

1125-92-3084

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and **Joceline Lega, Daoqin Tong** and **Wangshu Mu**. *Network-based modeling for chikungunya  
spread in Dominica.*

In 2013/14 chikungunya spread through the Caribbean infecting more than 3 million individuals. The following year, Zika similarly spread throughout the region. Between island spread of chikungunya was shown to be associated with geographical proximity to an infected island. An analysis of pandemic spread found that diseases propagated at uniform speeds when Euclidean distance was replaced by a flow based network between cities. We were able to downscale a pandemic model, to describe the propagation of infection across the island nation, Dominica. Similar to the pandemic model, we found the effective speed at which chikungunya spread across the 750 sqkm island. This suggests that the spread of infectious diseases can be estimated based on an understanding of the flow between transportation hubs (in this case major cities). (Received September 21, 2016)