

US-Brazil teams seek mothers, babies for Zika research

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A municipal health worker sprays insecticide in a junk yard to combat the *Aedes aegypti* mosquito that transmits the Zika virus in Joao Pessoa, Brazil, Monday, Feb. 22, 2016. A 16-member team of the United States' Centers for Disease Control and Prevention, is starting work on a "case-control" study aimed at determining whether the Zika virus really does cause babies to be born with the devastating birth defect microcephaly, as Brazilian researchers strongly suspect. (AP Photo/Andre Penner)

U.S. and Brazilian health workers knocked on doors in the poorest neighborhoods of one of Brazil's poorest states Tuesday in a bid to enroll mothers in a study aimed at determining whether the Zika virus is really causing a surge in birth defects.

Eight teams each made up of three Brazilian health workers and a so-called disease detective from the Atlanta-based Centers for Disease Control and Prevention began the first day of more than a month of house calls hoping to enroll at least 100 mothers and babies born with microcephaly, which causes unusually small heads and brain damage.

The women are given an extensive questionnaire touching on everything from whether they used mosquito repellent during pregnancy to where they got their drinking water to how much the family makes.

The teams started in Joao Pessoa, the capital of Paraiba state which is one of the epicenters of Brazil's tandem Zika and microcephaly outbreaks. Over the course of the next four or more weeks, they'll head farther afield, reaching out to mothers and babies in the hard-to-reach rural districts of one of Brazil's poorest states.

For now, the teams are venturing through some of the poorest neighborhoods of the capital, where families cohabitants with the Zika-spreading *Aedes aegypti* mosquito and eke by on just a couple hundred dollars a month.



A municipal health worker sprays insecticide in a junk yard to combat the *Aedes aegypti* mosquito that transmits the Zika virus in Joao Pessoa, Brazil, Monday, Feb. 22, 2016. A 16-member team of the United States' Centers for Disease Control and Prevention, is starting work on a "case-control" study aimed at determining whether the Zika virus really does cause babies to be born with the devastating birth defect microcephaly, as Brazilian researchers strongly suspect. (AP Photo/Andre

Penner)

Earlier, Brazilian Health Minister Marcelo Castro said he is "absolutely sure" mosquito-borne Zika is responsible for the spike in cases of microcephaly. But with scant scientific literature published on the matter, some doctors in Brazil and elsewhere say there is not yet enough scientific data to prove the connection.

The popular "understanding is that Zika virus (is behind the microcephaly spike). How much of that is Zika virus is really one of the important goals of this study," said Erin Staples, a Colorado-based epidemiologist who heads the CDC contingent in Paraiba state. "I do believe there is something occurring that is unique and knowable, but we really need to understand better, mostly so we can prevent this from happening to other generations."

The health teams hope to recruit at least 130 babies with microcephaly and their mothers and two to three times that number of mothers and babies without the condition, all born in the same areas and at around the same time.

The researchers will take blood samples from mothers and babies that will be sent to labs in Brazil and the United States to test for Zika and dengue, a similar virus also transmitted by the *Aedes aegypti* mosquito. The idea is to determine whether mothers whose babies have microcephaly were infected with Zika and, if so, when during their pregnancies.

Dr. Erin Staples from the United States' Centers for Disease Control and Prevention (CDC) speaks before members of Brazil's Health Ministry and the Paraiba state's health secretariat in Joao Pessoa, Brazil, Monday, Feb. 22, 2016. A 16-member team of the U.S. Centers for Disease Control and Prevention is starting work on a "case-control" study aimed at determining whether the Zika virus really does cause babies to be born with the devastating birth defect microcephaly, as Brazilian researchers strongly suspect. (AP Photo/Andre Penner)

Teams will also be on the lookout for other factors that, possibly in conjunction with Zika, could be behind Brazil's increase in microcephaly, such as a prior infection with dengue, toxoplasmosis or the ingestion of toxins.

"If we can provide some basic information or show a potential association, that will allow us another avenue of how do we prevent this and what do we need to do next," Staples said.

At a training session Monday in the state capital of Joao Pessoa, the field teams rehearsed how they will reach out to families and discussed ethical concerns, including how to react to reticence from potential subjects and how many times it is OK to prick babies to try to draw blood.

The language barrier proved a stumbling block at the training session, with the Brazilians and Americans team members often resorting to pantomime as they ran through the scripts they are to recite to potential subjects in this Portuguese-speaking nation.





A municipal health worker measures out insecticide into a container of water, at a residence in Joao Pessoa, Brazil, Monday, Feb. 22, 2016. A 16-member team of the United States' Centers for Disease Control and Prevention, is starting work on a "case-control" study aimed at determining whether the Zika virus really does cause babies to be born with the devastating birth defect microcephaly, as Brazilian researchers strongly suspect. (AP Photo/Andre Penner)

In Paraiba alone, 56 cases of microcephaly have been confirmed since October and 423 suspected cases are under investigation, the Health Ministry says. In previous years, Brazil tended to average around 150 cases nationwide.

Skeptics have said microcephaly cases may have been greatly underreported in Brazil in the past because local health officials weren't required to notify the Health Ministry about cases of the condition until November. They also note the microcephaly spike appears to be largely restricted to Brazil, with few cases reported in other countries with Zika outbreaks, such as neighboring Colombia.

But Staples said she tended to lean toward the Health Ministry's view.

"I come from a pediatric infectious disease background and am also a mom, so looking at these children clinically, they were distinct from other congenital infections I've seen," said Staples, who spent time in Brazil recently as part of a World Health Organization mission. "The scope and the size of the children who were presenting (microcephaly) at the same time, it really made it apparent to me that there was something unique happening in this situation."

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Priscila Leite, who leads the Health Ministry's contingent, said she expects recruitment numbers to be high given the level of alarm about Zika in Brazil—particularly here in the northeast, the epicenter of the country's Zika and microcephaly outbreaks.

"There is a lot of anxiety out there, and people really want to understand what's going on," she said.

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