



Roadmap to Plan S for Australia

Final Report

Dimity Flanagan

Manager, Scholarly Communications, University of Melbourne

Virginia Barbour

Director, Australasian Open Access Strategy Group & Co-Lead, QUT Office for Scholarly Communication

Scott Nicholls

Associate University Librarian (Library Research and Collections), University of Western Australia

Megan Saville

Director Teaching Services, Academic Engagement and Collections, University of New South Wales

Alison Slocombe

Director (Acting) Library Services, Southern Cross University

Kay Steel

Manager Research & Strategic Projects, Federation University

Amberlyn Thomas

Director Learning and Research Services, The University of Queensland

Steven Yeend

Manager: Information Management Services, University of South Australia

Catherine Clark

CAUL Director, Advancing Open Scholarship (FAIR) Program and University Librarian, Curtin University

Contact information

PO Box 8169

Australian National University

ACT 0200

Email: caul@caul.edu.au

Released 8 May 2020 © Council of Australian University Librarians

This report is released under a Creative Commons Attribution License 4.0

Executive Summary

This report, commissioned by the Council of Australian University Librarians, for delivery to the DVCsR Committee, provides an analysis of the challenges and opportunities arising from Plan S for Australian researchers and universities, including high-level recommendations on how Australian universities should proceed in order to meet compliance obligations from 2021.

The report considers the scale of the Plan S compliance issue, finding that 5% of Australian university research publications are affected by Plan S compliance obligations, and typically 0-2% of total research funding is from Coalition S funders. However, addressing compliance issues for affected researchers, can provide more open access publication options for all Australian university researchers in line with indications of similar requirements by other funding bodies. This allows for the challenges presented by Plan S compliance to be transformed into opportunities to enhance Australian research visibility more broadly.

While a full set of recommendations can be found at the end of the report, the following summarises the high priority, urgent actions required:

- University Executives must set out clear institutional open access policy positions that align with Plan S and align recognition and reward frameworks accordingly.
- University Executives must ensure there is a central research support capability to identify affected researchers and to offer highly tailored advice.
- Universities must adequately support institutional repositories to fulfil Plan S technical and service requirements.
- CAUL must pursue negotiations with publishers to minimise or eliminate transactional APCs for open access journals.
- CAUL must ensure publishing output data and new consortium models are developed to improve the value of transformative agreements.

Introduction

Plan S is the most significant, coordinated international approach to Open Access (OA) that has been seen thus far. The principles of Plan S, released in September 2018, come into force in January 2021, giving the scholarly publishing ecosystem just over two years to adapt. While OA research outputs have been increasing steadily since the Budapest Declaration in 2002, the rate of transition to OA has been relatively slow. In one of the most recent studies on the state of OA it was reported that total OA publishing only represents 27.9% – 47% of all publishing¹. In 2018 Australian universities self-reported that an average of 32% of research publications submitted to the 2018 ERA were OA,² the CWTS Leiden Ranking 2019 for OA showed that by 2017 an average of only 40.3% of Australia's research was OA³. Plan S signals a shift in attitudes of funders, no longer willing to delay public access to research.

The core components of Plan S are:

- Author or their institution retain copyright
- Research outputs (journal articles and conference proceedings) are released OA immediately upon publication
- Research outputs must be published under an open license, preferably the Creative Commons Attribution license (CC BY)
- No support for publishing in hybrid journals⁴ unless they are part of a transformative agreement

Coalition S has 24 funders, predominantly from Europe, but also including the Gates Foundation in the US and the World Health Organisation. It must be noted that there is some doubt whether signatories will follow Plan S to the letter when they release their own policies.⁵ However, it is likely that the goal of immediate public access to research will remain key.

This report introduces and analyses the compliance requirements of Plan S and the steps Australian universities will need to take to ensure that all these options are available to Coalition S funded researchers. While this report looks at the current landscape of Coalition S funding in Australia, it is important for the Australian university community to recognise that the global policy context is rapidly evolving and more funders are likely to adopt similar policies in the coming years. At the current time, the White House Office of Science and Technology Policy (OSTP) is seeking further stakeholder input as it moves to increase public access to research results. There are reports that the OSTP is looking to move from a 12

¹ Piwowar, H., Priem, J., Larivière, V., Alperin, J. P., Matthias, L., Norlander, B., . . . Haustein, S. (2018). 'The state of OA: a large-scale analysis of the prevalence and impact of Open Access articles' *PeerJ*, 6, e4375. doi:10.7717/peerj.4375

² 'Section 1 | ERA 2018 National Overview: Open Access' *Australian Research Council*, Available at: <https://dataportal.arc.gov.au/ERA/NationalReport/2018/pages/section1/open-access/>

³ 'CWTS Leiden Ranking 2019' *Centre for Science and Technology Studies*, Available at: <https://www.leidenranking.com/>

⁴ A hybrid open-access journal is a subscription journal in which some of the articles are open access. To make an article open access typically requires the payment of an APC.

⁵ UKRI, a Coalition S member, is currently undertaking an Open Access Review Consultation. This shows that while some Plan S principles are included, others, such as requiring the author or institution to retain copyright, are still under consideration. See: <https://www.ukri.org/funding/information-for-award-holders/open-access/open-access-review/#pagecontentid-0>

month embargo to OA on publication.⁶ It is also important to consider that Plan S has signalled that the policy will apply to monographs, and will release further information on this at the conclusion of 2021.⁷

Plan S comes at a time when many countries are developing national approaches to OA. A feature of the most successful national approaches is high level support by a key individual or group. Examples include the Netherlands (support from Sander Dekker, then Minister for Science⁸), Sweden (Advisory Group for Open Access chaired by the Chair of the Board of The Swedish Rectors' Conference⁹), and, very recently, Canada (support from Canada's Chief Science Advisor¹⁰). Recent national and global events, especially the pandemic of the coronavirus disease (COVID-19), have brought into sharp focus the need for rapid coordinated sharing of research and data and have also established that there is the technical capability to do this.¹¹ There is an opportunity for Australia, as it pursues Plan S compliance, to also establish a coordinated national approach to OA. This would ensure that Australian research can continue to be a full part of the international research ecosystem in normal times and times of emergency.

The state of Coalition S funding in Australia

For this project, the team looked at both Coalition S funding in Australia and total research outputs produced with a Coalition S acknowledgement. This allows universities to understand the size of the compliance requirement for Australian Chief Investigators, but also the number of researchers who will be impacted by Plan S and the implications for available compliant publication outlets. This will be particularly relevant to researchers with international collaborators where major national funding bodies have signed up to Plan S, for example the United Kingdom.

The level of direct funding from Coalition S to Australian researchers is quite small, accounting for approximately 0 to 1% of total research funding for the majority of institutions. This contrasts to the amount of research that is impacted by Plan S, where 5% of publications with at least one author having an Australian affiliation in 2018 and 2019 acknowledge a Coalition S funder or sponsor.¹² For further information on the state of Coalition S funding in Australia, see Appendix. While it is clear that Plan S will only impact a small proportion of Australian research, it is important to recognise the wider trend of funder OA policies and national open science plans. It is expected that OA requirements will

⁶ 'White House Seeking Additional Input on Open Access Options' *American Institute of Physics*, 21/02/2020, Available at: <https://www.aip.org/fyi/2020/white-house-seeking-additional-input-open-access-options>

⁷ Coalition S (2019) 'Plan S implementation guidance' *European Science Foundation*, Available at: <https://www.coalition-s.org/addendum-to-the-coalition-s-guidance-on-the-implementation-of-plan-s/principles-and-implementation/>

⁸ VSNU (2016) 'The Netherlands: paving the way for open access' *VSNU: De Vereniging van Universiteiten*, Available at: <https://vsnu.nl/files/documenten/Domeinen/Onderzoek/Open%20access/Ezine-OpenAccess-ENG-mrch2016.pdf>

⁹ Kungliga biblioteket (2017) 'Coordination of Open Access to Research Publications in Sweden' *Kungliga biblioteket*, Available at: http://www.kb.se/dokument/open%20access/OpenAccess_National_Library_Sweden_2017_2019.pdf

¹⁰ Office of the Chief Science Advisor of Canada (2020) 'Roadmap for Open Science' *Government of Canada*, Available at: http://science.gc.ca/eic/site/063.nsf/eng/h_97992.html

¹¹ Kupferschmidt, K. "A completely new culture of doing research.' Coronavirus outbreak changes how scientists communicate' *Science*, 26/02/2020, Available at: <https://www.sciencemag.org/news/2020/02/completely-new-culture-doing-research-coronavirus-outbreak-changes-how-scientists>

¹² Publication data on Coalition S funder acknowledgements was taken from Dimensions at <https://app.dimensions.ai/>. Data on direct funding from Coalition S was a result of a survey circulated by CAUL in February 2020 regarding funding received from Coalition S funders in 2018 and 2019. 21 of 39 Australian universities responded to this survey.

continue to increase for Australian researchers, and that it would be better to act proactively and keep pace with global developments.

Pathways to compliance

Repository Route

Under the repository route to Plan S compliance, 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 and immediately available in a repository. The repository route means that repositories must facilitate Plan S compliance and FAIR principles by meeting mandatory criteria by January 2021. This report addresses the system compliance component of the repository route. However, it is worth noting that the repository route could become the main route to compliance if universities were to introduce a license for retaining rights to research publications. This is addressed in the CAUL Retaining Rights IP Policy Project recommendations. Without such rights retention, the repository route will be subject to publisher policies. At this point in time, only a limited number of publishers have a zero embargo self-archiving OA policy, and this does not yet include the right to release it under a CC BY license.¹³

In August 2019, CAUL and AOASG undertook a survey of all Australian and New Zealand universities to determine the level of Plan S compliance by repositories¹⁴. There were 32 unique responses received (response rate of 68%), 24 of which were from Australian universities. The results identified that none of the responding institutions had repositories that met all the mandatory criteria for Plan S. A summary of responses is provided in Image 1. The majority of these repository platforms should be able to meet the minimum Plan S requirements for repositories by allocating some staff resources to make the necessary technological and procedural adjustments within the timeframe. However, none of the repositories are currently compliant with all principles, including the two essential Plan S principles: immediate access to author accepted manuscripts, and CC-BY licenses¹⁵ on these manuscripts.

¹³ Taylor, S (2020) 'Publishers allowing AAM ('postprint') posting to repositories without embargo' *Royal Society*, Available at: https://figshare.com/articles/Publishers_allowing_AAM_postprint_posting_to_repositories_without_embargo/11726133

¹⁴ Borchert, M & Barbour, V (2019) 'Where to from here? CAUL Review of Australian Repository Infrastructure' *Council of Australian University Librarians*. (CAUL members discussion paper, not available online)

¹⁵ A license which allows for a work to be shared and adapted. More information available at: <https://creativecommons.org/licenses/by/4.0/>

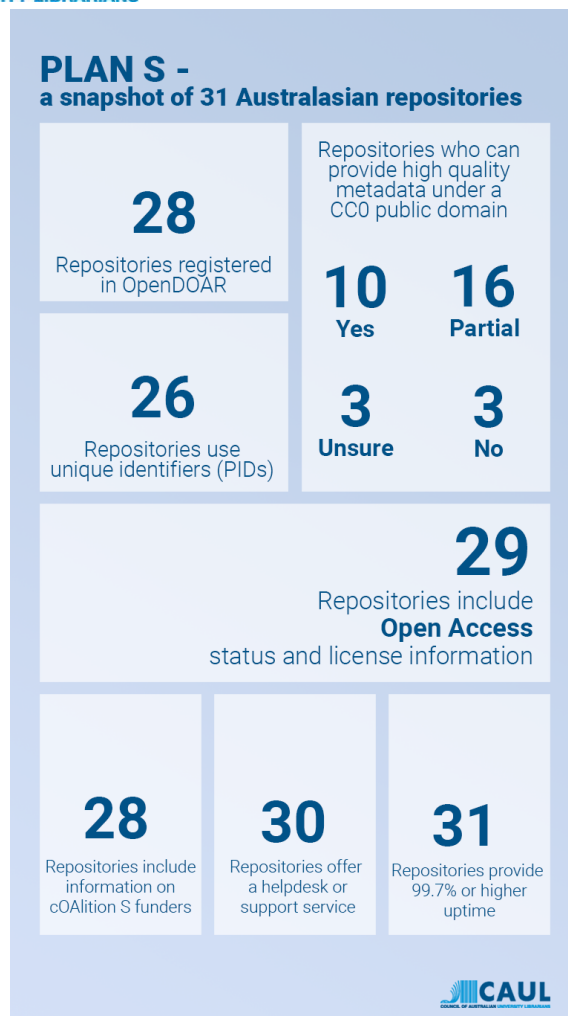


Image 1: Snapshot of Australasian institutional repository compliance, August 2019¹⁶

Open Access journals and platforms route

Under the OA publishing venues route, an author must publish their scholarly articles in a fully OA journal or platform¹⁷. Hybrid OA publication will not be supported, except during any period of publisher transition to transformative agreements or transformative journals¹⁸ within a clearly defined timeframe. Transformative agreements will be discussed in the next section. Currently, publication in an OA journal or on an OA platform is the simplest route to

¹⁶ Borchert, M & Barbour, V, op cit.

¹⁷ 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). Typically, the platforms are provided by funders and allow a funder's grantees to openly share any research they think is fit to publish, along with any dependent raw data and code. Referees then openly review the work. APCs are directly covered by the funders themselves. See Ingraham, T (2018) 'Funder-based open publishing platforms: what they are and why they're happening' *Australasian Open Access Strategy Group*, Available at: <https://aoasg.org.au/2018/09/11/funder-based-open-publishing-platforms-what-they-are-and-why-theyre-happening/>

¹⁸ Transformative journals are not explicitly addressed in this report as updated criteria was only released 8 April 2020. At this time only Springer Nature have signalled they will transition journals to OA. Coalition S funded researchers will be able to publish in transformative journals through an APC but subscription costs should be offset accordingly. APC funding, as through the OA journal or platform route, is the responsibility of the funder and the institution. For more information, see: <https://www.coalition-s.org/coalition-s-publishes-updated-criteria-for-transformative-journals/>

compliance, as it does not entail system changes or new publishing agreements. However, Plan S does stipulate that the responsibility for Article Processing Charges (APCs) lies with the funder and the institution. Therefore, there is an element of uncertainty over whether funders will cover all APCs for the publications associated with the grant, or whether universities will also need to resource a central APC fund.

Financial uncertainty aside, compliance through this route may prove unattractive to many researchers for the following reasons:

- Perceptions that OA journals are low quality. This stems from the idea that paying to publish is related to vanity publishing. While there are many OA journals that do not require an APC payment, many high quality, prestigious OA journals do operate on an APC model (e.g Scientific Reports and Nature Communications).
- Institutional incentives that promote publishing in traditional subscription journals. Academics are conditioned, to a very high degree, by the academic reward system when they choose which journals and conferences to submit their papers. In most universities, publishing in the leading established journals in one's field is highly rewarded. For some disciplines, there are many well-established, highly-regarded OA journals, particularly in Biomedicine. However, for many disciplines, the OA journal market is still in its infancy and so journals have not developed a strong global reputation.
- Lack of choice for Humanities, Arts and Social Science researchers. cOAlition S is conducting a gap analysis of OA journals/platforms to identify fields and disciplines where there is a need to increase the share of OA journals/platforms. Addressing the gaps will take time, meaning other routes to compliance will be more appropriate in the interim for some disciplines.

For universities to support publishing in OA journals and platforms, aside from addressing the issues above, financial obstacles for researchers will need to be removed. Even if funders provide grant money for publication fees, universities can ensure this money goes further by negotiating discounts with publishers. Of the top 10 OA journals in which Australian researchers published in 2019, only three are owned by an OA publishing company.¹⁹ This data illustrates that the majority of the most popular OA journals are not part of OA publishing organisations. This means that APC discounts are likely to be negotiated as part of wider transformative agreements. Any negotiated discounts may also have implications for the administrative management of these accounts with publishers.

Transformative agreements route

In this route to compliance, an author would be able to publish OA in a subscription journal (including journals classified as hybrid) as long as the journal is part of a transformative agreement. Given a large percentage of major publisher journals are hybrid,²⁰ this pathway offers the most potential to transform publishing to OA at scale. It also requires the least adjustment for researchers as it removes the requirement for them to manage author-facing publication fees or deposit AAMs into repositories.

¹⁹ Data retrieved from Dimensions <https://app.dimensions.ai/> in January 2020. OA publishing companies (those that do not publish any subscription journals) represented in top 10 include Public Library of Science and MDPI.

²⁰ A study carried out estimated that there were almost 10,000 hybrid journals at the end of 2016, and 73% of the journal output of the big five publishers were hybrid. See Björk, Bo-Christer. 'Growth of Hybrid Open Access, 2009-2016.' *PeerJ* 2017.9 (2017): <https://peerj.com/articles/3878.pdf>.

Transformative agreements aim to transition the form, conditions, costs and requirements of publishing research with scholarly publishers or societies from subscription based access to OA. Underlying transformative agreements is the principle of moving existing money used to pay to read (access paywalled content), and redirecting it to pay publisher costs to make content open access. Coalition S importantly only sees these agreements as temporary and transitional. These agreements are not expected to go beyond 31 December 2024. After this date, the publisher is required to have transitioned their payment model from a pay to read model (content behind a paywall) to a pay to publish model (content OA).

“Read and Publish” and “Publish and Read” are two major forms of transformative agreements that have emerged, although others do exist. With “read and publish” agreements, costing is based mainly on the read component (the subscription cost). With “publish and read” agreements, generally speaking, costing is based mainly on the publish component of articles.

Coalition S specifies that these agreements need to adhere to the Efficiency and Standards for Article Charges (ESAC) guidelines for transformative agreements. These guidelines outline key principles for transformative agreements including:

- Authors retain copyright
- Agreements must be transparent
- Agreements must constrain costs of scholarly communication and foster equity in scholarly publishing

Internationally there are now over 80 transformative agreements that have been negotiated and listed on the ESAC transformative agreement register.²¹ Most agreements have been within Europe.

As of February 2020, the Council of Australian University Librarians (CAUL) has negotiated two pilot transformative agreements with the societal publishers Biochemical Society (Portland Press) and Microbiology Society. These agreements are opt-in by consortia members. There are also ongoing discussions between CAUL and interested mid to large sized publishers to expand pilot publish and read agreements, most probably from 2021. Individual university libraries are also engaging with publishers directly on pilot publish and read agreements.

CAUL recognises a number of current challenges with a move to transformative agreements that require resolution:

- Accurate measuring of publishing output data with publishers is essential to ensure price modelling is correct. Experience to date has shown that publishers have not been able to provide this.
- Transformative agreements shift pricing models from being based on institution size or usage to volume of research publishing. For some universities, this will mean costs will increase to align with research output volume, while for other Universities, costs will decrease.
- CAUL is aiming for the transition to any transformative agreement to be at least cost neutral at the consortium level. To date, the publisher stance has been that pricing should be based on existing subscription spend plus APCs. Within Australia,

²¹ Efficiency and Standards for Article Charges, 'Agreement Registry' Max Planck Society for the Advancement of Science, Available at: <https://esac-initiative.org/about/transformative-agreements/agreement-registry/>

subscription costs typically come from Library budgets while APC costs can come from a variety of sources including grant funding. Any move to transformative agreements may require these funding sources to be aggregated.

- There is a lack of automated publisher publication systems and procedural readiness to manage the whole publish and read workflow. These systems would provide the mechanisms to control the total spend and provide accuracy of account performance reporting.
- Publisher willingness to negotiate transformative agreements within Australia will be in part informed by Australian government funders' alignment with global scholarly publishing initiatives such as Plan S. The ARC and NHMRC have not yet endorsed Plan S.

Conclusion

Without any action, Coalition S funded researchers in Australia will have limited choice when it comes to publishing their research in a Plan S compliant way. This could include not being able to publish in a number of high impact journals.

The recommendations from this report look at actions that need to be taken to ensure Plan S compliance and to expand the compliant outlets available to researchers. This will require mobilisation of resources at both institutional and national levels. While some actions can be achieved by the end of 2020, many will require a longer timeframe, such as transformative agreement negotiations and changing attitudes to open access publishing venues.

Actions taken to enable Plan S compliance will not only provide greater choice for Australian researchers publishing Coalition S funded research, it will help to build a culture, infrastructure, and publishing process that will support greater open access for all publishing from Australian universities. This will make Australian research more open internationally and provide opportunity for greater engagement and impact. It is important to emphasise that the recommendations of this report should form part of a broader coordinated national approach to open access, of which there are many leading examples across the globe.²²

²² For more information, see Canada's Roadmap for Open Science: https://www.ic.gc.ca/eic/site/063.nsf/eng/h_97992.html; France's National Roadmap for Open Science: <https://www.ouvrirlascience.fr/national-plan-for-open-science-4th-july-2018/>; Netherland's National Plan Open Science: https://www.openscience.nl/files/openscience/2019-02/nationalplanopenscience_en.pdf

Recommendations

Impact

		High	Low		
Effort	Low	1	3	1 = High priority, short timeframe	3 = Low priority, short timeframe
	High	2	4	2 = High priority, long timeframe	4 = Low priority, long timeframe

Recommendations		Plan S Route	Category	Responsibility	Action
1.	Universities to determine institutional policy positions on open access in line with Plan S.	All	Policy	University Executive	1
2.	Universities to implement recognition and reward frameworks that clearly align with the intent and compliance requirements of Plan S.	All	Policy	University Executive	1
3.	Support the ability to identify in grant management systems which grants, and therefore which researchers, are subject to Plan S compliance and implement workflows to facilitate and track compliance.	All	Systems	University Executive	1
4.	Develop central research support capability that understands Plan S compliance options and can offer highly tailored advice to researchers, including journal quality assessment, options for HASS researchers and implications for international collaborations.	All	Personnel	University Executive	1
5.	Universities to implement IP policies that facilitate the requirements of Plan S	Repository	Policy	University Executive	2

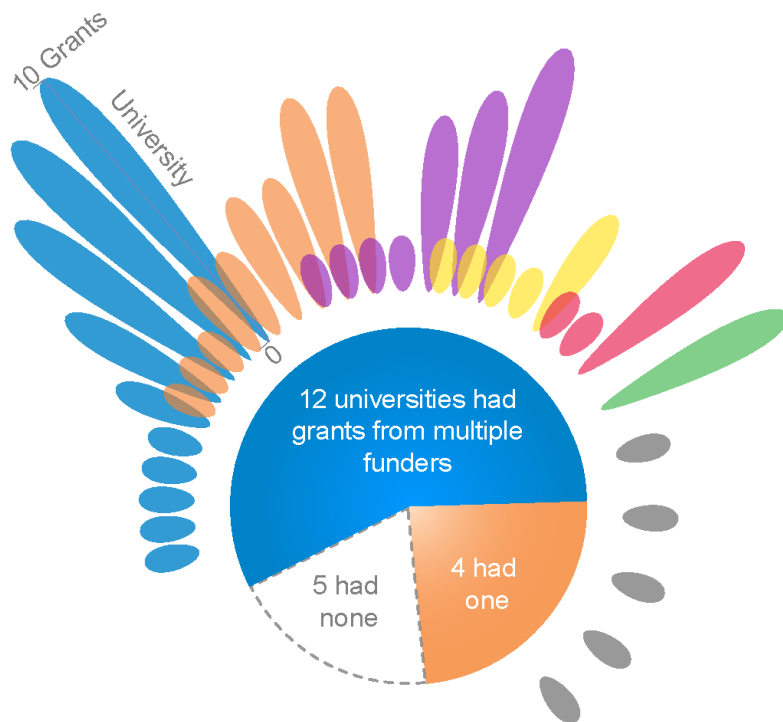
	repository compliance (refer to the CAUL Retaining Rights IP Policy Project recommendations).				
6.	Allocate funds to cover APCs for Coalition S supported researchers.	OA publishing venues	Financial	University Executive and funders	2
7.	Conduct a baseline analysis of the institutional repository and direct resources to system and policy modifications to meet Plan S requirements.	Repository	Systems	University Librarians	1
8.	Provide further education in institutions to help researchers assess the quality of journals beyond the journal impact factor and break down misconceptions about perceived quality issues of open access journals.	All	Cultural	University Librarians	4
9.	Pursue negotiations with open access publishers to minimise or eliminate transactional APCs and provide administrative management dashboards.	OA publishing venues	Financial	CAUL	2
10.	Ensure that the negotiation of transformative agreements includes the open access journal portfolio of that publisher.	OA publishing venues, Transformative	Financial	CAUL	2
11.	Refine work on methodologies to improve accurate assessment of measuring publishing output data for Australian institutions.	OA publishing venues, Transformative	Financial	CAUL	2
12.	Develop new consortium models for distributing costs within transformative agreements.	Transformative	Financial	CAUL	2
13.	Explore models for potential aggregation of funds to support specific	Transformative	Financial	CAUL and funders	2

	transformative agreements. These would focus on those publishers where ARC/NHMRC grants are already being used to cover APC costs.				
14.	Identify and recommend open access management software solutions that will assist researchers, libraries, publishers, and funders to efficiently and accurately manage open access workflows.	All	Systems	CAUL	2

Appendix

Grants from cOAlition S funders to Australian universities in 2018-2019

11 Funders, 21 Universities, 104 Grants



Researchers funded by cOAlition S 2018/19

Globally

11-13% active grants and sponsors. 3% publications that acknowledge cOAlition S funder or sponsor.

Australia

6% active grants and sponsors. 5% publications that acknowledge cOAlition S funder or sponsor.

Data

The Australian and global comparisons on Coalition S publications and active grants was taken from Dimensions <https://app.dimensions.ai>

Grants	Universities	Funder
37	10	European Commission (EC)
23	9	Gates Foundation (BMG)
20	7	World Health Organization (WH)
7	5	Wellcome Trust
7	3	Research Council of Norway
5	1	European Research Council (ERC)
1	1	Luxembourger National Research Fund (FN)
1	1	Netherlands Organisation for Scientific Research (NW)
1	1	The South African Medical Research Council (SAMR)
1	1	Swedish Research Council for Sustainable Development (FORMA)
1	1	Swedish Research Council for Health, Working Life (FORTE)

Data on direct funding from Coalition S was a result of a survey circulated by CAUL in February 2020 regarding funding received from Coalition S funders in 2018 and 2019. 21 of 39 Australian universities responded to this survey.