Recommendations on Open Science Publishing

Adopted by the Open Science Policy Platform on 25 April 2017.

Summary: Five Recommendations

1. Stakeholder communities, member states and the European Commission should jointly assess and identify how the OA mandate should be achieved by 2020.

2. Progress toward full OA must take into account how fast the publishing system is changing, and how scholarly communications are growing in richness and variety.

3. One size does not fit all – even if the end goal for all disciplines may be the same. Issues of compliance, including both incentives and enforcement, should be proposed, clarified and harmonised in a discipline-sensitive way.

4. Publishing options must be made clear and easily accessible.

5. From 2020, the European Commission must move toward a broader definition of OA that incorporates the full range of emerging formats and applications of scientific research output.

Context

The mandate and guidelines embodied by the EU Open Science policy are pushing towards a full implementation of Open Access (OA) publishing in Europe by 2020. Reaching this goal will require comprehensive and joint interventions by funders, research institutions, researchers, publishers and learned societies, aimed to tailor this shift to the relevant research systems, interactions and cultures being impacted. This document sets out recommendations to make OA implementation as rapid and efficacious as possible, while building on existing tenets and constraints posed by the ethos, values and methods of different research fields. Although these stakeholders are the targets of most of the recommendations in this document, some are also directed at the European Commission itself, as the funding and policy body able to incentivise and support coordinated action within and among these groups, and to provide clear frameworks for activity by these players where they may be lacking. These recommendations have been reviewed by the members of the Open Science Policy Platform, and informed by wider consultations with the research community and national funding bodies. They need to be considered in the context of the other focus topics of the OSPP (Open Science Cloud, Rewards and Skills, Altmetrics etc.) to ensure a systematic change towards implementing Open Science.

Key principles

Sustainability: There are a number of components to ensuring that the publishing system is robust into the future, and access to scientific publications can be guaranteed. Making sure that the system is properly funded is one of the most crucial of these elements, as funding must be robust, but this must ensure public value for money. Many publishers ensure that articles are either purchased for reading via a licence or they are supported by payment of an Article Processing Charges to be made open access. However, there are many points for potential inefficiency and waste in the current system. For instance, negotiations around subscription prices for access to journals and book series are not explicitly and transparently linked to an assessment of how many articles in the relevant publications have already been made available open access. It is essential that research institutions do not make multiple payments to support access to the same publication. Furthermore, the current costs in the publication system associated with securing a publication outlet often have to cover multiple submissions and repeat assessment and reviewing, and the associated researcher/reviewer salaries, which is duplicative, wasteful and unsustainable. At the same time, it is important to recognise that publishing trusted scholarly output does require professional quality assurance, through peer review services and technologies that publishers currently provide, and that such services need to be underpinned by sustainable business models and adequate archives for long-term preservation.

Transparency: It is essential that sufficient information about OA requirements, mandates and modalities of compliance are made available by publishing outlets, in a clear and intelligible manner, to researchers and research institutions needing to take decisions around how to disseminate their outputs.

Incentives: Compliance with OA guidelines remains complex and time-consuming for researchers, funders and institutions, and there are considerable challenges facing researchers navigating OA requirements and payments. For OA compliance to be widely implemented, efficient and field-specific mechanisms, infrastructures, incentives and rewards need to be in place to facilitate this goal. This is not the responsibility of any one actor in the system, but must be implemented and advocated by all stakeholders involved, and particularly:

- Funders and policy makers
- Research-performing institutions
- Learned societies and researchers
- Libraries
- Publishing organisations

Research Evaluation: Research institutions and funders are required to evaluate the research and researchers they have supported to guide funding allocation and strategy. In the absence of alternative indicators of research progression and quality, there has been an unhelpful/erroneous reliance on measures based on the outlet where research has been published, be that journal impact factors, citation counts or publisher reputation. For OA to succeed, evaluation systems should control for such reliance on proxies, ensuring that reviews are based upon indicators of the quality and impact of the output itself.

Community involvement: domain experts are the people best able to judge emerging work on its merits: for this reason researchers and research institutions need to participate more actively in decision-making around strategies and solutions for OA, for instance through learned societies and field-specific venues for debate.

Recommendations

1 **Stakeholder communities, member states and the European Commission should jointly assess and identify how the OA mandate should be achieved by 2020.**

For some research communities, progress toward full OA is nearly complete. For others, however, full OA could only be achieved by 2020 through a radical change in existing cultures of knowledge production and dissemination. Appropriate planning and time for staged implementation needs to be provided to ensure adequate systems are in place to support the transition for such communities. Without adequate and targeted implementation strategies, requiring such a change within a short timeframe could be damaging to OA and to the quality and reputation of European science.

ACTION: The European Commission, member states and the international research community should work together to develop a roadmap for different fields to achieve OA by 2020, which takes account of the enormous differences between research fields and of the reasons why such differences exist.

ACTION: Communities that have not yet started implementation should be supported to develop a clear implementation plan with associated deadlines, covering the required shifts in both communication norms and deeper cultural issues, including intermediate milestones (such as posting of preprints), and a process for regular monitoring of progress. Implementation plans should be supported by publishers, funders and research institutions. They should include appropriate adjustments in evaluation systems for researchers, learned societies and research institutions to ensure adequate recognition for the publishing of outputs using OA models, and include the development of collaborative initiatives between academia and industry to provide the financial support required to make OA publishing options sustainable across all fields of research.

ACTION: Publishers, learned societies, research-intensive institutions, libraries and funders need to be involved in the development of new business models to guarantee immediate OA to publications, including an assessment of how such models would affect their operations and current functioning. This could be coordinated by the Expert Group on the Future of Scholarly Publishing.

2. Progress toward full OA must take into account how fast the publishing system is changing, and how scholarly communications are growing in richness and variety.

Much of the current debate about OA models is based upon an understanding of the journal article as the primary form of scholarly communication. This heuristic obscures the importance of many traditional forms of scholarly communication (such as the book), but also displaces the emerging importance of communicating research outputs as radically different objects, such as methods, protocols, software, data, models, metadata etc.. These developments may take us far beyond the current models of green/gold and hybrid to a larger range of options in the near future, and must be incorporated into any consideration of the topic.

ACTION: Research communities should engage in foresight exercises regarding the future of scholarly communications in their disciplines. Research institutions, funders and publishers should also incentivise researchers to try out new models of sharing/publishing their work to maximise its impact and usability by others. Such exercises should be encouraged and supported by the European Commission.

ACTION: Stakeholders in the system should collaboratively explore ways to bring overall system costs down and create new approaches to long-standing challenges. Key challenges to be overcome include securing publishing venues for high-quality outputs whether or not authors have access to relevant funds, and the current need for repeat assessment and reviewing of research outputs across multiple outlets in order to secure publication. These experiments must be evaluated, documented and their results widely shared. This exploration should be encouraged and supported by the European Commission.

3. One size does not fit all – even if the end goal for all disciplines may be the same. Issues of compliance, including both incentives and enforcement, should be proposed, clarified and harmonised in a discipline-sensitive way.

Different research fields bring different needs and requirements to the challenge of swiftly adopting OA publishing. In addition, scientific societies distributed across different countries and language areas face problems of standardisation, communication and development of appropriate resources and infrastructures, especially when their customer base is very small. In those circumstances, it can be difficult to develop a sustainable business model, particularly for disciplines that are strongly wedded to local culture and not very internationally visible (e.g. history, literature). Given this, the adoption and implementation of the OA2020 mandate must consider disciplinary and potentially regional differences to avoid introducing perverse incentives into the system.

ACTION: Publishers should share experiences of pilot projects investigating new models of OA and should pilot alternative approaches to their review procedures. Research institutions should develop mechanisms to identify, discuss and incorporate relevant innovations. These experiments must be evaluated, documented and their results widely shared. This exploration should be encouraged and supported by the European Commission.

ACTION: The EC should instigate an analysis of the business models of society publishers in and across countries and language groups.

ACTION: Research communities and institutions must convene to review the openness of their publishing practices, share examples of best practice, and suggest measures to support their progress by 2020 and beyond.

ACTION: The European Commission and member states should ensure that the concerns of funding agencies are fully integrated into whatever roadmap is agreed (e.g. European Research Area national roadmaps, Mutual Learning Exercises, etc.). Funders need to agree on how their principles at all levels (at grant, researcher and institute level) can map to the process of implementing full OA, and what incentives/requirements should be deployed, for what disciplines, and by when. The broader research communities, institutions, publishers and metrics/analytics providers should also have the opportunity to provide input into these discussions.

ACTION: Research institutions and research funders should undertake, evaluate and share experiences of pilot projects to assess researchers (e.g. in grant application forms, in tenure applications) utilizing a variety of different measures at the level of the output itself, such as quality peer review, indicators of quality that document use and re-use of their outputs, and actively recognising open science behaviours. The European Commission should promote the results of these pilots where they have been successful as guidance for those making the awarding/appointing decisions.

ACTION: Research institutions and their representation groups like the EUA, LERU, CESAER, EU-LIFE, ALLEA and others must take the lead in facilitating the adoption of OA across all disciplines by supporting evaluation procedures and publishing platforms that incentivise and reward OA publishing.

4. Publishing options must be made clear and easily accessible

Despite the long-standing nature of the discussion of a move toward OA, it still remains difficult for many researchers to make their work easily and quickly compliant with OA requirements. This is at least in part due to confusion around different publisher policies and pricing options. It is crucial that publisher policies are made as visible, accessible and transparent as possible to allow researchers to understand and evaluate their options as early as possible in the research process, before any commitments or decisions are made.

ACTION: The Commission or its appointed proxy should design a clear, researcher-friendly system to make it easy for researchers to identify and compare publisher policies with regards to OA pricing, embargoes and related OA practices (e.g. open data and open peer review). If this system should prove too costly or impractical to implement, publishers should take other measures to ensure that their users understand their open access options.

5. From 2020, the European Commission must move toward a broader definition of OA that incorporates the full range of emerging formats and applications of scientific research output.

Many (but not all) stakeholders in the OSPP recommend that the definition of OA include free, immediate access to research outputs upon publication, with the right to re-use the content. In this context, "research outputs" could be understood to refer to articles and books, but also data, software, models, preprints and protocols and other formats meaningful and accepted in specific disciplines (see discussion under point 2 above). It should be noted that at the moment there are few business models for OA that guarantee immediate access to publications.

ACTION: Once the objectives of 2020 have been achieved, the Commission must broaden its definition of OA.

6. Steps Forward for the OSPP

Above and beyond specific measures to support Open Access Publishing, support for the above-mentioned measures is needed from other lines of OSPP activity, as follows:

- The **Altmetrics** group must make strong recommendations regarding how to efficiently and effectively evaluate research for what it is, rather than who it is published by. This provides an opportunity to identify different metrics to reflect different things e.g. research quality, research engagement, research impact, and researcher behaviours (such as OA compliance and open science measures).
- The **Rewards** group must find discipline-sensitive ways to incentivise a move towards openness without penalising or placing undue risk upon scholars, especially at early career phases. This should include valuing of preprints.
- The **Skills** group must coordinate their work with other transparency measures implemented so as to ensure researchers are adequately trained and fully aware of their publication options and consequent implications, and not merely following well-worn paths. Libraries are well positioned to provide the needed training.
- The **EOSC** and **FAIR data** groups must take these recommendations into account, to ensure that research data available through the cloud and elsewhere can be held to the same access principles as research outputs available elsewhere.
- The **Expert Group on Future of Scholarly Publishing** should be charged with working with the European Commission, these other OSPP groups, and key stakeholders involved in scholarly communication to drive forward these recommendations and action points and make them a reality.

Authorship Information

These recommendations were drafted by Sabina Leonelli, Rebecca Lawrence and Jennifer Edmund on the basis of extensive feedback from the members of the Open Science Publishing Working Group of the Open Science Policy Platform:

Jennifer	Edmond (Rapporteur)	Digital Research Infrastructure for Arts and Humanities (DARIAH)
Rebecca	Lawrence (Rapporteur)	F1000
Sabina	Leonelli (Chair, Rapporteur)	Global Young Academy (GYA)
Michela	Bertero	Alliance of 13 top research centres in life sciences (EU-LIFE)
Wolfram	Koch	European Association for Chemical and Molecular Sciences (EUCHEMS)
Ernst	Kristiansen	European Association of Research and Technology Organisations (EARTO)
Michael	Mabe	International Association of Scientific, Technical and Medical Publishers (STM)
Paul	Peters	Open Access Scholarly Publishers Association (OASPA)
Kristiina	Hormia-Poutanen	Association of European Research Libraries (LIBER)
Christophe	Rossel	European Physical Society
Iryna	*Kuchma*	*Electronic Information for Libraries (EIFL) and OpenAIRE*
Paul	*Ayris*	*League of European Research Universities (LERU)*
Lidia	*Borrell-Damian*	*European University Association (EUA)*

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