

Olympics may be transport hub for global disease spread

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Olympic rings in the Place du Trocadéro in Paris. Mosquito-borne diseases could spread via the Olympics to countries where they are not normally prevalent global health experts have warned. Credit: Anne Jea ([CC BY-SA](#))

Mosquito-borne [diseases](#) such as dengue, Zika, and chikungunya could spread via the Olympics to countries where they are not normally prevalent, warn global health experts, as authorities step up disease monitoring in the French capital.

More than 11 million visitors are expected to descend on the French capital for the Olympic and Paralympic Games, with about 1.5 million traveling from abroad, according to latest projections from the Parisian tourist office.

It comes amid an [increased risk](#) of the tropical disease [dengue](#) in France in the face of a perfect storm of warm, damp weather combined with growing numbers of tiger mosquitos driven northwards by global warming.

Most people infected with dengue exhibit no symptoms and there is a real possibility that some may be bringing the disease with them—and others returning with it to their home countries—according to disease specialists.

Najmul Haider, a lecturer at Keele University, in the United Kingdom, told SciDev.Net, "Mass gatherings [like the Olympics] always bring some sort of risk. If [travellers] are infected with dengue, it is very likely they might be a source of infection in France."

Osman Dar, consultant physician in global health at the UK Health Security Agency says diseases picked up at the event could spread rapidly in a country where that disease is not already established, quickly overwhelming a health care system ill-equipped for an outbreak.

"The importation of diseases is particularly problematic for a country where that disease is absent, but the vector [disease-carrying agent] ... is present," Dar told SciDev.Net.

"This is especially true in the global South, where health care infrastructure and surveillance systems are not as strong."

According to Dar, surveillance of disease-carrying vectors such as

mosquitoes, along with monitoring of people showing symptoms, is crucial to ensure a rapid response to any potential outbreak.

"It's important that visitors and health care providers get the appropriate health communications, both at home and in the country they visit, so everyone knows what to look out for," he said.

However, John Tembo, a scientific coordinator for Herpez, a medical research organization in Zambia, says it can be difficult to ensure routine testing for diseases such as dengue where it does not commonly occur, especially in resource-constrained countries. This could lead to outbreaks going undetected, he cautioned.

"It's especially concerning if the disease has ambiguous symptoms that can be mistaken for other, more common ones," Tembo told SciDev.Net.

"It might not be identified until it's already become a serious health concern."

Perfect storm

The geographical reach of [mosquito-borne diseases](#) such as dengue, Zika and chikungunya has rapidly expanded due to globalization and climate change.

About half of the world's population is at risk of dengue, with an estimated 100 to 400 million infections occurring each year, says the [WHO](#).

So far in 2024 there have been [5,000 deaths](#) from dengue recorded in 80 countries, mainly in Latin America and Southeast Asia, according to the European Center for Disease Prevention and Control.

Chikungunya has similar symptoms to both Zika and dengue, causing severe fever and [joint pain](#), while the Zika virus can also cause serious birth defects if a pregnant woman is infected.

All three diseases are spread by tiger mosquitoes, which [are expanding](#) into areas now unused to mosquito-borne diseases. First introduced into Southern Europe in the 1970s, they are now established across Western, Southern, and Eastern Europe.

Despite this rapid expansion, many cases of dengue in Europe are imported. In France between January and May 2024, [health authorities](#) recorded 2,166 imported cases, mainly traced to overseas French departments such as Guadeloupe, Martinique and French Guiana, all of which are experiencing dengue epidemics.

Santé Publique France, the French national health agency, has only reported a single non-imported case of dengue in 2024. However, the expanding mosquito population, escalating summer temperatures and increasing importation of dengue from endemic regions has raised fears that a perfect storm may be about to hit.

With heavy downpours at the start of the games and warm temperatures, conditions in Paris are ideal for tiger mosquitoes, mostly found in urban areas and near water sources.

Prevention strategies

French authorities say they have put in place measures to prevent and monitor for disease outbreaks. The Greater Paris regional health agency has set up 526 mosquito egg-laying traps to check for tiger mosquitoes.

Official data shows that all departments in Paris are at risk of tiger mosquito colonization.

Efforts to reduce mosquito breeding grounds—which might include trapping the insects and removing water sources where they lay their eggs—are focused on "areas conducive to mosquito proliferation near places of large gatherings," according to the agency.

To help monitor cases of illness, the Institut Pasteur, a biomedical research foundation, said it was working closely with public health teams in Paris to increase capacity for the detection of infectious diseases during the games.

French authorities, along with the WHO and the European Center for Disease Prevention and Control, have also published health guidance for those attending the event.

Giovanni Satta, a lecturer at University College London, currently on sabbatical at the WHO, told SciDev.Net that "being prepared is our best weapon when it comes to preventing outbreaks during big events."

Provided by SciDev.Net

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