



FORECASTING COVID-19 CASES IN BILIRAN PROVINCE USING EXPONENTIAL SMOOTHING ALGORITHM

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ABSTRACT

Biliran, a province in Region 8 in the Philippines, is strategically located with one entry area by land. Simultaneously, airlift and boat are restricted as part of the Modified General Community Quarantine guidelines. With the loosening of the quarantine restrictions ensuring economic recovery, positive cases in the locality are increasing. Based on the data released by the Biliran Municipal Health Office and LGU on January 3, 2020, there are 274 total cases in the province, in which 48 (17.51%) are recovered and 2 (0.73%) reported deaths. The researchers opted to conduct a time series analysis by forecasting using an exponential smoothing algorithm to predict the potential monthly growth rate of confirmed cases in the province using the reported cases from June 2020 to December 2020. Results revealed that in January 2021, the lowest possible forecast cases would be 24.93, while the highest possible forecast value would be 164.94. Also, forecasted COVID-19 cases for the months of February 2021 to December 2021 will increase if no mitigations and precautionary measures will be provided. Thus, researchers recommend strict implementation of the Inter-Agency Task Force (IATF) protocols against COVID-19 and re-implementation of quarantine pass to reduce the rate of contact.

Keywords: forecasting, covid-19 cases, exponential smoothing, Philippines