

Acknowledging another healthcare hero: the importance of scientific research during the COVID-19 pandemic

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Recent months have been marked by unprecedented change as the world has responded to the novel COVID-19 pandemic. The medical community and the general public have joined in monitoring the development of COVID-19, with fears and concerns propagating alongside media coverage of the increasing spread, morbidity, and mortality of the virus. Healthcare professionals have been on the front lines from the start, showing incredible dedication amid challenging circumstances in caring for patients affected by COVID-19 together with their other duties. However, treating these patients with limited available knowledge about the virus' properties including transmission, mechanism of action, vulnerabilities, and best management, works out in practice like placing a bandage over a gushing wound. In the short term, it is the best that is available, but an effective long-term solution is indispensable. This brings us to another type of front line: that of basic science and clinical research. Scientists and investigators have been conducting experiments and reporting on clinical outcomes incessantly, sharing the most up-to-date information at seemingly breakneck speed. High-impact academic journals have accommodated the need for scientific progress by expediting their review processes and publishing data on a rolling basis. In a message on their website, PLOS writes that they are "fast-tracking all relevant research related to the coronavirus and resulting pandemic," while they implore their reviewers to "carefully consider the need for additional experiments or analyses in revision requests, especially if the conclusions are adequately supported by the data."¹ On January 31, 2020, 94 journals and institutions signed an agreement to give open access to cutting-edge COVID-19 publications, including Springer Nature, the New England Journal of Medicine, and The Lancet.² This is a critical step in facilitating an international, coordinated response during the current crisis. This is accompanied by a rise and increased acceptance of preprint publishing, making data

accessible before it even completes the peer-review process.³ The past several months have witnessed discoveries in the realms of viral structure, infectious processes, potential mechanisms of action of new drugs and treatments, as well as vaccine development. Clinicians all over the world have shared clinical characteristics and outcomes of COVID-19 patients to help colleagues thousands of miles away better treat their patients, as well as ingenious strategies to mitigate shortages of protective equipment. The progress we have seen already is inspiring to say the least, and is the result of cross-border collaborative efforts.

The experience of the global community during the COVID-19 pandemic has irrefutably demonstrated the significance of scientific literature in the dissemination of knowledge and in informing care. There is an invaluable relationship of trust between research consumers and providers in a worldwide setting that can too often be wrought with misinformation. As always, of course, scientific literature must be read through a critical lens; history has shown that errors do make their way through even a complete review process. To be sure, this risk is perpetuated while the latter is expedited, but this is a price that must be paid to avoid months of delay in accessing and applying vital new data. The reputations of journals and the overall reliability of their review processes help experts to assess and implement newly-published information to practice. Research is undoubtedly instrumental to achieving change from every direction during this pandemic, targeting prevention, protection, and treatment.

The role of the researcher is clear: to conduct studies in their research domain, analyze data, make conclusions, and communicate them effectively. However, the journey does not end there. The value of research findings depends entirely on how they are received, interpreted, and applied in the real world. The next steps are largely in the hands of the consumers of this medical literature. Individuals who are trained in science and medicine have a unique part to play in the information revolution that is unfolding with COVID-19. This role carries in itself significant responsibility, beginning with committing to reading and staying up-to-date in a field that is developing every day. Further, the information must be integrated and brought together to make broader conclusions that are helpful to society, be it in clinical practice, public health, or elsewhere. Moreover, these individuals have a valuable role to play in interpreting and sharing new information with their communities, acting as translators for complex scientific language and processes. One who is able to

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read and understand medical literature must remain aware that they are its valuable conduit to someone who cannot do the same independently. Whatever your occupation may be, we must all reflect on how we can act responsibly as consumers of literature in the context of our own circumstances and surroundings.

As we end our tenure as co-Editors-in-Chief of the *University of Toronto Medical Journal*, the important role scientific journals play in mediating life-saving or life-sustaining information from the bench to the bedside is once more impressed upon us. When considering the significance of such journals throughout the evolution of the COVID-19 pandemic, we appreciate the privilege we have had in sharing novel research with the broader scientific community and our admiration for the seemingly tireless dedication of researchers, reviewers, and editors throughout these unprecedented times. In a milieu of uncertainty, communicating

accurate and relevant information is essential, and we would be amiss to not recognize these important actors as healthcare heroes.

References

1. A message to our community regarding COVID-19. PLOS [Internet]. 2020 Mar [cited 2020 April 24]. Available from: <https://plos.org/blog/announcement/a-message-to-our-community-regarding-covid-19/>.
2. Carr, D. Sharing research data and findings relevant to the novel coronavirus (COVID-19) outbreak. Wellcome [Internet]. 2020 Jan [cited 2020 April 24]. Available from: <https://wellcome.ac.uk/coronavirus-covid-19/open-data>.
3. Kubota, T. Stanford researchers discuss the benefits – and perils – of science without peer review. Stanford News [Internet]. 2020 April [cited 2020 April 24]. Available from: <https://news.stanford.edu/2020/04/06/open-science-era-covid-19/>.

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