

Is there a vaccine for the Zika virus?

Gavi CSO
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There is currently a **Zika virus epidemic** underway in the Americas, with 24 countries affected and an estimated **1.5 million people infected in Brazil alone since May 2015**. On the 1st of February 2016, the World Health Organisation (WHO) declared that the spread of the Zika virus is “**a public health emergency** of international concern.” An estimated **four million people in the Americas** may contract Zika in 2016.

Quick facts on the Zika virus

- ❑ Carried by *Aedes aegypti* mosquitos that bite during the daytime
- ❑ 80 percent of people with the virus have no symptoms.
- ❑ Possible symptoms are rash, mild fever, irritated eyes or conjunctivitis (“pink eye”), and among a small percentage of people muscle pain and headache.
- ❑ Medical care is generally not needed as infection usually clears up after a week.
- ❑ The greatest danger is becoming infected while pregnant, as this may cause serious birth defects

What is Zika?

The Zika virus is an emerging mosquito-borne virus that was first identified in monkeys in 1947. In 1952 it was identified in people in East Africa. Outbreaks of Zika virus disease have been recorded in Africa, the Americas, Asia and the Pacific but it hasn't been known to have a big impact on population health – until now.

Zika is such a new illness that there are no good ways to test if someone has it, there is no treatment, and there is no acquired viral immunity in any population. This means that **once introduced in an area, it spreads quickly.**

How is Zika transmitted?

The Zika virus is carried by the same kind of mosquito (*Aedes aegypti*) that transmits more than 100 diseases including **yellow fever, dengue and chikungunya**. New evidence shows that it **is also sexually transmitted.**

Why is Zika dangerous?

The Zika virus is only really dangerous for developing foetuses. If you are pregnant when infected with Zika, you run a very high risk of your baby being born with microcephaly - a **rare and devastating neurological disorder** that causes newborns to develop abnormally small skulls and severe brain damage.

While an actual biological link has yet to be confirmed between Zika and microcephaly, WHO's 18-member advisory panel says the fact that a causal link is "strongly suspected."

What is being done to develop a Zika vaccine?

Even though Zika has been around for a long time, little work has been done to develop a vaccine. This is because the link between Zika and microcephaly was unknown and the virus was considered benign. Now that the risk is known, **several companies and governments are fast-tracking research** to develop a vaccine.

Zika is a flavivirus; it is in the same family as yellow fever, which has an effective vaccine and dengue, which has a vaccine in final trials. Scientists are **confident that they are able to develop effective vaccines** for flaviviruses. The Public Health Agency of Canada, the Butantan Institute in Brazil, and the US National Institutes of Health have started work on Zika vaccines. These research teams may have vaccine candidates ready for initial clinical trials towards the end of the year.

[Bharat Biotech](#), in India, will begin **animal trials on two vaccines this month**. One potential vaccine is a recombinant vaccine, which means it contains Zika DNA, but not the virus itself. The other is inactivated, i.e. it contains whole particles of Zika virus. While the inactivated virus should not cause infection, it should still be able to trigger an immune response. Testing these vaccine candidates on animals is expected to take around five months and after that they'll need to be tested in humans.

What's next?

Scientists have developed a genetically modified mosquito that some people are calling the **"Friendly Mosquito."** Officially known as [OX513A](#), once released into the environment this mosquito mates and produces non-biting offspring that die before reaching adulthood. Within six months, the Friendly Mosquito **can replace more than 90 percent of the virus-carrying wild population of mosquitoes**.

Successful field trials have already taken place in Panama, the Cayman Islands and Brazil. National regulatory authorities in Brazil have approved the release of the mosquito in locations around the country, but still on a limited trial basis.

For more information

- [Fact sheet on the Zika virus](#) (WHO)
- [Fact sheet on the Zika virus](#) (Hesperian)
- [Fact sheet on the malaria vaccine](#) (Gavi CSO Project)
- ["Zika's Threat Spurs Vaccine Research"](#) (San Diego Union-Tribune)