

they get recognition (appropriate attribution). For PLOS, all of this aligns with how they think research content should be published and disseminated.

PLOS also has a broad open-data policy. To get their research paper published, PLOS authors must also make their *data* available in a public repository and provide a data-availability statement.

Business-operation costs associated with the open-access model still largely follow the existing publishing model. PLOS journals are online only, but the editorial, peer-review, production, typesetting, and publishing stages are all the same as for a traditional publisher. The editorial teams must be top notch. PLOS has to function as well as or better than other premier journals, as researchers have a choice about where to publish.

Researchers are influenced by journal rankings, which reflect the place of a journal within its field, the relative difficulty of being published in that journal, and the prestige associated with it. PLOS journals rank high, even though they are relatively new.

The promotion and tenure of researchers are partially based how many times other researchers cite their articles. Louise says when researchers want to discover and read the work of others in their field, they go to an online aggregator or search engine, and not typically to a particular journal. The CC BY licensing of PLOS research articles ensures easy access for readers and generates more discovery and citations for authors.

Louise believes that open access has been a huge success, progressing from a movement led by a small cadre of researchers to something that is now widespread and used in some form by every journal publisher. PLOS has had a big impact. In 2012 to 2014, they published more open-access articles than BioMed Central, the original open-access publisher, or anyone else.

PLOS further disrupted the traditional journal-publishing model by pioneering the concept of a megajournal. The *PLOS ONE* megajournal, launched in 2006, is an open-access

peer-reviewed academic journal that is much larger than a traditional journal, publishing thousands of articles per year and benefiting from economies of scale. *PLOS ONE* has a broad scope, covering science and medicine as well as social sciences and the humanities. The review and editorial process is less subjective. Articles are accepted for publication based on whether they are technically sound rather than perceived importance or relevance. This is very important in the current debate about the integrity and reproducibility of research because negative or null results can then be published as well, which are generally rejected by traditional journals. *PLOS ONE*, like all the PLOS journals, is online only with no print version. PLOS passes on the financial savings accrued through economies of scale to researchers and the public by lowering the article-processing charges, which are below that of other journals. *PLOS ONE* is the biggest journal in the world and has really set the bar for publishing academic journal articles on a large scale. Other publishers see the value of the *PLOS ONE* model and are now offering their own multidisciplinary forums for publishing all sound science.

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Louise outlined some other aspects of the research-journal business model PLOS is experimenting with, describing each as a kind of slider that could be adjusted to change current practice.

One slider is time to publication. Time to publication may shorten as journals get better at providing quicker decisions to authors. However, there is always a trade-off with scale, as the bigger the volume of articles, the more time the approval process inevitably takes.

Peer review is another part of the process that could change. It's possible to redefine what peer review actually is, when to review, and what constitutes the final article for publication. Louise talked about the potential to shift to an open-review process, placing the emphasis on transparency rather than dou-