

## Dengue virus: From basics to new technology in testing & transfusion safety

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In Puerto Rico, dengue was first recognized in 1915 and the most recent outbreak occurred in 2010. More than 2.5 billion people (1/3 world's population) live in areas of risk such as Mexico, Central and South America, the Caribbean, and part of Africa and Asia continents. It exists in USA in the southern areas as well as in the Mexico border. An estimated 50 million cases occur annually and it was the leading cause of febrile illness among 17,353 ill travelers returning from the Caribbean, South America, South Central Asia, and Southeast Asia.

Dengue fever is caused by the transmission of four dengue virus types to humans primarily via a mosquito vector. Most people infected with the virus have no symptoms or a mild fever and transfusion-transmitted dengue infections have been described in three clusters (Hong Kong, Singapore and Puerto Rico). Based on the data generated during the NS1 Ag IND by a research Dengue TMA assay, the sensitivity of the Dengue TMA test is at least 2 to 3 fold higher than the NS1 Ag assay. Dengue RNA detected by TMA is detected prior to NS1 Ag in infected individuals and persists for longer periods of time during the ramp up phase of antibody production when donors may still be infectious. Donations during the window period between TMA and NS1 Ag detection may be infectious. Transfusion transmission has been demonstrated. Only 17.5% of 140 people from PR studied by a questionnaire know that mode of transmission. We need to educate more the health professionals. We still need more studies in testing and prevention.

### Biography

Morales-Borges has completed his M.D at the age of 27 years from San Juan Bautista School of Medicine in Puerto Rico, Internal Medicine on 1993 at Henry Ford Hospital and Hematology/Oncology fellowship from Providence Hospital and University of Michigan Medical Center in Michigan, USA on 1995. He is the medical director of Ashford Institute of Hematology & Oncology and American Red Cross in Puerto Rico. He has published 18 papers and abstracts, served as lecturer in many conferences and symposiums in PR and USA, and served as a reviewer for Immunohematology Journal.

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