

Plan S Is Coming: What You Need to Know

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Since it was first announced in September 2018, an open access (OA) initiative called Plan S has caused quite a stir in the scientific publishing industry. Plan S is expected to go into effect on January 1, 2021, and will mandate that all scholarly articles stemming from research funded by cOAlition S—a group of private and public funders that have adopted Plan S—be made freely available online immediately on publication.¹

Plan S also includes provisions related to article copyright and licensing, transparency of publishing costs and fees, and acceptable business models for scientific publishing.¹ If implemented as written, Plan S will eliminate journals' revenues from article reprints and permissions and effectively ban cOAlition S-funded researchers from publishing in traditional subscription journals and hybrid journals (subscription journals that allow authors to make articles freely available to the public for a fee).

cOAlition S

Plan S is coordinated by Science Europe and is supported by the European Commission and the European Research Council. As of August 2019, cOAlition S comprised 16 public funders and 2 charitable foundations that have committed to implementing the principles of Plan S. Most of these funders are in Europe (Table).²

United States federal funders have not adopted Plan S yet and seem unlikely to do so in the near future. In a recent interview, Kelvin Droegemeier, Director of the White House Office of Science and Technology Policy, said, "One of the things this gov-

ernment will not do is to tell researchers where they have to publish their papers. That is absolutely up to the scholar who's doing the publication."³ In December 2018, Chinese funders expressed strong support for Plan S, but it is not clear whether they will adopt all of its principles.⁴

Compliance With Plan S¹

cOAlition S recognizes that a range of business models can be used to comply with the immediate OA requirements of Plan S.

Table. cOAlition S Public Funders and Charitable Foundations

Public Funder	Country
Der Wissenschaftsfonds	Austria
Academy of Finland	Finland
Agence Nationale de la Recherche	France
Science Foundation Ireland	Ireland
Istituto Nazionale di Fisica Nucleare	Italy
Luxembourg National Research Fund	Luxembourg
Netherlands Organisation for Scientific Research National Funder	Netherlands
The Research Council of Norway	Norway
National Science Centre Poland	Poland
Slovenian Research Agency	Slovenia
Swedish Research Council for Health, Working Life and Welfare	Sweden
FORMAS	Sweden
UK Research and Innovation	United Kingdom
National Science and Technology Council	Zambia
The Higher Council for Science and Technology	Jordan
Vinnova, Sweden's Innovation Agency	Sweden
Charitable Foundation	Country
Wellcome	United Kingdom
Bill & Melinda Gates Foundation	United States

An obvious option is the gold OA model, in which authors pay a publication fee (also known as article processing charge, or APC) to make the work freely available online. The hybrid publishing model is not categorically banned by Plan S, but cOAlition S members will not allow researchers to use grant money to pay for publication fees in these journals. Fees to publish in all other compliant journals (ie, OA venues or subscription journals under limited-time transformative agreements to flip to full OA) will be covered by funders.

Plan S calls for full transparency and monitoring of publishing fees and costs. Under the plan, journal publishers will be required to disclose the costs of their internal publishing functions: triage, peer review, editorial work, copyediting, art and layout, etc. cOAlition S plans to establish a monitoring system to maintain transparency of costs and fees. If “unreasonable prices” are observed, funders may decide to standardize and cap the reimbursement for publication fees.

Plan S requires the copyright of the work to remain with the authors or their institutions. The plan also mandates the use of Creative Commons Attribution CC BY 4.0 license unless an exception has been granted by funders. Under this license, articles can be shared and adapted for any purpose, including commercial use, provided proper attribution is given to the authors.

cOAlition S is working with the Directory of Open Access Journals (DOAJ), the Directory of Open Access Repositories (OpenDOAR4), and other partners to help identify journals, publishing platforms, repositories, and transformative agreements that fulfill the plan’s requirements.

Reactions to Plan S

Plan S was met with strong reactions, both positive and negative, from many stakeholders, including commercial publishers, nonprofit scientific societies, and researchers. The initiative was called radical and disruptive by opponents, whereas advocates saw it as a necessary push to accelerate immediate free public access to scientific knowledge.

As expected, commercial publishers of subscription journals were alarmed by the proposed plan. They predicted that, if implemented, Plan S would undermine their business model and disrupt the entire scientific publishing system.⁵ Several commercial publishers, including Springer Nature and Wiley, expressed their commitment to OA publishing but urged support for hybrid journals.⁶ In contrast, gold OA publishers, such as PLOS, welcomed the plan and reminded researchers that their journals are already compliant with Plan S.⁷

Nonprofit scientific societies, including the American Association for the Advancement of Science (AAAS), warned they could be hit especially hard by the plan to the point of being forced to shut down journals and slash services.⁸ Society

journals tend to publish hybrid titles. By eliminating the hybrid publishing model and mandating the CC BY license, Plan S effectively eliminates all sources of revenues for most society journals.⁹

How do researchers feel about Plan S? Many have expressed strong support for eliminating paywalls. For example, more than 1,900 academics signed an open letter voicing support for OA mandates from funders (although the letter does not specifically reference Plan S).¹⁰ This letter acknowledges that OA mandates may limit publishing options in the short term, but it asserts that these mandates will ultimately lead to a system that “optimizes what we really care about: maximizing the reach of our scholarship and its value to the research community and public.”

On the other hand, more than 600 researchers signed a different letter voicing concerns over the potential negative unintended consequences of Plan S.¹¹ This letter describes Plan S as “a serious violation of academic freedom” because it bans publishing in subscription journals, including many highly reputable journals such as *Nature*, *Science*, and *Cell*. It also criticizes the plan’s heavy reliance on the gold OA model as it is frequently associated with very expensive publication fees (up to thousands of dollars). The letter also points out that Plan S may harm international collaborations if funders in other parts of the world do not adopt similar policies.

In an editorial in the *Journal of the American College of Cardiology: Basic to Translational Science*,¹² Douglas L Mann, MD, Editor-in-Chief, argued that Plan S may increase the costs of publishing for researchers because if funding agencies decide to withdraw their commitment to pay (because of a financial crisis, for example), publication fees will ultimately shift to the researchers themselves. He also pointed out that if a cap on publication fees is imposed, OA journals will need to publish more and more articles to remain financially viable. This incentive to increase volume poses a serious risk to the scientific literature because if financial gain is placed above rigorous scientific review, the quality and originality of the published articles will suffer.

Of note, cOAlition S has pledged to ignore the prestige of journals (eg, journal impact factor) when making funding decisions. This principle was added to address the criticism that it would be difficult for researchers to adopt Plan S if funding agencies continue to value publishing in highly selective, prestigious journals, many of which have paywalls.¹³ It remains unclear, however, what alternative metrics will be used to evaluate the merit of publications.

Conclusion

Plan S is a bold move that aims to ensure that no research is locked behind paywalls. So far, only 18 funders, most of them

in Europe, have committed to implement the plan. However, other funders might follow suit. The adoption of Plan S as currently written could transform scholarly publishing practices worldwide and is expected to have tremendous effects on commercial scientific publishers and nonprofit societies. Medical writers and editors who work in those sectors should be aware of the rules of Plan S and prepare for its potential effect on their work.

Acknowledgment

I thank Ray Hunziker for sharing his insights about Plan S and for reviewing the manuscript.

Author declaration and disclosures: *The author notes no commercial associations that may pose a conflict of interest in relation to this article.*

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