# Review of: "A Multi-factor Model of COVID-19 Epidemic in California"

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Potential competing interests: No potential competing interests to declare.

This study presents a multivariable probabilistic model of the spread of COVID-19 in the area of 58 counties in California State, USA. The model produces an estimate of the cumulative number of cases and duration of the wave over a certain area and

**General comments**

The approach of a model of COVID-19's spreading by obtaining expressions for cumulative cases and wave duration is interesting. Such a model may produce highly useful results for decision-making regarding any attempt to control the infection's spread. Considering the impact of several factors is also a good idea. I would, however, provide a better justification for the factors selected. Also, the manuscript regards Population (P), Density (D), and Size (S) as independent parameters. They are not independent, since D=P/S. Fixing this problem is important not for semantic reasons, but because it arguably distorts the results the model may offer.

**Final remarks**

Overall this is a simple but well-conceived approach. After improving some minor aspects of the manuscript, the study may deserve publication.