Review of: "The Spherical Horse and COVID-19"

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Potential competing interests: No potential competing interests to declare.

I can confirm that neglecting too many details in mathematical modelling leads to results that are too far from reality, such as, for example, considering only the time variable and taking the rates of exits/entries in the various compartments as constant over the whole population. I would like to add that there is a work that has taken into consideration the author's idea of the period spent in a compartment and its variance from one individual to another, noted as 'compartment age' : Hathout, F. Z., Touaoula, T. M., & Djilali, S. (2022). Mathematical analysis of a triple age dependent epidemiological model with including a protection strategy. Discrete & Continuous Dynamical Systems-Series B, 27(12).

As for the choice of compartments, I think there are lots of types that can be considered, and it depends on the question to be answered and also depends on the circumstances of each place in the world, I don't think there's a perfect model that can generalize all available cases but a model that can illustrate a certain situation. This requires the contribution of researchers in other scientific fields (chemistry, medicine, economics .....etc).

In addition, considering too many details in order to get closer to reality sometimes makes mathematical study more difficult or perhaps impossible so there is a challenge to have a mathematical model closer to reality, but also that we can study it.