

## Blood donation and Zika virus

The recent outbreak of the Zika virus has been declared a global public health emergency by the WHO. By the end of July, 2016, the Pan American Health Organization (PAHO) had reported that 42 countries and territories in the Americas had confirmed local, vector-borne transmission of Zika virus since 2015. There has also been evidence of local transmission in Asia, Oceania, and Africa. Although the transmission of the Zika virus has primarily been via mosquitoes, non-vector transmissions have been reported during this and previous outbreaks, including maternal-fetal transmission, sexual transmission, and transmission through blood transfusions. Because there have been relatively few travel restrictions, and because most people infected with the Zika virus do not show any symptoms, the possibility of transmission via blood transfusion could become a major health concern.

Worldwide, measures have already been put in place to reduce the possibility of transmission via blood transfusion. Most blood collection services have asked donors to defer donating blood for at least a month following travel to a Zika virus affected area, if they have a clinical history consistent with Zika virus disease, or if they have had sexual contact with a person with confirmed or suspected Zika virus infection within the past 3 months. Many blood donation services also offer a call back number for the donors to call if they develop Zika virus-like symptoms following their blood donation. There is not yet a test for Zika virus in donated blood approved by the US Food and Drug Administration (FDA), but several tests are in development.

Although asking donors to defer donation following travel to a Zika virus-affected area is a good way of protecting the blood supply, the number of affected areas is constantly rising. On July 27, the FDA temporarily halted blood donations in two Florida counties over potential local Zika virus transmission by mosquitoes. Blood centres in Miami-Dade and Broward counties were to stop collecting blood immediately, with nearby counties to put precautions into place and for donors who had travelled to the two counties in question to defer donating blood for 4 weeks. For blood needs in the affected areas, blood from unaffected areas would be brought in to

meet demand. The Centers for Disease Control and Prevention (CDC) estimates that the most common Zika virus-spreading mosquito, *Aedes aegypti*, dwells in more states than once thought—about 30, rather than 12—meaning that a safe blood supply might come under increasing pressure as the number of affected areas increase.

Lessons can be learnt from countries that are endemic regions for particular infectious diseases. In Singapore, which is battling the dengue virus, travel restrictions are in place for blood donors regarding Zika virus and variant Creutzfeldt-Jakob disease, along with other infectious diseases. To deal with dengue virus, for which there is currently no validated blood test, Singaporean blood donation services exclude donors who have been infected or might have been infected with dengue from donating blood for a period of 6 months. They have strict exclusion criteria for individuals who have recently become unwell, particularly with fever, and those who have had close contact with individuals with confirmed dengue fever. Additionally, these services have a call-back system for those who develop symptoms following donation. These measures have resulted in very few, if any, dengue cases from blood transfusion, and similar strict criteria can hopefully ensure blood safety for Zika virus-affected areas.

With the Olympic and Paralympic Games taking place in Rio de Janeiro, Brazil, there have been concerns about whether those travelling to the country could potentially spread the virus worldwide more rapidly. There are arguments both for and against this happening, but it would be prudent to ensure that measures are put in place in case of increased spreading of the disease, and it is of utmost importance that research to assess the risk of visitors introducing Zika virus back in their countries once the sporting events have finished is undertaken. Ultimately, a measure that will vastly help reduce the pressure on the blood services will be to increase the pool of donors, so that when deferrals are required, it does not put as much strain on the system. With a potential reduction in pools of donors due to infectious disease risk, even more efforts are now required to get new donors on board to ensure that blood supplies remain safe.

■ *The Lancet Haematology*



CDC/Science Photo Library

For the PAHO/WHO Zika Epidemiological Update see [http://www.paho.org/hq/index.php?option=com\\_content&view=article&id=11599&Itemid=41691&lang=en](http://www.paho.org/hq/index.php?option=com_content&view=article&id=11599&Itemid=41691&lang=en)

For more about Zika virus and blood transfusion see [Correspondence Lancet 2016; 387: 1993-94](#)

For more about Zika virus and the Olympic Games see [Editorial Lancet Infect Dis 2016; 16: 619](#)