

Preparing for the Research Excellence Framework

Examples of Open Access Good Practice across the United Kingdom

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Abstract

This article concerns how higher education institutions across the United Kingdom are implementing systems and workflows in order to meet open access requirements for the next Research Excellence Framework. The way that institutions are preparing is not uniform, although there are key areas which require attention: cost management, advocacy, systems and metadata, structural workflows, and internal policy. Examples of preparative work in these areas are taken from institutions who have participated in the Open Access Good Practice initiative supported by Jisc.

Introduction

In their article 'Open Access for REF2020' Simon Kerridge and Phil Ward estimate that the number of journal articles and conference proceedings which will be submitted to the United Kingdom's (UK) Higher Education Funding Councils' next Research Excellence Framework (REF) will number somewhere in the order of 150,000.¹ These publications will make up about three-quarters of the total number of outputs which will be submitted to the exercise which endeavours to assess the quality of research at UK universities and subsequently informs research grant allocation.² On behalf of all the UK Funding Councils, the Higher Education Funding Council for England (HEFCE) announced in March 2014 that any article or published conference proceeding which a higher education institution (HEI) wants to submit to the next REF will need to be made openly available via a repository as soon as is feasibly possible. Taking into account exemptions, Kerridge and Ward estimate that this open access (OA) requirement will affect around 100,000 submissions to the forthcoming national research assessment exercise.³

Effectively satisfying this extensive stipulation will, according to the Jisc guide *Complying with Open Access Policies*, require 'an institution-wide approach', an approach that involves preparing researchers for changes to their research dissemination processes and establishing new workflows and systems.⁴ The challenge for institutions has been, and will continue to be, therefore the dual necessity to adapt internal workflows whilst changing researchers'

¹ Kerridge and Ward, 59

² Ibid, 59

³ Ibid, 61. The policy only applies to articles and conference proceedings accepted for publication after 1st April 2016.

⁴ The Jisc guide is available here: <https://www.jisc.ac.uk/guides/complying-with-research-funders-open-access-policies> [accessed 23/03/2016].

behaviours.⁵ It is widely held throughout the scholarly communications community that the benefits which come from free access to research for academic institutions, their researchers, and society in general outweigh the challenges of implementation.⁶ Yet adoption is sometimes impeded by what Stephen Pinfield describes as 'cautious researcher attitudes'.⁷ To this end, advocacy coupled with the realignment of internal processes has become the cornerstone of most, if not all, institutional OA strategies.

This article offers examples of how HEIs across the UK are successfully preparing to meet the OA requirements of the next REF. Examples of such work have been drawn from the nine Pathfinder projects which were set up as part of the Jisc-funded Open Access Good Practice (OAGP) initiative.⁸ The projects have focused their attention on a variety of OA-related areas falling under five key themes: baselining and policy, structural workflows, cost management, systems and metadata, and advocacy. The examples covered below will thus be organised in line with these themes. Via the development of support material, the organisation of workshops, and dissemination of their findings, these projects have formed the basis of an OAGP community in which over 100 UK HEIs have actively participated. Over 250 individuals subscribe to the OAGP mailing list, an indication of the initiative's reach across the UK's higher education sector. Before exploring how institutions involved in these projects have responded to the new OA requirements, the article will first look at HEFCE's OA policy in more detail.

⁵ Emery & Stone, 107. Feedback from workshops 'indicates that advocacy, funder mandates, staffing, discovery, and standards are the key barriers, with costs and workflows closely linked.'

⁶For summaries of the benefits of OA see: <http://sparceurope.org/open-access/benefits-of-open-access/> and http://www.pasteur4oa.eu/sites/pasteur4oa/files/resource/Brief_OA%20and%20knowledge%20transfer%20to%20the%20private%20sector.pdf [accessed 23/03/2016].

⁷ Pinfield, 613.

⁸ The Pathfinder projects are part of a community-based support initiative involving 30 HEIs, the primary focus being the development of good practice in OA implementation. For more information, including links to the different projects, please see: <https://www.jisc.ac.uk/rd/projects/open-access-good-practice> The OAGP blog is available here: <http://openaccess.jiscinvolve.org/wp/> [both accessed on 25/03/2016].

Policy Background

The higher education sector was first alerted to potential changes regarding the REF during consultation by HEFCE with the community in 2013.⁹ It was, however, OA-based mandates conceived by the Research Councils UK (RCUK) that same year which initially encouraged HEIs to reconsider their workflows and processes.¹⁰ Jo Aucock, Head of Cataloguing and Repository Services at the University of St Andrews, notes that the 'flurry of activity by funders in 2013 influenced [St Andrews] to issue a statement on publications and this also acknowledged the role of the Library in administering OA compliance.'¹¹ As in this case, university libraries along with institutional research offices, soon became the focal point for OA work across UK HEIs.

In 2014, the Funding Councils announced their OA REF policy, which endorses both Green and Gold routes to OA.¹² In comparison, RCUK's policy is more closely aligned with the Finch Report (2013) and its recommendation that policies should support a Gold OA approach.¹³ Ensuring that the research which they fund is made openly available has also been an objective for the Wellcome Trust, members of the Charities Open Access Fund (COAF), and the European research and innovation programme, Horizon 2020. Details of these funder and research organisation mandates can be found in ROARMAP (The Registry of Open Access Repository Mandates and Policies), a database which supports HEIs and academics in understanding the OA policy landscape.

⁹ For information about the consultation process please see: <http://www.hefce.ac.uk/pubs/year/2013/201316/> [accessed on 25/03/2016].

¹⁰ Aucock, 275.

¹¹ Ibid.

¹² An updated version of the policy was released in July 2015.

¹³ RCUK issued block grants to UK HEIs, for example, to pay for article processing charges.

The previous REF exercise (which finished in 2014) did not include any requirements that research outputs be made openly available. Due to its emphasis on OA, the present assessment, which is likely to conclude in 2020-21, has been described by Aucock as a 'game changer'.¹⁴ Ben Johnson (HEFCE's Research Policy Advisor) asserts that the Funding Councils understand a move to OA is a cultural change for academics and that it will take time to implement new systems, train support staff, and establish efficient workflows. Indeed, HEFCE has not yet released a figure stipulating a minimum threshold of compliance that HEIs must meet. The Funding Councils are, however,

considering setting a firm and final date by which all relevant outputs must have met the deposit requirements in order to be eligible for submission... (likely to be three months after the end of the REF publication period). If introduced, this would give an opportunity for institutions to make any inadvertently non-compliant outputs available as OA within the spirit of the policy.¹⁵

In response to concerns from HEIs about successfully complying, Johnson has responded by assuring that evidence of 'best endeavours towards achieving full compliance' will be satisfactory.¹⁶

Simply put, HEFCE's OA policy requires that articles submitted to the post-2014 REF will need to have their metadata and peer-reviewed full text deposited in a repository (either institutional or subject) upon acceptance of publication. In addition, 'deposited material should be discoverable, and free to read and download, for anyone

¹⁴ Aucock, 275. For details of REF 2014 please see: <http://www.ref.ac.uk/> [accessed on 25/03/2016].

¹⁵ HEFCE, *Open access in the next Research Excellence Framework: policy adjustments and qualifications*, 2.

¹⁶ Ibid.

with an internet connection.¹⁷ As one may expect, aspects of the policy have elicited discussion from the HEI community.¹⁸

Acceptance or publication date?

The policy stipulates that the full text and metadata of an article or published conference paper be deposited in a repository as soon as it has been accepted for publication.¹⁹ HEFCE's reason for choosing the acceptance date stems from the expectancy that it will encourage academics - at the point of the publication process when they are most involved - to consider how their scholarship will be distributed. Publication of research outputs can happen sometimes months or even years after the acceptance date, at which stage academics are removed from the workflow. Requiring their input at the acceptance date will, HEFCE hopes, engender a change whereby researchers take increasing ownership of the way that their research is disseminated.

Some members of the community have, nonetheless, called for HEFCE to use the publication date to be the criteria for REF eligibility. Although the notion of a fixed publication date can be ambiguous (for example, do you choose the print, online, or pre-release date?), currently, publication data is easily sourced from existing systems such as Scopus and Web of Science. Further, as this information is publicly available, institutions do not need to rely on academics to provide it; this is in contrast to the acceptance date, which — until now — has only ever been known (though not necessarily recorded) by the author and the publisher. Recent changes to Crossref's publisher

¹⁷ HEFCE, *Policy for open access in the post-2014 Research Excellence Framework*, 1.

¹⁸ See, for example, Torsten Reimer's post on Imperial College London's OA and Digital Scholarship blog (dated 2 March 2016): <https://wwwf.imperial.ac.uk/blog/openaccess/2016/03/02/how-compliant-are-we-with-hefces-ref-open-access-policy-why-open-access-reporting-is-difficult-part-2/> [accessed 23/03/2016].

¹⁹ HEFCE, *Policy for open access in the post-2014 Research Excellence Framework*, 5.

guidelines intend to improve this situation so that publishers can record key dates as part of the publication record information which they submit to the reference linking system.²⁰

Some institutions are also calling on HEFCE to change from deposit at acceptance to deposit at publication because full bibliographic metadata is not normally available at the point of acceptance. Thus, for HEIs to ensure that the correct metadata is recorded in their systems will involve two workflows– one at the point of acceptance and a second once the output has been published. The development and installation of Jisc’s Publication Router, however, will alleviate this workload by automating the deposit of research outputs and corresponding metadata directly into HEI’s research management systems.

Exceptions

According to the policy, exceptions can be claimed due to deposit, access, or technical issues. There is also a fourth category for other exceptions which fall outside these defined areas.²¹ Outputs which have been made OA through the Gold route – for example, where an article processing charge (APC) has been paid for RCUK-funded research – fall under the deposit exception category. As the output has already been made freely available it falls outside the scope of the policy.²²

As part of their Pathfinder project, Pathways to OA, University College London (UCL) has examined the proportion of outputs from their 2014 REF submission which would have been treated as exceptions. This analysis provides other institutions, as well as the Funding Councils, insight into how many exceptions should be expected. Of the

²⁰ To see Crossref’s guidelines for publishers see: https://github.com/CrossRef/rest-api-doc/blob/master/funder_kpi_metadata_best_practice.md [accessed on 25/03/2016].

²¹ HEFCE, *Policy for open access in the post-2014 Research Excellence Framework*, 6-8. Point 37-41 in the policy.

²² *Ibid*, 7. Point 38/f in the policy.

publications that UCL submitted, 93.4% would have been compliant, a figure which is close to HEFCE's nation-wide estimation of 96%.²³ Following the release of this data, Alan Bracey from UCL summarised the situation: '[a]lthough the potentially small number of exceptions makes them manageable, institutions still need a process in place, rather than dealing with each exception as it comes up.'²⁴ In recognition that exceptions tend to be out of the control of institutions, HEFCE have stated that the number claimed as part of the REF exercise will not affect results.

Embargoes

Honouring embargoes that publishers have put in place is an important step that HEIs have to consider when using their repository, as is ensuring that the output is freely available once embargoes have expired. The REF policy stipulates that access embargoes cannot exceed twelve months for science, technology, engineering, and medicine (STEM) subjects, and twenty-four months for the arts, humanities, and social sciences (AHSS).²⁵ An exception to these time limits can be claimed if an author and their institution considers a journal that has a non-compliant embargo policy to be the most appropriate route for dissemination. To help academics decide which journal to publish in, the SHERPA/RoMEO service offers the community a way to check publishers' self-archiving and embargo policies. In addition, the newly released SHERPA REF enables researchers and their institutions to confirm specifically whether the journal which they have published in (or intend to publish in) meets REF OA requirements.

²³ Details of the findings can be seen on the Pathways to OA blog here: <http://blogs.ucl.ac.uk/open-access/2015/12/21/ref-exceptions/> [accessed 23/03/2016].

²⁴ The summary follows on from a workshop held by UCL in early 2016, details of which can be found on the UCL blog post (dated 4 February 2016) here: <http://blogs.ucl.ac.uk/open-access/> [accessed 23/03/2016].

²⁵ HEFCE, *Policy for open access in the post-2014 Research Excellence Framework*, 6.

Copyright and licenses

There are different degrees of openness: 'free to read and reuse' is, for example, more permissive than being just 'free to read'. The REF policy – which requires that research be free to read, search, and download – advises 'that outputs licensed under CC BY-NC-ND satisfy this minimum, as would outputs licensed under CC BY, and other more permissive open licenses.'²⁶ As with checking embargo criteria, researchers and institutions can use SHERPA/RoMEO to identify the self-archiving permissions for specific journals and the SHERPA REF service to see if a journal is REF compliant. To help institutions further with compliance checking, it is hoped that publishers will improve the way they share licensing information through publication metadata feeds.

Repositories – which ones?

Researchers are free to deposit their articles or conference proceedings in either institutional or subject repositories.²⁷ As well as integrating and fine-tuning their own institutional repositories (IR), libraries and research offices have had to become familiar with the workings of external subject repositories, a process that can be supported by using OpenDOAR, a Jisc-managed directory of academic OA repositories.

Depositing research in a subject repository is standard practice in certain research communities (particularly amongst STEM researchers). Although the use of a subject repository can conform to HEFCE guidance, their use poses potential challenges, particularly around compliance checking. The COncnecting REpositories (or CORE) service which is managed by the Open University in partnership with Jisc, aggregates OA research outputs from registered repositories and can help institutions monitor what academics are putting into subject repositories. Whilst the HEI community has raised questions regarding whether certain repositories do or do not meet the REF's

²⁶ HEFCE, *Policy for open access in the post-2014 Research Excellence Framework*, 5.

²⁷ *Ibid*, 4.

compliance criteria, due to the range of subject repositories in operation, the Funding Councils are not intending to stipulate which should be used.

The Pathways to OA Pathfinder project has investigated the use of subject repositories in light of HEFCE's policy. At a January 2016 workshop, delegates heard how PubMed Central and its European counterpart are developing ways to help institutions check whether items deposited in their systems fulfil REF compliance. There was also discussion on whether funding could be found to help arXiv follow a similar path.²⁸ If such practices were to become more widespread, then there would be less pressure on those researchers who make good use of subject repositories to also deposit in IRs. It would also reduce the administrative burden on library and research office staff.

Multi-authors/multi-institutions

Finally, discussion has centred on the question of who is responsible for deposit when a paper has multiple authors. HEFCE does 'not have a strong view on which author should deposit the output, as long as the paper is deposited by one of the authors.' Indeed, the Funding Councils 'see no substantial drawbacks to more than one author depositing the output.'²⁹ In theory, then, the output need only be deposited once, something which would avoid duplication of effort.

An already confused area is further complicated in those instances where co-authors are based at different institutions with different OA practices. As Torsten Reimer from Imperial College London has written, the process

²⁸ For a summary of the workshop see UCL blog post dated 4 February 2016: <http://blogs.ucl.ac.uk/open-access/> [accessed 23/03/2016].

²⁹ Taken from the FAQs section of HEFCE's OA webpages: <http://www.hefce.ac.uk/rsrch/oa/FAQ/#deposit3> [accessed on 25/03/2016]

is helped by authors and repositories adopting ORCID identifiers which distinguish researchers and their research outputs.³⁰ Reimer also calls on publishers to provide better metadata about the outputs that they are publishing. If, for example, the DOI (digital object identifier) linked to each output was always passed on to the institution, the cross-checking process would be greatly simplified.³¹

In other areas – regarding embargoes and licensing for instance – publishers could support compliance by ensuring that their publications satisfied the Funding Councils’ requirements. Recognising that a significant number of exceptions result from publisher non-compliance, UCL has compiled a freely available list of non-compliant publishers and journals as part of their Pathfinder work.³² Whilst ‘a REF blacklist may be useful for pressuring publishers to change policies’, many HEIs are hesitant to dictate where their research staff should publish.³³ The SHERPA Services, and in particular SHERPA REF, help in this regard as they allow academics to check for themselves whether the journals they choose to publish in meet HEFCE’s mandates.

Despite the perceived complexities of meeting the REF OA policy, it is important to recognise that no other European country is as advanced as the UK in ensuring compliance with funders’ OA policies.³⁴ As we shall see, the work undertaken by institutions involved with the OAGP initiative has been an essential part of this achievement.

³⁰ See Reimer’s blog post from 21 March 2016 here: <http://wwwf.imperial.ac.uk/blog/openaccess/> [accessed 23/03/2016].

³¹ See Reimer’s post on the Imperial College London blog dated 2 March 2016: <https://wwwf.imperial.ac.uk/blog/openaccess/2016/03/02/how-compliant-are-we-with-hefces-ref-open-access-policy-why-open-access-reporting-is-difficult-part-2/> [accessed 25/03/2016].

³² Details can be found on the UCL blog post dated 21 December 2015: <http://blogs.ucl.ac.uk/open-access/2015/12/21/ref-exceptions/> [accessed 25/03/2016].

³³ Taken from the UCL blog post dated 4 February 2016 which summaries the REF workshop held on 25 January 2016: <http://blogs.ucl.ac.uk/open-access/> [accessed 25/03/2016].

³⁴ For an overview of the UK’s progress see Mafalda Picarra, ‘UK Open Access Case Study’ for PASTEUR₄OA Project (November 17, 2014).

The infrastructure and services which have been developed in a relatively short period of time to help UK HEIs monitor compliance are world-leading. The majority of UK HEIs now have repositories, and the REF OA policy will promote their greater use. In addition, many services such as CORE, ORCID, the Publications Router, and the SHERPA Services have been developed jointly with the community to ensure that needs are met and mechanisms are widely promoted and adopted.

How institutions are preparing to meet the REF requirements

Whilst discussion over certain points within the REF policy continues, Chris Banks notes that institutions are actively 'trying to develop frictionless services to support academic endeavour'.³⁵ Locally, different HEIs are tackling this challenge in a variety of different ways. There is no 'one-size fits all approach' to implementing OA, however libraries and research offices are making common preparations for the REF. These arrangements include: baselining their current position in order to identify areas for improvement, streamlining workflows through process mapping, establishing best practices for OA-related cost management, implementing and fine-tuning systems, and initiating advocacy work packages across colleges, schools, departments, and faculties. Drawing from the OAGP initiative and Pathfinder projects, below are examples of work in these areas.

³⁵ Banks, 40

Benchmarking and Policy

In order to assess their own level of preparedness, benchmarking existing OA-related procedures with other, comparable institutions is often the first step for HEIs. To help, a number of Pathfinder projects have produced case studies detailing approaches to implementation from different institutions. The project led by Northumbria University has compiled four studies of varied institutions (Durham University, University of Lincoln, University of Hull, and Teesside University), drawing out examples of best practice.³⁶ Similar outputs have also been created by the openNWorks, Pathways to Open Access, and LOCH (Lessons in Open Access Compliance for Higher Education) projects.³⁷ These case studies provide other universities a useful foundation from which to measure their own progress and help with decision-making. Benchmarked data specifying average costs, required skill-sets, and likely responsibilities for staff working on particular OA tasks and activities can, for example, help those institutions who are considering whether they need to increase resources.

To assist institutions in baselining their own position, the HHuLOA project (comprising the universities of Hull, Huddersfield, and Lincoln) have created a tool to record current OA activity across UK institutions. The data is updated every six months by contributors to track progress. As Chris Awre, from the University of Hull describes,

³⁶ The case studies can be found in a Northumbria and Sunderland's Pathfinder blog post dated 18 December 2015: <https://oopathfinder.wordpress.com/2015/12/18/oa-good-practice-what-weve-learned-so-far/> [accessed 23/03/2016].

³⁷ Details of these outputs can be found on the Pathfinder project blogs. openNWorks: <https://blog.openworks.library.manchester.ac.uk/> Pathways to OA: <http://blogs.ucl.ac.uk/open-access/> LOCH: <http://libraryblogs.is.ed.ac.uk/loch/> [All accessed 25/03/2016].

'[s]eeing what is happening elsewhere need not be a matter of guilt, but could be a chance to make a business case based on progress at the competition!'³⁸

The Oxford Brookes-led Pathfinder project, Making Sense of OA, developed a successful benchmarking tool known as CIAO (Collaborative Institutional Assessment of Open Access) which has been widely adopted by institutions.³⁹ The tool requires users to assess their readiness for OA by considering different stages of implementation: envisioning and initiating, discovering, designing and piloting, rolling out, and embedding. One user of CIAO was 'delighted' when she came across the tool. It was,

...just what I needed to establish where we needed to go with OA. ...I was worried there were areas of OA I may be blissfully unaware of, so CIAO re-assured me which areas needed to be covered. I sent a copy to the Head of our Research Office, and we then met to go through it. It was a really good document to have in the meeting, as it meant we did not need to define for ourselves what we needed to do, we just needed to work through CIAO to see what progress we had already made, and what we still needed to do. It made the meeting really straightforward.⁴⁰

³⁸ Taken from the HHuLOA blog post dated 5 February 2015:

<https://library3.hud.ac.uk/blogs/hhuLOA/2015/02/05/open-access-baseline-activity-tool/> [accessed 20/03/2016].

³⁹ CIAO is available here: <https://radar.brookes.ac.uk/radar/items/695b9555-c2f4-4aae-9107-176fa04531b4/1/> [accessed 20/03/2016].

⁴⁰ Taken from the Making Sense of OA blog post dated 17 March 2015:

<http://sensemakingopenaccess.blogspot.co.uk/2015/03/making-sense-project-update-march-2015.html> [accessed 20/03/2016].

The development and promotion of an institutional OA policy is another aspect of OA implementation where universities benefit from comparing their situation with other HEIs. In his article 'Making Open Access Work', Pinfield notes that all the evidence suggests institutional mandates are beneficial in the uptake of OA at HEIs.⁴¹ Introducing and successfully communicating an institution-wide policy means that both researchers and support staff have a clear steer when it comes to administering research outputs. To help with this process, Jisc, the SHERPA Services, and ROARMAP have, in collaboration, developed a schema for OA policies which can be used by institutions when developing their policy. It 'aims to encourage policy makers worldwide to express their policies in a consistent way.'⁴² Once the policy has been created, institutions are encouraged to register it on ROARMAP making it visible to other members of the community.

Structural Workflows

The OA landscape is difficult to navigate at all levels and from all angles. Members of the HHuLOA project have endeavoured to capture the interrelationships between different services, steps of the publication process, and required actions by creating three UK OA life cycle diagrams, one each for research managers, researchers, and publishers (**Figures 1-3**).⁴³ The coloured circles indicate where responsibilities lie, whether that be at institutional

⁴¹ Pinfield, 615

⁴² For more information about the schema see the Jisc Scholarly Communications blog post dated 30 November 2015: <https://scholarlycommunications.jiscinvolve.org/wp/2015/11/30/a-schema-for-open-access-policies/> [accessed 23/03/2016].

⁴³ The diagrams are available via the HHuLOA blog here: <https://library3.hud.ac.uk/blogs/hhuloa/2015/12/02/new-oa-life-cycles-for-comment/> [accessed 20/03/2016].

or 'above campus' level, or with publishers. The outer circle highlights different aspects of the Open Access Workflows for Academic Libraries (OAWAL) initiative, which aims to become a 'base from which librarians can build their local practices and processes.'⁴⁴ HHuLOA has also produced a highly successful OA Underground Map (**Figure 4**) which interlinks the different workflows for key stakeholders. The simple, interactive design allows it to serve as a valuable advocacy tool for researchers and support staff alike.

As Aucock recognises, it is necessary to fully understand the different elements of a workflow in order to make sure it is embedded successfully.⁴⁵ At the University of St Andrews, staff have carried out a Lean review of workflows as part of their OA implementation plan. 'A year in the life of Open Access support: continuous improvement at University of St Andrews' details the specific outcomes from this review.⁴⁶ A useful feature of the Lean process (and one which may prove helpful to other institutions when they are considering their own workflows) is the identification of 'wasteful' activities and features which may hinder the development of efficient processes. Interrogating processes using the Lean methodology has allowed staff at St Andrews to make improvements in key areas including the handling of APCs, communications, and compliance checking and reporting.

The way in which universities and their researchers handle the deposit process is another area where good practice is being established. Case studies outlining different institutional approaches to deposit have been created by the openNWorks Pathfinder project. Deposit activities across eight institutions were identified by interviewing library

⁴⁴ Emery and Stone, 110

⁴⁵ Aucock, 276

⁴⁶ The report is available here: <http://hdl.handle.net/10023/6430> [accessed 20/03/2016].

and repository staff.⁴⁷ As well as outlining the step-by-step deposit process followed by the individual institutions, the case studies determined the relative costs involved for each method. It was determined, for example, that the annual cost for the workflow used by Queen Mary University, London (QMUL) is £9,639 whereas for Liverpool John Moores University (LJMU) it was fractionally higher at £10,395. Whilst QMUL currently receives almost twice as many deposits from researchers than LJMU (2,700 compared to 1,500), its overall annual spend is slightly reduced due to the employment of a quicker workflow and the use of lower graded staff to manage the process.

Assessing which staff members are responsible for what tasks is a fundamental part of implementing OA at the institutional level, whether this relates to developing an OA strategy, paying APC invoices, supporting academics, or managing repository systems. The LOCH Pathfinder project (led by the University of Edinburgh) has produced a responsibility matrix template which lists individual responsibilities and tasks on one axis and job titles on another.⁴⁸ Identifying who is responsible, accountable, or needs to be consulted, supported, or informed will help streamline workflows, and prevent duplication of effort or communication breakdowns. The LOCH project also released a sample job description which can be adapted by institutions who are considering hiring new staff.⁴⁹

⁴⁷ The project also released a survey to the community in January 2016 to collect data on a broader scale. The case studies are being added to the openWorks blog here: <https://blog.openworks.library.manchester.ac.uk/> [accessed 25/03/2016].

⁴⁸ The responsibility matrix template can be downloaded from here: <http://find.jorum.ac.uk/resources/10949/19971> [accessed 20/03/2016].

⁴⁹ The draft job description is available here: <http://hdl.handle.net/1842/10016> [accessed 20/03/2016].

In many cases, it may not only be necessary to introduce support staff to new OA-specific tasks but also to the theory and ideas that lie behind the OA movement. Recognising this training need, the openWorks project has developed a toolkit for support staff which includes a guide that offers background information, definitions, and overviews of OA policies, repositories, Gold and Green OA, and reporting.⁵⁰ The toolkit also includes a presentation template which could be employed when training staff, as well as an 'Ask an OA Colleague' feature.⁵¹ In addition, 'Advocating open access: a toolkit for librarians and research support staff' is a useful guide produced by the Pathways to OA project that offers practical advice for HEI staff commencing an advocacy programme for researchers.⁵²

Cost Management

Although many see the REF policy as steering researchers towards the Green OA route, handling APCs will be an inevitable part of the process for HEIs. The very fact that the mandate refers to 'publication date' indicates that HEFCE expects that most (if not all) of the outputs submitted to the REF will be published, either via the traditional route of a subscription journal, through a hybrid or OA journal where APCs are paid, or via a free-to-publish OA journal. Subsequently, improvements to how HEIs effectively managed OA-related costs which were first made following the introduction of RCUK's policy are pertinent and continue to be developed.⁵³ Two related services

⁵⁰ The guide is available here: <http://www.openworks.online/guide/> [accessed 20/03/2016].

⁵¹ The interactive help page is available here: <http://www.openworks.online/ask-an-oa-colleague/> [accessed 20/03/2016].

⁵² The toolkit can be accessed here: <http://blogs.ucl.ac.uk/open-access/files/2015/06/Advocacy-toolkit.pdf> [accessed 25/03/2016].

⁵³ For further information about how UK institutions manage their OA funds see the report 'Institutional policies on the use of Open Access Funds' produced by the Pathways to OA Pathfinder project. It is available here:

being developed by Jisc, Monitor Local and Monitor UK, will help with the management and analysis of OA payments. Monitor Local enables HEIs to record and monitor their OA activity, including institutional APC payments, and Monitor UK aggregates this data offering an overview of national expenditure on OA.

Amongst other outputs, GW₄, the Pathfinder project led by the University of Bath, has produced the quick guide 'Using Purchase Cards for APC Payments', a report analysing the administrative costs of processing APC payments, a survey of the published literature on the potential wider market effects of pre-payments on the development of the APC market, and a review of the off-setting deals now being offered by a number of publishers.⁵⁴ To help institutions make efficiencies, Jisc Collections are continuing in their negotiations with publishers regarding these hybrid journal agreements.⁵⁵ Jisc Collections are also running a project which seeks to establish new models to support the total cost of ownership of journals. In conjunction with the development of the Monitor services, this project intends 'to raise awareness of the amount of money being paid for APCs, especially to those publishers that also receive large sums in subscription costs.'⁵⁶

For those institutions considering what resources they will need for APC administration, the GW₄ project has also brought together a collection of sample APC payment workflows. These workflows cover prepaid agreements, credit card payments (including the reconciliation and payment of the credit card bill), and general invoice

<http://blogs.ucl.ac.uk/open-access/files/2015/12/Pathways-to-OA-APC-funds-survey-report-Dec-15.pdf>
[accessed 25/03/2016].

⁵⁴ Details of these outputs can be found on the GW₄ Pathfinder project blog: <https://gw4.openaccess.wordpress.com/>
[accessed 25/03/2016].

⁵⁵ More information can be found here: <https://www.jisc-collections.ac.uk/Global/News%20of%20files%20and%20docs/Principles-for-offset-agreements.pdf> [accessed 25/03/2016].

⁵⁶ More information about this project can be found here: <https://www.jisc-collections.ac.uk/Jisc-Monitor/APC-data-collection/> [accessed 25/03/2016].

payments (**Figures 5-7**). These good practice workflows provide institutions with a starting point from which staff can reflect on their own processes and, as with many of the Pathfinder outputs, they can be amended to reflect local needs.⁵⁷

For librarians and research officers who need to make an internal business case to senior managers to receive funds to pay for APCs, the Northumbria Pathfinder project has developed an APC cost-modelling tool.⁵⁸ Different cost projections can be modelled depending on a variety of variables (including staff numbers, outputs produced, REF submission targets, and overheads relating to Green and Gold routes). The results generated from the tool enable institutions to estimate, given their local circumstances, how many APCs could be paid when working to different proposed budgets. The tool was developed from work undertaken by Northumbria University that led to the approval of an annual £100,000 fund for Gold OA costs.

Systems and Metadata

Without the appropriate technical systems in place, meeting the REF OA policy would be time-consuming and laborious; without using a common metadata profile interoperability between these systems would be problematic, if not impossible. The development of the RIOXX metadata application profile has been essential to the progress of managing OA outputs in the UK. Plug-ins have been developed for EPrints and DSpace repositories which mean they can support the application profile. Compliance Checker plug-ins for both these systems allow institutions to assess whether deposited outputs meet REF OA requirements.

⁵⁷ The workflows can be downloaded here: <http://find.jorum.ac.uk/resources/10949/20070> [accessed 25/03/2016].

⁵⁸ Details of the tool and access to it is via the Northumbria and Sunderland Pathfinder project blog post dated 6 July 2015: <https://oopathfinder.wordpress.com/2015/07/06/cost-modelling-tool-now-available/> [accessed 25/03/2016].

Members of the End-to-End Pathfinder project (led by the University of Glasgow) have focused much of their investigation on identifying technical solutions for OA management. Staff members at the University of Glasgow have, for example, developed an OA metadata specification for EPrints which has been widely adopted by users of this repository system.⁵⁹ Aware that there is often cross-over with other systems development work and consequently a duplication of effort, project members encourage 'co-operative working'. Workshops organised by the End-to-End project have been particularly successful, with one attendee noting that it was 'a confidence boost to see both the variety of tools available (or soon to be available) to help with implementation and advocacy of OA requirements for REF2020'.⁶⁰

Other institutions involved with the Pathfinder projects are investigating the incorporation of OA metadata in their systems; the University of Hull is working with Hydra, for example, and the University of Lancaster with Fedora. Some HEIs participating in the Pathfinder initiative use a current information system (CRIS) to manage their researchers' outputs. Like the End-to-End project, the LOCH project has also been involved in developing an OA metadata specification, for the Elsevier-run CRIS, PURE. To help instil best practice, staff at the University of Edinburgh have also drawn up training material for PURE validation checking; for example, as the REF requires that all outputs should be searchable, there is a simple but important reminder that file formats used to save attachments must allow for this.⁶¹

⁵⁹ McCutcheon and Eadie, 46-7

⁶⁰ Taken from a Northumbria and Sunderland Pathfinder project blog post (dated 15th September 2015): <https://oopathfinder.wordpress.com/2015/09/15/open-access-and-the-research-excellence-framework-workshop/> [accessed on 25/03/2016].

⁶¹ The training documentation is available here: <http://hdl.handle.net/1842/10021> [accessed 20/03/2016].

Though not a direct objective of the Pathfinder projects, a number of institutions have also volunteered to test systems which are being developed by Jisc and other system developers. The Universities of Hull, Glasgow, Cardiff, Huddersfield, Lincoln, Liverpool, Manchester, and UCL are, for instance, all trialling the Monitor Local and Monitor UK APC management software. Subsequently, an important part of work for those involved in the OAGP initiative has been to share with other HEIs their experience of new systems and technologies which are being specifically developed to meet OA requirements, and encourage their uptake.

Advocacy

Librarians and research offers are having to think creatively about how to encourage researchers to understand and meet the new OA requirements. 'The most important players of all', Aucock notes, 'are authors and researchers and for an OA policy to be effective they need to feel engaged with the process.'⁶² In order to know what motivates authors more clearly, the Making Sense of OA project has undertaken in-depth advocacy work with academic staff. Interviews with researchers enabled support staff to achieve a better understanding of academics' attitudes towards and behaviours around OA. This ethnographic methodology led to the creation of MIAO (My Individual Assessment of Open Access) which provides academics with a framework to evaluate their own preparedness for moving to OA.⁶³ The Coventry-led Open to Open Access project took a similar, ethnographic

⁶² Aucock, 275

⁶³ MIAO is available here: <https://radar.brookes.ac.uk/radar/items/eff183b2-c6be-4ega-8a69-3fa750888ea6/1/> [accessed 20/03/2016].

approach and, following interviews with researchers, drew up a needs assessment report which identifies the drivers and barriers to OA that academics encounter.⁶⁴

The Pathfinder projects have developed a variety of advocacy tools to help institutional staff engage with their academics. Some, like the REF eligibility poster (**Figure 8**) created by the Making Sense of OA project, offer a soft-touch approach. Free bookmarks and postcards with OA-related information, email signatures pointing academics to OA webpages, and institutional OA Twitter accounts are other enterprising methods being adopted. For more focused engagement and training, the Open to Open Access project has created a useful OA lifecycle flowchart (**Figure 9**) which can be employed during workshops.⁶⁵ Other material which can be adapted by institutions for OA training sessions includes pre- and post-workshop questionnaires by the University of Portsmouth (as part of the Making Sense of OA project). This support package also includes a Powerpoint presentation which can be modified to suit local needs.⁶⁶

Finding the balance between providing enough information so that academics are informed and feel part of the process, but not overwhelming them with unnecessary details so that they become disengaged and frustrated, is a shared problem for HEIs across the UK. An online decision-making tool for researchers is a valuable feature of the University of Northumbria's OA webpages which meets this challenge.⁶⁷ Academics are required to answer

⁶⁴ This work led to the development of Intervention Mapping Guide for understanding researcher behaviour. The report is available here: <http://blogs.coventry.ac.uk/researchblog/wp-content/uploads/sites/5/2014/12/O2OA-Needs-Assessment-report-FINAL-v2.pdf> The guide is here: <http://blogs.coventry.ac.uk/researchblog/wp-content/uploads/sites/5/2015/10/O2OA-Intervention-mapping-output-Oct-15.pdf> [both accessed 25/03/2016].

⁶⁵ The flowchart can be downloaded here: <http://find.jorum.ac.uk/resources/20118> [accessed 25/03/2016].

⁶⁶ This material is available here: <https://radar.brookes.ac.uk/radar/items/dc3f974a-5e8e-4ce7-96c4-91c88569b4a4/1/> [accessed 20/03/2016].

⁶⁷ The tool homepage is here: <http://northumbriauniversity.libsurveys.com/loader.php?id=e085006dd685e37606384a3fbc2b80> [accessed 20/03/2016].

questions about their research output and the tool identifies what publication and/or deposit options are available. It also directs them to further information and support if necessary. The process is simple and the outcome clear for users.

Conclusion

Pinfield suggests that the UK higher education community has moved from the position of debating whether OA should be a part of the scholarly communications landscape to asking how we can successfully adopt it on a wide scale.⁶⁸ The next phase will be to consolidate this work and move to the state of 'business as usual'.

Writing in the summer of 2014, Alma Swan and Caroline Sutton acknowledged that 'creating and managing a sustainable OA infrastructure is a challenging task and much more joint, collaborative effort is needed to move successful projects and experiments into the mainstream.'⁶⁹ They cite the OAGP initiative and Pathfinder projects as one example of such effective collaboration. Clair Waller from the University of Kent and the End-to-End Pathfinder project has summarised the benefit of the scheme thus: 'the way in which institutions are working together to develop solutions is really amazing and the Pathfinder projects seem to be a great way of achieving this. It's good to know we are not alone'.⁷⁰

⁶⁸ Pinfield, 622.

⁶⁹ Swan and Sutton, 13

⁷⁰ Taken from an End-to-End OA Pathfinder project blog post (dated 14th August 2014): <http://ezeoa.org/2014/08/14/repository-fringe-part-3/> [accessed on 25/03/2016].

Although there are challenges to implementation, the benefits from making research openly available are extensive. The OAGP initiative has been successful at developing and providing the tools to help HEIs realise these benefits.

Throughout this article we have seen how institutions are successfully exploring and adopting good practice in preparation for the REF. Institutional policies are being established; cost management processes and internal workflows are being streamlined and embedded; systems are being developed and integrated; and advocacy programs are underway. Support for all these endeavours is available to institutions through the OAGP community. Participation and use of the resources developed as part of the initiative, as well as those services being released by Jisc and its partners, will help HEIs achieve successful implementation of OA as well as meet HEFCE's REF requirements.

Figures

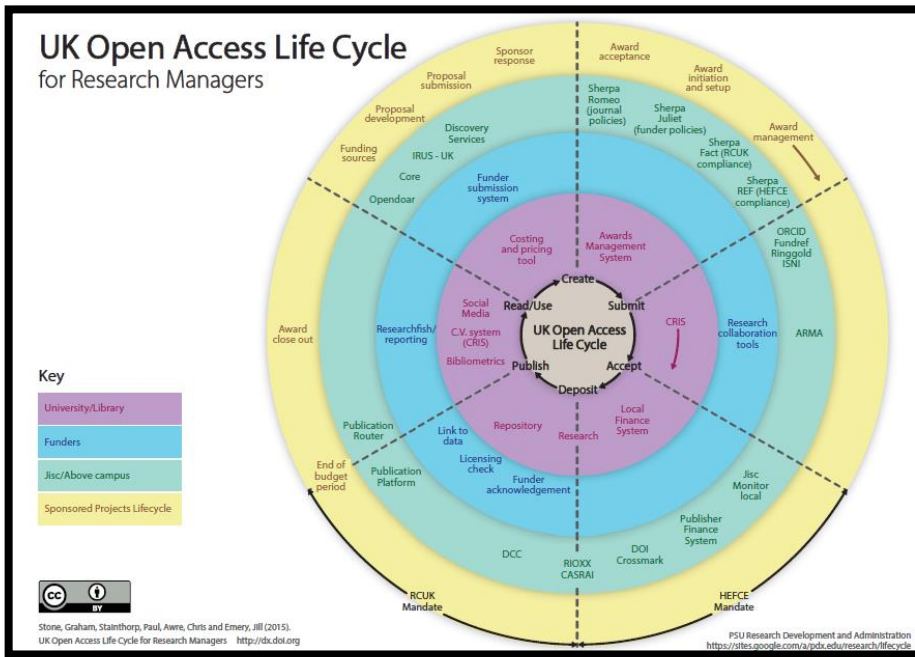


Figure 1. UK Open Access Life Cycle for Research Managers

HHuLOA Pathfinder Project: Stone, G., Awre, C., Stainthorp, P., and Emery, J. (2015)

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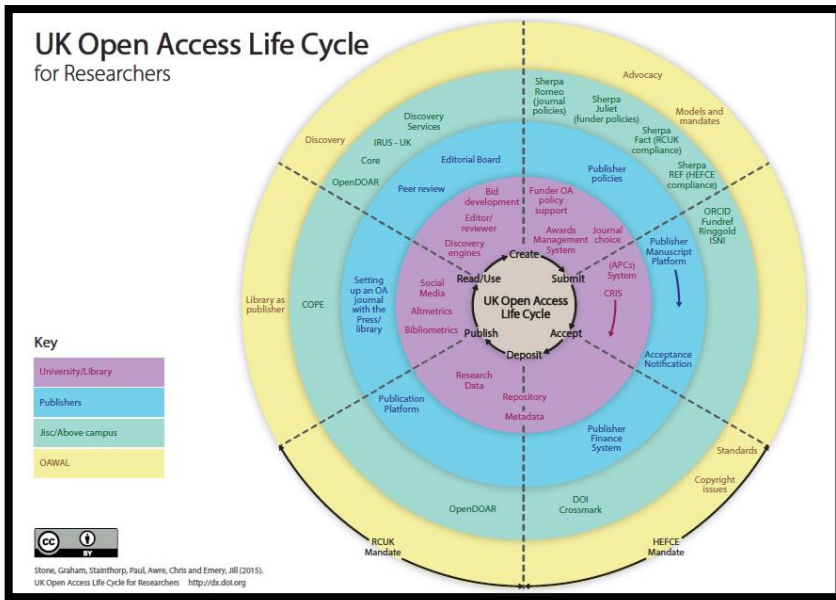


Figure 2. UK Open Access Life Cycle for Researchers

HHuLOA Pathfinder Project: Stone, G., Awe, C., Stainthorp, P., and Emery, J. (2015)

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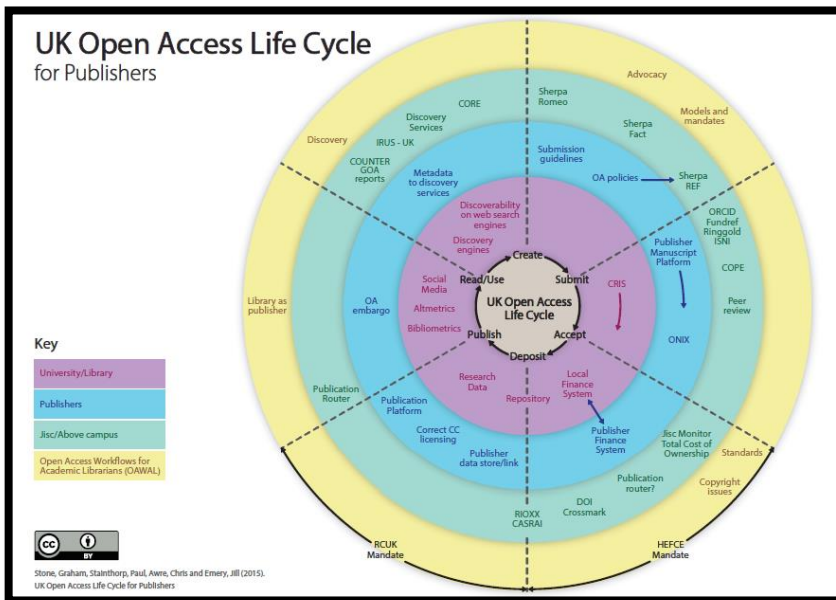


Figure 3. UK Open Access Life Cycle for Publishers

HHuLOA Pathfinder Project: Stone, G., Awe, C., Stainthorp, P., and Emery, J. (2015)

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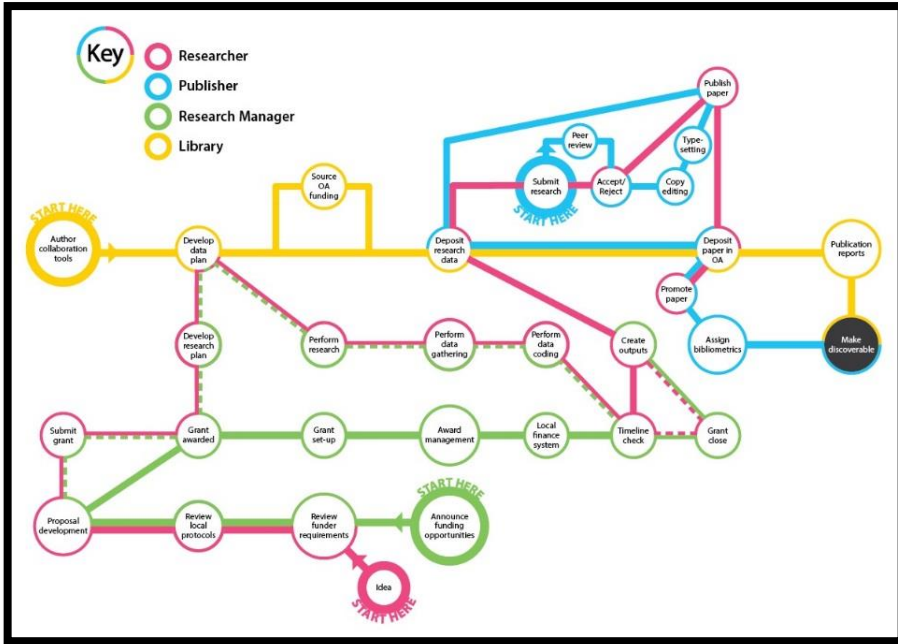


Figure 4. OA Underground Map

HHuLOA Pathfinder Project: Stone, G., Awre, C., Stainthorp, P., and Emery, J. (2016)

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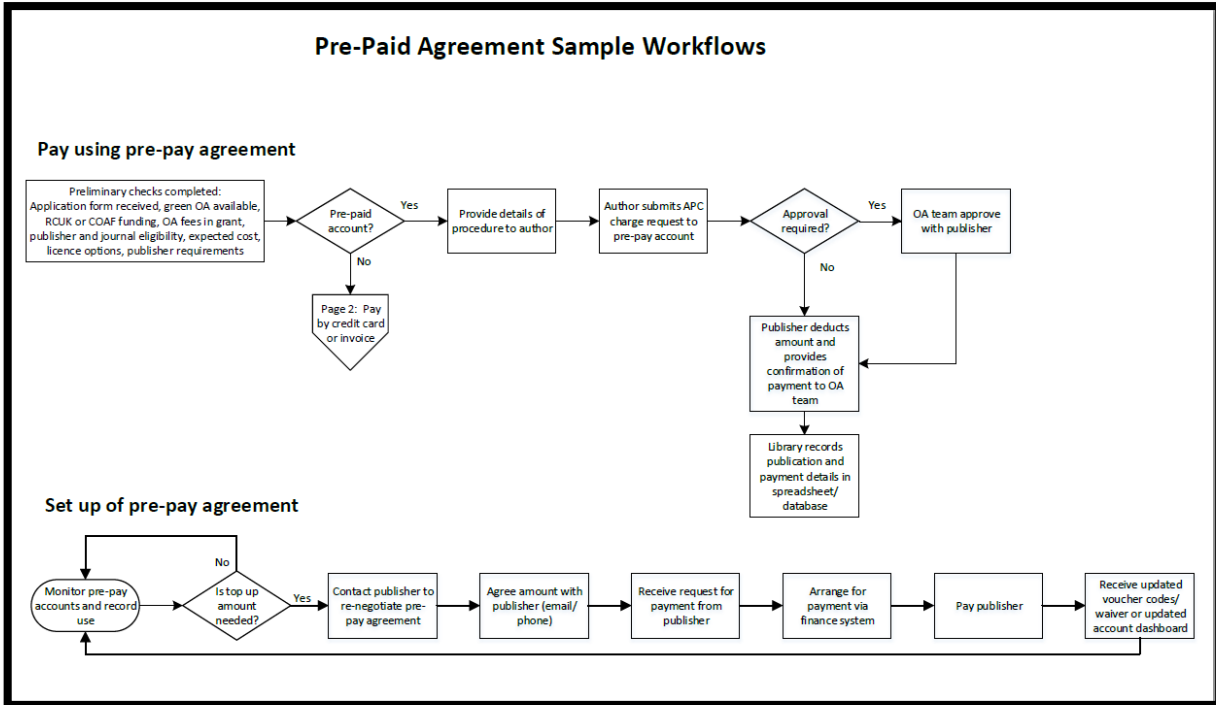


Figure 5. Pre-paid Agreement Sample Workflows

GW4 Pathfinder Project: Jones, F., Jones, S., Smith, K., Jones, K., and Holliday, L.

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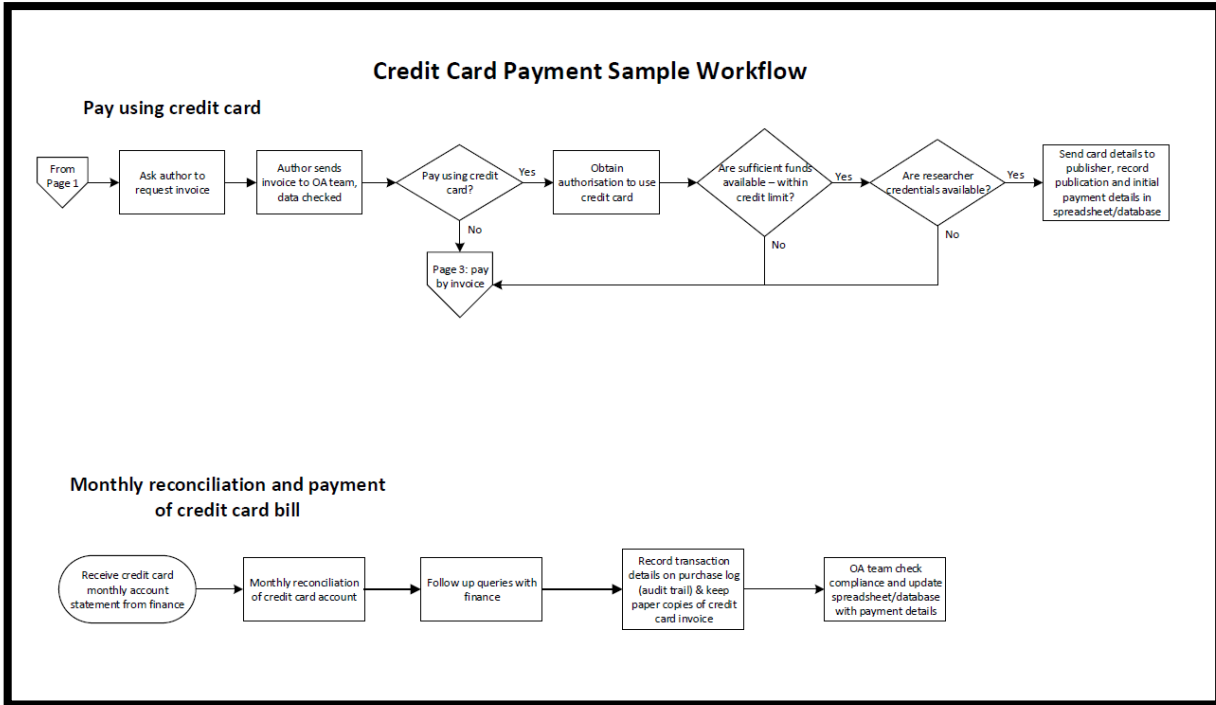


Figure 6. Credit Card Payment Sample Workflow

GW4 Pathfinder Project: Jones, F., Jones, S., Smith, K., Jones, K., and Holliday, L.

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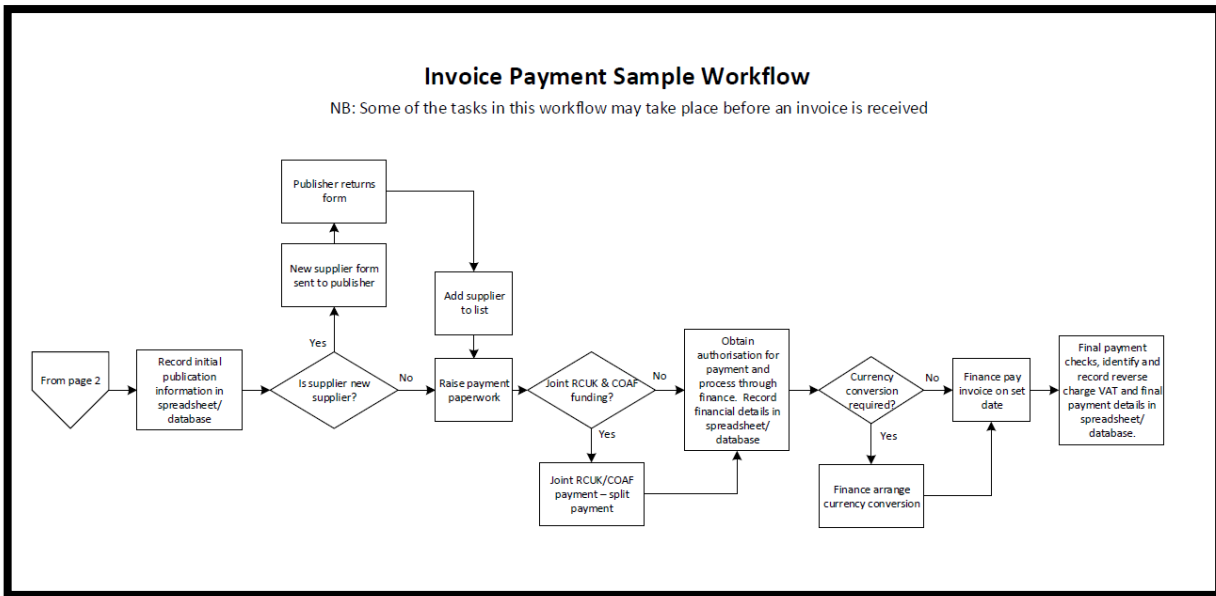


Figure 7. Invoice Payment Sample Workflow

GW₄ Pathfinder Project: Jones, F., Jones, S., Smith, K., Jones, K., and Holliday, L.



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 Contact: openaccess@port.ac.uk

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Figure 8. REF Eligibility Poster

Making Sense of OA Pathfinder Project: Bennett, E. (Modified from a poster produced by HEFCE.)

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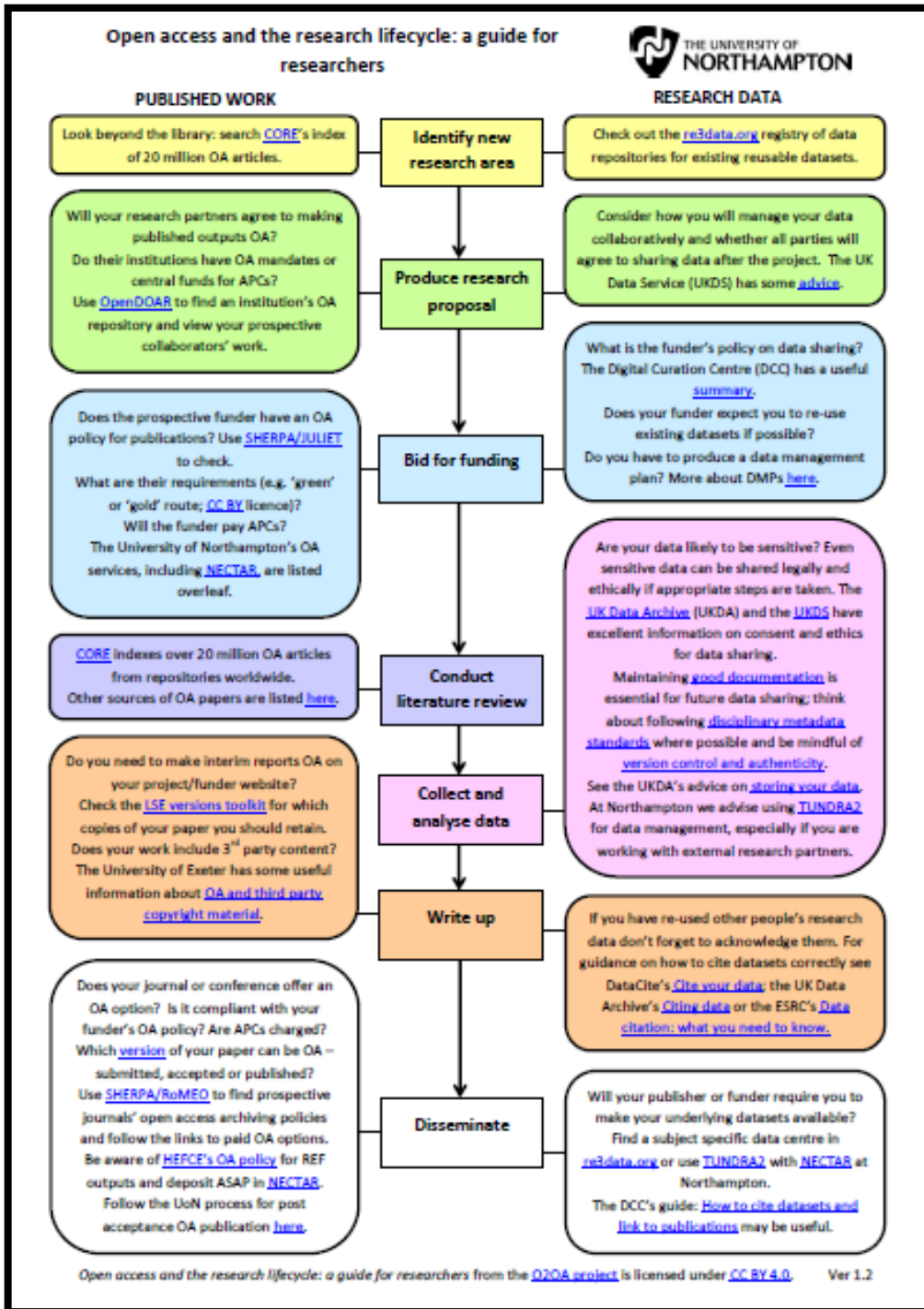


Figure 9. Open Access and the Research Lifecycle: A Guide for Researchers
Open to Open Access Pathfinder Project: Dimmock, N., Jones, K., and Pickton, M.
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