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Gerry Baygents*, Department of Mathematics and Statistics, UMKC, 5100 Rockhill Road, Kansas City, MO 64110. *Modeling migratory effects of white-tailed deer on dynamics of hemorrhagic disease: reducing risk of outbreaks via isolation.*

Hemorrhagic disease (HD) is a vector-borne disease that affects deer and other ruminants in the United States. A delay differential equation for endemic HD involving variable deer and midge (vector) populations is analyzed. A threshold parameter R_0 exists and the disease persists if and only if $R_0 > 1$. We examine the value as a function of influx rates, interaction rates, and probability of death while migrating and provide numerical simulation of the changes in R_0 . (Received September 25, 2017)