Basic Reproduction Number of a Gamma-Distributed Within-Host Infection Model IRMA RODRIGUEZ, HANA DOBROVOLNY, Texas Christian Univ — In epidemiology, the basic reproduction number (R0) is used to measure the spread potential of a disease. It is defined as the number of secondary infections produced by a first infection in a homogeneous susceptible population. Traditional ordinary differential equation infection models assume exponential transitions between different stages of cell infection. This assumption is not biologically realistic, so non-exponential models are now being investigated. The basic reproduction number of non-exponential models has yet to be calculated. Here we present an analysis of a gamma-distributed model that has allowed us to calculate R0 for this model.

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