The Zika virus: What is the risk to South Africa

02 February 2016

What are the risks for the Zika virus being introduced into South Africa

It is important to emphasize that Zika virus has not to date been found further south than Uganda in Africa. The vector species, Aedes aegypti is common in South Africa, particularly in the eastern coastal plain but also in the cities of the inland plateau. In the urban centres, the mosquito breeds in small collections of water such as discarded tyres and buckets, or the leaf axils of Strelitzia nicolae (“banana trees”). Aedes aegypti is made up of 2 subspecies, only one of which occurs predominantly outside of Africa.

The typical African subspecies, tends not to bite humans and may well be less susceptible to Zika virus when compared to the South American ones.

Even though the possibility of an infected traveller introducing Zika virus to South Africa obviously does exist, the short viraemic period (virus present in blood) would lessen the chance of being transferred to a susceptible mosquito, particularly because local Aedes aegypti mosquitoes have very limited flight ranges (measured in a few metres) and tend not to enter buildings (unlike subspecies aegypti, which utilizes homes in crowded urban settlements).

The Brazilian outbreak appears to be associated with lack of piped water and the resultant storage of water in indoor vats and pails, all ideal habitats for Aedes aegypti mosquitoes to breed in.

There may well be imported of Zika in travellers returning to South Africa but they don’t pose any risk to the local population. These viruses are not contagious and usually require the assistance of a mosquito vector between hosts.

Testing for the Zika virus is available at the NICD and will be performed only on returning travellers with an illness compatible with Zika. Laboratory testing will be offered to all pregnant women who have travelled to an area with a current Zika outbreak of Zika.

This will be done in consultation with their attending obstetricians. The question is, why has Zika virus spread to Indonesia and Brazil but not to southern Africa? We don’t have a definitive answer but believe that the reason is probably the same as for yellow fever and the dengue viruses, which also don’t occur this far south.

One could speculate that numerous introductions of either infected mosquitoes or infected travellers are necessary before a foreign arbovirus can become established in a new area, because the virus needs to be introduced into a capable vector population as well as host population.