Study shows blood test can differentiate between Zika and dengue

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A new study from the School of Public Health and Tropical Medicine shows that, depending on the interpretation criteria, serological tests can differentiate between Zika and dengue infections. (Photo by Paula Burch-Celentano)

A new study from the Tulane University School of Public Health and Tropical Medicine shows that, depending on the interpretation criteria, serological tests can distinguish recent Zika infections in areas where dengue is endemic.

The study was published online in *The American Journal of Tropical Medicine and Hygiene*.

The body's immune responses to the Zika and dengue viruses are so similar that it is very difficult to differentiate a recent Zika infection from a historical dengue infection. The study offers evidence that plaque reduction neutralization tests (PRNT), the historical gold standard for serological diagnosis of a viral infection, can differentiate between Zika and dengue infections if the appropriate interpretation criteria are used, according to Matthew Ward, a doctoral candidate in the Department of Tropical Medicine and first author on the paper. Pierre Buekens, MD, PhD, outgoing dean and W.H. Watkins professor of epidemiology, and Dawn Wesson, PhD, professor of tropical medicine, were co-authors along with several collaborators in Honduras and Argentina.

Researchers tested 36 women attending a prenatal clinic in Honduras for the two flaviviruses. Results were interpreted using the World Health Organization (WHO) and Centers for Disease Control and Prevention (CDC) criteria. The WHO criteria detected recent Zika infections in 69 percent of samples, while the CDC criteria only identified Zika in almost 6 percent of the same samples. The CDC method was only able to categorize a recent nonspecific flavivirus infection in most cases.

The paper suggests that for population-based epidemiological cohort studies in dengue endemic regions, researchers should consider reporting using both CDC and WHO criteria until further investigation yields a revised criteria.