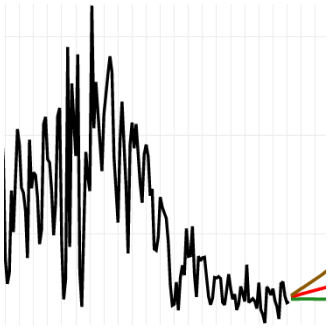
HealthManagement
Promoting Management and Leadership

Short-Term Planning for COVID-19 Made Easy



Based on the transmission rate data, a group of researchers have developed an easy-to-use, reliable model and dashboard to predict the number of daily COVID-19 cases.

You might also like: The WHO has developed a number of surge planning tools, which help to visualise care capacity needs, identify the timing and severity of the peak of the outbreak, and plan human resources. Learn more

Accurate COVID-19 incidence forecasting has been the focus for much research since the start of the pandemic. Biostatistics researchers from the Texas A&M School of Public Health have used the SEIR (susceptible, exposed, infected and recovered states) framework to create a model projecting the number of COVID-19 cases over the two to three-week period (Zhao et al. 2021). The projections are based on observed incidence cases only, which the model adjusts to three scenarios, that is of the constant rate of transmission, increased by 5%, or decreased by 5%.

The model uses data on new reported cases from the publicly available sources, such as the COVID-19 Data Repository at the Johns Hopkins University, for COVID-19 transmission rate predictions at both the state and county level.

To evaluate the model, the researchers benchmarked its projections against four periods in 2020, namely 15 April, 15 June, 15 August and 15 October. When applied at the state level, the modelled data deviated from the recorded incidence only in one case, which may be attributed to a sharp increase in numbers at that particular time. At the county level, the model's performance was as well satisfactory.

While the outcomes are heavily dependent on the specifics of the source data, the authors argue that the model is capable of making sufficiently accurate and reliable surge projections in the short term. It has been incorporated into a dashboard that generates projections on a daily basis for the next couple of weeks. Its ease of use, according to the researchers, allows for the model to be implemented with relatively low resources to inform public health decisions such as mask mandates, and plan for surges.

Source: Texas A&M University

Image credit: Zhao et al. (2021)

Published on : Fri, 16 Apr 2021