

Virus-resistant mosquitoes to be unleashed in Colombia, Brazil

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Governments and philanthropists on Wednesday announced an \$18 million plan to release mosquitoes resistant to Zika, dengue and other viruses in urban areas of Colombia and Brazil.

The program aims to boost mosquito-control efforts by using Wolbachia bacteria beginning next year, following the alarming spread of the mosquito-borne Zika virus, which can cause devastating birth defects.

Wolbachia occurs naturally in 60 percent of insects, but not mosquitoes.

Research and field trials over the past several years in countries such as Australia, Indonesia and Vietnam have shown that injecting mosquitoes with the bacteria significantly reduces their ability to spread viruses to people.

Funders of the effort include USAID, the British government, the global charity Wellcome and the Bill and Melinda Gates Foundation.

"Using Wolbachia to reduce the transmission of mosquito-borne diseases has the potential to greatly reduce the global health burden and socio-economic cost of Zika and other related infections like dengue and yellow fever," said Wellcome's Mike Turner, acting director of science and head of infection and immunobiology.

"This research is essential as it will help measure the health impact of the Wolbachia method in large [urban areas](#), where these kinds of outbreaks

can have such a devastating impact."

The process of inoculating *Aedes aegypti* mosquitoes—which carry the viruses—with *Wolbachia* was developed by the Eliminate Dengue Program, a non-profit international research collaboration led by Australia's Monash University.

Small-scale field trials began in Rio de Janeiro in 2014 and Bello, Colombia—a suburb of northwestern Medellin—in 2015.

The new cash injection will "finance the rapid scale up of *Wolbachia* deployments in Latin America, commencing in early 2017," a statement from the funders said.

"*Wolbachia* coverage will be extended across Bello and other parts of Antioquia and now across parts of the greater Rio de Janeiro area."

Scientists say they will study the areas over the next two to three years to determine the impact on human health, in the hope the releases will significantly reduce new cases of Zika, dengue and chikungunya.

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