

Models of Case Burden, Hospitalizations and ICU Admissions Based on the First 24 Days of COVID-19 Data from San Diego County

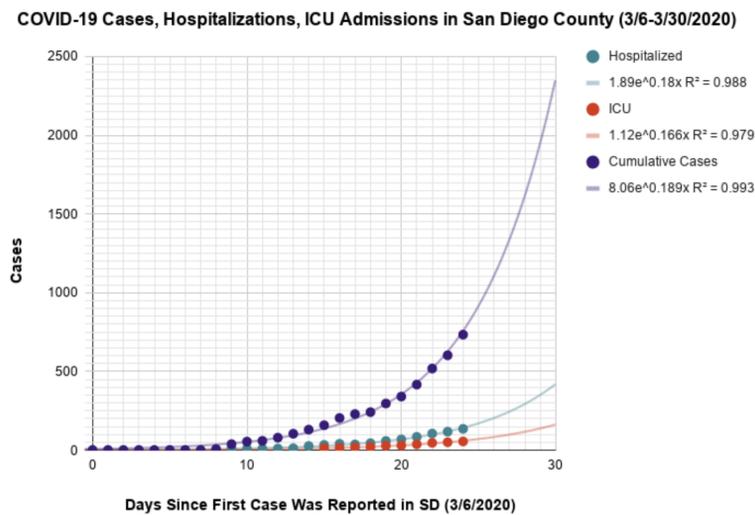
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covid-19-spread

city: San Diego, CA

Figure 1



Data for cumulative COVID-19 cases, as well as COVID-19 associated hospitalizations and ICU admissions, were collected daily from the San Diego County website. These data, which represent every official case of COVID-19 in San Diego County to date, were then plotted and fit to an exponential growth curve. These exponential growth models were then used to predict the cumulative case count, hospitalizations and ICU admissions that we might expect to see 30 days following the first reported cases in San Diego County. According to San Diego County's website, the first cases were reported on March 6, 2020. Thus, day 30 on Figure 1 represents the models' predictions for April 5, 2020.

The model for cumulative cases has an R^2 of 0.993; the model for hospitalizations has an R^2 of 0.988; and the model for ICU admissions has an R^2 of 0.979.

Despite these R^2 values, it is critical to note that these models do not factor in the expected reduction in virus transmission following California's shelter in place order, which went into effect on March 20, 2020 (Day 14 on Figure 1). Thus, these models almost certainly overestimate the case burden that we will see in the days to come. However, these models do illustrate what may have happened in the locality of San Diego County, had the coronavirus been allowed to run its course without intervention. The actual trajectory of COVID-19 cases and hospitalizations in San Diego County will become more apparent in the days to come.

Datasets:

- 1) Coronavirus in San Diego County



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