

Pandemic models need to be responsive

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Research published in the *International Journal of Global Warming* this month suggests that the models for understanding pandemic disease and predicting their likely course need to consider the idea that it is a dialog with nature rather than a monolog. Global lockdowns of the kind that were put in place at the time COVID-19 was declared a pandemic by the

World Health Organization might then be avoided or carried out differently if such understanding is clearer.

Alberto Boretti of the Department of Mechanical Engineering at Prince Mohammad Bin Fahd University, in Al Khobar, Saudi Arabia, suggests that as more data became available as the COVID-19 [pandemic](#) spread, it became obvious to epidemiologists that the mortality plugged into the models that led to specific decisions regarding lockdown was a lot higher than the actual evidence suggested. The daily death rate, he writes, was about twenty times lower than predicted. In addition, the number of people that encounter the virus and do not become infected was much higher than the earlier modeling assumed. The infection fatality rate is now estimated at between 0.12% and 0.2%; this is an exceptionally long way from the 0.9% presumed in the early models, Boretti writes.

The evidence suggests that while the initial response may well have been sensible, once it became more apparent how the disease infected people, how it spread, and the levels of morbidity and mortality, the models should have been updated in a timelier manner. Boretti suggests that how we look at an emergent that becomes pandemic requires a very different approach to the one we have taken with COVID-19 so far. The [model](#) predictions must be constantly updated through validation as [experimental evidence](#) emerge and it is on the latest data that policy measures should be based not past results that have so obviously proven to be wrong as the pandemic progressed.

More information: Alberto Boretti. Pandemic modeling is a dialog with nature, not a monolog, *International Journal of Global Warming* (2020). [DOI: 10.1504/IJGW.2020.109273](https://doi.org/10.1504/IJGW.2020.109273)

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