

1127-34-349

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*Using phenomenological models for forecasting the 2015 Ebola challenge.*

The rising number of novel pathogens threatening the human population has motivated the development of mathematical modeling for forecasting the trajectory and size of epidemics. In this talk, we'll summarize the real-time forecasting results of the logistic equation during the 2015 Ebola Challenge focused on predicting synthetic data derived from a detailed individual-based model of Ebola transmission dynamics and control. In addition, we systematically compare the logistic growth model and a recently introduced generalized Richards model (GRM) that captures a range of early epidemic growth profiles ranging from sub-exponential to exponential growth. We assess the performance of each model for estimating the reproduction number, generate short-term forecasts of the epidemic trajectory and predict the final epidemic size. Our findings further support the consideration of transmission models that incorporate flexible early epidemic growth profiles in the forecasting toolkit. (Received February 07, 2017)