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*Modeling the Zika Virus and Mitigating Microcephaly Outcomes.*

Recently the CDC has issued travel advisories and warnings to women who are, or may become pregnant, in Latin American and Caribbean countries due to large scale outbreaks of the Zika virus. The Zika virus has been linked to microcephaly and Guillain-Barré syndrome. We present a deterministic model for the Zika virus using two coupled systems of different equations for the host and vector populations. Model parameters are obtained from literature. The model is used to evaluate two intervention programs, a birth control and a vector control program. We evaluate which of these programs would result in the largest reduction in microcephaly cases for Brazil and Haiti. (Received September 16, 2016)