

The sooner strict public health strategies are applied the lower the peak of the epidemics: The SARS-CoV-2 case

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Abstract

An epidemiological model is proposed to analyze the COVID-19 epidemics when control interventions are being applied to reduce the speed of the disease. The analyzed model includes parameters that describe control strategies such as behavioral changes of susceptible individuals to reduce the transmission of the disease, rates of diagnosis of the infectious individuals, and other control measures as cleaning and disinfection of contaminated environments. The proposed model is calibrated using Bayesian statistics and the official cumulative confirmed cases for COVID-19 in Mexico. We show which public health strategies contribute the most to the variation of R_0 . A central result is the fact that the peak of the epidemics can drastically be changed depending on the time when the control strategies are introduced

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