Read our COVID-19 research and news.

Call for transparency of COVID-19 models

C. Michael Barton[1,*], Marina Alberti[2], Daniel Ames[3], Jo-An Atkinson[4,5], Jerad Bales[6], Edmund Burke[7], Min Chen[8], Saikou Y Diallo…

+ See all authors and affiliations

Article　　　　　**Info & Metrics**　　　　　**eLetters**　　　　　📄 **PDF**

A hallmark of science is the open exchange of knowledge. At this time of crisis, it is more important than ever for scientists around the world to openly share their knowledge, expertise, tools, and technology. Scientific models are critical tools for anticipating, predicting, and responding to complex biological, social, and environmental crises, including pandemics. They are essential for guiding regional and national governments in designing health, social, and economic policies to manage the spread of disease and lessen its impacts. However, presenting modeling results is not enough. Scientists must also openly share their model code so that the results can be replicated and evaluated.

Given the necessity for rapid response to the coronavirus pandemic, we need many eyes to review and collectively vet model assumptions, parameterizations, and algorithms to ensure the most accurate modeling possible. Transparency engenders public trust and is the best defense against misunderstanding, misuse, and deliberate misinformation about models and their results. We need to engage as many experts as possible for improving the ability of models to represent epidemiological, social, and economic dynamics so that we can best respond to the crisis and plan effectively to mitigate its wider impacts.

motivations have no place in the global crisis we face today. As soon as possible, please place your code in a trusted digital repository (*1*) so that it is findable, accessible, interoperable, and reusable (*2*).

References and Notes

1. ↵ CoMSES Network, *Trusted Digital Repositories* (**www.comses.net/resources/trusted-digital-repositories/**). Google Scholar

2. ↵ M. D. Wilkinson *et al*., *Sci. Data* **3**, 160018 (2016). Google Scholar

Correction (1 May 2020): A second affiliation was added for J.-A.A., and the competing interests declarations were updated.

Competing Interests

All authors have signed on behalf of the listed organizations only. E.B. advises but does not represent the UK Engineering and Physical Sciences Research Council (EPSRC). B.F. is affiliat but does not represent the Advanced Systems Analysis Program at the International Institute for Applied Systems Analysis in Austria. P.L.M. is a paid consultant for Robert Wood Johnson Foundation Systems for Action (S4A), chair of the board of directors for Computer Simulation and Advanced Research Technologies, and an advisory board member of Systems Science in Public Health and Economics Research, but she does not represent these organizations.

Recommended articles from TrendMD

Vaccine nationalism's politics

COVID-19 in Africa: socio-economic impact, policy response and opportunities