

OLYMPIC EFFORT TO OVERCOME ZIKA VIRUS

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Fresh from efforts in tackling Ebola, global public health specialists have a new fight on their hands in trying to contain a virus that can have serious consequences.

While the Zika virus, which is currently spreading throughout much of South and Central America, normally leads to little more than flu-like symptoms in adults that typically last for no more than a week, the effects it can have on unborn babies can be “catastrophic”, according to Dr Paul McKeown, Public Health Specialist in the HSE’s Health Protection Surveillance Centre.

As a result, pregnant women are being strongly advised not to travel to Rio de Janeiro this summer for the Olympic Games, an event which will see tens of thousands of athletes and millions of sports fans descend on the Brazilian capital.

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Such is the concern for the virus’s complications that in May 150 international medical experts called for the Olympics to be delayed or moved from Rio due to public health concerns. However, Dr McKeown believes such a move would be a step too far. “To be honest, the number of competitors is in the tens of thousands, that isn’t going to make any difference in terms of the virus moving around the world,” he tells ‘Emergency Services Ireland.’



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BRAZILIAN WINTER

“If you are going to say, ‘let’s cancel the Olympics because people will spread Zika around the world’, the next logical thing to say is ‘let’s cancel going to Brazil because it’ll spread it around the world’. Those two statements are internally coherent.”

Dr McKeown also argues that the timing of the Olympics means the virus will spread more slowly than it has in recent months. “The Olympics is taking place during Brazil’s winter when mosquito activity is at its lowest. That’s not true for all of Brazil – some of the football is taking place in the north at the mouth of the Amazon. There will be a risk there from biting mosquitos.

“It’s estimated – not just by the Brazilians, but by external experts like the CDC (the Centre for Disease Control) and WHO – that the degree of biting from mosquitos will be extremely low, because it’s the coolest time of year. So, most mosquitos are not around.”

Dr McKeown is also quick to add that much work has been



The effects on unborn babies can be "catastrophic", says Dr Paul McKeown, Public Health Specialist at the HSE's Health Protection Surveillance Centre.

done in providing travellers with all the information needed to adequately protect themselves from the virus having more serious consequences. "A lot of information is being produced from us and distributed via the Olympic Council of Ireland.

"Prevention is absolutely crucial, but that does not take away from the fact that pregnant women should not travel to the affected areas. As we say in crisis management, 'low likelihood, high impact'. This is very unlikely to happen, but when it does it is catastrophic for the family."

FIRST DIAGNOSIS

The first diagnosis of the Zika virus took place in Uganda in 1947, before reaching South East Asia in 1990. In recent years the virus has reached the Americas, and is now spreading faster than ever before in parts of South America.

" Eighty per cent of people don't get any symptoms at all. They don't even know they're ill after they get the virus. Twenty per cent of people do, but because it's an immunologically naïve population in Central and South America, and because, once the virus got in, it found two mosquito hosts that are very well adapted to carry the virus and who are used to biting and feeding off the blood of humans, it has moved very rapidly."

In Ireland, three people have been diagnosed with the virus

TWO NEW VACCINES CAN PROTECT AGAINST ZIKA

Ever since the Zika virus was declared a global public health emergency some months ago, a scientific team's efforts to create a vaccine against the viral threat have borne promising results, and they note that very early testing in humans could begin as early as late August.

With a single shot of either of two different types of vaccine, experimental mice gained near-total immunity to Zika for at least two months. Several other Zika vaccine candidates are being tested in animals.

A US-Brazilian team of scientists have reported that two distinct vaccine candidates conferred powerful protection from Zika infection when each was delivered by intramuscular injection to mice.

Since its arrival in Brazil in 2013, the Zika virus has marched steadily north. Carried by the Aedes aegypti mosquito, the virus is already spreading vigorously in Puerto Rico and is expected to circulate inside the continental United States this summer.



The US Centers for Disease Control and Prevention concludes that Zika infection in pregnant women can cause grievous brain abnormalities in the infants they bear. For those who are not pregnant, Zika infection is generally not dangerous.

However, in rare cases, it can cause Guillain-Barre syndrome, a life-threatening condition in which the immune system attacks the peripheral nervous system, causing partial paralysis that is generally temporary.

after travelling here from Zika-affected countries. Throughout Europe it is estimated that 800 people have had the virus. It is expected that these numbers will continue to increase throughout Ireland and Europe for the foreseeable future.

While people staying in Ireland will not get the Zika virus through mosquitos due to our temperate climate, infection is possible through sexual contact or blood transfusions. The Irish Blood Transfusion Service has a strict deferral period of at least three months on people who have been to Zika-affected regions from donating blood.

However, the global cause for concern lies with women who get the virus through sexual activity with an affected man, and becoming pregnant as a result.

PRECAUTIONARY APPROACH

“We’ve adopted a precautionary approach,” Dr McKeown notes, when describing the HPSC’s advice to those coming back from the Rio Olympics this summer.

“If a man were to go to the Olympics and he were not to have been bitten by a mosquito, he came home and felt perfectly well, we’re advising that his wife or partner should not become pregnant for 28 days. So, they should use barrier methods – condoms – to prevent her being infected by his semen for 28 days.

“If he was unwell, if he did present symptoms, then we’re advising that that advice should continue for six months. There is one particular subgroup that we have to be careful of – people who are in the process of assisted fertility. For example, if donated semen is being used, there are checks and balances in terms of testing of that.”

Dr McKeown says it’s all to do with protecting the woman at that danger period. “We currently say that a woman who is pregnant should not travel to an affected area; the first three months of pregnancy is the big danger period. We’re not sure about the second trimester so we’re including that and also the third trimester to be on the safe side.”

Meanwhile, international health experts and scientists will continue to

search for ways to stop the spread of the virus and halt the severe effect it can have on babies.

“Essentially, only one of two things are going to stop it,” Dr McKeown explains. “Either a vaccine will be produced; there’s work going on but there’s nothing immediate in the pipeline. Alternatively,

over time, the population of South Central and Middle North America, where these mosquitos survive, will develop resistance to the virus, and it will peter out because there will not be sufficient susceptible people – people who are capable of getting the disease and carrying the virus in their bloodstream.”

