



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.

## Communicating in a public health crisis

Despite previous pandemics and reports on pandemic preparedness,<sup>1</sup> many countries struggle to prevent and manage public health emergencies.<sup>2</sup> A key component of an effective pandemic response is communication between governments, health professionals, scientists, the media, and the public.<sup>3</sup>

A potential concern is how to maintain public trust in science and high levels of support for control measures, such as contact tracing, especially if they potentially challenge personal privacy.<sup>4</sup> Despite only having a short time to accumulate, the volume of published evidence on COVID-19 is extensive, making it difficult to manage and verify. Development of systematic reviews, supported by artificial intelligence and crowdsourcing, could support the rapid analysis of evidence-based measures to help communicate the need for control measures to mitigate COVID-19.<sup>5</sup>

The COVID-19 pandemic has encouraged a new phase of real-time, peer-to-peer sharing. Data concerning diseases and outbreaks are communicated through multiple channels, providing a view of global health that is fundamentally different from that provided by traditional public health organisations. Use of online information is becoming a dominant method for the surveillance of emerging public health threats. For example, a widely used information source on the numbers of global COVID-19 cases and deaths is an interdisciplinary collaboration between several groups at Johns Hopkins University (The Johns Hopkins Coronavirus Resource Center).<sup>6</sup> Similarly, HealthMap concatenates information from disparate

data sources, including online news aggregators, eyewitness reports, expert-curated discussions, and validated official reports, to achieve a unified and comprehensive view of current infectious diseases.<sup>7</sup> Global communication for future pandemics requires a novel framework. Although formal international agreements and agencies play an important part in communicating information, non-governmental groups might be able to perform a critical function in the global response to emerging diseases, and we encourage expanded use of consortia to take advantage of the strength of diverse electronic information sources and innovative means to compile and communicate information.

Poor health media literacy is common, and likewise a paucity of scientific knowledge has undermined responses to the COVID-19 pandemic. We have witnessed the amplification of unverified information, which has triggered misunderstandings, reactions of fear, and a loss of trust, which can inhibit effective responses to the pandemic. In preparation for the possible resurgence of COVID-19 or the occurrence of new infectious diseases, proactive public health investment in mechanisms for compiling, verifying, and communicating information is of paramount importance to ensuring public health. Emphasis should be placed on understanding specific factors, such as how the interplay between infectious agents and humans facilitates transmission through travelling and social activities in confined environments. During periods of uncertainty, strategies for communicating evolving information need to be developed and assessed. New curricula in systems medicine and effective communication strategies that examine the factors affecting

preventive behaviour should be developed and used to train health-care professionals, researchers, teachers, media professionals, and decision makers with active involvement in communicating with the general public.

We declare no competing interests. We thank the G20 Riyadh Global Digital Health Summit hosted in Saudi Arabia to leverage the role of digital health in the fight against current and future pandemics.

Copyright © 2020 The Author(s). Published by Elsevier Ltd. This is an Open Access article under the CC BY-NC-ND 4.0 license.

\**Hui Wang, Paul D Cleary, Julian Little, Charles Auffray*  
huiwang@shsmu.edu.cn

School of Public Health, Shanghai Jiao Tong University School of Medicine, Shanghai 20025, China (HW); Yale School of Public Health, New Haven, CT, USA (PDC); School of Epidemiology and Public Health at the University of Ottawa, Ottawa, ON, Canada (JL); and European Institute for Systems Biology and Medicine, Vourles, France (CA)

- 1 Global Preparedness Monitoring Board. A world at risk: annual report on global preparedness for health emergencies. 2019. [https://apps.who.int/gpmb/assets/annual\\_report/GPMB\\_Annual\\_Report\\_English.pdf](https://apps.who.int/gpmb/assets/annual_report/GPMB_Annual_Report_English.pdf) (accessed July 30, 2020).
- 2 Kandel N, Chungong S, Omaar A, Xing J. Health security capacities in the context of COVID-19 outbreak: an analysis of International Health Regulations annual report data from 182 countries. *Lancet* 2020; **395**: 1047–53.
- 3 Cowper A. Covid-19: are we getting the communications right? *BMJ* 2020; **368**: m919.
- 4 Bricker D. Canadians supportive of wide-ranging measures to battle COVID-19, including some surveillance. April 9, 2020. <https://www.ipsos.com/en-ca/news-and-polls/Canadians-Supportive-Of-Wide-Ranging-Measures-To-Battle-COVID19-Including-Some-Surveillance> (accessed July 30, 2020).
- 5 Piechotta V, Chai KL, Valk SJ, et al. Convalescent plasma or hyperimmune immunoglobulin for people with COVID-19: a living systematic review. *Cochrane Database Syst Rev* 2020; **7**: CD013600.
- 6 Dong E, Du H, Gardner L. An interactive web-based dashboard to track COVID-19 in real time. *Lancet Infect Dis* 2020; **20**: 533–34.
- 7 Brownstein JS, Freifeld CC, Madoff LC. Digital disease detection—harnessing the Web for public health surveillance. *N Engl J Med* 2009; **360**: 2153–57.



Published Online  
August 10, 2020  
[https://doi.org/10.1016/S2589-7500\(20\)30197-7](https://doi.org/10.1016/S2589-7500(20)30197-7)  
See [Comment](#) page e498

See [Online/Comment Lancet Glob Health](#) 2020; published online Aug 10. [https://doi.org/10.1016/S2214-109X\(20\)30361-2](https://doi.org/10.1016/S2214-109X(20)30361-2) and [https://doi.org/10.1016/S2214-109X\(20\)30362-4](https://doi.org/10.1016/S2214-109X(20)30362-4)

See [Online/Comment Lancet Public Health](#) 2020; published online Aug 10. [https://doi.org/10.1016/S2468-2667\(20\)30187-0](https://doi.org/10.1016/S2468-2667(20)30187-0)