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Estimation and Forecasting of a Lag 2 Dynamic Model for Infectious Diseases

We discuss estimation and forecasting of an extension to lag 1 longitudinal dynamic model for correlated data used by Oyet & Sutradhar (2011) for modelling the spread of infectious disease. The lag 1 model only allow individuals with infectious at time point $t - 1$ to cause new infectious at time point t . Clearly, if at time point $t - 2$, there is an individual who is still infected by the disease, it is possible for this individual to infect others at time point t . The present model discussed in this paper allows for such a possibility.