Research Focus

IPK—Cuban–US collaboration targets arboviruses

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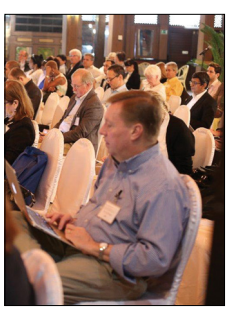

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Conference on arbovirus research collaboration, November 2016

IPK

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Common concern about mosquito-borne diseases is spurring collaborative research between Cuban and US scientists in an effort the researchers say is also helping to build bridges between the countries after half a century of tensions.

An agreement signed by the two governments in 2016 paved the way for joint efforts between the countries' leading health research centres, the Pedro Kourí Tropical Medicine Institute (IPK, for its Spanish initials), Cuba, and the US National Institutes of Health (NIH). The research will focus especially on arboviruses, including dengue, Zika, and chikungunya viruses.

"This is the first time this type of official collaboration has existed between the Pedro Kourí Institute and the [NIH]", said Jorge Pérez, who headed the IPK from 2011 to February, 2017, and now serves as adviser to the Cuban Ministry of Health. "It opens up the possibility of collaboration with other institutions, including universities and the US Centers for Disease Control and Prevention [CDC], which is very strong in diagnostics", he said.

The joint science and health effort can also help strengthen relations between the two countries, according to Jorge Fraga, who heads the science and research department at the IPK. 3 years of exchanges between scientists in the two countries led to a conference in Cuba in November, 2016—the same week that former Cuban President Fidel Castro died.

A collaboration born out of the 2014 Ebola epidemic

The door to collaboration opened in December, 2014, when then US President Barack Obama announced changes in US policy towards Cuba and called on health-care workers in the two countries to "work side-by-side" to fight the Ebola epidemic in Africa. Earlier that year, a delegation sponsored by the American Association for the Advancement of Science had travelled to Cuba to visit research facilities and meet with scientists and policy makers.

A series of exchanges followed, with dengue specialists from the NIH and the CDC attending the IPK's annual dengue research and training conference in Havana in August, 2015. 2 months later, Cuban scientists attended the annual American Society of Tropical Medicine and Hygiene meeting in New Orleans, LA, where they also participated in a seminar entitled Cuba–US: Building Bridges through Science and Global Health. Some of the Cuban delegates also visited NIH facilities in Bethesda, MD.

After Obama's official visit to Havana, Cuba, in March, 2016, Cuban Health Minister Roberto Morales Ojeda travelled to Washington, DC, where he signed a memorandum of understanding with Sylvia Burwell, head of the US Health and Human Services Department. That agreement called for cooperation on science and public health, especially arboviruses, including dengue, chikungunya, and Zika viruses, which had emerged by then as a threat in North and South America and the Caribbean. It also led to planning for the joint conference on arbovirus research collaboration in November, 2016, which Pérez and Fraga note was the first major Cuba–US scientific conference in more than 50 years.

The meeting—with nearly 100 participants from the IPK, Cuban Ministry of Health, and several other Cuban research centres, as well as ten US universities, the NIH, CDC, US Food and Drug Administration, and US Department of Defense—discussed issues including epidemiology, surveillance, vaccine development, diagnosis and treatment, vector control, non-vector transmission, and community engagement.

Research that crosses borders

As people travel more and concentrate in urban areas, Zika and chikungunya viruses are spreading more quickly through the hemisphere than dengue did, researchers said, with cases reported in South and Central America, the Caribbean and parts of the southern USA. The IPK is especially interested in collaborating with the NIH in the quest for a vaccine, on which both research centres are working, Pérez said. IPK researchers are currently preparing proposals for small research grants offered by the NIH, taking advantage of regulatory changes made in late 2016 that streamline funding procedures, he added.

"The NIH is interested in the scientific collaboration opportunities we feel the IPK and IPK scientists offer to US scientists", said Gray Handley, associate director for international research affairs at the NIH's National Institute of Allergy and Infectious Diseases, who participated in the November conference and meetings leading up to it. "But we are also pleased to be part of the effort to welcome Cuban scientists into the global community." Ultimately, the collaboration will benefit people in both countries, which are just 90 miles apart, Pérez said.

A new directive on transactions with Cuba issued by President Donald Trump's Administration on June 16 does not appear to affect health research, although details are not yet available. The policy will not take effect until specific regulations are drawn up, which could take several months.

"What happens in Cuba can affect the United States, and what happens in the United States can affect Cuba", Pérez said of the spread of arboviruses and their vectors. "Diseases don't understand blockades, and they don't need visas."

Barbara Fraser