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Cutting mosquito populations in half in Ponce, Puerto Rico

Long before Liliana Sánchez-González became a doctor, she got very sick with **dengue** when she was a teenager in Colombia. She was lucky to live through it and, years later, found purpose in caring for her own patients with dengue. But she never dreamed she would one day coordinate a project aimed at ending dengue at the source, by releasing mosquitoes infected with the **Wolbachia** bacteria to breed with and stop the local mosquitoes that spread dengue.

Liliana was the lead coordinator for **COPA (Communities Organized to Prevent Arboviruses)**, a collaboration with CDC's National Center for Emerging and Zoonotic Infectious Diseases, Ponce Health Science University, and the Puerto Rico Vector Control Unit. One of COPA's goals was to assess the effectiveness of emerging mosquito control methods, like releasing *Wolbachia*-infected mosquitoes into the environment. When male *Aedes aegypti* mosquitoes infected with *Wolbachia* are released and mate with wild female mosquitoes that do not have *Wolbachia*, the eggs will not hatch. This results in a reduction in the mosquito population.

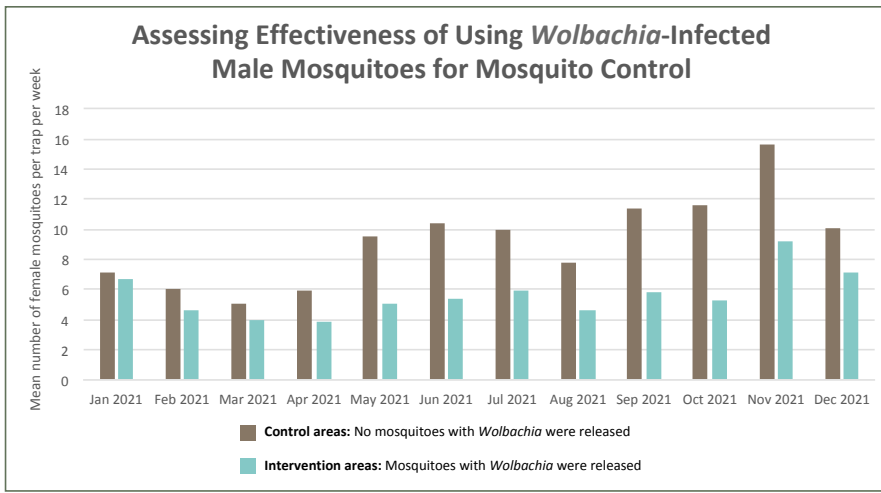


We worked with community promotores who had previously established relationships in the community. Gaining widespread buy-in and support meant that the community believed we had the best intentions of getting rid of dengue.”



National Center for
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During the year-long evaluation, the project achieved up to 50% reduction of the local mosquito population in some areas while maintaining high levels of community acceptance.

During the project, COPA staff released more than 90 million mosquitoes infected with *Wolbachia*. “The logistics would make you think it was an impossible task,” said Liliana. “By working with *promotores* (community health workers) who had previously established relationships in the community, we made it happen.”

Working collaboratively with and through community partners, such as *promotores*, is critical to cultivating community engagement and trust. It is also an effective way to mobilize resources, influence systems, improve public health programs, and ultimately improve the health of communities.

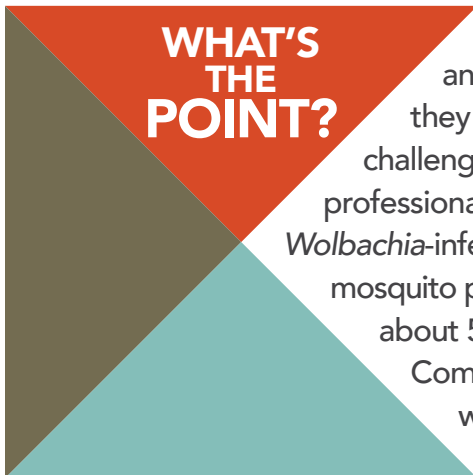
Preliminary analyses show local mosquito populations in some areas decreased by about 50%. “We had hoped to decrease mosquito populations more but are proud of this work and have learned that if we combine this method with other traditional mosquito control methods, we are likely to have even greater success,” said Liliana.

“Working on the *Wolbachia* release project positively impacted my career path,” said Liliana. “I’ve never done this type of work before. On any given day, my work ranged from recruiting community participants to collecting data. Drawing on past experiences and learning new skills helped me grow as a researcher, clinician, and public health professional.”



WHAT'S NEXT

This project is a step into the future for mosquito control in Puerto Rico. CDC and its partners have learned more about mosquitoes in Puerto Rico and how to implement emerging control methods. The door is now open for continued mosquito control projects and opportunities to evaluate impact on human health and build on existing partnerships and community engagement.



WHAT'S THE POINT?

Controlling mosquitoes and preventing the viruses they spread continue to challenge public health professionals. After releasing *Wolbachia*-infected mosquitoes, local mosquito populations decreased by about 50% in some areas. Community health workers were key partners who helped make it happen.

