Français à la page suivante

Scientific publishing picks up speed

SARS-associated coronavirus, the likely cause of severe acute respiratory syndrome, has sped around the world like Catriona LeMay Doan around a speed-skating oval. In less than 3 months since the WHO issued its first global alert, the virus has infected more than 8200 people, more than 700 of whom have died. Virologists, geneticists, public health professionals and clinicians have quickly joined forces to characterize the disease, identify the virus and develop antibody and viral detection tests. With similar speed, they have written up their findings and submitted them for publication, forcing the generally plodding pace of medical publishing to accelerate. The first Canadian case of SARS was diagnosed on March 13. Two weeks later, case reports had been published online by the *New England Medical Journal*.[1,2] *CMAJ* received a description of the SARS outbreak in Toronto on April 7 and published the paper online April 16.[3] Since then we've fast-tracked and published 11 other SARS-related papers (see www.cmaj.ca/sars) and have more under consideration. One invited Commentary was published 4 hours after we received it.[4] Six weeks after the first case was described by the WHO, 108 articles on SARS were indexed in MEDLINE.

Speed is important in medicine. No matter what the disease or condition, every new discovery or advance in diagnosis and treatment is important to patients and their physicians. Electronic publication and communication have created virtual communities of individuals defined by common interests and needs and are opening new horizons for cooperation. For example, a few days after we published a paper on SARS by Hy Dwosh and colleagues[5] we received a request from an editor in China to publish a translation in his journal.

One must admit, however, that all of this has been the exception, not the rule: most medical publishing still travels in the slow lane. Some critics have rallied under the banner of the Public Library of Science[6] and the Budapest Open Access Initiative,[7] who advocate the establishment of open-access electronic archives where scientists can publish their papers as individual preprints. Some go even farther, arguing that the need for a single electronic archive is now passé: researchers can simply post their preprints on their own servers and home pages,[8] where Web search engines such as Google will easily locate them.

There is accumulating evidence that open-access online articles have more impact — 4.5 times more, in fact — than papers posted on restricted-access sites.[9] Indeed, some articles published as preprints are cited even before they are officially published. Thus, early release of new scientific and medical discoveries can lead to earlier application and a higher impact both on science and on human health.

Commercial publishers and some medical associations who make healthy profits from their journals[10] are particularly loud in decrying the lack of control over the quality of scientific information that might result from ungoverned publication. The publication of unrefereed and unedited manuscripts, they contend, is not in the best interest of patients. One doesn't have to be an editor for long to see how peer review, revision and copyediting help to detect significant and potentially dangerous errors arising from inattention, incompetence and (less frequently) dishonesty. But, although the value of pushing science through the editorial filter of high-quality journals is clear, delays in publication and limitations on the diffusion of results are not in the best interests of patients, either.

Perhaps we need 2 tracks to publication, in the model of, say, physics and computer science, where the fast lane is for preprint publication on individual or open-access servers and the slow lane is reserved for publication in print-based journals. Other than possible damage to existing journal revenue streams, we see few disadvantages in keeping the fast lane open. Thus we will maintain our policy of considering all submissions for publication in the print and electronic editions of *CMAJ*, including material previously published as preprints. We'll also continue to publish more and more papers as early releases on *eCMAJ*.

Catriona LeMay Doan recently announced her retirement from competitive speed skating after a stunning career that included 3 Olympic medals. We don't recommend that print-based medical journals hang up their skates, but it seems about time to sharpen them. — *CMAJ*

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