Open Access and Research Funders: A Report on Challenges, Opportunities, and Collaboration

Prepared by Scholarly Publishing and Academic Resources Coalition (SPARC)

April, 2016

Forum Background

In mid-2015, the Robert Wood Johnson Foundation (RWJF) proposed a meeting to catalyze a dialogue about opportunities for philanthropic organizations to expand their understanding and implementation of open access. This convening sought to bring together a diverse array of stakeholders — primarily US-based private research funders, but also including international governmental funders, universities, and others — to start a "community of practice", or regular collaboration among key players in the push toward openness.

RWJF's interest in open access was driven in large measure by a desire to accelerate discovery and maximize research impact. Research funders and philanthropic organizations have increasingly expressed an interest in open access and open data as a means to translate science to action. RWJF partnered with SPARC (the Scholarly Publishing and Academic Resources Coalition) to develop the program and coordinate this meeting. SPARC is an international alliance of academic and research libraries working to create a more open system of scholarly communication. SPARC focuses on taking action in collaboration with stakeholders – including authors, publishers, funders, and libraries – to build on the unprecedented opportunities created by the networked digital environment to advance the conduct of scholarship.

Developing the RWJF/SPARC Forum

SPARC senior management, in conjunction with RWJF personnel, worked together to further refine the aims of the meeting. The parties were assisted by Donna Okubo, Senior Advocacy Manager at the Public Library of Science (PLOS), an expert in organizing open access stakeholder meetings. The parties shaped the general aims to encompass the following goals:

- To hear from foundations and other research funders that have implemented open access policies. These groups will share their experiences, the lessons they have learned through the process of developing and implementing such policies, and their assessments of how the policies have fared thus far.
- To share concerns, barriers to implementation, and strategies for educating internal and external stakeholders about the merits of open access.
- To understand the effect of current federal policies, institutional mandates, international initiatives, and other open science developments on foundations' efforts to maximize research impact.
- To better understand the motivations and constraints specific stakeholders feel with respect to open access, and to leverage this understanding in service of practical, workable open access policies.
- To inform the development and implementation of comprehensive open access policies.
- To establish an open access "community of practice", or regular collaboration among funders and other stakeholders in similar and diverse fields.

Concurrently, lists of speakers and participants were created with the intention of bringing together a diverse set of voices at various stages in the development of open access policies. The response among invited speakers and participants was uniformly positive. While some were unable to attend owing to other commitments, a high degree of support was voiced for this type of convening. Ultimately, 16 of 18 invited speakers were able to present. 17 additional stakeholders were able to attend, out of 26 who were invited[1].

The agenda for the RWJF/SPARC Forum[2] was compiled in such a way that key strategic and tactical issues could be addressed from a variety of perspectives. Major topics were developed jointly by SPARC and RWJF. Presentations were ultimately slotted into the following five general categories:

- Understanding the Research Life Cycle
- What We Learned Developing and Implementing an OA Policy
- Governmental and Institutional Mandates
- Tools and Infrastructure to Support Open Access
- Mechanics of Administering and Implementing an Open Access Policy

Each session was designed to include both a handful of short presentations and substantial discussion time covering stakeholders' experiences, observations, concerns, and expectations. To frame the context for the meeting, Phil Bourne was invited to deliver an opening keynote. Dr. Bourne is the first Associate Director for Data Science at the National Institutes of Health and a longtime expert on open science. He was invited in order to bring his considerable expertise to bear in discussing the current state of open access, where we are headed, and how and why research funders can plan an active role in accelerating openness.

---

[1] A complete list of meeting participants and invitees who were unable to attend may be found in Appendix A.

[2] The full agenda may be found in Appendix B.

Pre-Forum Questionnaire

To better understand what expertise and what concerns forum participants were bringing to the event, a questionnaire was distributed in advance. A summary analysis of the 20 responses follows immediately below. This information was used to guide forum speakers in the development of their presentations, as well as to help the forum moderators direct discussions toward areas of widely held interest.

1. Where is your organization with respect to developing/implementing a policy that promotes increased access to the research outputs you help support?

In Early Stage of Discussion: 2
In the Process of Designing: 2
In the Process of Implementing: 7
Implemented: 9

2. Regardless of what stage your organization is at, what has been positive about the experience to date?

Most organizations cited support from their leadership, administrative staff, and external community for increasing access as a principle and/or policy. The discussion, development, and/or deployment of access policies provide a good opportunity to engage stakeholders within and outside the organization.

Additionally, a number of respondents cited the benefit to the research community to get access to funded research, and the consequent increase in the impact of grantmaking. Related to this was the notion that open access is consistent with the organization's mission and values.

3. What has been challenging about your policy discussion and development?

A frequently mentioned issue was ensuring that the administrative burdens are not overwhelming to internal staff or grant recipients. Additionally, some organizations cited the need to work with their research community to embed the principle of openness within their culture. Both of the above must be balanced against the need to develop and communicate policies that can be extremely complex and contain many technical elements. The policy, its principles, and the details of compliance need to be communicated deliberately to stakeholders. This messaging needs to be fine-tuned to different audiences (e.g., humanists vs. life scientists), and it needs to evolve as larger open access and research trends continue to emerge.

4. How have you communicated your thinking with respect to increasing access to your internal stakeholders?

Most organizations appear to have either formal or informal mechanisms by which to engage internal stakeholders as policies are developed and revised. These include regular presentations on big picture issues such as the state of scholarly communication and open science; briefings for leadership, staff, and volunteer committees; surveying researchers

and reporting of results to internal stakeholders; and the creation of ad hoc committees to vet proposed policies.

5. *What has the reaction of internal stakeholders been?*
A majority of respondents indicated that the response among internal stakeholders has been net positive. Some were excited by the principle of unlocking research results and serving as a catalyst for change. Others were pleased by the organization's willingness to put up financial resources to back up the policy, and by the support of upper management. On the other hand, some organizations observed concerns among internal stakeholders. These were primarily centered on the unknown burden associated with administering the policy and ensuring compliance. There was some concern that grant applicants would push back against the policy, either on IP grounds or in the belief that it limits their publishing choices.

6. *How have you communicated your thinking with respect to increasing access to your grant applicants?*
Commonly cited mechanisms include embedding the policy within RFAs and pre-grant materials, creating FAQs and other resources, including descriptions of the policy in newsletters and other communications, framing the policy as consistent with the organization's mission statement and values, holding roundtables and workshops, sending notices to current grantees, and integrating it within the grant letters that all recipients must sign.

7. *What has the reaction of grant applicants been?*
Reception among grant applicants has been generally positive. Where issues have arisen, they have focused on process questions, concerns about protecting intellectual property, costs of compliance. One funder mentioned the need to adapt policy considerations to suit specific grant applications, as a one-size-fits-all approach was not practical. Another mentioned that a segment of the research population conflates traditional publishing with high impact.

8. *How attuned are you to the developments of governmental funders' open access policies?*
Very: 7
Somewhat: 9
Not Very: 3

9. *To what extent have governmental funders' open access policies impacted your organization's planning?*
Significant Impact: 4
Some Impact: 8
Very Little Impact: 7

10. How attuned are you to the developments of other research funders' open access policies?
Very: 7
Somewhat: 12
Not Very: 1

11. To what extent have other research funders' open access policies impacted your organization's planning?
Significant Impact: 6
Some Impact: 9
Very Little Impact: 5

12. How are you tracking, or planning to track policy compliance?
Roughly half of respondents indicated that they have not yet figured out the most efficient, effective way to track compliance. Among groups that are further ahead in this process, several have successfully trained existing staff to incorporate tracking compliance into existing workflows. A smaller number simply perform spot checks on a subset of grant awards. Two research funders are building dedicated systems to monitor compliance.

13. How are you tracking, or planning to track policy impact?
Uniformly, respondents indicated that they have not yet developed firm plans to track policy impact. Among the small subset of funders that have begun to think concretely about this issue, a few ideas emerged. Some plan to triangulate data from third parties (e.g., publication repositories, citation databases, ORCID data) to track outputs. Another mentioned having grantees contribute to the effort by self-reporting publication outputs and their impact.

14. What support would you like to see from your peers in the funder community to make implementing and overseeing an access policy easier?
Among the issues on which funders could use advice were the following:

- Compliance tracking
- Policy enforcement
- Explaining the policy internally and externally
- Documentation/marketing materials to explain policy
- Rollout pitfalls
- Normalizing policies across funders to reduce conflicting/confusing requirements
- Tracking non-article research outputs
- Understanding/sharing infrastructure costs for tools that facilitate OA policies
- Working with publishers to directly report relevant information to funders
- Development of policy best practices

Forum Highlights

Each session began with a presentation or series or presentations, followed by robust discussion. What follows is a brief summary of each section of the forum. Additionally, a glossary of open access terms may be found in Appendix C.

Keynote

Dr. Bourne focused on the promise of the "big open data era" and the need for new policies and infrastructure to be implemented by a variety of stakeholders to make the most of the data sharing opportunity. Government agencies and other research funders have done a good job in articulating why data and research should be widely shared. The focus now must be on improving the mechanics of sharing. This includes defining policies clearly and making it easier for researchers to comply. It should also encompass concepts beyond access. Machine readability, text and data mining, and reuse are necessary to fully optimize research and discovery. The funding and tenure and promotion systems should also be adjusted to reward good sharing just as we reward publication today. This will require educating vice chancellors, program officers and others about the value of quality data, open source software, standards development, reproducibility, and the like.

Ideally, as stakeholders come to understand the value of these concepts, they will work together to make policies and workflows consistent. This uniformity will also make it easier for funders to develop tools that will benefit themselves directly. One example is a machine readable data plan that plainly states, "On date X, I will deposit data Y in repository Z" in a manner that can be checked in automated fashion. This would make compliance monitoring much easier for research funders.

All of this matters not just from an operational standpoint, but from a scientific perspective as well. The promise of big open data is that it facilitates unexpected discoveries in a way not presently possible. Research funders should utilize the leverage at their disposal to accelerate turning this promise into reality. In this regard, independent and private funders, more so than government agencies, have the latitude to say, "If you take our money, these are our access terms."

Understanding the Research Life Cycle

This session was led by Donna Okubo, Senior Advocacy Manager at the Public Library of Science (PLOS) and Nelson Vincent, Vice President for Information Technology & CIO at the University of Cincinnati. Okubo explained how publishing is a system set up for print. The reality, though, is that the scholarly life cycle is not truly linear any longer. Research funders should be more proactive in engaging at different entry points of the life cycle. Doing so strategically will improve efficiencies for all parties and lead to quicker and tidier dissemination of research. Research funders should also seek to harmonize their policies and workflows being developed and implemented within research-intensive universities. At present, the disparity creates confusion and hassle for individual researchers. Although

developing consistent standards and procedures may be tedious work, the alternative is to let commercial interests fill the vacuum. This will result in a scholarly communication system that bears great similarity to the subscription publishing model, with the profit motives of large companies taking precedence over what truly advances research and discovery.

Vincent echoed Okubo's theme that there currently too many silos in the current research model. This is illogical insofar as academia, funders, and industry all share an interest in making it easier for research to be widely disseminated and built upon. Vincent argued that a focus on "digital plumbing" is critical. In engaging researchers on this point, it is useful to stress the advantages a more efficient scholarly communication system will provide them. Openness of data and openness of tools doesn't mean an end to the competitive system that has served the research process well in at least some ways. It allows labs and researchers access to raw tools. How they use them and how they innovate is up to them.

What We Learned Developing and Implementing an OA Policy

This big picture session focused on key themes and takeaways gleaned from the experience of implementing and overseeing an open access policy. Its leaders were Mark Thorley, Chair of the Research Councils UK (RCUK) Research Outputs Network and Johannes Fournier, Programme Director for Scientific Library Services and Information Systems at DFG, the German Research Foundation. Thorley discussed how the UK has taken an "all of the above" approach to open access. This includes supporting both green and gold OA in the immediate term, and providing both individual grants to researchers (via RCUK) and block grants to institutions (via HEFCE). With that said, RCUK is pushing toward immediate OA, with an initial goal of 75% gold OA within five years. It is likely, however, that this timeframe will be pushed out. RCUK favors gold OA over green in the long-term because it removes delays in access and provides better clarity (via Creative Commons licenses) with respect to data and text mining and reuse. Through RCUK's experience in funding OA, Thorley has concluded that stakeholders should be firm in their desired end goal but remain flexible about tactics to arrive there.

One criticism voiced at the RCUK policy is that it is spending a good deal of money (60 million GBP over three years) is being spent not on research, but rather on "administration". RCUK's counterargument is that the dissemination of research is part of research process itself.

Like other stakeholders, RCUK would benefit from the development of better tools for implementation and monitoring. Efficiencies and workflows need to be developed to streamline operations and expenditures. This will benefit all parties and give a clearer accounting of the costs and benefits of policies such as RCUK's.

Fournier also brought his experience at a centralized governmental funding body to bear in his presentation. DFG awards 2.2 billion euro per year within Germany. Its policy is not a mandate, but rather an expectation that research results will be disseminated as OA if possible, via disciplinary or institutional repositories, or in dedicated, reputable OA

journals. To encourage this, any researcher or institution can apply for a grant to build or enhance OA infrastructure.

As part of another program, DFG also has a program to prod the transition from reader-pays to author-pays. This DFG program pays APCs up to 2000 euro, but does not include hybrids. It is designed to get German universities on a path toward covering APCs for their researchers within 6 years. DFG found that many universities did not have a good grasp of the research they were generating, and how much it would cost to publish these in OA journals. As part of the program, participating libraries have to report data back to DFG, as well as to university administration and other stakeholders. DFG hopes to standardize this reporting infrastructure over time, and make the data openly available. Beyond reporting, DFG hopes to work with other stakeholders to identify critical infrastructure components that can be developed and maintained by the community.

Governmental and Institutional Mandates

The aim of this session was to delve into what other organizations that control and direct research budgets, including universities, federal agencies, and international bodies, are doing with respect to mandating expanded access to funded research. Kicking off the session was Prue Adler, the associate executive director of the Association of Research Libraries. She provided an overview of the 20 agencies that are covered by the OSTP directive. 80% have now released their public access policies, with the remainder due very shortly. These policies share many commonalities, but it will nevertheless require a culture change among researchers to ensure high levels of compliance. They are being asked to change their activities to conform to these public access policies, and this will take time. Universities have a unique role to play in this transition, because they receive and administer federal grants. Activities taken recently by the Association of Research Libraries (ARL), the Association of American Universities (AAU), and the Association of Public and Land-grant Universities (APLU) indicate that the academy is primed to take a more proactive role in public access. Research funders should seek to work with these organizations to ensure a unified set of principles are conveyed to researchers. They should also understand that commercial publishers will continue to oppose and/or slow walk expanded access. Commercial publishers such as Elsevier are moving to embed themselves into other areas of the research workflow. As Donna Okubo indicated in her presentation, passivity among research funders and the academy will result in a research workflow that remains under the control of commercial interests.

Adler was followed by Kevin Smith, director of the Office of Copyright and Scholarly Communications at Duke University. Smith talked about what Duke is doing to change its cultural toward a more open research environment. One specific activity is the development of a fund to support APCs. More than 100 universities worldwide have these funds. Duke has had one since 2010, funded by the library, the provost, the medical school, and the nursing school. Its intent has been to prevent APCs from becoming an obstacle when authors want to publish in OA journals. Another tool Duke has deployed is an open access mandate, adopted by the faculty council in 2010. Its intent was to set "open" as the

default. That said, Duke's policy is an expression of a value rather than a mandate. The policy codifies Duke's right to a nonexclusive OA license is a condition of employment. This is granted prior to any copyright transfer, so it supersedes later copyright transfers. It is irrevocable but waivable. There is an easy opt-out for authors, and compliance is not used as a punitive threat. Smith and his colleagues have decided that Duke should not be in the business of preventing its authors from publishing where they want to publish. However, the policy provides a good opportunity to discuss these matters with faculty and to further educate them about the benefits of openness.

This session was concluded by Ben Johnson, Higher Education Policy Adviser at HEFCE, the Higher Education Funding Council for England. As mentioned by Mark Thorley, HEFCE is a large funder that gives block research grants to universities based on performance. Its focus is on green OA, and noncompliance will hinder an institution's chances of receiving future HEFCE funding. HEFCE expects 100% compliance by April 1, 2016. There is a fair gap between this expectation and current participation. An examination of 2014 data indicated 12% compliance. Johnson echoed Phil Bourne's sentiment that research funders were well within their rights to attach specific access conditions to grant terms. Johnson also indicated a key success that HEFCE and RCUK have brought about within the UK. Thanks in large measure to their policies, research assessment now includes a component that focuses on compliance with OA mandates. This is important because it directly ties open access to the individual researcher's career advancement and access to future grant money.

Tools and Infrastructure to Support Open Access

This session delved into several initiatives that are designed to reduce the operational burden for administering open access policies. The first speaker was Catherine Mitchell, who is responsible for overseeing the strategic planning, development, and operational management of the Access & Publishing Group at the California Digital Library (CDL). She talked about her group's work as an example of how the library can play a proactive role in developing tools to promote open access.

With 10 campuses of varying skills, capacity, knowledge, and interest, UC has no uniform expectation about what an embrace of open access should resemble. UC also has an open access policy similar to Duke's. Rather than mandating compliance, it chooses to celebrate participation. UC has automated pieces of the workflow in a way that reduces burdens and expectations on researchers. This is grounded in the realization that asking them to do work reduces the likelihood that CDL will actually capture the information it needs at scale. CDL uses a commercial service to harvest metadata records associated with UC researcher publications. The system then sends email to UC authors saying, in effect, "We noticed you published something. Click here to claim the publication and deposit into the institutional repository." Authors click twice, then upload the file, and they are done.

While authors have responded favorably to the workflow and participation in the policy has increased significantly, it is still not nearly as comprehensive as it could be. Asking authors

to locate and deposit the final version of their publication may be a significant impediment to participation. Most have easy access to the published article itself, not the postprint version that incorporates peer review changes but not final publisher formatting. Nevertheless, UC is committed to further development of tools and workflows that both continue lower barriers to participation and express the system's commitment to open access.

The next speaker was Laura Paglione, Technical Director at ORCID, which aims to solve the name ambiguity problem in scholarly communications by creating a registry of persistent unique identifiers for individual researchers. ORCID aims to make this identification a standard part of metadata so that it is embedded in workflows. This will enable it to be transmitted from manuscript submission system to publishers to indexing services to search engines, for example. At present, 1.7 million people have registered for identifiers, all created directly by researchers. Publisher and funder encouragement is a key driver, and a growing number are moving to request or require ORCIDs. From the funder perspective, persistent IDs help track outcomes related to grants. They make reporting and machine-to-machine connections more efficient.

Also talking about infrastructure to facilitate a better understanding of research was Judy Ruttenberg, Program Director at the Association of Research Libraries responsible for stewarding the SHARE program. SHARE is building a free, open, data set about research and scholarly activities across their life cycle. SHARE is a higher education initiative aiming to maximize research impact by making a comprehensive inventory of research widely accessible, discoverable, and reusable. Underscoring a point made by Prue Adler, SHARE is a joint initiative of the Association of Research Libraries (ARL), the Association of American Universities (AAU), Center for Open Science (COS) and the Association of Public and Land-grant Universities (APLU).

SHARE aims to normalize metadata about research. This is critical to understand who is producing what research, so that stakeholders can get a clearer sense of outputs and impact. In doing so, SHARE will help funders track research activity in a timely fashion and in context.

To date, SHARE has gathered notifications of two million research release events (e.g., the publication of articles, the posting of datasets) from 60 sources - publishers, data repositories, institutional repositories, preprint archives, and so forth. Ruttenberg hopes that these normalized research release events can be integrated with existing workflows and systems to accelerate adoption. As articulated by other speakers such as Catherine Mitchell and Kevin Smith, SHARE is wary of adding to administrative and researcher burdens. SHARE leadership believes that the investment in research administration is a critical component of investment in research itself.

The session was concluded by Greg Tananbaum (author of this report). Tananbaum is a consultant in scholarly communication and an advisor to SPARC. In the latter capacity, he serves as program manager for the Open Access Spectrum Evaluation Tool. The OAS

Evaluation Tool, available at oaspectrum.org, quantitatively scores journals' degrees of openness. It offers a concrete, quantifiable mechanism to analyze publications' policies. While the rapid growth of OA has seen an expansion in the availability of scholarly articles, it has also generated no small degree of confusion within the research community. Many journals claim to be "open" while actually placing moderate or severe restrictions on what an author or reader can do with an article, for example. It has become clear that not all "Open" is created equal. The OAS Evaluation Tool provides independent, expert analysis of journal OA policies beyond just "is this article free to read?"

Experts in scholarly communication a and publishing assign scores across six categories - reader rights, reuse rights, copyrights, author posting rights, automatic posting, and machine readability. These provisional scores are shared with publishers to ensure accuracy and then posted to the oaspectrum.org website. Evaluations include links to the policies on the publisher websites, as well as the specific language the journal provides to explain their policies. The raw data are available as an open dataset via API or CSV. This allows third parties to apply the data for their own distinct purposes. For example, a research funder could use the raw OAS evaluation data to easily develop a whitelist of journals meeting its public access grant conditions.

Looking forward, the OAS Evaluation Tool will expand beyond the 500 journal scores currently on the site. Another 500 will be posted shortly. SPARC and the other OAS Evaluation Tool sponsors, including PLOS, are eager to work with research funders to explore how the dataset can be integrated into their policies and workflows.

Mechanics of Administering and Implementing an Open Access Policy

This nuts-and-bolts session focused on issues like communicating an open access policy to grant applicants, evaluating opt-out requests, and measuring compliance. The first speaker was Maryrose Franko, Executive Director of the Health Research Alliance (HRA). The HRA is a multi-national consortium of more than 65 nonprofit organizations working to maximize the impact of investment in biomedical research to improve human health. The HRA public access initiative launched in 2012. A dozen members are now active. They have adopted similar public access policies, with some latitude but a core of common elements (e.g., embargo no longer than 12 months). After grants are awarded, funders must submit initial data to HRA. It then gets tracked in the gHRAsp (Grants in the HRA shared research portfolio) system. HRA sends this data to PubMed Central (PMC). This makes it easier down the line for grantees to submit their publications to PMC and link those publications to HRA member-funded grants. Getting member organizations to comply with the early submission guidelines can be a hassle, but it is necessary to ensure data gets properly tracked. From the grantees' perspective, there is a bit of logistical work they are required to do. They need a gmail account to use gHRAsp authentication portal. When they submit a manuscript, they must tell publishers about their funder's requirement. HRA provides a template letter and also makes the SPARC Author Addendum available. While the gHRAsp system requires a bit of effort from funders and researchers alike, the benefits are substantial. It provides a consistent way to link grants to research outputs by capturing information immediately at the source.

Franko's talk was complemented by input from Sindy Escobar-Alvarez, who is responsible for the two largest Doris Duke Charitable Foundation's grant programs. Those programs are subject to a public access policy through HRA since 2013. The Doris Duke Charitable Foundation is one of the dozen participants in gHRAsp. Escobar-Alvarez tracks compliance but has not yet added any incentives or punishments to encourage participation. The Foundation has found that, to date, a majority of grant recipients comply with the first requirement of the policy to link their gmail accounts to their grant in gHRAsp. However, a majority of grant recipients are not complying with the second step, to deposit their manuscripts in PMC and link their grant to their publication. This has led her to conclude that merely providing the infrastructure is not sufficient to ensure compliance. Escobar-Alvarez indicated that research funders should work together to share experiences, success stories, and failures related to their public access policies. Doing so would help generate best practices that could be adopted across organizations.

The next speaker was Belinda Orland, Senior Manager for Research Evaluation and Reporting at the American Heart Association. In this capacity, Orland has played a key coordinating role in the development and implementation of the AHA's Open Science Policy, which encompassed not just public access to papers arising from AHA funding, but also an open data policy and a commitment to make all original research articles in the eleven subscription-model AHA journals freely available on that AHA journal website after six months. The AHA chose to implement these open science policies because they are consistent with the organization's values. In launching this initiative, the AHA engaged its volunteer over an 18 month period. This allowed them to raise concerns, get legal input, socialize the idea, and get a sense of how rank-and-file researchers might respond.
The engagement period included an environmental scan, draft policies that were discussed, and the development of supporting materials such as a detailed FAQ. The AHA views its current policies as a starting point. They expect them to evolve in response to both grantee feedback and developments across other research funders. Compliance is going to be done by random spot checking for the immediate future. There is a threat that future grant applications may be denied due to noncompliance. As yet, the AHA has not developed a detailed plan to track impact. This is an area where community discussion and the development of common tools would be helpful.

The final speaker was Jennifer Hansen, Officer for Knowledge & Research Services at the Bill & Melinda Gates Foundation. In this capacity, she leads the Foundation's Open Access Policy implementation, which was announced in November 2014. Similar to Belinda Orland, Hansen viewed open access as consistent with the Gates Foundation's values - specifically, transparency, information sharing, accelerating research, and multiplying results of their funding. The policy, which took one year from conception to public announcement - requires funded researchers to make their papers available under CC-BY licenses with no embargoes to maximize impact. The Foundation will pay gold OA fees within reason, and they are in process of collecting data about possible payment ceilings. They have created a centralized budget to pay APCs, opting to pay publishers directly rather than reimburse authors or adding to the grant value itself. The Foundation is currently manually processing

APC fees. This is temporary. The foundation is developing CHRONOS, an online platform to track their funded research. It will help ensure compliance and manage administrative logistics. When the system launches in July 2016, CHRONOS will feature a searchable database of journals compliant with the foundation's policy, connect authors to the journal's submission system, and coordinate open access fee payment between the foundation and publisher. CHRONOS is not presently slated to be released as open source, but it will adhere to the Foundation's global access approach to ensure that Foundation-funded developments are delivered at an affordable price to the people who need them most. Their technology partner will likely be licensing access to the service.

Proposed Next Steps for Community of Practice

A number of key themes emerged across the sessions. Presenters and participants alike largely agreed to discuss the following and investigate the time and resources needed:

- It is both useful and necessary to get some general policy and infrastructure alignment among research funders, government agencies, and academic institutions. This will reduce the compliance burden on researchers. It will also allow open source systems to be built that can be used by multiple stakeholders, in a manner that optimizes workflows, the sharing of data, and the development of best practices.

- Research funders should use the levers at their disposal to promote openness. Ideally, this should be done in a manner that properly incentivizes grant recipients to participate, in a firm but not punitive manner. To that end, effective sharing of research and data should be tied to the benefits of the scholarly communication system that researchers value.

- Open access policies should stress the benefits of openness in accelerating follow-on research. Open access is consistent with better discovery and more efficient scholarly and scientific activities.

- There is a degree of time sensitivity associated with these tasks. Research workflow and scientific data opportunities could be co-opted by commercial interests without decisive action by other stakeholders.

- Investing in infrastructure and workflows that more efficiently and widely disseminate research should be valued as an investment in research itself.

- Development of open access and open data infrastructure is not sufficient to ensure its adoption and use. Research funders must collaborate to understand best practices, common barriers, and how to overcome these obstacles.

The RWJF/SPARC Forum concluded with a robust discussion that translated these common themes into a concise plan of action. There was both consensus and enthusiasm for pursuing a standing group of research funders, likely facilitated by SPARC, that works to:

- Solidify a set of actionable principles that can be used by research funders to accelerate access to research and underlying data.

- Develop, compile, and curate resources that research funders can use to communicate their policies to internal and external stakeholders.

- Identify opportunities to develop and/or support infrastructure (preferably open and standards-based) that can accelerate openness globally.

- Share experiences and best practices.

- Speak in a single, amplified voice in a way that demonstrates the research funder community's commitment to open access, open data, and open science.

As a next step, SPARC will contact both meeting participants and those who could not attend but expressed an interest in its outcomes. This outreach will seek to reaffirm their collective interest in pursuing the above plan of action. Assuming there is consensus to proceed, SPARC will scope out a draft plan of action by early in the new year. The draft plan will detail governance, operations, financing, and scope. SPARC will then aim to circulate the plan and obtain commitments of support and participation in the first quarter of 2016. This timetable would allow the launch of such a standing group to launch by mid-2016.

Appendix A: Forum Attendees and Invitees

Participants

First Name	Last Name	Organization
Danny	Goroff	Alfred P. Sloan Foundation
Maja	Larson	Allen Institute
Belinda	Orland	American Heart Association
Mike	Stebbins	Arnold Foundation
Prue	Adler	Association of Research Libraries
Simon	Noble	CHDI
Johannes	Fournier	DFG
Sindy	Escobar-Alvarez	Doris Duke
Betsy	Meyers	Doris Duke Charitable Foundation
Kevin	Smith	Duke University
Colette	Haider	Ford Foundation
Jennifer	Hansen	Gates Foundation
Linda	Wagner	Gates Foundation
Maryrose	Franko	Health Research Alliance
Ben	Johnson	HEFCE
Gina	Agiostratidou	Helmsley Trust
Betsy	Fader	Helmsley Trust
Chris	Percopo	Helmsley Trust
Barbara	Porrett	IDRC (Canada)
Cecilia	Conrad	John D. and Catherine T. MacArthur Foundation
Kazuhiro	Hayashi	National Institute of Science and Technology Policy
Phil	Bourne	NIH
Melissa	Hagemann	Open Society Foundations

Laura	Paglione	ORCID
Donna	Okubo	PLOS
Suzanne	Austin	RCUK
Mark	Thorley	RCUK
Susan	Dentzer	Robert Wood Johnson Foundation
Kristen	Gurdin	Robert Wood Johnson Foundation
Mary Beth	Kren	Robert Wood Johnson Foundation
Kerry Anne	McGeary	Robert Wood Johnson Foundation
Margaret	Tait	Robert Wood Johnson Foundation
Oktawia	Wojcik	Robert Wood Johnson Foundation
Judy	Ruttenberg	SHARE
Greg	Tananbaum	SPARC
Chris	Levenick	Templeton Foundation
Catherine	Mitchell	UC eScholarship
Nelson	Vincent	University of Cincinnati
Hillary	Bounds	William and Flora Hewlett Foundation
Kristy	Tsadick	William and Flora Hewlett Foundation

Invitees Unable to Attend

First Name	Last Name	Organization
Heather	Snyder	Alzheimer's Association
Don	Waters	Andrew W. Mellon Foundation
Catherine	Harbour	CIFF (UK)
Timothy	Vollmer	Creative Commons
Lorraine	Egan	Damon Runyon Cancer Research Foundation
Mary Anne	Rodgers	David and Lucille Packard Foundation
EJ	Reedy	Kauffman Foundation
Kristy	Tsadick	William and Flora Hewlett Foundation
Rusty	Hensley	Hartwell Foundation

Appendix B: Forum Agenda

Monday, October 19
10:30 – Opening Remarks - Margaret Tait, Robert Wood Johnson Foundation

11:00 – Keynote – Phil Bourne, NIH

12:15 – Lunch

1:00 – "Understanding the Research Life Cycle" - Donna Okubo, PLOS; Nelson Vincent, University of Cincinnati

2:00 – "What We Learned Developing and Implementing an OA Policy" - Mark Thorley, RCUK; Johannes Fournier, DFG

3:45 – Break

4:15 – "Governmental and Institutional Mandates" - Prue Adler, ARL; Ben Johnson, HEFCE; Kevin Smith, Duke

5:30 – End

6:30 – Reception/Dinner, Sette Osteria, 1666 Connecticut Ave NW

Tuesday, October 20

8:15 – Breakfast

9:00 – "Tools and Infrastructure to Support Open Access" - Laura Paglione, ORCID; Judy Ruttenberg, SHARE; Catherine Mitchell, University of California eScholarship; Greg Tananbaum, SPARC

10:30 – Break

11:00 – "Mechanics of Administering and Implementing an Open Access Policy" - Maryrose Franko, Health Research Alliance; Sindy Escobar-Alvarez, Doris Duke Charitable Foundation; Belinda Orland, American Heart Association; Jennifer Hansen, Bill and Melinda Gates Foundation

12:30 – Lunch

1:30 – Roundtable Discussion
- o What are common concerns and pain points that funders can look to collectively discuss and address?
- o What actions can the funding community take collectively to create a virtuous cycle accelerating the adoption of open access?
- o What would regular collaboration within an open access "community of practice" entail and how can this be efficiently developed?

2:45 – Final Remarks, Oktawia Wójcik, Robert Wood Johnson Foundation

3:00 – End