

Plan S the Present and Future of Open Access Publishing

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Editorial

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Abstract

Introduction: This editorial is based on a concise introduction to the basics of open access, describing what it is and showing that it is easy, fast, inexpensive, legal, and a beneficial form of academic publishing. The Internet lets us share perfect copies of our work with a worldwide audience at virtually no cost. Working in “open access” means: digital, online, free of charge, and free of most copyright and licensing restrictions.

The **purpose** of this paper is to provide an overview about Plan S and its significance for open access publishing.

Methods: An analysis of relevant literature, sources from the internet and published literature, personal experience and observations of the author.

Findings: Formerly, scholars have written peer-reviewed journal articles for impact, not for money, and are free to consent to open access without losing revenue. Open access is beneficial for authors and readers of research. Plan S is an initiative to drive wider adoption of open access publishing which was launched in 2018 by cOAlition S, an international consortium of organisations who fund or carry out research. The first and main objective was to require that, from 2021, publicly funded research must only be published in journals or on platforms on an open access basis without embargo.

Conclusions: There are 10 principles of Plan S covering the way in which all stakeholders should work together towards an optimal open access future, drive service standards, promote greater transparency around costs and charges, and more fairly assess the merits of research outputs.

Key words: *Plan S, cOAlition S, open access, journals, academic publishing*

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1. Introduction

Open access (OA) is a publishing model for scholarly communication that makes research information available to readers at no cost, as opposed to the traditional subscription model in which readers have access to scholarly information by paying a subscription.

Open-access literature is digital, online, free of charge, and free of most copyright and licensing restrictions. What makes it possible is the internet and the consent of the author or copyright-holder. OA is entirely compatible with peer review, and all the major OA initiatives for scientific and scholarly literature insist on its importance. Just as authors of journal articles donate their labour, so do most journal editors and referees participating in peer review. OA literature is not free to produce, even if it is less expensive to produce than conventionally published literature. The question is not whether scholarly literature can be made costless, but whether there are better ways to pay the bills than by charging readers and creating access barriers. Business models for paying the bills depend on how OA is delivered (Suber, 2004).

It is important to point out that Open Access does not affect peer-review. Articles are peer-reviewed and published in journals in the normal way. There is no suggestion that authors should use repositories instead of journals. Open Access repositories supplement and do not replace journals. Some authors have feared that wider availability will increase plagiarism: in fact, if anything, Open Access serves to reduce plagiarism. When material is freely available the chance that plagiarism is recognised and exposed is that much higher.

There are three models of open access publishing:

Green Open Access: Self-archiving of Accepted Versions of their articles (also known as Postprints) by authors in their institutional repository or other Open Access site. Green Open Access publishers endorse immediate Open Access self-archiving by their authors, allowing authors to make the final version of their manuscript freely available despite being published in a subscription-based journal. **Gold Open Access:** Unrestricted and immediate online access to the full content of a scholarly journal via a publisher's website. This model usually requires an Article Processing Charge (APC) paid by the author or their institution.

Hybrid Open Access: Unrestricted and immediate online access to individual articles for which authors or their institution pay an Article Processing Charge. This option does not meet the true definition of Open Access if the author is still required to assign copyright ownership to the publisher or if the article is only available from the publisher's website. If the subscription fee for a journal is not proportionately reduced by the number of articles that are (Hybrid) Open Access, publisher profits will be increased further with limited benefit to authors (James Cook University, 2022).

Diamond Open Access: publication via diamond journals/platforms that do not charge author-facing publication fees (APCs). Diamond open access journals are usually funded via library subsidy models, institutions or societies. Journal for ReAttach Therapy and Developmental Diversities is such a kind of model.

The **purpose** of this paper is to provide an overview about Plan S and its significance for open access publishing.

2. What is plan S?

In September 2018 a group of national research funders, European and international organisations and charitable foundations created cOAlition S and launched Plan S. They have agreed to implement the principles of Plan S in a coordinated way. The main ambition of Plan S is to accelerate the transition to full and immediate OA. Plan S requires that, from 2021, recipients of research funding from cOAlition S organisations make the resulting publications available immediately (without embargoes) and under open licenses, either in quality OA platforms or journals or through immediate deposit in open repositories that fulfil the necessary conditions.

Support for Plan S comes from cOAlition S — a group of research funders that includes a host of mainly European national funding agencies, and some of the world's most influential private biomedical funders, such as the US organisations the Bill & Melinda Gates Foundation and the Howard Hughes Medical Institute, and the London-based funder Wellcome. These funders were acknowledged on around 200,000 science papers published last year — around 5% of all research articles, but 12% of a selection of the most highly-cited journals, ac-

ording to an analysis by citation-analytics firm Clarivate and DeltaThink, a consultancy in Philadelphia, Pennsylvania (Else, 2022).

3. Principles of Plan S

There are 10 further principles of Plan S covering the way in which all stakeholders should work together towards an optimal open access future, drive service standards, promote greater transparency around costs and charges, and more fairly assess the merits of research outputs.

1. Authors or their institutions retain copyright to their publications. All publications must be published under an open license, preferably the Creative Commons Attribution license (CC BY), in order to fulfil the requirements defined by the Berlin Declaration;
2. The Funders will develop robust criteria and requirements for the services that high-quality Open Access journals, Open Access platforms, and Open Access repositories must provide;
3. In cases where high-quality Open Access journals or platforms do not yet exist, the Funders will, in a co-ordinated way, provide incentives to establish and support them when appropriate; support will also be provided for Open Access infrastructures where necessary;
4. Where applicable, Open Access publication fees are covered by the Funders or research institutions, not by individual researchers; it is acknowledged that all researchers should be able to publish their work Open Access;
5. The Funders support the diversity of business models for Open Access journals and platforms. When Open Access publication fees are applied, they must be commensurate with the publication services delivered and the structure of such fees must be transparent to inform the market and funders potential standardisation and capping of payments of fees;
6. The Funders encourage governments, universities, research organisations, libraries, academies, and learned societies to align their strategies, policies, and practices, notably to ensure transparency.
7. The above principles shall apply to all types of scholarly publications, but it is understood that the timeline to achieve Open Access for monographs and

book chapters will be longer and requires a separate and due process;

8. The Funders do not support the 'hybrid' model of publishing. However, as a transitional pathway towards full Open Access within a clearly defined timeframe, and only as part of transformative arrangements, Funders may contribute to financially supporting such arrangements;
9. The Funders will monitor compliance and sanction non-compliant beneficiaries/grantees;
10. The Funders commit that when assessing research outputs during funding decisions they will value the intrinsic merit of the work and not consider the publication channel, its impact factor (or other journal metrics), or the publisher (Plan S, 2022).

4. Guidance on the implementation of Plan S

1. Aim and Scope

Plan S aims for full and immediate Open Access to peer-reviewed scholarly publications from research funded by public and private grants. cOAlition S, the coalition of research funders that have committed to implementing Plan S, aims to accelerate the transition to a scholarly publishing system that is characterised by immediate, free online access to, and largely unrestricted use and re-use (full Open Access) of scholarly publications.

cOAlition S is committed to fulfil the specific target set out in Plan S: publications resulting from research funded by cOAlition S members' grants under calls published as of 1 January 2021 (or earlier at individual members' choice), must be published in Open Access venues (journals or platforms) or made openly and immediately available in an Open Access repository. Plan S applies to all peer-reviewed publications that are based on results from research funded fully or partially by cOAlition S members.

This guidance specifies the principles of Plan S and provides paths for their implementation regarding **scholarly articles**. cOAlition S by the end of 2021, issued a statement on Plan S principles as they apply to monographs and book chapters, together with related implementation guidance.

Although the Plan S principles refer to peer-reviewed scholarly publications, cOAlition S also strongly encourages that research data and other research outputs are made as open as possible and as closed as necessary. The early sharing of research results through preprints is also strongly encouraged. cOAlition S supports the principles of the San Francisco Declaration on Research Assessment (DORA) that research needs to be assessed on its own merits rather than

on the basis of the venue in which the research is published. cOAlition S members implemented such principles in their policies by January 2021.

2. Plan S Compliance

All scholarly articles that result from research funded by members of cOAlition S must be openly available immediately upon publication without any embargo period. There are three routes for being compliant with Plan S shown in Table 1:

Table 1

Routes for being compliant with Plan S

	Open Access publishing venues (journals or platforms)	Subscription venues (repository route)	Transition of subscription venues (transformative arrangements)
Route	Authors publish in an Open Access journal or on an Open Access platform.	Authors publish in a subscription journal and make either the final published version (Version of Record (VoR)) or the Author's Accepted Manuscript (AAM) openly available in a repository.	Authors publish Open Access in a subscription journal under a transformative arrangement.
Funding	cOAlition S funders will financially support publication fees.	cOAlition S funders will not financially support 'hybrid' Open Access publication fees in subscription venues.	cOAlition S funders can contribute financially to Open Access publishing under transformative arrangements.

For any chosen route to compliance, the publication must be openly available immediately with a Creative Commons Attribution license (CC BY) unless an exception has been agreed by the funder. For the purpose of Plan S, Open Access platforms are publishing platforms for the original publication of research output (such as Wellcome Open Research or Gates Open Research). Platforms that merely serve to aggregate or republish content that has already been published elsewhere are not considered as such.

cOAlition S strongly encourages the deposition of all publications in a repository, irrespective of the chosen route to compliance. Several cOAlition S members require deposition of all attributed research articles in a repository. cOAlition S urges individual researchers, research institutions, other funders, and governments not to financially support 'hybrid' Open Access publishing

when such fees are not part of transformative arrangements. cOAlition S emphasises that the individual cOAlition S members are not obliged to enter into transformative arrangements nor to fund publication costs that are covered by such arrangements. cOAlition S will work with the Directory of Open Access Journals (DOAJ), the Directory of Open Access Repositories (OpenDOAR), SHERPA/RoMEO, Efficiency and Standards for Article Charges (ESAC), and other potential partners to establish mechanisms for identifying and signaling whether journals/publishing platforms, repositories, and transformative arrangements respectively fulfil the cOAlition S requirements as detailed in Part III of this guidance. cOAlition S will support the development of a tool that researchers can use to identify whether venues fulfil the requirements.

Rights and licensing: The author or the author's institution will retain their copyright. Licenses to publish that are granted to a publisher must allow the author/institution to make either the Version of Record (VoR), the Author's Accepted Manuscript (AAM), or both versions available under an open license (as defined below) via an Open Access repository, immediately upon publication.

Where possible, cOAlition S members will ensure by way of funding contracts or agreements that the authors or their institutions retain copyright as well as the rights that are necessary to make a version (either the VoR, the AAM, or both) immediately available under an open license (as defined below). To this end, cOAlition S will develop or adopt a model 'License to Publish' for their grantees.

The public must be granted a worldwide, royalty-free, non-exclusive, irrevocable license to share (i.e., copy and redistribute the material in any medium or format) and adapt (i.e., remix, transform, and build upon the material) the article for any purpose, including commercial, provided proper attribution is given to the author. cOAlition S recommends using Creative Commons licenses (CC) and requires the use of the Creative Commons Attribution (CC BY) 4.0 license by default. The following exceptions apply:

- cOAlition S will, as secondary alternatives, accept the use of the CC BY-SA 4.0 license, and use of the public domain dedication, CC0.
- cOAlition S members may approve the use of the CC BY-ND license for individual articles, provided that this is explicitly requested and justified by the grantee.
- Third-party content included in a publication (for example images or graphics) is not affected by these requirements.

Collaborative research: cOAlitions S recognises that funders may face the challenge of scholarly papers published in collaboration with authors funded by non-cOAlition S members, or by authors with mixed affiliations. cOAlition S commits to actively engage with major research funders world-wide in order to foster alignment with the Plan S guidelines among collaborating authors.

3. Transformative Arrangements

cOAlition S supports a number of strategies to encourage subscription publishers to transition to Open Access. These approaches are called "transformative arrangements", and three strategies are outlined below.

Recognising that a fundamental principle of these transformative arrangements is that they are temporary and transitional, where cOAlition S members provide funding to support publication fees of journals covered by such arrangements, this funding will cease on the 31 December 2024.

- **Transformative agreements:** Plan S supports the global Open Access 2020 Initiative (OA2020) which aims to accelerate the transition to Open Access by adopting strategies to systematically withdraw financial support of paywalled publishing venues and reinvest those funds to support Open Access publishing. cOAlition S encourages that publishers enter into transformative arrangements globally in all countries and share data from such arrangements. cOAlition S strongly encourages institutions and consortia to develop new transformative agreements and will only financially support agreements after 1 of January 2021 where they adhere to the ESAC Guidelines.
- **Transformative model agreements:** Many journals and publishers, especially smaller society presses, are not currently engaged in transformative agreements. cOAlition S will work together with all stakeholders to develop new models for agreements that ensure Open Access publishing and avoids double payment. In particular, cOAlition S will, in partnership with stakeholders, help to facilitate new transformative mechanisms for learned society presses and smaller and medium-sized publishers, including potentially through e.g., 'transformative agreement model contracts.'
- **Transformative journals:** cOAlition S will also consider developing a potential framework for 'transformative journals' where the share of
- Open Access content is gradually increased, where subscription costs are offset by income from payments for publishing services (to avoid double payments),

and where the journal has a clear commitment to transition to full Open Access in an agreed timeframe.

4. Supporting Quality Open Access Journals and Platforms

cOAlition S acknowledges the existing range of high-quality Open Access journals and platforms and the importance of a diversity of business models, including Open Access publications venues that do not charge Article Processing Charges (APCs). cOAlition S is conducting a gap analysis of Open Access journals/platforms to identify fields and disciplines where there is a need to increase the share of Open Access journals/platforms. cOAlition S members will collectively establish incentives for establishing Open Access journals/platforms or flipping existing journals to Open Access, in particular where there are gaps and needs.

5. Transparency of Costs and Prices

There exist different models of financing and paying for Open Access publications. cOAlition S recognises that there is a range of business models that can be used to achieve full and immediate Open Access. cOAlition S calls for full transparency and monitoring of publication costs and fees.

Where Plan S requirements apply, no later than 1 January 2020, cOAlition S, in partnership with publisher representatives and other stakeholders, will define the various services (e.g., triaging, peer review, editorial work, copy editing) publishers will be asked to price. This price transparency requirement will apply to all articles funded through transformative arrangements as well as those levied by Open Access journals and platforms. As a minimum, the breakdown of prices should be at a publisher level, but where possible publishers are encouraged to provide this price transparency at the journal level.

Alongside this, cOAlition S will establish on-going monitoring to maintain transparency and a clear understanding of costs and prices. cOAlition S will thereby contribute to establishing fair and reasonable prices for publishing services, including equitable waiver policies, that reflect the publishing costs. Individual cOAlition S funders may decide to standardise and cap the reimbursement of services that they will cover through their grants. cOAlition S may at a later time decide to implement caps in a coordinated way if unreasonable price levels are observed.

6. Review

Before the end of 2024, cOAlition S will conclude a formal review process that examines the requirements, effects, and impact of Plan S. In particular, the review will examine the effect of transformative arrangements as well as the option of providing immediate Open Access to subscription content via open repositories, on achieving a transition to full and immediate Open Access.

7. Compliance and Sanctioning

The individual members of cOAlition S will align their grant agreements and/or contracts with Plan S and monitor compliance and sanction non-compliance. Each funder will determine how best to monitor compliance and what sanctions to introduce. Possible sanctions could include withholding grant funds, discounting non-compliant publications as part of a researcher's track record in grant applications, and/or excluding non-compliant grant holders from future funding calls.

8. Timeline

The timeline for the implementation of Plan S will vary among member organisations. As a minimum requirement, cOAlition S members must apply the Plan S principles at the latest in calls published, or application deadlines, after 1 January 2021. cOAlition S encourages its members who are in a position to do so, to implement Plan S on all grants awarded from January 2021.

5. Technical guidance and requirements

For cOAlition S funded research covered by Plan S requirements, all peer-reviewed scholarly articles must be published in venues that fulfil the requirements below. Where such an article is published in a subscription venue, followed by immediate deposition in an Open Access repository, the requirements for repositories also need to be fulfilled.

Criteria which are strongly recommended will be subject to review in 2024 and may become mandatory after the review.

1. Requirements for Publication Venues

1.1 Common requirements for all publication venues

Basic mandatory conditions for all publication venues: cOAlition S emphasises the need for high-quality journals, therefore requiring journals/platforms to have a solid system in place for review according to the standards within the relevant discipline and guided by the

core practices and policies outlined by the Committee on Publication Ethics (COPE). Details must be openly available on the respective journal and platform websites. In particular, payment of publication fees or waiver status must not in any way influence the editorial decision-making process on the acceptance of a paper.

- The journal/platform must provide, on its website, a detailed description of its editorial policies and decision-making processes. In addition, at least basic statistics must be published annually, covering in particular the number of submissions, the number of reviews requested, the number of reviews received, the approval rate, and the average time between submission and publication.
- The journal/platform must accept the retention of copyright by the authors or their institutions, at no extra cost. Licenses to publish must preserve the right and responsibility of the author/institution to make the VoR or the AAM of the article Open Access immediately upon publication, under an open license.
- The journal/platform must either enable authors to publish with immediate and permanent Open Access (without any kind of technical or other form of obstacles) under an open license as defined in Part II Section 2, or to deposit the AAM or VoR in an Open Access repository at no extra cost and under an open license. In either case, no embargo period can be applied (including for early view versions, i.e., online VoR before inclusion in an issue).

Mandatory technical conditions for all publication venues:

- Use of persistent identifiers (PIDs) for scholarly publications (with versioning, for example, in case of revisions), such as DOI (preferable), URN, or Handle.
- Deposition of content with a long-term digital preservation or archiving programme (such as CLOCKSS, Portico, or equivalent).
- High-quality article level metadata in standard interoperable non-proprietary format, under a CC0 public domain dedication. Metadata must include complete and reliable information on funding pro-

vided by cOAlition S funders (including as a minimum the name of the funder and the grant number/identifier).

- Machine-readable information on the Open Access status and the license embedded in the article, in standard non-proprietary format.

Strongly recommended additional criteria for all publication venues:

- Support for PIDs for authors (e.g., ORCID), funders, funding programmes and grants, institutions, and other relevant entities.
- Registering the self-archiving policy of the venue in SHERPA/RoMEO.
- Availability for download of full text for all publications (including supplementary text and data) in a machine-readable community standard format such as JATS XML.
- Direct deposition of publications (in a machine-readable community standard format such as JATS XML, and including complete metadata as described above) by the publisher into author designated or centralised Open Access repositories that fulfil the Plan S criteria.
- OpenAIRE compliance of the metadata.
- Linking to data, code, and other research outputs that underlie the publication and are available in external repositories.
- Openly accessible data on citations according to the standards by the Initiative for Open Citations (I4OC).

1.2 Specific conditions applicable to Open Access journals and Open Access publishing platforms:

The journal/platform must be registered in the Directory of Open Access Journals (DOAJ) or in the process of being registered.

In addition, the following criteria are required:

- Open Access journals must not have a mirror/sister subscription journal with substantial overlap in editorial board to avoid business models charging for both access and publication. Such journals will de facto be considered 'hybrid' journals.
- Transparent costing and pricing: information on the publishing costs and on any other factors impacting the publication fees must be openly available on the journal website/publishing platform.

- The journal/platform must provide APC waivers for authors from low-income economies and discounts for authors from lower middle-income economies, as well as waivers and discounts for other authors with demonstrable needs. Waiver policies must be described clearly on the journal website/platform and statistics on waivers requested and granted must be provided.

2. Requirements for Open Access Repositories

The repository must be registered in the Directory of Open Access Repositories (OpenDOAR) or in the process of being registered.

In addition, the following criteria for repositories apply:

Mandatory criteria for repositories:

- Use of PIDs for the deposited versions of the publications (with versioning, for example in case of revisions), such as DOI (preferable), URN, or Handle.
- High quality article level metadata in standard interoperable non-proprietary format, under a CC0 public domain dedication. This must include information on the DOI (or other PIDs) both of the original publication and the deposited version, on the version deposited (AAM/VoR), and on the Open Access status and the license of the deposited version. Metadata must include complete and reliable information on funding provided by cOAlition S funders (including as a minimum the name of the funder and the grant number/identifier).
- Machine readable information on the Open Access status and the license embedded in the article, in standard non-proprietary format.
- Continuous availability (uptime at least 99.7%, not taking into account scheduled downtime for maintenance or upgrades).
- Helpdesk: as a minimum an email address (functional mailbox) has to be provided; a response time of no more than one business day must be ensured.

Strongly recommended additional criteria for repositories:

- Manuscript submission system that supports both individual author uploads and bulk uploads of manuscripts (AAM or VoR) by publishers.
- Full text stored in a machine-readable community standard format such as JATS XML.

- Support for PIDs for authors (e.g., ORCID), funders, funding programmes and grants, institutions, and other relevant entities.
- Openly accessible data on citations according to the standards by the Initiative for Open Citations (I4OC).
- Open API to allow others (including machines) to access the content. A compliant API must be free to access without any barrier. A light authentication mechanism such as a token for ‘power users’ – e.g., high-traffic collaborators – is acceptable as long as there is a totally open/anonymous route too.
- OpenAIRE compliance of the metadata.
- Quality assurance processes to link full-text deposits with authoritative bibliographic metadata from third party systems, e.g. PubMed, Crossref, or SCOPUS where feasible.

6. Rights retention strategy

cOAlition S has developed a *Rights Retention Strategy* to give researchers supported by a cOAlition S Organisation the freedom to submit manuscripts for publication to their journal of choice, including subscription journals, whilst remaining fully compliant with Plan S. cOAlition S Organisations will facilitate this by changing their grant conditions to require that a Creative Commons Attribution licence (CC BY) is applied to all Author Accepted Manuscripts (AAMs) or Versions of Record (VoR) reporting original research, supported in whole or in part by their funding. Some cOAlition S Organisations will, as of the commencement of the grant, require their grantees to apply a CC BY licence to *all* future AAMs which arise from their funding (*prior licence*). Other cOAlition S Organisations will impose an obligation on their grantees that their research articles (either the AAM or VoR) are licensed CC BY (*prior obligation*). In either case (prior licence or prior obligation) all research articles which arise from funding from a cOAlition S Organisation must be licensed CC BY. cOAlition S Organisations’ grantees will also be required to ensure Open Access at the time of publication (no embargoes) to all research articles which arise from their funding. cOAlition S will give notice to publishers about these new grant conditions.

This strategy applies to research articles from researchers funded by a cOAlition S Organisation. However, it is especially relevant when submissions are made to journals whose publisher does not yet offer their authors the opportunity to make the VoR of research articles Open Access in a way that is aligned with Plan S. It, therefore, enables to continue to seek publication in their preferred journal by making the AAM available in a repository at the time of publication.

7. Criteria for transformative journals

A transformative journal is a subscription/hybrid journal that is committed to transitioning to a fully OA journal. In addition, it must:

- gradually increase the share of OA content and
- offset subscription income from payments for publishing services (to avoid double payments).

cOAlition S funders may decide to facilitate this transformation financially for those journals which adhere to the criteria outlined below.

Specific criteria for transformative journals

- A Transformative Journal will need to demonstrate an annual increase in the proportion of OA research content of at least 5% points in absolute terms, and at least 15% in relative terms, year-on-year.
- A transformative journal must clearly and publicly announce on the journal website its commitment to transition to full OA and agree to transition to full Open Access as soon as possible and in any event no later than when 75% of its research content is published Open Access. The publisher must also acknowledge that financial support from cOAlition S funders will end at the latest by 31 December 2024.
- A transformative journal must fulfil the requirements for publication venues detailed in Part III of the Plan S Implementation Guidance and make all the OA content available in accordance with the Plan S requirements.
- The transformative journal must implement transparent pricing for the OA content published under this model, and ensure that institutions purchasing a subscription to a transformative journal will pay only for remaining subscription content.

- The transformative journal must regularly update its authors on the usage, citations, and online attention of their published articles.
- The publisher of the transformative journal must provide an annual public report to cOAlition S, reporting on progress and demonstrating compliance with the requirements for transformative journals. The report must provide information on the usage – including downloads, citations, altmetric data – of OA articles compared with the subscription content published in the transformative journal. This annual report should also be made accessible on the journals' public website.

8. Monitoring the effects of Plan S on research and scholarly communication

Plan S aims for a major change in scholarly communication to full and immediate open access. This immediate access to research articles will foster more open collaboration between researchers and other independent scholars from all disciplines across the world and with analysts in and outside academia. The implementation of Plan S principles is expected to have a major impact on researchers' publishing practices and the way in which research is conducted and assessed. Many possible impacts of Plan S were communicated in the 600 plus responses received as part of the consultation process for the Plan S Implementation Guidance. Various challenges have been identified that need to be monitored and addressed, from disciplinary differences in publication cultures to global inequalities in access and funding for publication fees. A discussion on these impacts or effects is therefore in order.

To initiate the dialogue amongst stakeholders on the effects of Plan S, cOAlition S has developed a monitoring framework by which funding agencies who are signatories of Plan S can track or monitor the most significant of these effects, both positive and negative.

This framework has been primarily informed by the type of data funding agencies can collect and other available data sets, such that collated data against indicators from a cross-section of Plan S signatories will inform which effects are being realised and guide how cOAlition S might mitigate these effects.

There is concern that compliance with Plan S principles may negatively affect the Early Career Researchers' (ECRs) career paths.

Although cOAlition S is taking measures to ensure that researchers are not restricted in their publication venues, many ECRs are anxious that they will not have their funders' support to publish in their journal of choice, which may be a prestigious title not aligned to Plan S, and this may ultimately negatively impact their assessment and career progression. Because the connection of publication venue to career progression is currently strong, this effect will be monitored as a priority concern. A key consideration here is the potential effect of the implementation of responsible metrics initiatives such as DORA. Given that such initiatives will not be fully implemented by 1/1/2021 when Plan S policies first become active, cOAlition S is exploring methods to obtain early signals of changes in publishing behavior and problems encountered by researchers, as guided in the monitoring framework below.

Although initially focusing on the link between publication venues and careers, it does not in any way diminish the importance of other areas with the potential to be impacted, such as publication costs, learned societies, and administrative burden. Towards obtaining and analyzing meaningful data to enable cOAlition S funders to monitor the broad range of potential effects of Plan S identified, we will work with funders who are signatories of Plan S to identify suitable indicators, timely analysis and future actions. In this regard, it might be noted that other taskforces being established under cOAlition S are supporting elements of the monitoring framework through parallel initiatives. The taskforce who developed this monitoring framework comprises representatives of both cOAlition S funders (ANR, ARRS, INFN, Science Europe, SAMRC, SFI, and UKRI), and Early Career Researcher groups (EuroDoc, GYA, MCAA, and YAE), thus ensuring that the monitoring framework has been informed by the broadest range of perspectives and expertise.

9. How to comply with Plan S?

In this moment, compliancy is only specified for scholarly articles. There are three ways to comply:

- Publish in OA journal or on an OA platform, which are Plan S compliant (listed in DOAJ,

identified with DOI, professional archiving, open license).

- Publish in a subscription journal and deposit an electronic copy (either the accepted or the published version) in an OA repository, which is Plan S compliant, without embargo and with open license.
- Temporary: publish in a hybrid journal, on the condition that there is a transformative agreement with the publisher (commitment to turn Full OA in the near future).

Journal for ReAttach Therapy and Developmental Diversities is Plan S compliant.

10. Journal checker tool (JCT)

A web-based tool, which provides clear advice to researchers on how they can comply with their funder's Plan S-aligned Open Access policy when seeking to publish in their chosen journal. During this open testing phase, the community has the opportunity to get acquainted with the tool and provide feedback.

- Check it out here: <https://journalcheckertool.org>
- Read how it works: [Unboxing the Journal Checker Tool](#)
- Watch the demo video: [Journal Checker Tool](#)
- Learn how it relates to the Rights Retention Strategy: [4 things you should know about the Rights Retention Strategy and the Journal Checker Tool](#)
- Discover JCT's data sources: [Enabling accurate results within the Journal Checker Tool](#)

11. Discussion

Open access publishing in academia is very serious movement. The story started with Budapest Open Access Initiative which suggested to provide open access covering free reading option, reuse for writing and lecturing, copyright issues, depositing and machine readability - publishing convertible files - PDFs (OSF, 2001). A journal which is freely available online worldwide and does not rely upon the traditional subscription-based business model to generate revenue. Publicly accessible repository (archive) where all the work published by researchers/authors affiliated with the university/academy can be posted online. Contributes to the status of the institution by displaying the intellectual output of the institution.

All work is deposited in the repository by using interoperable software, which allows the works in the repositories to be searched and harvested. Such software is called Open Archives Initiative (OAI) compliant. Examples of OAI compliant software are ArXiv, DSpace, E-Prints, CDSware, i-Tor, etc.

The guiding principle behind Plan S is that research that has been paid with public money should not be locked behind paywalls. Publication paywalls are withholding a substantial amount of research results from a large fraction of the scientific community and from society as a whole. The current subscription-based model for scientific publishing, including Hybrid OA, are unsustainable and access to science should not be monetised in any way (KU Leuven, 2022).

The pay-per-paper business model has disadvantages. It risks excluding researchers who are less wealthy or are not backed by funders or institutions that will pick up the tab. Some journals are trialing business models that avoid directly charging authors per paper. Many hybrid journals have struck ‘transformative agreements’: contracts in which university consortia or libraries pay lump sums that both allow their scientists to publish work openly and cover subscriptions to paywalled content. In another idea, called ‘subscribe to open’, subscription journals each year offer to open up that year’s journal content if all their subscribers agree to continue paying fees (Else, 2022). **Journal for ReAttach Therapy and Developmental Diversities** began its bumpy path in science in 2018 as a specialised journal for reattach therapy and developmental disorders. It is internationally oriented with objectives to satisfy the appetites of psychologists, special educators, medical doctors and other related specialists from all over the world. This journal is platinum open access journal. It published papers online and provided free of charge for authors and their institutions, readers and libraries. Commercial and for-profit re-use is not allowed. Our policy is that science should not be for making profit. Our main publisher ReAttach Therapy International Foundation invests money to establish sustainable academic journal. In those four years we had success to indexed it in around 70 databases from which most relevant are: Scopus, EBSCO, DOAJ, CrossRef, Erih Plus, Science Open, and Dimensions. It is due to open access policy and following Plan S criteria.

The OA Diamond Journals Study Report is a fantastic resource for anybody interested in open access, and particularly for researchers and scholarly societies scrambling for solutions to the significant concerns arising in relation to implementing open access on a large scale. Researchers generally agree on the advantages and importance of making their work as widely accessible as possible. At the same time, they are concerned with the implications for, e.g., scholarly societies overseeing journals whose income often depends on subscription-based agreements with commercial or academic publishers (Plan S, 2022). Many researchers are not in a position to cover author-processing charges and may therefore be shut out of the publishing system especially in low and middle income budget countries. A policy for managing central open access funds came into effect on 01 January 2021. Funds will be prioritised to support publishing in fully open access journals, on fully open access platforms and Transformative Agreements with publishers. This aligns with the aim of Plan S to deliver immediate open access to research outputs and the principle not to support the ‘hybrid’ model of publishing. The universities should sign the San Francisco Declaration on Research Assessment (DORA, 2012). DORA aims to improve the way in which outputs of research are evaluated, eliminating the use of journal-based metrics and focusing on the intrinsic merit of research itself, a key principle of Plan S. The outputs from scientific research are many and varied, including research articles reporting new knowledge, data, reagents, and software; intellectual property; and highly trained young scientists. Funding agencies, institutions that employ scientists, and scientists themselves, all have a desire, and need, to assess the quality and impact of scientific outputs. It is thus imperative that scientific output is measured accurately and evaluated wisely.

Researchers, when involved in committees making decisions about funding, hiring, tenure, or promotion, make assessments based on scientific content rather than publication metrics. Wherever appropriate, cite primary literature in which observations are first reported rather than reviews in order to give credit where credit is due. They should use a range of article metrics and indicators on personal/supporting statements, as evidence of

the impact of individual published articles and other research outputs. It is good to challenge research assessment practices that rely inappropriately on Journal Impact Factors and promote and teach best practice that focuses on the value and influence of specific research outputs (Altmetrics, 2017).

As open access becomes more widespread, more data is becoming available to explore the impacts. In 2014, the Research Information Network analysed the web traffic on more than 700 articles published in hybrid science journal *Nature Communications*. They found that over a six-month period, open access articles were viewed twice as often as those available only via subscription. Additional review of more than 2,000 papers published in *Nature Communications* between April 2010 and June 2013 found that OA articles had a median of 11 citations. This is compared to non-OA articles, which had a median of 7 citations (Enago, 2020).

12. Conclusions

Preparing open access journal in academia does not mean no costs publishing. A big commitment and perseverance in publishing is essential. The editorial teams need to put more effort into increasing the visibility of the journal online, and they can do it by sharing the labor of the social media. Implementing the Plan S is an imperative for every modern journal. This lead in promotion of high scientific and ethical standards in the journals. There is need of well-experienced web administrators who know good scientific publishing and the need for better IT infrastructure in small journals as well. Journals that previously offered no route to make peer-reviewed articles immediately OA now do — even if only for authors with Plan S funders — and there's been a blossoming of experiments with OA business models. Plan S has some specific publication guidelines that journals have to follow. Journals must clearly state these policies on their websites. Peer review policies are statements about the editorial processes that a journal follows. Making your research available to all is not only the right thing to do, but also the smart thing to do.

13. Conflict of interests

Author declares no conflict of interests.

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