

On the Future of Open-Access

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KEYWORDS: *open-access journals, PLoS, Bohannon, DOAJ, future of research and publishing*

On October 2, 2012 John Bohannon submitted his research to a journal for peer review concerning a novel anti-cancer molecule: a process with which many health researchers are familiar. Within the next two months he was notified of its acceptance after passing the peer-review process. Unlike most of his peers, however, Mr. Bohannon was disappointed to receive the news.


The paper was, in his words, “bogus.” It was a piece of terrible writing and an example of terrible science. Mr. Bohannon works for *Science* and, under the watchful eye of the magazine, created, incorrectly interpreted, and strategically falsified an entire research paper as a sting operation. He submitted his article to 304 open-access journals and even went through the trouble of putting it through Google Translate twice so the grammar was appropriately abysmal. Unfortunately for him (and for open-access journals), the paper was accepted 157 times for publication, a “success” rate of almost 52%.¹

Open-access journals are a relatively new concept. The Database of Open-Access Journals (DOAJ), which indexes all journals of this type, was founded in 2003. Between 2000 and 2009 there was more than a six-fold increase in the number of open access journals.² At the time of this publication the DOAJ consists of 9804 journals.³ Some journals are completely free. The bulk of them, however, carry article-processing charges (APCs). This is how these journals remain profitable. Submission is free. However, if the article is approved for publication, there is an APC which can be up to \$3900.^{4,6} There are many benefits to this model as opposed to the traditional publishing model. There are, however, unique challenges as well.

Indexability is the major benefit of open-access journals. This provides free access to the literature instead of requiring subscriptions. Unfortunately in this model, the APCs present a barrier to researchers with limited funds, especially in developing countries. There are inherent problems to a profit-driven publishing model, which are amplified in health research. One of the largest stumbling blocks is the balance between quantity and credibility. Large repositories such as the DOAJ carry a vast number of articles. With no shortage of submissions the only limit to revenue is the quantity of articles the editors are willing to publish. It can be argued that there is a motive for lowering the bar, as exemplified in the

Science article.

The question is, why is this important? Magazine-type publications, such as the *Canadian Medical Association Journal*, *Annals of Internal Medicine*, and the *British Medical Journal*, are slowly moving towards a repository model, like the one used by the open-access journal *PLoS One*. In fact, some have simply added parallel open-access versions. The shift is towards more data and more research. There is no question that open-access is the future of the literature. The point of contention will be the quality of the work. This work will be the basis of future research and guide physician decision-making. It is imperative that evidence-based medicine not suffer due to diminishing research standards.

The onus is on the scientific community to ensure transparency and accountability. There must be a crackdown on predatory publishing and assurance of a thorough peer-review process. The full potential of open-access publishing has yet to be realized. Open-access publishing will maintain its momentum in the next few years; it is up to us to ensure it is on the right trajectory. 

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