

With handy app, Brazilians hope to fight dengue

June 16 2014, by Justin Davis



Aberdal Varela Da Fe, a Natal municipality agent, tests areas infested with mosquitoes to prevent dengue fever spreading on June 14, 2014

While World Cup referees finally have goal-line technology to prevent mistakes, doctors in Brazil will soon have their own computer gizmo to contain dengue outbreaks.

In the tropical northeastern city of Natal, a new smartphone application

could allow residents to alert authorities about the location of concentrations of mosquitos and cases of [dengue](#) with the touch of a finger.

The app was developed by university researcher Ricardo Valentim in collaboration with epidemiologist Ion de Andrade, who works for the Natal city council.

"If someone identifies dengue, they pinpoint it on the (application's) map and that allows us to see where it is developing and to react immediately to stop it spreading," Andrade said.

The "Dengue Observatory" app is in beta mode for now but is expected to come online this month. Once up and running, it will allow authorities to know exactly where to act.

"If it's mosquitos, we can locate and treat the water source. If a suspected case is confirmed, we can treat the victim," Andrade said.

There is no cure for the mosquito-borne disease.

Brazil has been hit harder than any other country this century, with seven million cases reported since 2000, including 800 fatalities in the last five years.

In the Sao Paulo state city of Campinas, where Portugal's team and star Cristiano Ronaldo are based, three women aged 27, 69 and 81 died of dengue this year.

World Cup plan



Doctors will soon have an app to aid battle against dengue fever, pictured are city workers searching for mosquito clusters near Rio de Janeiro on April 2, 2008

The World Cup's northeastern host cities of Natal, Recife and Fortaleza were flagged as danger zones in a paper published by European and Brazilian scientists in *The Lancet Infectious Diseases* last month.

Natal has recorded 3,000 cases this year, and the city has endured torrential rain since the World Cup started last Thursday.

Sitting at the local hospital, Joana was waiting to undergo a blood analysis.

"I have a sore head, my joints are sore and I'm feverish. On Sunday, I had pain in my eyes," she complained.

Although all are symptoms of dengue, she may be suffering from a

simple virus.

"We've seen several cases of dengue recently, but we're nowhere near epidemic levels," said local doctor Mario Toscano.

The poorer neighborhoods of Natal often do not have ready access to running water, never mind computers or telephones with mobile applications.

So in some of the city's favelas, where the children run barefoot and waste water runs in open gutters, the risk of dengue is potentially greater.

"This is exactly the kind of place that would attract mosquitos," said Aberdal Varela Da Fe, pointing at a concrete bath of stagnant water used by several families for cooking and washing in their tiny, one-room concrete shacks.

In stagnant water, female mosquitos can lay eggs which grow into the larvae which can then become disease-carrying mosquitoes.

After visiting another house nearby, Varela Da Fe, one of 380 health inspectors employed by the city to control dengue, received better news.

"Your house is very well kept," he told the elderly occupant Iivanilda Firmino. "All the water receptacles are covered."

Firmino has reason to be very vigilant. "I'm really careful, because my son has had dengue four times already," said Firmino.

With hundreds of thousands of foreign visitors travelling across Brazil until the World Cup final on July 13, authorities are being careful.

"There's always a risk, but this year it's not so big," said Alexandre de

Medeiros Tavares, the chief doctor in Natal city council's dengue task force.

"Thanks to our work on the ground, we've had less cases. But if we do have more, we have a 'World Cup' plan ready to go into action," he said.

"But according to our analyses, it is likely we won't have to."

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