

Society Publishers Accelerating **Open Access** and **Plan S** (SPA OPS)

Final Project Report

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Abstract

Wellcome, UKRI, and the Association of Learned and Professional Society Publishers (ALPSP) commissioned Information Power Ltd to undertake a project to support society publishers to accelerate their transition to Open Access (OA) in alignment with Plan S and the wider move to accelerate immediate OA. This project is part of a range of activity that cOAlition S partners are taking forward to support the implementation of Plan S principles.

27 business models and strategies that can be deployed by publishers to transition successfully to OA were published. We surveyed society publishers about their experience of and interest in these models, and found that transformative agreements – including models such as Subscribe to Open – emerged as the most promising because they offer a predictable, steady funding stream. Also very useful are APC models if authors are funded and willing to pay such charges, immediate sharing of accepted manuscripts or final articles under a CC-BY license, cooperation, cost savings, and revenue diversification. Respondents often equated OA generally with the Article Publishing Charges (APC) business model in particular, and expressed concern about this model because of the uneven availability of funding for authors or willingness to pay APCs even when funding is available. However, only three of the 27 models that emerged during the project relied on author payments for articles.

In parallel, we surveyed library consortia about their willingness to engage with and support learned society publishers to make a full and successful transition to OA. Outcomes demonstrate support in principle from library consortia and their members to repurpose existing expenditure to help society publishers make this transition. Librarians see working together in this new way as strategic because it offers the prospect of creating new business

models that are more equitable, sustainable, and transparent. It is essential in the short term to gain practical experience of working with small and medium-sized publishers on transformative agreements, and in the medium term to develop models that do not shift costs exclusively to authors or research-intensive institutions. Principles to inform the short- and medium-term development of an OA transformative agreement toolkit were generated jointly by consortium representatives and publishers.

Introduction

Wellcome, UKRI, and the Association of Learned and Professional Society Publishers (ALPSP) commissioned Information Power Ltd to support learned society publishers to thrive as they align with Plan S and the wider transition to immediate Open Access. This was in response to concerns expressed in response to Plan S, Wellcome's future Open Access policy (as the first funder policy to incorporate the Plan S principles) and other related developments by learned society publishers reliant on the hybrid Open Access publishing model who feared they would have no access to consortia for transformative agreements.

During a transition period, the Plan S guidance states funders will not fund APCs for hybrid OA journals unless the journal is part of a transformative agreement. The only way a researcher could publish in such a journal and comply with Plan S would be if the journal allowed them to deposit their accepted manuscript in a suitable repository at the time of publication, without embargo, under a CC-BY licence. This would mean that they could be re-used and re-distributed, as long as the original work was properly cited.

Is this work timely and important? Yes, we believe it is. Stakeholders are pushing not only for a change in business models to ensure research publications are openly available at the time of publication. That would be hard enough. But there is simultaneously real pressure from funders, libraries, research institutions, universities, and some researchers for publishers to reduce the costs to academia of the publication system. All of this is happening while exciting possibilities emerge for innovation in research services by harnessing technology such as artificial intelligence, big data, and social media. The result is a rather heady mix of challenge and opportunity, for all stakeholders in scholarly communications and not only publishers.

From the outset we aimed for this project to be very practicable both for learned society publishers and for other stakeholders who seek to support them to make a full and successful transition to OA publishing. From its start in the world of possibility and advocacy, OA has steadily moved into the realm of real-world practice. This shift began in various parts of the world, in different subject areas, and at different times. Funder policies have become a powerful global driver of change: UNESCO tracks OA policies in 156 countries around the world.¹ There is a growing pattern of commitment by a growing number of influential stakeholders in the research information landscape to a worldwide transition to OA.

With the publication of the Finch Report² in 2012, the UK embraced a policy framework aimed at a managed transition to OA. All routes to OA were in line with the framework, additional funding was set aside by UK funding organisations and given to leading research organisations to support Article Publishing Charges (APCs) and/or OA infrastructure costs, and all stakeholders were actively engaged.

Implementation of the UK's national policy was co-ordinated and monitored by an Open Access Coordination Group formed by Universities UK (UUK) and chaired by Adam Tickell. This group commissioned short reviews in 2015³ and 2017⁴ which described progress and new challenges that arose. They found:

- Real progress toward the goal of increasing the percentage of UK outputs that were open access. The global proportion of articles accessible immediately on publication rose from 18% in 2014 to 25% in 2016, and the UK articles accessible immediately on publication rose from 20% to 37% during this same period.
- Hybrid journals were crucially important to the growth in immediate OA uptake. In 2016 UK researchers chose to publish more than half their articles in these titles, and the proportion of such articles published on immediate OA terms rose from 6% in 2012 to 28% in 2016.
- There was also real and escalating concern at rising costs. Subscription costs continued to grow alongside the new APC costs and OA infrastructure costs. The magnitude of rising costs, particularly when concentrated with a small number of publishers, was of concern to funders who were a major source of support for APC expenditure. 'More than half the expenditure on APCs in 2016 went to the three major publishing groups, Elsevier, Springer Nature, and Wiley, with a particularly sharp rise for Elsevier since 2014.'⁵

In his independent review,⁶ Adam Tickell recognised that the publishing industry had done a great deal of work to implement most elements of the UK's national policy. Acknowledging prior publisher efforts in this way—for example investing in the systems

to convert their titles to hybrid OA and providing free access in UK public libraries,⁷ both recommendations of the Finch Group—should help unlock goodwill for the further transition to come.

For there remains more to do, and in a different way from what has come before. It would be helpful for publishers to acknowledge that other stakeholders do not feel publishers have delivered enough transparency or any price restraint. Rather than deploying hybrid journals to help drive a quick and orderly transition to full OA in a way that is perceived as fair and sustainable for all stakeholders, many publishers added a new Article Publishing Charge (APC) revenue stream on top of existing subscription revenues, crafted options in such a way as to maximise both of these revenue streams, focused effort on increasing article market share and/or the total volume of articles published, and reserved the benefit of any efficiency gains for themselves.

As outlined in a Jisc review⁸, concern about price increases drives broader concerns about anything that reinforces the journal brand as a proxy for quality, journal articles as a primary unit of quality assessment, the existing market power and financial returns to publishers, and the subscription model through OA uptake in hybrid titles. This review recommended that new strings be attached to the use of public funds for APCs, particularly in hybrid journals. The aim of these strings was to prioritise APC funding with publishers in ways that encouraged a full transition to OA and was accompanied by service-level agreements to support OA in practice and in ways practicable for research libraries, and to encourage more active engagement by funders in negotiations with publishers.

This UK experience is mirrored around the world on all continents. In Europe, for example, Member State ministers had agreed a target of 100% OA by 2020 in 2016 and by 2018 serious concern

was expressed about the slow progress to reach this target. Plan S, announced in September 2018, is the initiative of cOAlition S, a consortium of international funders and research agencies coordinated by Science Europe and supported by the European Commission and the European Research Council. This is the most recent impactful policy intervention by funders, increasingly active and influential on OA around the world, to accelerate the move to a world where all research findings are immediately available OA. The plan is structured around 10 principles which call for the establishment of an intellectual commons, requiring research funded by public grants to be immediately published in compliant OA journals or platforms.

If the number of researchers covered by Plan S-compliant funding increases, it is likely, over time, to put pressure on the business models of many of those learned societies that derive most of their income from publishing activity. Plan S-funded outputs already make up around 7% of global papers and are well cited and published in high-impact journals.⁹

We hope the outputs from this project will provide helpful information and support to the many stakeholders considering ways to support a full transition to OA through policy and practice.

Key issues learned societies face in the light of Plan S

Learned societies are organisations that promote a scholarly discipline or group of disciplines and are found in large numbers around the world.¹⁰ Most are not-for-profit organisations. Their activities typically include accreditation, advocacy, conferences, education,

influencing, and training. Many have academic journals, some of which are published independently and many of which are published under contract by larger, more commercial publishers.

As one society publisher eloquently put it, ‘Often society publishers have a small number of very prestigious journals—so a small output of high-quality articles that have gone through exacting and high-quality editorial and production services. There is no scale to the system, the costs are high (for the right reasons) and the publishing output is low. It is a source of great pride to societies that we run the “best” and most reputable journals in our field, and it is not a coincidence that we do—we are closer to our communities than other publishers (or we should be). So, there is both a business and an emotional connection to society publications for our communities.’

Generally, learned societies have begun their OA journey by publishing hybrid open-access journals, usually funded by payment of APCs. There are examples of these journals having flipped from hybrid OA to full OA¹¹ and there are also more than 1,000 fully OA journals published by society publishers.

Successful OA and Plan S-compliant business models will be important, and challenging, for learned society publishers for many reasons. Some of the challenges they face in common with other publishers, and some are more related to their mission, size, and subject areas.

Funding for APCs is a key concern for many publishers as they contemplate a transition to open access. For journals to flip to OA, budgets must also flip. A challenge in some subject areas—notably the humanities, social sciences, and areas with authors who are clinicians or practitioners—is that authors often do not receive

direct grants to fund their research. In these areas the availability of money to pay for APCs is severely limited.

If a transition to Open Access results in a decrease in publishing revenues, this will affect some learned society publishers disproportionately. Many rely on their publishing not only to cover their publishing costs, but to generate revenue for other activities they undertake, such as hosting meetings and conferences, and awarding fellowships and other grants. While some society publishers have reserves or diversified funding streams, this is certainly not true for all.

Increasingly, questions are being asked about the extent to which funders and libraries can or should subsidise society activities via payments to journals, particularly where there are profit margins of more, sometimes much more, than 25%.¹² While there is wide support for the mission of these societies, there are other ways in which their activities might be funded, including direct donations.

The 2017 UUK monitoring report¹³ looked closely at learned societies, concluding that while the financial health of those in the UK ‘remained sound in aggregate, margins from publishing declined in the period 2011–2015’ and that ‘revenues rose by almost 20% between 2011 and 2015; but rising costs put their margins under pressure’. At that time societies were already seeking to diversify their income streams in response to the ‘broader economic climate (which has seen cost pressures grow while revenues stagnate); political developments, including Brexit; and potential decisions on university and research funding’.

The very good news is that, by working to creatively repurpose existing subscription revenue streams for immediate Open Access, publishers—even in disciplines where most researchers do not have direct grant funding—can fully transition to immediate Open Access. For those that are not very far along in the transition, it

should be possible to avoid some costly cul-de-sacs or to leapfrog ahead. Other opportunities of a full transition to immediate OA include:

- Increased visibility for both society and subject area
- Greater impact for researchers
- New alliances with funders, libraries, societies, universities, and other stakeholders in the scholarly communication landscape
- Collaborations and partnerships with a range of organisations closely aligned to a society's mission and able to support its objectives
- Better support for early career researchers and new forms of scholarship
- Strategic alignment with the future open scholarly communication landscape

Essential to all change in scholarly communications is that it is closely informed by researchers and their changing needs. Society publishers are well placed to drive scholar-centric change, confident in their extremely close and trusted position within their communities.

What we did

For this project we undertook interviews with funders, librarians, and publishers, and conducted a literature review. We surfaced a very wide array of transition strategies and business models in an online [discussion document](#).¹⁴ We surveyed library consortia

and society publishers about the models and how to make these successful. We engaged with society publishers during workshops held in Europe, the UK, and the US. We convened a workshop in which learned society publishers, library consortia, and university presses jointly developed a model offer and implementation framework for transformative agreements.

Our survey of learned society publishers focused on the business models and transition strategies presented in this report. A questionnaire was distributed via the Association of Learned and Professional Society Publishers (ALPSP)

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and via social media, and we also asked that larger publishers providing services to learned societies support us by distributing the questionnaire. We used a slightly different URL for each of these distribution channels, and so can tell that, of the 105 responses received, 36 came via the Wiley link, 29 via social media links, 27 from the ALPSP link, 10 via the Oxford University Press, 3 from the Cambridge University Press, and none via the links shared with Elsevier, Springer Nature, and Taylor & Francis.

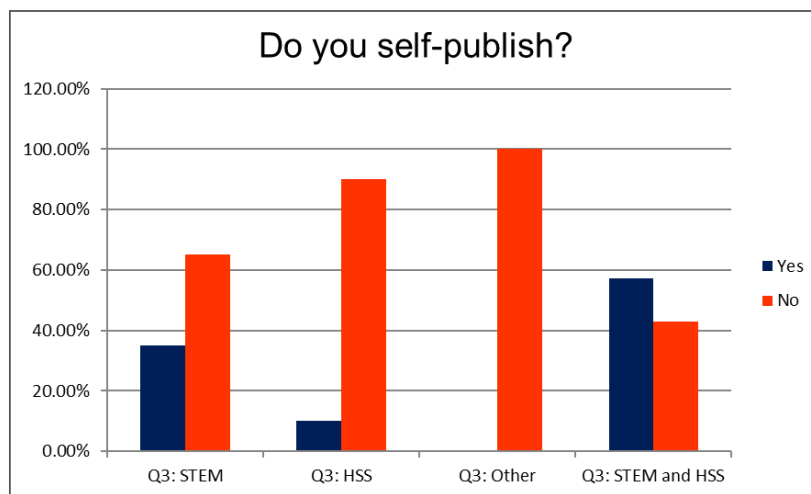
We also asked respondents to tell us who their publishing partners were (some had more than one and one society reported 4 publishing partners) and the results were that 42 partner with Wiley, 11 with OUP, 7 with CUP, 2 with Elsevier, 2 with Sage, 1 with Springer Nature, 1 with Institute of Physics Publishing, and 1 with JSTOR.

Respondents were primarily from the UK (64) and US (23), but we received welcome responses from societies based in China

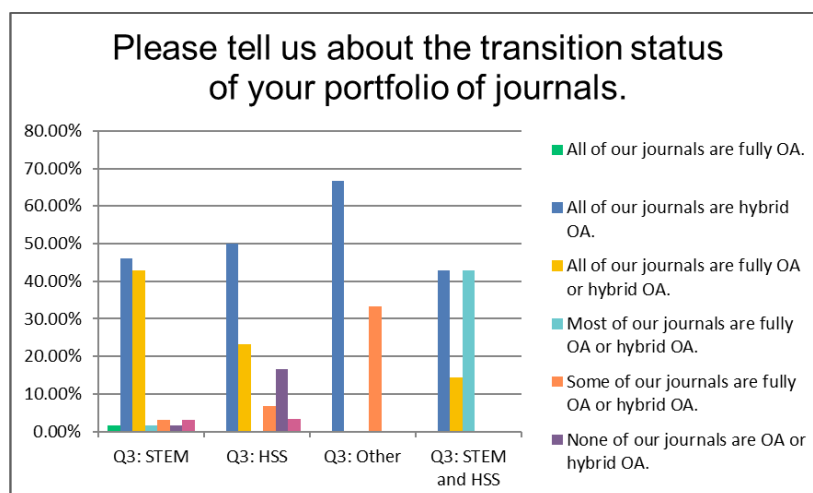
(4), the Netherlands (3), Sweden (2), Belgium (1), France (1), Germany (1), and Switzerland (1). One society was international, the focus of operations changing as each new president is elected. One respondent was an umbrella organisation based in the Netherlands with 30 national member societies.

Of our 105 respondents, 76 (72%) were societies who publish via larger publishing partners and 29 (28%) were independent society publishers. This emerged as a very important distinction both when analysing the survey results and later in issues and opportunities that arose during workshops. We expected that one really important distinction in our results would relate to whether the society respondent published in science, technology, engineering, and medical (STEM) subjects or humanities and social science (HSS) subjects. There were indeed some differences, but not nearly as much as we had foreseen. In total 63 respondents identified as STEM societies, 30 as HSS societies, 7 as both HSS and STEM, 3 as 'other', and 2 skipped this question.

One difference that emerged is that more of the independent society publishers were in STEM disciplines, and there were virtually no independent HSS respondents.



We expected a large degree of difference in experience of OA publishing between STEM and HSS learned societies and were surprised to discover that this was not the case. Only 1 STEM publisher and 5 HSS publishers reported that none of their titles were fully or hybrid OA. There was a bit of difference between the disciplines in having experience with fully OA titles vs. hybrid OA titles. Around 50% of both STEM and HSS respondents reported that all of their titles are hybrid OA. An additional 45% of STEM publishers reported that all of their titles were either hybrid or fully OA, while only an additional 23% of HSS publishers reported this.



We have probed our data carefully for differences between HSS and STEM publishers and found relatively little except for the large number of HSS society publishers who have larger publishing partners. However, throughout this project we have heard from every HSS society we have engaged with that HSS is entirely different to STEM and that they would appreciate our emphasising this in our conclusions and to funders. We were left wondering if this just reflects the tendency to treat the APC funding model and OA generally as if they were the same thing—and the smaller

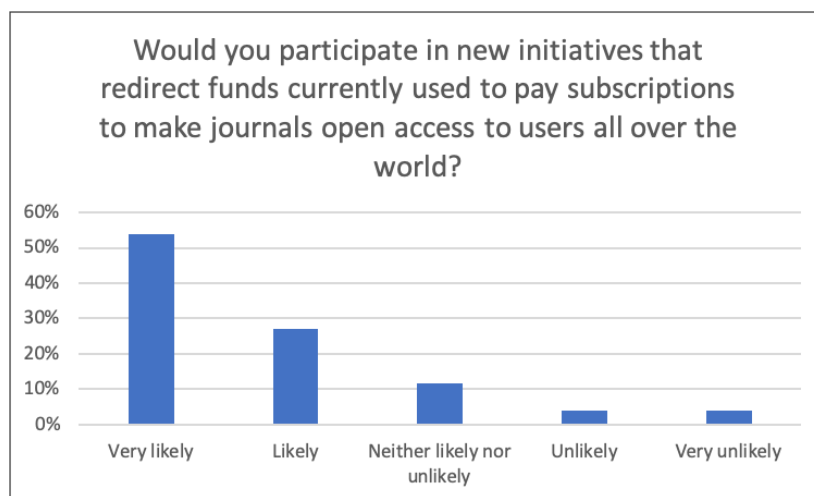
proportion of HSS authors with access to funding for APCs—that we detected in the course of our study. There appears to be no difference in the way the OA business models and transition strategies we have identified can be applied to HSS and STEM publishers.

We also surveyed library consortia about their interest in working with society publishers to support transition. A questionnaire was distributed via the International Coalition of Library Consortia, and replies were received from 26 consortia located in Austria, Canada, Germany, Greece, Jordan, Norway, Qatar, Slovakia, Republic of Korea, Romania, Slovakia, the United States, and the United Kingdom.

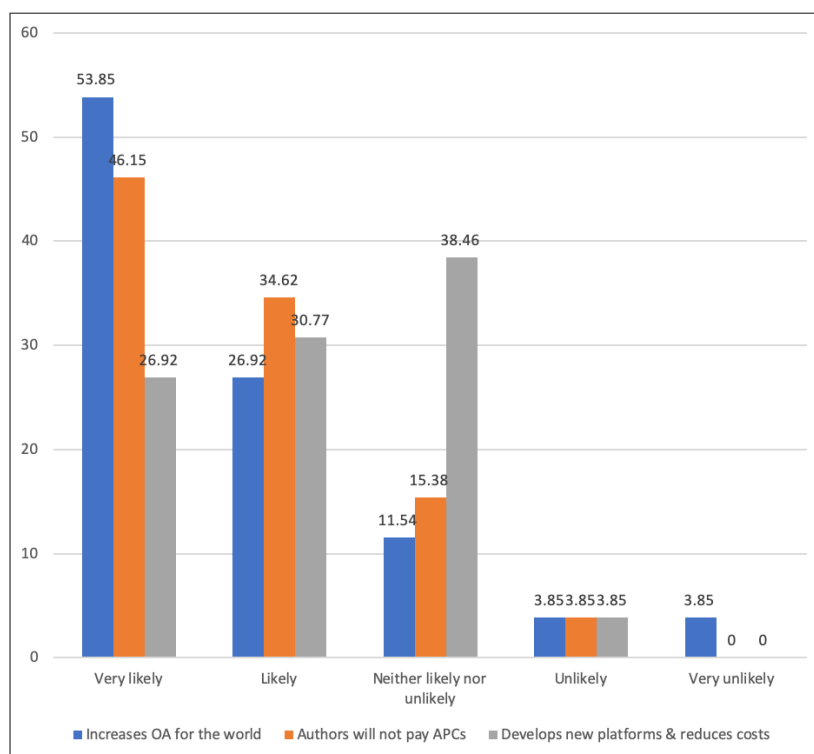
What we learned from our survey of library consortia

We asked about the consortia's willingness and capacity to work with learned society publishers and 91% agree or strongly agree that they look forward to working with such publishers to develop new models. There were supporting comments indicating that consortia saw this engagement as a strategic opportunity to co-create future models that would work for both libraries and publishers.

When asked if the consortium would 'participate in new initiatives that redirect funds currently used to pay subscriptions to make journals open access to users all over the world,' more than 75% of respondents indicated this was very likely or likely.



We also asked how likely they were to engage in approaches that increased OA for the world, that resulted in authors not having to pay APCs, and/or that developed new platforms and services that enabled learned society publishers to reduce costs.



It is probably helpful to unpack the data in this graph just a little. The respondent from one consortium was rather negative about Open Access generally, and about all three of the models presented. The other 25 respondents were positive about Open Access generally. Their responses to the three approaches are interesting. There was very strong support for the generic goal of increasing OA for the world, and strong support for embracing approaches that meant authors would not have to pay APCs. The response to developing infrastructure was more neutral and supporting comments suggest this is for at least two reasons. One respondent felt the goal of infrastructure development should be to improve services, and particularly metadata provision and discovery, rather than to save money. Another respondent expressed concern at what appeared to be a proliferation of infrastructure projects, questioning whether more were needed and if this approach was sustainable.

We asked respondents to rank the most important criteria when developing new models to support learned society publishers. Here were the results:

1. Transparency of model (5.48)
2. No increase in the total cost of reading and publishing (5.22)
3. Generating more Open Access publishing (4.86)
4. Robust metadata with online identifiers (4.00)
5. Helping to maintain current cost distribution across member libraries (3.48)
6. Complete absence of APC invoices (2.91)

It's worth noting that containing costs and developing more transparent models are even more important drivers than increasing

OA for our consortial respondents. There are strategic opportunities here to address long-standing library concerns about their costs, and to build trust and strengthen relationships between libraries and publishers by engaging to co-create new and more transparent models.

We used an agreement scale to understand how different models fit with the mission of the consortium, and how easy they were perceived to be to communicate and administer. In summary, there

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was not great enthusiasm for prepayment or freemium models, as their highest scores were on ease of communication (6). SCOAP³ scored highly on ease of communication (17) and administration (8), perhaps because this model has been around the longest and is most familiar, but it scored less strongly on fit with mission (5), perhaps because of the narrow subject focus. Publish-and-read models scored most highly on fit with mission (12) and being easy to communicate (16)

and administer (8). The comments in response to the publish-and-read question demonstrated that the scores would have been even higher had we asked generically about transformative agreements including read-and-publish models. Comments indicate that the key point for consortia is to repurpose current spend to advance Open Access publishing, that there is value to both authors and readers in doing so, and as a result pricing based exclusively on publication output may be too restrictive.

We also used an agreement scale to explore whether it would be easier for consortia to support small learned society publishers if

the latter were to work together. 30% of respondents strongly agreed and 42% agreed, but there was some concern about expanding the consortia's work to include the long list of small and medium-sized publishers. The solution suggested by some respondents is that these publishers should conform to the established practice of the consortium so that this challenge could be managed. Independent small and medium-sized publishers have little experience of working with consortia and often sell to libraries via agents. There are practical concerns from their side as well. Shared approaches that can work for many publishers and many consortia are likely to be essential in order to achieve scale.

What we learned from society publishers through our survey on OA business models and transition strategies

Whilst the APC is the best-known business model for OA journals, there has been a tendency to treat APC and OA as if they were the same thing. And it is a problematic business model upon which to base a wholesale transition of hybrid titles to OA, because not all authors have access to funding to pay for APCs or would be willing to do so even if they did. This is a challenge that impacts all publishers seeking to transition hybrid titles, whether they publish in HSS or in STEM fields.

If publishers, including society publishers, are going to make a sustainable transition to OA publishing—as many in the course of our project stated they wish to do—then they cannot simply rely on the APC business model or indeed any other transactional

payments by authors. They need to transform other existing revenue streams to support OA publishing.

We are convinced that this is possible with attention and focus, and that outsourcing to larger publishing partners is *not* the only sustainable strategy available to societies.

From the 27 different approaches and business models we identified during this project, only three relied on transactional payments by authors. All of these 27 models support full, immediate Open Access and are Plan S-compatible. They can be used alone or in combination. For ease we have clustered them together into seven categories: transformative models, cooperative infrastructure and funding models, immediate sharing with open licence models, article transaction models, open publishing platforms, other revenue models, and cost reduction.

Transformative Models

These approaches repurpose existing institutional spend with publishers in order to open content. They are promising transition models because libraries and library consortia provide the lion's share of funding in the current publishing landscape. If this revenue stream is transformed to support OA, then journals can also transform to be fully OA. Institutional and consortial agreements are easier to administer than hundreds or thousands of author payments and provide an attractive predictable flow of revenue. They are also helpful models for publishers to use to align with Plan S because hybrid journals within transformative agreements are one of the Plan S compliant options and give more time in which to transition to full and immediate OA.

At least seven types of transformative agreement operate in the market today:

California Digital Library pilot transformative agreement

This model engages authors as well as libraries. The library or consortium contributes money in the form of a direct payment to the publisher, in order to lower or subsidise transactional publishing payments by authors who can afford to contribute something toward the cost. This approach is designed to reflect the fact that researchers in the US can use their research grants to pay for publication costs if they choose to do so, but are usually under no obligation or mandate to do so.

It is the intention to pilot this model during 2019 with one big publisher, one independent small society publisher, one intermediate publisher of some kind, and an OA-only publisher. It will involve different workflows and procedures for libraries and publishers. A significant challenge for small and medium-sized publishers could be the need to manage both central and transactional payments.

Knowledge Unlatched journal flipping program

This is sometimes termed a choreographed transition model. In this case [Knowledge Unlatched](#) acts as the choreographer. Librarians pledge continued funding for titles that publishers then pivot to publish OA. No APCs are charged, and all funding comes from participating libraries.

Libraria

This [approach](#), which is being piloted in anthropology, archaeology, and neighbouring fields, involves pooled money from funders and libraries being used to fund Open Access publishing. The journals are long established and will transition fully to OA when this funding is secured.

Publish-and-read agreements

A consortium pays a pre-agreed amount for papers published by affiliated authors, and everyone in the library/consortium gets access to the subscription content for no extra cost. The agreement between [Wiley and Projekt DEAL](#) in Germany provides one example.

This model shifts the cost basis of publishing to align with the number of articles involved. For this reason, it may be challenging for consortia in research-intensive countries, and/or their members in research-intensive institutions. The difficulty is that a consortium will have to agree with its members on a fair method of redistributing the total cost because the most research-intensive institutions are likely to pay significantly more than they do under the subscription model, and less research-intensive institutions are likely to pay significantly less. There will be winners and losers to manage, and so a more gradual approach to rebalancing or a broader basis on which to calculate and apportion costs could be helpful.

Read-and-publish agreements

The amount of money currently paid to the publisher (for subscriptions and sometimes also for APCs where there has been additional funding for OA publishing) is guaranteed,

and in exchange authors can publish OA without paying an APC. In some instances—for example where a country publishes many articles with a publisher or an increasing number of articles is being submitted to the publisher from authors in that country—additional money may sometimes be made available by libraries or consortia. Consortia and their members are price sensitive, however, and will sometimes cap the total number of articles for which they will pay in order to control costs.

Examples include consortial arrangements in the Netherlands, Sweden, the UK, and at MIT, with publishers such as IOPP, OUP, the Royal Society of Chemistry, and Springer Nature via [Springer Compact](#).

SCOAP3

This is also what might be termed a choreographed transition model, with CERN serving as the choreographer with diverse dancers to align. Participants include libraries, consortia, governments, publishers, societies, and researchers.

The basic idea is that current library spend is directed to CERN rather than the publisher. CERN calculates the proportion of high-energy physics articles in participating titles that come from each country and assesses whether current library spend covers that country's participation or needs to be topped up in some way. If necessary, it liaises with national funders and policymakers about top-up funding. CERN then uses the funding pool to pay the APCs of all authors in participating titles. Publishers flip these titles to be fully OA rather than published on a subscription or hybrid basis.

The complexity of this approach means that it has been used on a modest number of journals, but it has made a real impact as all the journals are concentrated in high-energy physics. Stakeholders make this work and collaborate to resolve issues as they arise. One challenge is that, to ensure clarity of costs for all funding participants, article numbers are sometimes capped, which can cause problems for publishers whose titles are growing organically as they increase their appeal to researchers.

Subscribe to Open

This approach has been developed by the publishing team at non-profit publisher [Annual Reviews](#). It is designed to motivate collective action by libraries, which are asked to continue to subscribe even though the content will be published OA. A 5% discount off the regular subscription price is offered to existing customers. If all current customers continue to subscribe, then that year's content is made available OA, as are all the backfiles. None of this content is opened if the number of subscribers declines, which discourages free riding. The subscriber base will be expanded to offset attrition, which is currently 1–2% per year. There is no library lock-in, as this offer is repeated each year and customers again decide whether they wish to continue subscribing. If participation levels are insufficient to open the content in any given year, the 5% discount is still extended to customers, but for that year the journal will not be Plan S-compliant. Any institutions that do not renew and that later return do so at the list subscription price and do not receive the 5% discount.

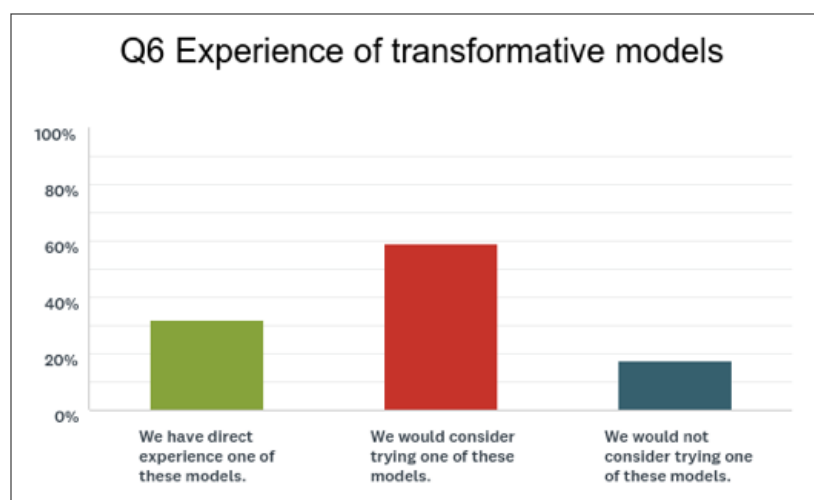
Annual Reviews piloted this model with one title and received a 25% increase in citations and a 300% increase in downloads. These downloads were not only from the users of the 2,000

subscribing institutions but also from a further c. 7,000 institutions whom Annual Reviews can now approach with data about why they might wish to subscribe and support the journal. In 2020 Annual Reviews will extend this model to five journals or 10% of its portfolio.

This model—uniquely amongst the Transformative Agreement models—positions the publisher as choreographer of change. It leverages the conventional subscription process and existing library budgets, avoids the need to invest in transactional payment infrastructure, minimises customer disruption by using routine library accounts-payable processes, and avoids the prohibition some libraries face in paying for things that would otherwise be free.

Society publisher views of transformative models

Transformative agreements were of interest to many society publishers who participated in this project. This is because this transition approach does not depend on authors having access to APC funds, and because it produces a steady and predictable revenue stream in just the same way that traditional subscriptions have done.



Society Publishers Accelerating Open Access and Plan S

Gaining access to library consortia was a major practical concern for society publishers, and results from our survey of consortia showing support for working in this way with smaller publishers should provide some welcome reassurance. Several additional practical challenges were identified during our survey. Society publishers:

- need opportunities to learn about transformative agreements *very quickly* and to refine/reject their pitches quickly to align with Plan S deadlines. Pilots in 2019 would be desirable, to allow an entire renewal cycle to be run through in 2020, before Plan S implementation begins in earnest.
- desire clarity about what a Plan S-compliant transformative agreement looks like and what data are needed in order to enter a constructive negotiation with consortia or libraries.
- want confidence that an approach to transformative OA agreements would resonate with libraries, and that they would gain traction in the market.
- are curious about rebalancing the approaches that consortia might take and how any changes will be phased in, as this might inform their own pricing models and approach to transformative agreements.

Cooperative Infrastructure + Funding Models

These are close, strategic partnerships between libraries and publishers to jointly fund, and provide, open content and its supporting infrastructure. These models are deployed successfully in humanities and social science publishing.

There are several examples of close cooperation between libraries and publishers to agree on both shared infrastructure and shared approaches to funding publication costs. At present, it appears that this model is particularly useful in countries with a strong strategic focus on culture and language, and in HSS subject areas.

Hrčak

A 12-year-old initiative (the name means ‘hamster’, and is pronounced a little like ‘hochuck’) based in the Computing Department at the University of Zagreb in Croatia. It provides shared infrastructure to many Croatian publishers, including long-established Croatian society publishers, and serves as a sort of national repository. One successful service that it provides is data so that editors, ministerial funders, and authors can easily see how the journals are being used. Hrčak is indexed by DOAJ, Scopus, etc., and has established a reputation for quality.

Kotilava

This is a project underway between the Finnish Learned Society umbrella body and the National Library of Finland to support the transition of Finnish scholarly journals to APC-free OA. This has involved the creation of a shared journal portal and agreement re cost-sharing for Finnish journals between different types of scholarly communication stakeholders.

Open Library for the Humanities

OLH relies on a model of library partnership subsidies that collectively fund both an infrastructure platform and a wide array of journals. At its heart OLH also involves repurposing existing library spend to fund OA publishing, and illustrates the end-state for a publisher that has secured transformative agreements with its customers. Martin Eve, its founder, has

helpfully shared his thoughts¹⁵ on how society publishers wanting to organise transitions to OA via consortial sales and without APCs might make use of the OLH model. For this reason, some readers of our project discussion document suggested that OLH would be better placed in the category of transformational models, but we have listed it here separately as OLH was a start-up rather than a hybrid journal in transition and because the cooperative infrastructure and governance elements of the OLH approach require a deeper strategic partnership than do transformative agreements.

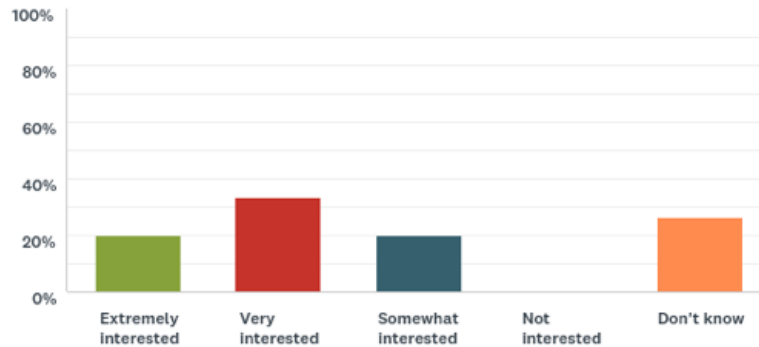
Project MUSE

This is a not-for-profit collaboration with the goal of disseminating quality humanities and social science scholarship via a sustainable model that meets the needs of both libraries and publishers around the world. Though not much of the content in Project Muse is currently OA, it could potentially be extended to help transition a wider array of HSS publications. It provides access to over 674 journals from 125 publishers and offers over 50,000 books from more than 100 presses. All books are fully integrated into a single platform with Project MUSE's scholarly journal content, with a range of purchasing and funding options.

Society publishers' view of Cooperative Infrastructure + Funding Models

We had only 15 respondents from outside the UK and US, but of these 8 were extremely or very interested in exploring this approach further. One respondent from China felt the approach would work well there because of strong local-language publishing which is often already centrally funded.

Q7 Cooperative infrastructure and funding - societies outside UK and US

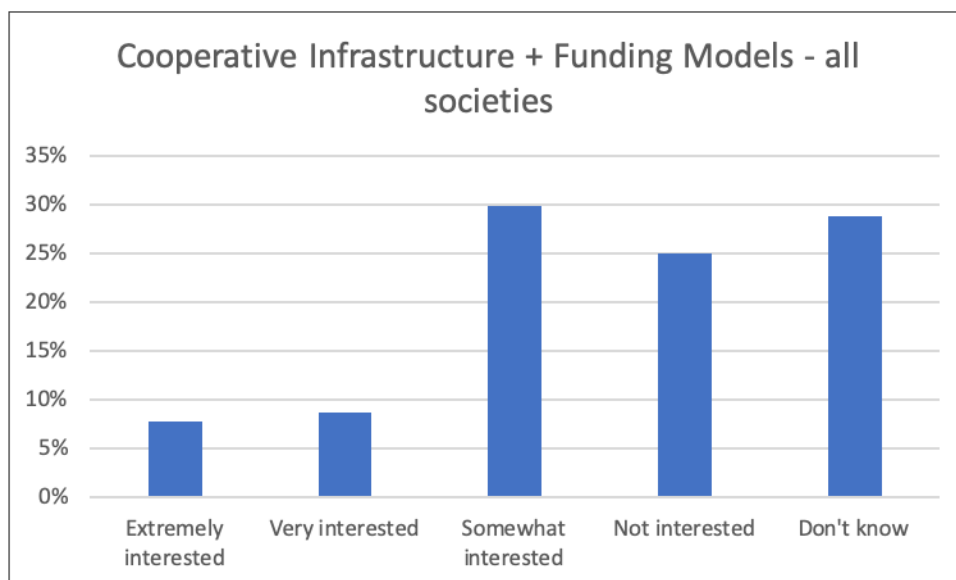


There was far less enthusiasm for this approach from societies within the UK and US, and a review of full-text comments suggests that concerns fell into two categories. The first might be described as *agency* concerns. 14 respondents said they would need

These comments highlighted the importance to many publishers of having OA business models that would work globally for authors and readers, and that would be sustainable over time, with predictable annual revenue streams.

advice from their publishing partner in order to evaluate this approach and what it could mean; if it seemed as if it might be relevant, they would then need their publishing partner or some other organisation to develop, lead, and organise such a partnership. The second set of concerns related to *scalability and sustainability*, expressed by 16 respondents. These comments highlighted the importance to many publishers of having OA business models that would work globally for

authors and readers, and that would be sustainable over time, with predictable annual revenue streams. They indicated that other business models were more likely to deliver against these criteria during a full transition to OA.



Immediate sharing with CC-BY licence

It is possible to continue to operate journals fully funded by the subscription model and comply with Plan S by permitting authors to immediately self-archive their accepted manuscripts or final articles under a CC-BY licence. This green OA approach is dependent on either final published journal articles or author accepted manuscripts being shared with a CC-BY licence at the time of publication.

Author self-archiving

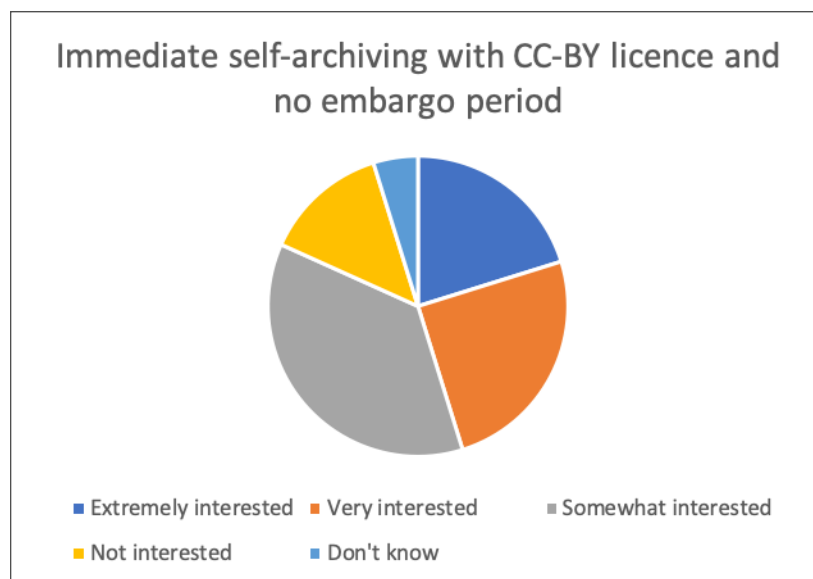
The subscription model entirely funds this approach to OA, and so an important consideration is what will happen to the subscription payments if all, or even a majority, of the journal's content is available in this way. Some publishers¹⁶ view this as challenging because a small minority of titles have a usage half-life of less than 12 months (Davis 2013)¹⁷

and usage data is important to librarians when making purchasing decisions.

A number of publishers – including society publishers – have, however, deployed 0-month embargos without complaining of lost revenue or other negative impacts.¹⁸ One publisher shared with us in confidence that they had trialled a 4-week embargo period and attributed lost subscriptions to this trial, but this was the only negative anecdote. A possible approach in the first instance could be to use a 0-month embargo period and CC-BY licences only for authors funded by the funding bodies participating in cOAlition S. If subscription revenue remains stable, 0-month embargos could be rolled out more broadly.

Society publisher views on immediate self-archiving with CC-BY licence

This approach was surprisingly (to us) popular with respondents, with nearly half extremely or very interested.



The full-text comments added helpful context, and revealed that publishers may be viewing this more as a potential short-term response to Plan S. Many respondents, including those who were extremely or very interested, questioned whether it would be a sustainable model. It would depend on whether or not libraries continued to subscribe when a large proportion of a journal's content was openly available, and that is unknown.

Our survey results suggest slightly more anxiety about the sustainability of this approach from learned societies with larger publishing partners, and this makes some sense, as 'big deal' packages might potentially be more susceptible to cancellation in such an environment. There was also slightly more anxiety about the sustainability of this approach from learned society publishers based in the US, but it was unclear why there might be a geographic variation.

Article Transaction Models

Author payments such as APCs and submission fees can work perfectly well to underpin an OA transition strategy in titles where the large majority of authors are well funded and support such payments. These models might work for a society publisher with a steady flow of articles, and the infrastructure to administer many small transactions.

APC-funded OA

Content is published OA because publishing costs are covered by APCs typically made by a researcher, their funder, or their institution. This is a proven model and works best in well-funded discipline areas with strong researcher support

for OA publishing. It is a way of making the price of publication more transparent to researchers, but can be expensive for both libraries and publishers to administer because of the number of transactions it involves.

There are ethical issues to manage with any pay-to-publish model, and real and perceived risks of lower standards or vanity publishing by unscrupulous organisations claiming to be proper publishers. To counteract this, the Directory of Open Access Journals (DOAJ) has established helpful standards and best practice for Open Access journals and publishing. Qualification for indexing in DOAJ is often a prerequisite for membership in organisations such as the Open Access Scholarly Publishers Association.

Institutional prepay models with partially discounted APCs

Libraries or consortia pay an upfront fee to the publisher in exchange for a discounted APC for themselves or for affiliated authors. This model can also operate at consortial level. When the discount reaches 100% and authors are no longer paying APCs at all, then there is not really a difference between this model for fully OA journals and a transformative agreement for formerly hybrid OA journals.

The OA articles published under such a prepay model are often deposited to an institution's repository. Examples include [Hindawi Open Access Membership](#), [BioMed Central](#) and [SpringerOpen Membership](#), and the [Royal Society Open Access Membership Programme](#).

Submission payments

These payments can be used in combination with another model to spread the cost burden between authors who submit

articles that are rejected and those that are accepted. It appears to work for high-quality and highly sought-after titles with high rejection levels, and in some subject areas (e.g. economics), where it has long been a normal practice.

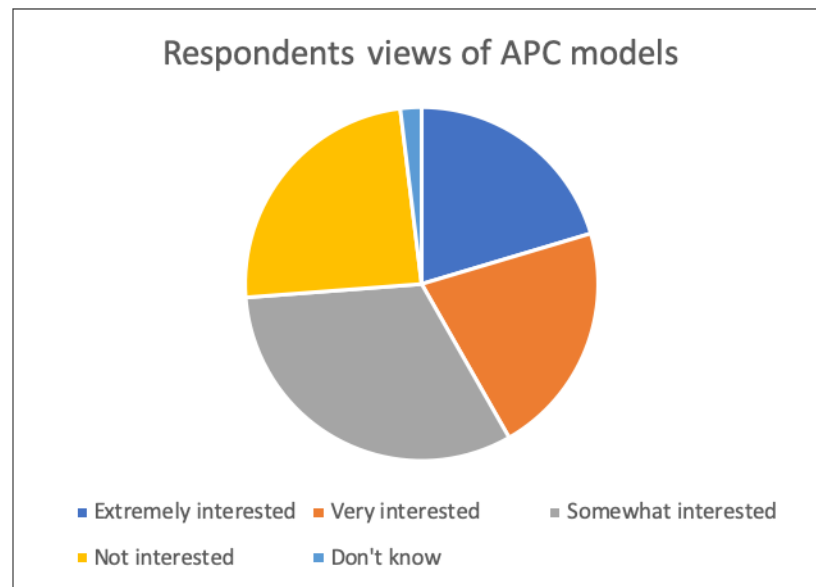
This model appears to be under renewed consideration for a broader range of subjects, including STEM fields. A real concern that might inhibit any move to deploy this model more widely is that unless all publishers were to switch to it at the same time it would probably drive submissions to competitor titles.

Operating this model would perhaps be easiest and most lucrative for large publishers with large ecosystems of journals. These publishers would be able to offer authors a high likelihood of being published somewhere in exchange for one submission payment or else would be able to collect multiple submission payments from each author.

Society publisher views on article transaction models

Our sense throughout the project has been that many participants confused OA publishing with the APC model, which is only one of many options for funding OA, and that they were also concerned about the uneven distributing of funding for APCs. Overall, 41% of our respondents were extremely or very interested in this model, but HSS society publishers were far more anxious, with only 18% of respondents saying that they felt extremely or very interested. Geography magnified this still further. 50% of our STEM respondents from the US were extremely or very interested in this model, but not a single HSS respondent from the US felt the same way (though this may reflect the small sample size, with

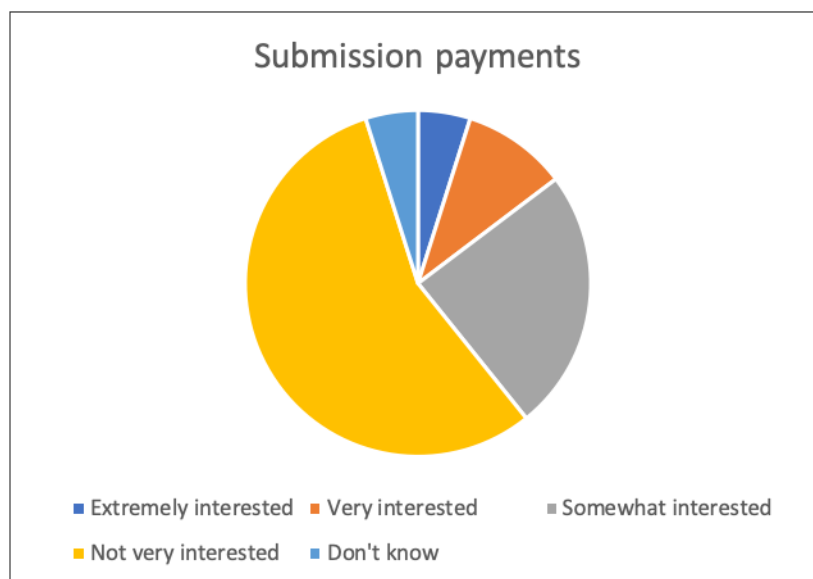
only 2 US-based HSS society publishers participating). 75% of our STEM respondents in the ROW were extremely or very interested, but again not one HSS respondent from these geographies felt the same (and again this may reflect the small sample size with only 3 ROW-based HSS society publishers participating). Rather interestingly, UK respondents were slightly more sceptical about this approach, with only 37% feeling extremely or very interested; of this group, 50% of the STEM respondents and 19% of the HSS respondents were extremely or very interested. This probably reflects the outcomes from the Finch Review process, and the relative availability of APC funding for authors with grants from the (UK) Arts and Humanities Research Council and the Economic and Social Research Council.



Publishers who were interested in APC payments generally were also interested in institutional pre-pay schemes, but we have not detected a great deal of enthusiasm from institutions for these schemes. Understandably so, because the number of articles published with small and medium-sized publishers is likely to vary a

good deal, and so agreeing precisely how many articles to pay for in advance is challenging.

A very small number of publishers expressed real interest in submission fees, with one respondent just poised to launch them for one of its journals. The concerns expressed by other respondents mirrored the concerns about uneven availability of funding that plague the APC model, and were coupled with very serious concerns that it was unfair or at least impractical to expect authors to pay when they had a high chance of having their article rejected.



Open publishing platforms

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](#)), and not platforms that aggregate grey literature or re-publish content that has already been published elsewhere. Pioneered by [F1000](#) and

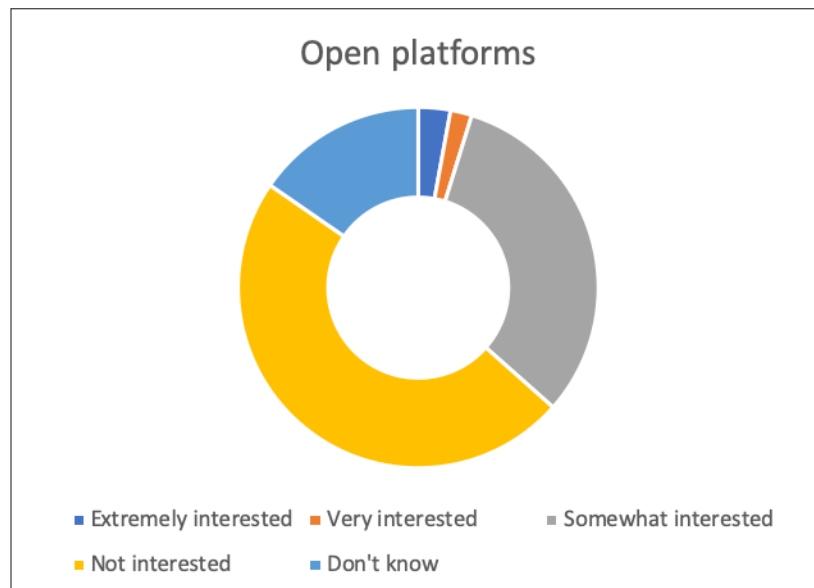
first adopted by funders, this model is now being embraced by publishers. [Emerald Open Research](#) is one example.

In this approach authors publish their articles, which are then openly peer reviewed. Societies adopting this model could, for example, provide peer review and/or curation services. Articles that are judged to be important and impactful can be specially curated and showcased. Funding for these services could be obtained through any of the OA business models we have identified. APCs are most common at present.

In the F1000 model, post-publication invited open peer review and data services are provided by F1000 for a per-article fee. Then learned society publishers can create services like overlay journals and charge for these services.

Society publisher views on open publishing platforms

This model is creative, innovative, and intelligent, but perhaps a bit shy and too little known to be popular. It's certainly one we feel is worth watching actively and experimenting with if at all possible.



Other Revenue Models

There is a wide array of other business models that can work for individual publishers or titles. Examples include advertising; crowdfunding; bequests, donations, endowments, and subsidies; freemium; and syndication.

Advertising

Some journals, particularly in medicine, have substantial income streams from advertisers. This model is often tied to print copies being provided free as a membership benefit to society members. There is no reason that the model cannot continue to operate alongside some others, but innovation is required as print circulation will continue to decline over time.

Crowdfunding or crowdpledging

Raising money from a large number of people each contributing a small sum is a model used successfully in numerous aspects of modern life. Publishing is no exception¹⁹ and examples from scholarly publishing include the Electrochemical Society's [Free the Science](#) (which has also attracted funding from the Technische Informationsbibliothek consortium in Germany) and experiments by New York-based [Punctum Books](#). The funding can be variable, and so a twist on this approach is to instead ask the crowd to pledge a recurring amount. There is the risk of crowdfunding fatigue, but this is a model of potential interest for societies whose members and broader community value the journal highly and are able and willing to support it financially.

Bequests/donations/endowments/subsidies

These are gifts of money or property to a non-profit organisation to provide an income for the ongoing support of the

organisation or some of its activities. These contributions might be secured to cover the cost of publication or of other society activities currently subsidised through publishing activities. Contributors could be individuals, families, foundations, or other organisations.

With this sort of income, journals are typically published OA and are both free to read and free to publish in. This is because the publishing costs are entirely met by payments from sponsors. One example is *Chemical Science*, published and self-funded by the Royal Society of Chemistry.²⁰ Another is the [Norwegian Open Journals in the Social Sciences and Humanities](#) initiative, which is subsidised by the Norwegian government. Journals have adopted this model because subsidies for print journals have flipped into subsidies for online open journals.

Incorporating these sources of funding is something that many not-for-profit organisations – including some societies and society publishers – already do, of course. There may sometimes be opportunities to compete effectively for this sort of revenue.

Increasing the proportion of gifts or payments in a society publisher's revenue mix may be perceived as a less secure source of income than charging for publishing or publications. There can be concerns about potential loss of control, independence, and/or prestige. There may be ethical issues to manage as well, depending on the source of contributions.

Freemium models

These models make all the peer-review content available free to read in a plain form, but charge subscriptions for added

services such as nice formatting and mark-up. Examples include [OECD's iLibrary](#) and [OpenEdition Freemium](#). This model seems to work well when organisations have core funding from some other source to make content available OA and can top this up by selling premium services. Not all freemium models would be Plan S-compliant, so an organisation considering this as a transition strategy would need to be careful to align with all the requirements.

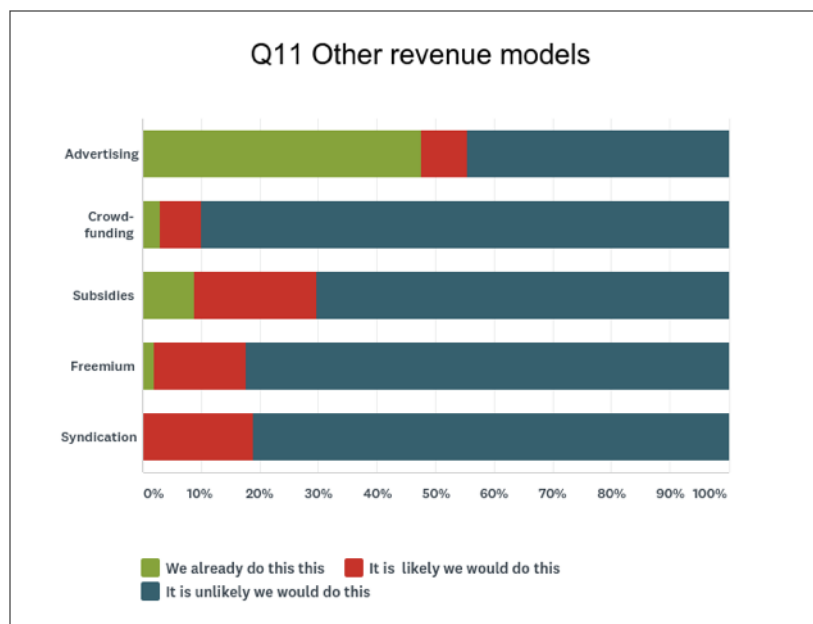
Syndication

This business model is used in other creative industries, for example in film and TV where one company produces the content and one or more other companies broadcast or stream it. Unique or valuable published content, for example editorial front matter, could potentially be licensed to an array of publications and platforms rather than exclusively published in a journal. The licence might be granted in exchange for a fee or services and could be exclusive or non-exclusive. One current example of this from the scholarly communication landscape is the licence publishers grant to indexing services in exchange for being indexed. The possible future extension of this model given the emergence of research ecosystems is a theme developed in Scholarly Kitchen blogposts by Roger Schonfeld.²¹

Society publisher views of other revenue models

All of our respondents were established, successful learned society publishers and so it is perhaps unsurprising that these revenue models were already familiar. They had largely been considered, sometimes tried and tested, and where relevant were already in use or in development. In cases where these models are relevant,

they are viewed (with the exception of advertising) as a modest form of additional revenue rather than as realistic alternatives to the predictable and sustainable subscription revenue on which society publishers currently rely. There was little variation in response between STEM and HSS publishers, between independent publishers and those with publishing partners, or between publishers in different geographies.



Cost Reduction

Efficiency gains can always help, and there are some well-established ‘tricks of the trade’ that remain viable, whether that’s changing round journals, collaborating, or outsourcing.

Close or combine journals

This approach is a potential way to reduce costs or to concentrate the proportion of authors able and willing to pay APCs

into a single title. It can work at different levels, including across a single publisher's portfolio or across a consortium of publisher portfolios.

Cooperative infrastructure

There is a really vibrant landscape of cooperative infrastructure development at present, and plenty of funding for developing open-source software. Services are also beginning to emerge to help organisations without in-house technological expertise implement and use these tools. A few examples include:

- The [Collaborative Knowledge Foundation \(CoKo\)](#) is a not-for-profit cooperative development deploying open-source infrastructure to support innovation in scholarly communications. It provides tools not only for journal publishing but also for books and micro-publications. Active participants include OA-only publishers [eLife](#) and [Hindawi](#).
- These same organisations, and others including Digi-rati, are working together on [Libero](#), an innovative open-source publishing environment to develop entirely new features, for example tools to test for and demonstrate whether research is reproducible.
- The [Public Knowledge Project \(PKP\)](#) has developed [Open Journal Systems \(OJS\)](#) with funding from a [wide array of organisations](#). This open-source publishing software is made freely available to journals worldwide for the purpose of making OA publishing a viable option for more journals and for more libraries and scholars who wish to self-publish.

Increase article numbers

A rational approach to a fully OA world where money is available for authors to pay to publish is to increase your article market share. This can be a deeply unpopular transition strategy with funders and librarians when it is perceived to be done for financial gain rather than the benefit of researchers. Funders and libraries wish to transition to Open Access in a way that manages and reduces systemic costs (while expanding the content that is available and maintaining or improving quality), and they wish to encourage more competition in publishing. They do not wish to drive an arms race between publishers to see which can increase their market share of quality articles and price or (worse still) increase their market share by lowering quality standards.

Online-only publishing

To save costs, learned society publishers may need or wish to move fully online.

This can cause some challenges which need to be thought through carefully, so that any lost revenue can be offset. For example, if print copies are a benefit offered to society members, membership fee revenue may be put at risk if print copies cease to exist. In certain subjects, most notably in medicine, learned society publishers have significant advertising revenue tied to the print copies distributed to their members. In other cases, the benefits of moving to online only are likely to outweigh the disadvantages.

There can be opportunities, too. One society publisher reported that moving online led to a modest increase in digital subscription sales because some fraudulent print subscriptions were cut off.

Outsourcing

Where societies have a publishing partner, they can benefit from existing expertise, infrastructure, and intelligence and might also be, to some extent, buffered by multi-year contracts. The important thing is for learned society publishers to reflect on how they can best structure and drive these partnerships to enhance their society's mission and strategy. They are in the driving seat when procuring these services and can structure them to help drive change and innovation. There is a broad spectrum of publishing partners to consider including:

- **Other independent society publishers**—the ALPSP learned journal collection was an early example in this space²² and it is interesting to see the formation of new groups since publication of Plan S. Examples include the [Society Publishers Coalition](#) and [Transitioning Societies to Open Access](#).²³
- **Library presses**—if a learned society publisher is to maintain editorial independence, to really push the creative boundaries in online publishing, and to remain tied to the academic community in their publishing activities, then these new partners may be for them. Some offer publishing services, for example the University of Michigan Press.
- **Open-access only publishers**—these organisations have a wealth of OA experience, services, and tools, so partnering with them can be a great way to accelerate. Larger publishers do this too, for example Sage and Wiley with Hindawi.²⁴
- **University presses**—these organisations come in all shapes and sizes, and many provide publishing services

to learned society publishers. The largest have long experience, great scale, and experience in transitioning journals to OA, so they can offer a safety net and stability over multiple years. In return for a flat fee, profit share, or revenue share, learned society publishers can outsource some or all of their publishing and remain aligned with the academic community.

- **Mixed-model commercial publishers**—with long experience, huge scale, and experience transitioning journals to OA, these partners can offer learned society publishers a safety net and stability over multiple years. In return for a flat fee, profit share, or revenue share they can outsource some or all of their publishing.

Partner

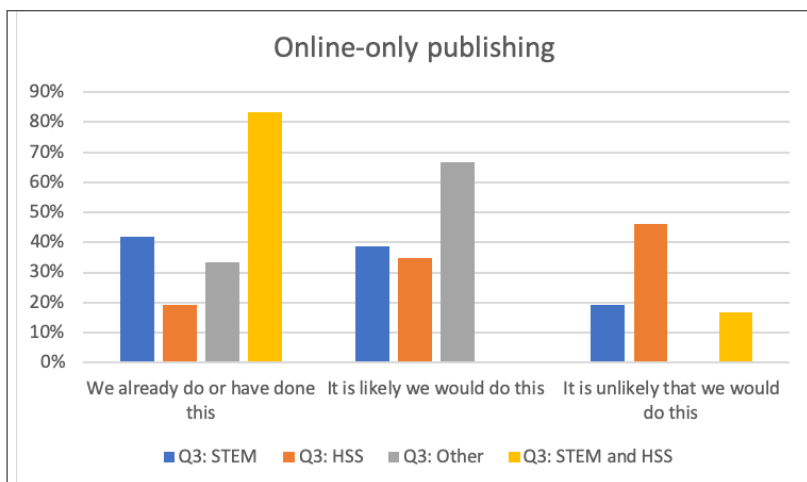
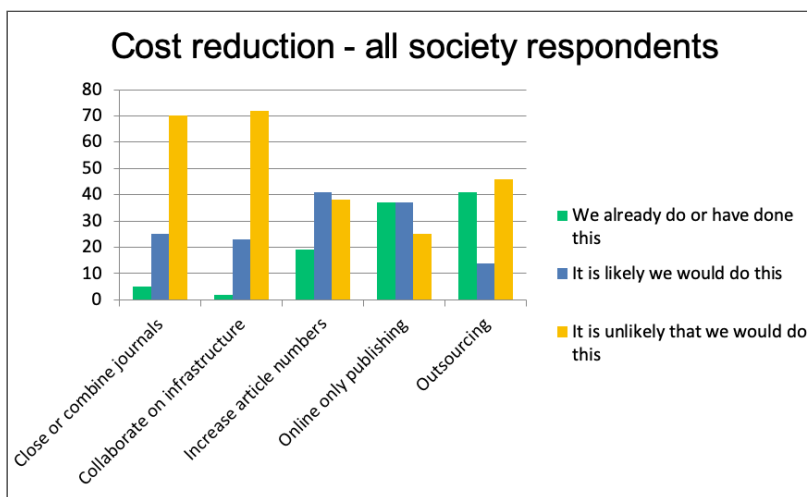
The systemic complexity of scholarly communications is mind-bending, so the transition to OA may be an opportunity to embrace simplicity. Society publishers might consider partnering with one of the following:

- [CHORUS](#) and the [Jisc Publications Router](#)—alternatives to populating individual institutional repositories with accepted manuscripts
- [CLOCKSS](#) and [Portico](#)—librarians and publishers collaborate to ensure the long-term digital preservation of journals and other resources crucial to researchers
- [COUNTER](#), [DOIs](#), [ORCID](#) and more—standardised approaches to reporting usage and identifying content or people help everyone in our ecosystem
- [OpenCitations](#)—open bibliographic and citation data

Society publisher views on cost reduction

The learned society publishers that responded to our survey were generally mindful of costs and had thoughtful responses to questions about whether or not they would use the different approaches and why. There did not seem to be much variation between independent publishers and those with larger publishing partners. Differences between geographies were extremely modest, with some suggestion that respondents outside the UK and US might be more positive about reducing costs by moving online only and less positive about outsourcing. In both cases there is a relatively low sample size of 15.

There were some differences between STEM and HSS publishers in one area, which is their willingness to consider online-only publishing as a potential way forward.



What we learned from our publisher workshops

Workshop 1

In addition to the online survey of society publishers, a first project workshop was hosted by the Wellcome Trust and took place on 26 April 2019. The 21 participants included representatives of 12 learned society publishers, other members of the project steering group, and Information Power consultants. The learned society publishers were evenly split between STEM and HSS subjects, but in HSS there were predominantly social science publishers.

The workshop included a short overview of project results to date, a lightning talk on open platforms, and three breakout group activities. These addressed:

1. Which models have legs for your society?
2. Which pilots would you choose and why?
3. What do you want from the pilot, what is needed to address concerns about the model or models, and what input is needed from other stakeholders?

We also made time for open and honest discussion amongst participants about whether and how hybrid titles could be retained as a Plan S OA transition model, and the nature and scale of unfunded researchers.

Which models have legs?

For the first breakout exercise, participants were clustered by subject area (HSS, life sciences, or physical sciences). Some groups were able to form a consensus view, and others reported the separate views of participants.

The physical science group mentioned APC transactional models, OA transformative agreements, immediate manuscript availability under a CC-BY licence, and open platforms as possible transition models. The challenge of researchers with no access to funding for APCs was a strong concern, and part of this was a concern that the lump sums paid to institutions to support OA do not make their way to all researchers.

The life science group mentioned APC transactional models (noting that the ‘US gives us the most problem in this model, as funders aren’t paying for APCs’), open platforms, OA transformative agreements at country level, and also the need for OA transformative agreements with a long list of library customers. Immediate manuscript availability under a CC-BY licence was also mentioned as a temporary model but one where higher uptake could potentially impact on subscription revenues, even if this has not been the experience to date. Publishers asked if ‘a safety net of some kind’ could be put in place by funders and libraries if they took this risk and expanded the immediate availability of manuscripts.

The HSS publisher group expressed great concern about unfunded researchers, and signalled that its ability to engage with and carry out the required financial modelling about the various transition models is limited and challenging, but that transformative

agreements might work. They also said that immediate manuscript availability could work if a CC-BY-ND licence were permitted to reflect the preference of their authors, who are worried about unmediated reuse of portions of their work.

Why can't we just agree that hybrid titles are Plan S-compliant?

Participants discussed hybrid titles further in a plenary session, because it was evident during discussions that there was not a shared view between funders and society publishers about the hybrid model.

Society publishers felt strongly that the hybrid model should be retained as a compliant option for Plan S, along with some form of agreement or control to avoid potential for, or perception of, double-dipping. In their view, this approach would enable a transition to OA at whatever speed the market naturally evolved.

Funder participants explained that hybrid journals had not led to a full transition to OA. They also pointed out that a very high proportion of access problems with articles that are meant to be OA happen in hybrid titles because OA publishing is shoehorned into systems not designed with support for OA in mind, and that librarians remain unconvinced they are receiving value for money and aren't paying twice for content that would appear in titles in any case.

[NB: Since this workshop cOAlition S has published its revised implementation guidelines, retaining the ban on funding APCs in hybrid titles outside of a transformative agreement and extending the Plan S implementation timetable by one year. There is also concerted focus on enabling transformative agreements for small and medium-sized publishers so that the funding streams for hybrid titles can flip.]

Publisher participants described the challenge of flipping hybrid titles with large proportions of unfunded researchers. To aid discussion and understanding, publishers were asked to brainstorm a list of how they defined unfunded researchers. We then worked together to refine this and developed the following:

| Examples | |
|---|---|
| <p>Researchers who are unlikely to have money for APCs but who might potentially be covered by a transformative agreement</p> | <p>University employees:</p> <ul style="list-style-type: none"> • in a team with research funding but with too low a status in the team to access APC funds • on teaching contracts, or multiple short-term contracts • with grants but no ring-fenced money for APCs within the grant • at institutions that do not support payment of APCs as a valid approach to OA (e.g. due to concern about the potential costs that fall to research-intensive institutions) <hr/> <p>Researchers affiliated with a university but on an honorary contract</p> |
| <p>Researchers who are unlikely to have money for APCs and who are unlikely to be covered by a transformative agreement</p> | <p>Researchers employed in organisations that do not primarily engage in research (e.g. colleges, government departments, hospitals, schools, small or specialist universities)</p> <hr/> <p>Retired researchers</p> <hr/> <p>Students</p> <hr/> <p>Unemployed researchers (e.g. recent PhDs)</p> |

Publishers were clear that they cannot be expected to bear all costs for these categories of researchers through APC waivers, as this could involve a large proportion of authors for any one title. The case studies in [Annexe 1](#) should be helpful in bringing this challenge to life.

Finally, participants discussed what sort of support they would find helpful regarding transformative agreements:

| Independent society publishers need: | Societies with publishing partners need: |
|--|---|
| <p>Clarity about:</p> <ul style="list-style-type: none"> • what a Plan S-compliant transformative agreement looks like • how this could work in practice in small organisations with perhaps one member of staff to administer many agreements • what data they need to gather and share to have a constructive conversation • rebalancing approaches that consortia will take in order to work out pricing models and approach to transformative agreements • how any changes to rebalancing will be phased in | <p>To feel confident that their publishing partner is engaged and can provide thoughtful insight into how transformative OA agreements can be made to work</p> |
| <p>To start learning quickly. Renewal cycles are at least one full year long, so in order to be Plan S-compliant at the start of 2021 society publishers need to learn about transformative agreements in the autumn of 2019 and roll them out more broadly in 2020.</p> | <p>Transparency about, and a voice in, how their publishing partners redistribute money across titles as a result of entering into transformative agreements.</p> |
| <p>Confidence that any Plan S-compliant transformative agreement will resonate with real-world library customers, recognising that there may need to be some toing and froing with libraries to hit on an approach that suits everyone.</p> | <p>Confidence about how potential new forms of conflict of interest are being managed as publishing partners allocate revenue between their proprietary titles and the titles of society publishing partners.</p> |
| <p>Transformative agreements with consortia <i>and</i> individual libraries. Consortia may only represent 10–20% of current revenue. Much more comes from individual libraries via agents of various kinds. Therefore it is essential that transformative agreements are not fiendishly complicated and bespoke, but instead that there is an easy, agreed way of working with a spectrum of customers.</p> | |

Workshop 2

The objective of our second workshop was for library consortia and small publishers to work together to develop principles for, and elements of, a toolkit for OA transformative agreements.

In this workshop participants explored whether any form of subscription agreement/payment might be transformed to facilitate OA publishing, and the feeling was yes. This might include subscription agreements between:

- publisher and individual academic institutions
- publisher and a consortium (whether national or regional)
- publisher and non-academic institutions (e.g. corporations and governments)
- publisher and individual subscribers
- a collective or group of publishers and any of the above

Transformative agreements can be struck by any type of publisher, of any size, commercial or not-for-profit. They can be used by OA-only publishers to sustain fully OA titles as well as by hybrid publishers in transition. Subscription spend of all types can be repurposed to support OA publishing and this approach need not be focused only on hybrid journal titles in their transition to full open access.

Although the workshop discussions focused on central agreements between publisher and consortium, it was recognised that similar agreements could be used between publisher and institution. Arrangements with aggregators and agents will also need to be

changed in support of striking more OA transformational agreements direct with institutions.

Currently all transformational agreements are labelled in the same way, and the vocabulary may need to evolve, just as the agreements themselves are rapidly doing.

Principles for a model OA transformative agreement

Attempting to agree the factors which stakeholders might use in setting the price for a model transformative agreement does not make for an easy discussion. It can be easier to communicate what is not wanted rather than what is, but all participants engaged in a lively and thoughtful way and the urgency brought by Plan S focused minds on defining principles for a pragmatic way forward. Participants brainstormed potential factors for new pricing models and discussed the strengths and weaknesses of each.

We concluded that—because stakeholders wish to accelerate the transition to OA and because small and medium-sized publishers need to accelerate their experimentation with OA transformative models in order to be able to clearly communicate by the end of 2020 when they will fully transition and align with Plan S—libraries and publishers must work together in a very fast, practical way in the short term while starting a broader strategic discussion about pricing and other factors that could be put in place to ensure a more equitable and sustainable system for all going forward.

The **most practical short-term approach** is for OA transformative agreements to be cost neutral and therefore based on current spend. For small and medium-sized publishers such as independent

society publishers this could include both current subscription spend and current APC spend. Some consortium representatives flagged that they would need to discuss this principle further with library members who feel strongly that only current subscription spend should be considered when striking transformative agreements. *There was strong consensus, however, that current spend was not a desirable or sustainable basis on which to price OA transformative agreements going forward.*

If the OA transformative agreement contract is with a consortium, the price should be based on aggregated spend by member institutions, but the consortium should be free to distribute this total amount to its members in whatever way it chooses.

It is highly desirable that there should be no cap on the number of articles published by corresponding authors affiliated to a participating organisation. OA transformative agreements should not be based on estimated publishing volumes, but on actual author behaviour (e.g. actual article numbers from the preceding year or years). This allows agreements to evolve to reflect changes in author choices over time.

There was a strong sense from the library consortia that none wishes to put more money into the current system for transformative agreements unless library spend decreases somewhere else in the system, and there is currently no confidence or transparency that this is happening. In future, pricing should migrate to something more suitable than current spend, but it was recognised that this requires broader discussion and consensus building, and that all parties will need time to budget for change.

An equitable approach to future pricing is needed, one that does not push systemic costs only on to the shoulders of research-intensive universities and instead recognises that value is provided to

authors, readers, institutions, and society. Institutions that benefit are not only research-intensive universities but also teaching-intensive ones and organisations in the charitable, government, and private sectors.

Future pricing approaches would ideally be transparent, equitable around the world, and linked to the impact of services on authors, readers, institutions, and society. And it is desirable to craft a system where all can contribute, and free riders are minimised.

Factors to support more equitable division of global systemic costs amongst players might include:

- National research and development expenditure (e.g. UNESCO data on science, technology, and innovation by country²⁵) and the percentage of total global research and development spend that this represents
- Total gross national income and gross national income per capita²⁶
- Research4Life eligibility criteria²⁷ for the least developed countries

Impact metrics will continue to evolve but might, in the short to medium term, be based on proxies such as:

- **For authors**—e.g. citations, media coverage, time from acceptance to publication
- **For readers**—e.g. citations, number of students/teachers/researchers, online engagement, rejection rates, relevance to subjects taught on campus, steps to maximise usage
- **For institutions**—e.g. numbers of articles published by corresponding authors affiliated with institution, number

of readers served (i.e. researchers, students, teachers), number of submitted vs. accepted articles, relevance of portfolio/title to strengths of institution, wider service provision (continuing professional development courses, events, bursaries, etc.) subsidised by journal prices

- **For society broadly**—e.g. public engagement with and understanding of science, public confidence in research and researchers and research institutions

Based on these principles, key elements were identified for a model transformative agreement to be developed, tested, published openly, and made available for anyone to use if they would like to do so:

- The short-term pricing approach to be cost neutral and based on current subscription spend and current APC spend [NB: after consultation with library members some consortia indicated that in order to be cost-neutral for them transformative agreements would need to be based on current subscription spend only.]
- A mutual commitment to work on shared approaches for future pricing approaches that are transparent, equitable around the world, and linked to the impact of services on authors, readers, institutions, and society
- Content published OA to be open in perpetuity
- Archival content to be free to all in the institution or consortium to access and read. Ideally publishers would make archival content OA, but it was recognised that it may be impossible to retrospectively convert the licences for this content to open licences.

- Post-termination access to be provided to read content if/when an agreement ends
- An explicit statement to be included that the agreement is a mechanism for transition with the aim for the publisher to shift to full Open Access over time
- Authors to retain copyright, and their articles to be published under a CC-BY licence. [NB: CC-BY-SA is also acceptable under Plan S, and CC-BY-ND may be agreed in exceptional circumstances by cOAlition S funders.] Third-party content such as images or graphics is often included under a separate form of licence and this should be clearly labelled.
- A description of the services that the publisher provides in exchange for the fees paid
- Adherence to the mandatory cOAlition S requirements for publication venues related to quality and technical aspects.
- A commitment to work together to evaluate the agreement and how it is working
- Standard legal terms and conditions (e.g. of warranties, jurisdiction) of the consortium's standard model licence (if there is one)
- Ideally a 2-to-3-year agreement so the parties have time to learn and evolve together
- The parties to transformative agreements to make their agreement publicly available online via (amongst others) the ESAC Registry

There is a need for both the public and private sectors to support OA publishing costs going forward.

There was some discussion of how to minimise free riders in a landscape with increasing numbers of transformative agreements. It was recognised that there is potential for free riders at many levels: country, consortium, institution, or individual. There is a need for both the public and private sectors to support OA publishing costs going forward.

For example, commercial organisations who employ authors should fund publication costs for their researcher employees but should also recognise that their readers benefit from the availability of more OA content. Libraries and consortia might have roles to play in engaging here, for example by reaching out to commercial organisations partnering with their institutions about a shared approach to funding OA publishing. It would also be helpful to engage government departments that fund research and employ researchers.

It was also recognised that growing a shared sense that pricing is equitable and transparent, and building trust between stakeholders, will be helpful in minimising free riders.

Publishers will need to reflect on how OA transformative agreements fit into their transition plans. Society publisher trustees, for example, need to be confident their activities are viable. They don't necessarily need to be confident that 100% of their revenue will transform, but they need to be absolutely confident that enough of it will. Will publishers therefore ask all subscribers to commit to Open at the same time, and then re-approach them to seek annual re-commitment (à la the Subscribe to Open model by Annual Reviews)? Will existing subscribers receive some form of modest discount to incentivise them to begin, or benefit from lower costs in future as additional supporters come on board, or

will they need to wait and see based on further discussion around fair pricing principles for the longer term?

[NB: An extension project to SPA OPS is underway to develop a transformative agreement toolkit for society publishers, and this work will be reported separately.]

Conclusions and recommendations

What should society publishers do to thrive as they transition to OA in alignment with Plan S? Well, quite a lot... it will be a busy few years, but this challenge can be achieved and there is a huge amount of goodwill and support available.

Perhaps most simply, do not think this challenge is going away or that it does not apply to all journal portfolios.

Consider all the business models this project has surfaced, and do not equate OA with APCs as this will close down too many options. Of the 27 business models and strategies within this report that can be deployed by publishers to transition successfully to OA only three of these rely on author payments to fund article publishing. Transformative agreements, including models such as Subscribe to Open, emerged as the most promising approaches. Also very useful are APC models if a large majority of authors are able and willing to pay such charges, immediate sharing of accepted manuscripts or final articles under a CC-BY license (perhaps deployed only for authors funded by cOAlition S in the first instance and then rolled out more broadly if subscription revenue remains stable), cooperation, cost savings, and revenue diversification.

Use the transformative agreement toolkit developed as part of this project to get started. There's no substitute for active, agile learning in order to quickly refine strategy.

Communicate challenges and opportunities and seek support to overcome or realise them. It is essential that learned society publishers carry their board, editors, and members with them on this journey. Society publishers have willing allies and champions who are ready to help support a successful transition to OA. More transparent communication will help them understand how they can be most supportive, and can help address broader issues of trust between research publishers more generally and the broader research community.

In recognition that accelerating OA transitions and aligning with Plan S requires change from all stakeholders, we have pulled together recommendations for society publishers and for those seeking to support them to transition successfully to full and immediate OA.

Learned society publishers

1. Publishers can learn very effectively with and from one another, as well as from other stakeholders. HSS and STEM publishers have much in common. The emergence of groups such as the Society Publishers Coalition is exciting, and trade associations such as ALPSP and OASPA are active in supporting publishers to succeed at OA publishing. Our recommendation is to continue to **learn together, collaborate, and pool cost and risk wherever possible.**

2. In addition to thinking about how to transition to OA, there is real pressure to innovate and drive down costs. Publishers are asked to become expert gymnasts, executing this triple twist with style and panache. There is enough money in the system now for a full transition to OA, but universities are under increasing financial pressure and in some countries anticipate funding cuts. At the same time article numbers are increasing. New services and service providers are constantly emerging with new opportunities to consider. Our recommendation is to **embrace this pressure as opportunity, and be strategic.**
3. The pressure for OA from funders, libraries, and some researchers will only grow. As some learned society publishers are demonstrating, the best defence is a good offence. Those publishers that are setting the pace, and that are agile and fast, will be best placed to try, learn, refine, and succeed. Our recommendation is that all publishers **expend effort on action to experiment and find ways to transition to OA.**
4. Throughout our research we have seen funders and librarians respond positively and supportively to real concerns by publishers genuinely seeking to transition to OA. We have also seen different responses to some publishers who mainly express defensiveness, frustration and concern. Our recommendation is that publishers **see funders and librarians as potential allies and supporters, as well as customers, and engage proactively and positively.**
5. Large publishers who publish on behalf of learned society publishers are also grappling with new challenges

in the transition to OA. They seek to allocate income fairly while taking into account the geography and subject focus of journals. Although these large publishers were not the focus of the SPA OPS project, recommendations for them arose in the course of our work:

- a. There is a real desire by learned society publishers for more information about OA publishing and Plan S requirements. What are the key elements of transformative agreements? What experiments have happened? What worked, what failed, and why?
 - b. There is potential for new forms of divergence of interest during the transition to OA; learned society publishers desire reassurance that these are being recognised and managed.
 - c. In particular they desire transparency around, and more influence over, how revenues from transformative agreements are allocated across proprietary and society-owned titles.
6. While we have found that Transformative Agreements are the most promising mechanism for transition to OA in the short-term, publishers should not discard the other approaches and business models outlined in this report and which are compliant with Plan S requirements. Also very useful are APC models if authors are funded and willing to pay such charges, immediate sharing of accepted manuscripts or final articles under a CC-BY license (perhaps deployed only for authors funded by cOAlition S in the first instance and then rolled out more broadly if subscription revenue remains stable), and cooperation, cost savings, and revenue diversification. Very innovative and

promising, but perhaps not yet well enough known in the publishing community, are open publishing platforms. Our recommendation is for publishers to **consider and experiment with all of these approaches, which they can use alone or in combination.**

7. It is essential for society publishers to **engage authors to supply information about funding sources and institutional affiliations** for at least the submitting corresponding authors, and to correctly capture and share these metadata.
8. And finally, a shift to OA is not only a shift in business models, but a pivot to embrace open principles and values. Increasing transparency and communicating more openly are crucial and may require substantial cultural change. Our recommendation is that publishers to **begin increasing transparency about all facets of their publishing with editors, members, and customers.**

Stakeholders seeking to support learned society publishers (e.g. funders, libraries, and library consortia)

1. There is wide difference and variation within the publishing industry, and the concerns of independent society publishers may be different from those of society publishers who partner with larger publishers. Our recommendation is to **keep talking often and consulting widely, and to be seen to do so.**
2. Journals cannot flip to OA unless their funding

streams do. Particular pinch points are a) researcher authors in countries where there is neither funding for APCs nor yet work underway to enter into transformative agreements, and b) researcher authors who are at an early stage in their career; clinicians, teachers, and other practitioners, or government employees. Publishers cannot be expected to bear all costs for these categories of researchers through APC waivers, particularly where this could involve a large proportion of authors for any one title. [Annexe 1](#) provides some illustrative examples to bring this challenge to life. Our recommendation is for journals to **work together with publishers to identify and resolve funding challenges that are genuine barriers to full OA transition.**

3. Universities provide funding and staff time to publishers and receive contributions and services – particularly from learned societies – in the form of studentships, staff development, teaching, and the like. Our recommendation is that these be tracked in a systematic and more transparent way in order to **assess the strategic value of these relationships.**
4. There is a need for both the public and the private sectors to support OA publishing going forward. For example, commercial organisations which employ authors should fund publication costs for their researcher employees, but should also recognise that their readers benefit from the availability of more OA content. Our recommendation is that universities **reach out to commercial organisations partnering with their institutions about a shared approach to**

funding OA publishing. It would also be helpful to engage government departments that fund research and employ researchers but that are not currently actively engaged.

5. If all funders worldwide were to align their OA policies, publishers would be able to transition more easily to full and immediate OA. Even if a majority of funders aligned, a minority of articles might be publisher-funded through waivers and the journal might still be sustainable. Plan S offers the clearest blueprint for how this can be achieved and is flexible enough to incorporate approaches in north and south, east and west. Our recommendation is for **funders to work together to support the expansion of aligned OA policies such as Plan S.**
6. A clearer picture of how scholarly communications might evolve over the medium term could be helpful to all stakeholders. It is easier to look for opportunities to accelerate a transition to OA, and to create a sound foundation for Open Science more broadly, if stakeholders share an understanding of what is likely to happen. Our recommendation is that, before the end of 2020, **stakeholders should work together and with publishers on a Political, Economic, Sociological, Technological, Legal and Environmental (PESTLE) analysis to underpin joint scenario planning** about how the transition to OA will proceed over the next 5 years.
7. Plan S and initiatives such as OA2020 are powerful because they are drivers for a speedy transition to OA, and indeed for the more fundamental reworking of

power relationships and pricing advocated by libraries and universities. Some libraries and consortia have not yet reflected this new urgency in practice and this could lead some publishers to suspect that the goal is to make them fail. We do not believe this is the case, and yet understand the concern. Our recommendation is that work is done to **set clear, achievable goals and priorities for the short, medium, and long term and to prioritise pragmatic work to transition to OA** while in parallel working on the tougher underlying issues that currently divide stakeholders.

8. National differences in subscription pricing have arisen in a historic context—they are based not only on print spend but also on a country’s historic ability to pay. Going forward, new approaches and business models need to be transparent and equitable around the world, and linked to impact of services on authors, readers, institutions, and society. Rebalancing is likely to be required internationally between countries, and funders are the stakeholder group best placed to enable this. Our recommendation is that stakeholders engage, together and with publishers, in **broader strategic discussions about pricing and other factors that could be put in place to ensure a more equitable, innovative, and sustainable scholarly communication system for all.**
9. The relationship between libraries and society publishers has not previously been a close one. There is now an opportunity for strategic new collaborations as learned societies seek to transition to OA and align with Plan S. Our research shows that transformative agreements are

a promising mechanism for this. As library consortia provide the lion's share of funding for the largest players in the current publishing landscape, this could be a very powerful lever for many to accelerate a full transition to OA. Our recommendations on **converting library expenditure to OA expenditure** are:

- a. It is essential for institutional OA policies to be refreshed to align with the direction of funder policies. To illustrate the importance of this alignment, we've provided a UK case study in [Annexe 1](#).
- b. Institutions should make clear whether and how they will support transformative agreements with small and medium publishers such as learned societies, and which researchers will be covered by these.
- c. Learned society publishers (and other small and medium publishers) particularly need opportunities to accelerate their experimentation with OA transformative models if they are to communicate clearly — and by the end of 2020 — when they will be able to fully transition to OA in alignment with Plan S. Library consortia and libraries need to lower barriers of entry to, and prioritise transformative agreements with, small and medium publishers.
- d. Model agreements and shared approaches should be developed internationally. Small and medium publishers with limited resources are simply unable to work in a bespoke way with each library or consortium.
- e. Publishers would appreciate a set of criteria and/or processes through which transformative

agreements can be validated as Plan S compliant. For example, in the UK the Wellcome Trust relies on Jisc Collections to make this assessment. Our recommendation is that cOAlition S develops clear policies and practices and communicates these to publishers through a variety of channels.

- f. It is important not to fall into the habit of equating OA with ‘author pays.’ This would pile all the systemic costs on the shoulders of research-intensive institutions and would not be sustainable. Publishing services are broad and serve authors, readers, teachers, and their institutions broadly. The cost of transformative agreements needs to be shared equitably across the academic community, and new cost-allocation mechanisms developed within consortia.
- g. Other ways besides paying APC invoices need to be found in order to sensitise researchers to the price of publishing services. Communication and marketing campaigns might be used, for example.
- h. And some recommendations specific to UK stakeholders, that could be considered in light of the UKRI OA policy review currently underway:
 - i. Bringing together expenditure with publishers from the block grant, institutional APC fund, and subscription spend would give universities more leverage/impact with publishers. This can be amplified when channelled through Jisc. Universities should consider the potential strategic benefits of strengthening Jisc’s position by moving away from an opt-in system for every deal.

- ii. We recommend that UKRI and COAF funders (including the Wellcome Trust) and universities consider channelling their OA publishing funds directly to Jisc for this same reason.
 - iii. There is a potential connection to be drawn between funding for OA publishing and the review of the UK Concordat for Researcher Development²⁸ chaired by Professor David Bogle. OA publishing may be an example of an area in which early career researchers are currently disadvantaged in their career development, and this warrants some attention.
 - iv. There might be a useful connection for universities to make between transformative agreements and support for student publications in university teaching excellence framework (TEF) submissions. One of the success criteria is students' exposure to and involvement in scholarship and research, and the visibility and impact of student research can be enhanced through OA publishing.
10. Finally, this project developed from constructive conversation between funders and publishers. The project steering committee members were extremely collaborative and discussed even challenging subjects in a calm, constructive, and considered way. Our recommendation is that **thought is given to how funders, society publishers, and university presses can continue to work through these recommendations and shared challenges** during the transition to OA.

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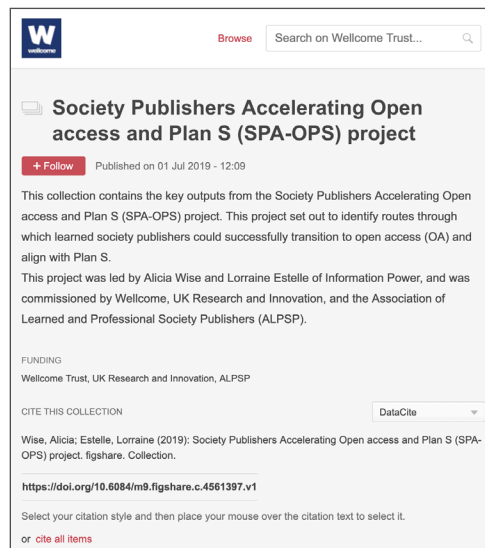


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Data accessibility statement

Materials and data from the Society Publishers Accelerating Open access and Plan S (SPA OPS) project are available via the Wellcome Trust Figshare platform at https://wellcome.figshare.com/collections/Society_Publishers_Accelerating_Open_access_and_Plan_S_SPA-OPS_project/4561397.



The screenshot shows the Wellcome Trust Figshare interface. At the top left is the Wellcome logo. To its right is a search bar with the text "Search on Wellcome Trust...". Below the search bar is the title "Society Publishers Accelerating Open access and Plan S (SPA-OPS) project" with a folder icon to its left. Under the title is a red "+ Follow" button and the text "Published on 01 Jul 2019 - 12:09". The main text describes the collection: "This collection contains the key outputs from the Society Publishers Accelerating Open access and Plan S (SPA-OPS) project. This project set out to identify routes through which learned society publishers could successfully transition to open access (OA) and align with Plan S. This project was led by Alicia Wise and Lorraine Estelle of Information Power, and was commissioned by Wellcome, UK Research and Innovation, and the Association of Learned and Professional Society Publishers (ALPSP)." Below this is a "FUNDING" section listing "Wellcome Trust, UK Research and Innovation, ALPSP". There is a "CITE THIS COLLECTION" section with a "DataCite" dropdown menu. The citation text is: "Wise, Alicia; Estelle, Lorraine (2019): Society Publishers Accelerating Open access and Plan S (SPA-OPS) project. figshare. Collection." Below the citation is the DOI: "https://doi.org/10.6084/m9.figshare.c.4561397.v1". At the bottom, it says "Select your citation style and then place your mouse over the citation text to select it." and "or cite all items".

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Annexe 1

What is the scale of unfunded researchers?

Publisher participants described the challenge of flipping hybrid titles with large proportions of unfunded researchers. To aid discussion and understanding, publishers were asked to brainstorm a list of how they defined unfunded researchers. We then worked together to refine this and developed the following:

| | EXAMPLES |
|--|---|
| Researchers who are unlikely to have money for APCs but who might potentially be covered by a transformative agreement | University employees: <ul style="list-style-type: none">• in a team with research funding but who have too low a status in the team to access APC funds• on teaching contracts, or multiple short-term contracts• with grants but no ring-fenced money for APCs within the grant• at institutions that do not support payment of APCs as a valid approach to OA (e.g. due to concern about the potential costs that fall to research intensive institutions) |
| | Researchers affiliated with a university but on an honorary contract |
| Researchers who are unlikely to have money for APCs and who are unlikely to be covered by a transformative agreement | Researchers employed in organisations that do not primarily engage in research (e.g. colleges, government departments, hospitals, schools) |
| | Retired researchers |
| | Students |
| | Unemployed researchers (e.g. recent PhDs) |

Publishers were clear that they cannot be expected to bear all costs for these categories of researchers through APC waivers as this could be a large proportion of authors for any one title.

To bring this challenge to life, and to assess the scale of unfunded researchers, we worked with two society publishers in the UK to profile their authors, and to recommend business models that might be used to support their OA publishing.

CASE STUDY 1—a learned society publishes five journals with different publishing partners. In 2018, one of these journals published 132 articles.

| Article counts | Percentage of articles | Category | Information Power comments on funding sources for OA publishing |
|----------------|------------------------|---|---|
| 12 | 9% | Author funded by cOAlition S member funders | cOAlition S |
| 12 | 9% | Author funded by other national research funders including those in Australia, Canada, China, Israel, South Korea, Sweden, and the US | Most of these funders have OA mandates in place – see http://roarmap.eprints.org/view/policymaker_type/funder.html |
| 13 | 10% | Government agencies in China, Germany, Spain, Thailand, and the US | Further discussion with cOAlition S about how this sort of organisations might be approached to join Plan S (or ways this proportion of articles might otherwise be funded) would be helpful. |
| 3 | 2% | Private foundations—the Spencer Foundation and the Gordon & Betty Moore Foundation | |
| 2 | 2% | Corporations—these two articles had funding from three companies: Colgate-Palmolive, IBM, and Microsoft | |
| 1 | 1% | A city government agency in Shanghai, China | |
| 19 | 14% | Authors affiliated with institutions that could potentially enter into transformative agreements | Explore transformative agreements (with consortia or libraries) in Australia, China, Denmark, Greece, Iran, Italy, the Netherlands, Sweden, Taiwan, Turkey, UK, and US |

| | | | |
|----|-----|---------------------------------------|--|
| 70 | 53% | Unknown as the metadata is incomplete | In an increasingly OA world, it is essential that society publishers correctly capture and share metadata for the funding sources and institutional affiliations of at least corresponding authors and ideally all authors |
|----|-----|---------------------------------------|--|

Within the unknown category could rest many authors who are truly unfunded. These could include:

- Teachers who have returned to their schools and teaching, but who have recently completed a Master’s degree.
- Early career researchers who have recently finished PhDs and may take time to find a role and/or who are on annual teaching contracts that (in the northern hemisphere) run September to June.
- Freelance independent teaching practitioners who publish for a variety of career purposes.
- Teaching practitioners in schools who collaborate with a university-based researcher on a project. The society feels it would be wrong if the university-based research must always serve as the lead researcher and corresponding author in order for the team to access funding to comply with funder OA mandates. The society aims to create a fluid environment for researcher between schools and universities, and really would like a level playing field for people on a team in both environments.

CASE STUDY 2—An independent society publisher of two journals, one hybrid and one fully OA, did and kindly shared some analysis of their authors:

| Proportion of articles | Society publisher view | Information Power comments |
|------------------------|--|--|
| 55% | Funded by the National Institute for Health Research in the UK which has issued a statement supporting Plan S, but does not seem to have an active OA policy or to provide funding for OA publishing | Many of these authors are likely to be covered by transformative agreements, so this category requires more detailed exploration |
| 30% | Other | Many of these authors have institutional affiliations that could qualify them for coverage by a transformative agreement—requires more investigation |
| 15% | Not affiliated with a university or known funded research group | Is this a result of missing metadata, or truly unaffiliated individuals? In an increasingly OA world, it is essential that society publishers correctly capture and share metadata for the funding sources and institutional affiliations of at least corresponding authors and ideally all authors |

Annexe 2

Examples of UK OA funding and institutional OA policies

There are a very wide array of ways that UK researchers might be funded to publish OA. Researchers in the UK may individually apply for and hold direct grants that can be used to pay for OA publishing. Researchers employed by universities may also be able to access institutional funds including the UKRI OA block grant or funds from the Charity Open Access Fund (COAF). Researchers employed by universities may also be funded through an institutional allocation for OA costs, for example institutions may choose to allocate some of their quality-related or private funding for this purpose. Researchers employed by universities may also have OA publishing funded through their inclusion in a Jisc transformative agreement.

We discovered in the course of our research that many stakeholders weren't really clear how the central quality-related funding streams worked, whether and how institutions allocated money for OA costs, nor which authors might be covered by a Jisc transformative agreement. Greater clarity would be extremely helpful.

Quality-related funding

Quality-related (QR) money flows to universities for funded research but is unencumbered by funding bodies such as DENI, HEFCW, SFC, and UKRI (via Research England). This means there are no particular strings attached, and certainly no strings that would constrain whether and how a proportion of this money is used to fund OA publishing. The reason this funding is unencumbered is to allow universities freedom to be strategic and for each to support its own strategic priorities.

It is therefore unsurprising that when we sampled institutional OA policies about the provision of publishing funds, we found huge diversity across the sector. Some policies clearly state that money is available from central funds for articles reporting on funded research only. Other policies address articles written by employees without research funding, but often signal they will deal with these on a case-by-case basis. None of the policies we examined currently explain whether and how the institution supports transformative agreements, or which employees would be covered.

As a result, QR funding flows very indirectly into any institutional APC fund. The existence of these funds are often not well publicised and they are often underspent. If oversubscribed it is understandable that institutions would prioritise researchers whose outputs they believe would contribute to the university's REF performance or other similar measures of research profile.

To make matters even more confusing, QR funding is also not always managed centrally within institutions; instead it can be allocated entirely to departments to reflect, for example, their performances in the Research Excellence Framework. In these cases, money from departments flows back to central services such as the library and research office, but reflects teaching income to departments as well as research income. The point being that, when the library gets its budget, the connection to particular sources of funding, whether for research or teaching, can be blurred beyond recognition.

It would be exceedingly helpful if institutional OA policies were clearer about the source of their funding and, if teaching revenues are being used to fund transformational agreements. In these cases it would appear to make sense for teaching staff and students to be covered explicitly in these deals.

To illustrate the complexity, here are a sample of institutional OA funding policies.

- The University of Cambridge encourages research outputs to be made available OA, asks researchers to submit manuscripts to its central service for advice and support about how to achieve this, and uses green OA compliance routes where possible. It states that it is not possible to support all Open Access publication costs and describes the process it uses to consider requests for support. To be eligible, researchers must have funding from a research council or COAF and the corresponding author must be employed at the university.
- Durham recommends green OA, or gold OA for articles published in pure OA journals, because this will not result in double payments to publishers for the cost of hybrid OA/subscription journals. However, the university stops short of mandating this and says that while there is money in the UKRI OA allocation it will consider any request to fund gold OA in any journal which is compliant with RCUK Open Access policy. <https://www.dur.ac.uk/resources/research.innovation/open.access/UsingRCUKOpenAccessFundingv3.pdf>
- Exeter uses UKRI funding to support OA publishing by researchers funded by UKRI, and COAF funding to support research funded by COAF partner charities. It has also made institutional funding available to support others to publish OA. <http://www.exeter.ac.uk/research/openresearch/oa/paidoa/>
- Hull funds OA publishing for UKRI fund holders and via the library is funding 'small OA pilots with PeerJ and Sage'

and 'offset deals for publication with Springer and Taylor & Francis'. <https://libguides.hull.ac.uk/openaccess/gold>

- Imperial has an Open Access Fund for authors who do not have OA funding in their research award or whose work is not externally funded. Use of this fund is restricted to fully OA journals that are listed in the [Directory of Open Access Journals](https://www.imperial.ac.uk/research-and-innovation/support-for-staff/scholarly-communication/open-access/applying-for-funding/) (DOAJ). <https://www.imperial.ac.uk/research-and-innovation/support-for-staff/scholarly-communication/open-access/applying-for-funding/>
- Kings College London may cover OA publishing costs and has a flowchart that employees can follow to see if this is necessary in order to comply with UKRI or COAF mandates. <https://www.kcl.ac.uk/library/researchsupport/openaccess/request-funding>
- Leeds may be able to cover OA publishing costs for employees funded by UKRI, COAF, NIHR, or Horizon 2020, or for those submitting papers to a publisher with whom the university has an institutional agreement. https://library.leeds.ac.uk/info/14061/open_access/10/find_funding_for_open_access
- LSE prefers the green route to Open Access but may fund OA publishing costs when necessary to meet specific funder requirements. <http://www.lse.ac.uk/library/research-support/open-access>
- Manchester will fund OA publishing if a request to do so is supported by a faculty head and/or research centre head. <https://libguides.mmu.ac.uk/openaccess/apply>
- Nottingham funds OA publishing of UKRI-funded research (excluding Innovate UK and the UK Space

Agency) or COAF-funded research. With authorisation from a head of school, funding for others may be provided, but employees are encouraged to talk to publishers about waivers or to funders. <https://www.nottingham.ac.uk/library/research/open-access/requesting-oa-funding/funding.aspx>

- Oxford provides OA publishing funds for UKRI grant holders, those employed on UKRI-funded grants, and UKRI-supported students. <http://openaccess.ox.ac.uk/applying-for-funding-from-oxfords-rcuk-open-access-block-grant/>
- Portsmouth prefers green OA but will support researchers to publish gold OA if research is UKRI funded, or funded by others and likely to be considered for submission to the Research Excellence Framework. https://library.port.ac.uk/openaccess.html#gold_oa
- Southampton accepts applications for OA funding from employees funded by UKRI or a COAF charity. <https://library.soton.ac.uk/openaccess>
- UCL says if an author is not funded by an external funder and wants to publish their research output as a gold OA, UCL will cover reasonable APC payment costs. <https://www.ucl.ac.uk/library/content/publications/faqs.shtml>
- York funds OA publishing for employees funded (in whole or in part) by UKRI or COAF. The library also funds Open Access memberships and accounts to give York authors discounted, and in some cases free, Open Access publication. <https://www.york.ac.uk/library/info-for/researchers/open-access/yoaf/>

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