may reduce a traveller's ability to avoid insect bites and basic accommodation with poor screening at windows/doors could also increase the risk.

Preventive advice

Travellers visiting destinations with a risk of Zika virus or surrounding areas should avoid mosquito bites, monitor news updates and obtain comprehensive travel health insurance. See below for number of useful links:

- General information on Zika Virus
- Algorithm - Zika advice for pregnant women, those planning pregnancy and their partners
- Advice on insect bite avoidance measures
- Advice on travelling when pregnant
- Algorithm for assessing pregnant women with a history of travel to areas with Zika virus
- Mosquito bite avoidance leaflet
- Foreign, Commonwealth & Development Office guidance on foreign travel insurance

REFERENCES

1. World Health Organization, Zika virus factsheet 8 December 2022. [Accessed 8 January 2024]

2. UK Health Security Agency. Zika virus: prevention infection by sexual transmission 19 July 2019 [Accessed 8 January 2024]

3. World Health Organization. Zika virus disease. Prevention and control. Undated [Accessed 8 January 2024]

Published Date: 27 Feb 2019

Updated Date: 03 Jul 2024