

the publisher takes the article through the process of copyediting, typesetting, and eventual publishing in a print or online publication. Traditional journal publishers recover costs and earn profit by charging a subscription fee to libraries or an access fee to users wanting to read the journal or article.

For Louise Page, the current publisher of PLOS, this traditional model results in inequity. Access is restricted to those who can pay. Most research is funded through government-appointed agencies, that is, with public funds. It's unjust that the public who funded the research would be required to pay again to access the results. Not everyone can afford the ever-escalating subscription fees publishers charge, especially when library budgets are being reduced. Restricting access to the results of scientific research slows the dissemination of this research and advancement of the field. It was time for a new model.

That new model became known as open access. That is, free and open availability on the Internet. Open-access research articles are not behind a paywall and do not require a login. A key benefit of open access is that it allows people to freely use, copy, and distribute the articles, as they are primarily published under an Attribution (CC BY) license (which only requires the user to provide appropriate attribution). And more importantly, policy makers, clinicians, entrepreneurs, educators, and students around the world have free and timely access to the latest research immediately on publication.

However, open access requires rethinking the business model of research publication. Rather than charge a subscription fee to access the journal, PLOS decided to turn the model on its head and charge a *publication fee*, known as an article-processing charge. This up-front fee, generally paid by the funder of the research or the author's institution, covers the expenses such as editorial oversight, peer-review management, journal production, online hosting,

and support for discovery. Fees are per article and are billed upon acceptance for publishing. There are no additional charges based on word length, figures, or other elements.

Calculating the article-processing charge involves taking all the costs associated with publishing the journal and determining a cost per article that collectively recovers costs. For PLOS's journals in biology, medicine, genetics, computational biology, neglected tropical diseases, and pathogens, the article-processing charge ranges from \$2,250 to \$2,900. Article-publication charges for *PLOS ONE*, a journal started in 2006, are just under \$1,500.

PLOS believes that lack of funds should not be a barrier to publication. Since its inception, PLOS has provided fee support for individuals and institutions to help authors who can't afford the article-processing charges.

Louise identifies marketing as one area of big difference between PLOS and traditional journal publishers. Traditional journals have to invest heavily in staff, buildings, and infrastructure to market their journal and convince customers to subscribe. Restricting access to subscribers means that tools for managing access control are necessary. They spend millions of dollars on access-control systems, staff to manage them, and sales staff. With PLOS's open-access publishing, there's no need for these massive expenses; the articles are free, open, and accessible to all upon publication. Additionally, traditional publishers tend to spend more on marketing to libraries, who ultimately pay the subscription fees. PLOS provides a better service for authors by promoting their research directly to the research community and giving the authors exposure. And this encourages other authors to submit their work for publication.

For Louise, PLOS would not exist without the Attribution license (CC BY). This makes it very clear what rights are associated with the content and provides a safe way for researchers to make their work available while ensuring