

SEIRD Model for Qatar COVID-19 Outbreak: A Case Study

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The Covid-19 outbreak of 2020 has required many governments to develop mathematical-statistical models of the outbreak for policy and planning purposes. This work focuses on Qatar and provides a tutorial on building a compartmental model using Susceptibles, Exposed, Infected, Recovered and Deaths (SEIRD) status through time. A Bayesian Framework is utilized to perform both parameter estimation and predictions. This model uses interventions to quantify the impact of various attempts by the government of Qatar to slow the spread of the virus. Predictions are also made to determine when the peak Active Infections will occur.