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Plan S: Unrealistic capped fee structure

Plan S is an ambitious plan to guarantee that all research funded by public grants is published in open-access journals or platforms by January 2020 (“The world debates open-access mandates,” T. Rabesandratana, *In Depth*, 4 January, p. 11). The proposed guidelines suggest that publication fees should be covered by the funders or universities and that these charges should be standardized, reasonable, and capped. Although we support the open-access model, we are concerned that the fee structure of Plan S is unrealistic.

In Brazil, public funding agencies cover publication fees. However, article processing charges are not supported by supplementary funds for open-access costs; instead, they are subtracted from ongoing grant totals, meaning authors must choose between open access or lab materials. Although Plan S predicts article processing charge waivers under justified conditions, critical points have not been discussed, including acceptable reasons to qualify for discounts or waivers and how the open-access journals will comply with these criteria.

If the initiative succeeds in its push for open access, but not in capping publication fees, the changes could easily backfire. Some of the largest and fastest-growing open-access journals today charge upward of US\$5000 per online-only article [e.g., (1, 2)]. It is unclear how commercial editorial services with widely distinct characteristics and interests worldwide could be compelled to standardize and cap these fees at

reasonable amounts, particularly within such a short time frame. Without fee caps, publishing in highly visible journals would become unfeasible for smaller grant holders everywhere.

The solution to this situation may involve encouraging researchers to publish the bulk of their work in venues that are controlled by scientists themselves. This includes platforms and journals that are backed by strong scientific societies and edited by active scientists. We urge scientists to give preference to such venues. The developers of Plan S should seek closer relations with scientific societies and help to strengthen society-backed publication venues to achieve truly affordable and open scientific publication strategies.

Alicia J. Kowaltowski^{1*} and Marcus F. Oliveira²

¹Departamento de Bioquímica, Instituto de Química, Universidade de São Paulo, São Paulo, Brazil.

²Instituto de Bioquímica Médica Leopoldo de Meis, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil.

*Corresponding author. Email: alicia@iq.usp.br

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Plan S: Overlooked hybrid journal model

The European Commission’s recent Plan S proposal laudably seeks to make scientific communications more freely available (“European funders seek to end reign of paywalled journals,” M. Enserink, *In Depth*,

7 September 2018, p. 957), but the plan is based on misinformation that will likely make publishing more difficult for many scientists. Plan S eliminates hybrid journals, in which authors can pay for open access if they (or funding agencies) desire but can also select an option for non-open access (1). Plan S provides no justification for this decision (2). The president of Science Europe is quoted in the News story as saying that the hybrid model costs more because “the author publication fees come on top of the subscription price.”

Hybrid journals do not necessarily require readers to pay for both open-access and paywalled papers. At *Research Synthesis Methods* (published by Wiley), we publish approximately 10 non-open access articles per issue and a varying number of additional open-access articles depending on case mix and availability. The number of open-access articles is independent of the number of non-open access articles. The open-access articles are available to both subscribers and non-subscribers at no added cost. Therefore, we believe our model for a hybrid journal is an alternative that should satisfy Plan S because the publisher does not obtain monies from both subscribers and authors for open-access articles. Libraries or individuals who have paid subscription fees are obtaining additional free articles when authors pay for open access.

Hybrid journals are an essential element of the scientific ecosystem, and they enhance authors’ ability to disseminate research in top journals. Plan S would require interdisciplinary journals either to switch to complete open access, which would exclude potential authors who do not have funds to pay the open-access

fees (especially young researchers and those from underfunded disciplines), or to remain a hybrid journal and forfeit the ability to publish papers from authors whose funding agencies mandate publication in completely open-access journals. Either way, increased restrictions on where scientists could publish would reduce academic freedom.

Ian Shrier^{1*} and Christopher Schmid²

¹Centre for Clinical Epidemiology, Lady Davis Institute, Sir Mortimer B. Davis Jewish General Hospital, Montreal, QC H3T 1E2, Canada. ²Brown University, Providence, RI 02912, USA.

*Corresponding author. Email: ian.shrier@mcgill.ca

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COMPETING INTERESTS

I.S. is a co-editor of *Research Synthesis Methods*. C.S. is a former co-editor of *Research Synthesis Methods* and current president of the Society for Research Synthesis Methodology, which owns the title to the journal.

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Plan S: A threat to quality of science?

A group of European national research funding organizations, with the support of the European Commission and the European Research Council, have announced the launch of cOAlition S ("European funders seek to end reign of paywalled journals," M. Enserink, *In Depth*, 7 September 2018, p. 957). According to the plan, after 1 January 2020, scientific publications reporting the results of publicly funded research must be published in compliant open-access journals or on open-access platforms. However, the requirement to publish in an open-access journal does not consider the most important aspect of publishing: selecting a journal that has a strong record of rigorous and high-quality review. This is essential to ensuring that the science is credible. Journal quality is built on a strong track record of publishing significant and impactful manuscripts in a given field. The current Plan S emphasizes only the open-access aspect of the journal, not the quality of the science the journal publishes.

For over a century, academic societies have developed scientific journals that provide rigorous scientific review of submitted manuscripts. To do so, societies must recruit leadership (such as editors and editorial board members) and provide fiduciary

oversight for journals. These responsibilities require highly trained personnel and are expensive. In turn, these journals provide society members with a venue for publishing their research and advancing the discipline. For societies that self-publish, the proceeds from the journals fund activities such as scientific meetings, which focus on the presentation of current research and exchange of information, and mentoring and financial support of young scientists, which are essential to sustaining a rich scientific community. As members of the International Union of Basic and Clinical Pharmacology, the worldwide body for pharmacological societies, we believe using only open-access journals will negatively affect those activities of our professional societies.

Michael Spedding¹, James Barrett¹, Edward T. Morgan², Mary Vore², Dominic Geraghty³, Carl Kirkpatrick³, Ingolf Cascorbi^{1*}

¹International Union of Basic and Clinical Pharmacology (IUPHAR), Brentwood, TN 37027, USA. ²American Society for Pharmacology and Experimental Therapeutics (ASPET), Rockville, MD 20852, USA. ³Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists (ASCEPT), Hamilton, QLD 4007, Australia.

*Corresponding author.

Email: cascorbi@pharmakologie.uni-kiel.de

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"...PLAN S EMPHASIZES ONLY THE OPEN-ACCESS ASPECT OF THE JOURNAL, NOT THE QUALITY OF THE SCIENCE THE JOURNAL PUBLISHES."

Plan S: Motivations of for-profit publishers

Recent EU policies known as Plan S require researchers funded with EU grants to publish in open-access journals to make articles more publicly accessible ("European funders seek to end reign of paywalled journals," M. Enserink, *In Depth*, 7 September 2018, p. 957). Critics of these policies claim that they will cause a gradual shift toward publishing in open-access journals and will deepen the divide between authors who have the capacity to pay open-access publishing fees and those who do not (1). However, the distinction between the open-access and paywall model is not the only axis that needs to be considered. An important dividing criterion that predicts journals' behavior toward promoting accessibility is whether they have

a for-profit or nonprofit business model.

For-profit publishers make a lot of money; the big three—Elsevier (2), Springer Nature (3), and Wiley (4)—made US\$3.2, US\$1.9, and US\$1.7 billion in revenue in 2017, respectively, with Elsevier banking 37% of revenue as profit (2). This profit motivation justifies charging excess fees, which hinder accessibility. For example, in response to the high publication fees and other open-access policies at the Elsevier-published *Journal of Informetrics*, the entire editorial board resigned and went on to establish the open-access journal *Quantitative Science Studies*. Published by the nonprofit MIT Press, *Quantitative Science Studies* charges article processing fees that are less than half of those charged by Elsevier (5).

Most scientists would agree that they want their research to become more publicly accessible, but the fact of the matter is that it costs money to publish an article and host it online for both for-profit and nonprofit publishers. Yet, unlike for-profit publishers, nonprofit publishers such as AAAS (the publisher of *Science*), the Public Library of Science (PLOS), and the Royal Society reinvest their profits into programs that benefit the community. Although these organizations

need enough revenue to remain sustainable, they may be more flexible about adjusting their model for the sake of accessibility.

Important questions to consider beyond open access vs. paywall remain: Should the products and services that scientists provide to journals for free—manuscripts, peer review, editorial oversight—be used for profit? Do for-profit publishers' interests align with those of the scientific community to make science more accessible for both research-

ers and readers? Initiatives such as Plan S might also consider whether publicly funded research published by for-profit publishers aligns with a mandate to make access to science more open overall.

Tyler D. Eddy

Nereus Program, Baruch Institute for Marine & Coastal Sciences, University of South Carolina, Columbia, SC 29208, USA. Email: tyler.eddy@sc.edu

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Tyler D. Eddy

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