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Coalition for Networked Information

Funders, Compliance, and Access to Research Results
Report of a CNI Executive Roundtable
Held December 13 & 14, 2015
Published September 2016

Background and Synthesis

At the Fall 2015 CNI member meeting in Washington, DC, we held an executive roundtable on **Funders, Compliance, and Access to Research Results** in order to discuss institutional responses to new regulations concerning public access to publications and data that are products of funded research.

Recently, both government and private funders have developed new requirements for public access to research results that are produced as a result of their support. In the US, federal agencies have now issued specific requirements for implementing the Office of Science and Technology Policy's (OSTP) directive of February 2013; these have created substantial new compliance requirements that vary from agency to agency. Other government funders, especially the United Kingdom (UK) and the European Union, have developed similar requirements. These changes are not limited to public sector funding; a number of leading private foundations are instituting similar requirements as conditions attached to their grants.

These requirements include the need for researchers to identify the types of data their research will produce through the development of a data management plan with the goal of ensuring that data is appropriately curated, deposited and accessible (while taking into account privacy of human subjects or other constraints); this plan is submitted and increasingly, evaluated, as part of a funding proposal. Specific requirements for accessibility of publications that result from the funded research have also been put into place, along with provisions for limited-time embargos. Stakes are high for failure to meet these requirements, and lack of compliance can result in significant penalties such as delayed payment on grants or disqualification from future funding. The responsibility for meeting these requirements is shared between investigators and their home institutions.

During this Roundtable, we explored what institutions are doing to both inform researchers about these new requirements and how they are instituting new policies, procedures and services to support their researchers in responding to them. We also discussed how institutions are protecting their broad interests by monitoring researcher compliance with the terms and conditions of their grants.

This Roundtable attracted a large number of members wishing to participate, and we added a second session in order to accommodate the interest in this timely topic.

Participants included individuals from a broad range of sectors, including university libraries and information technology units, administrators from university offices of research, faculty, consortial representatives, publishers, and government agency representatives. In addition to North American participants, we had individuals representing several key international members: the German science foundation (DFG), the UK Jisc, and SURF in the Netherlands. We were fortunate to have a participant from one of the US Department of Energy National Laboratories, who provided a fascinating perspective on the ways in which funder compliance issues are evolving in these institutions.

Institutional Perspectives

- A number of institutional representatives from US universities described their institutions as being in start-up mode in regards to the new federal agency requirements. Those at an early stage often mentioned that they were investigating or implementing DMPTool (to assist researchers in developing a data management plan) and obtaining ORCIDs (researcher identifiers) as well as offering workshops for researchers. Many were addressing requirements to make available articles or preprints through their institutional repository services but were not yet in a position to curate data locally, particularly at scale. At this point, many institutions working with researchers on data compliance issues were providing advice but were not offering actual local implementation strategies. Some noted that the lack of consistent criteria by various federal agencies made providing advice to researchers quite complicated.

- Many campuses were offering workshops on compliance for faculty and staff and were compiling resources on the Web to gather together information about various funder policies and requirements. However, many participants reported that it was a significant challenge to get the attention of researchers in order to make them aware of funder requirements and provide advice. They found that many researchers regard the deposit requirements in a negative way, as irritating compliance concerns, and not as a positive means to provide for wide dissemination and visibility of the products of their research. Many institutions have found that working with administrative assistants in labs or departments is a better strategy than working directly with primary researchers. Some institutions reported that some researchers discounted how seriously agencies would enforce compliance with their policies.

- Staff from various library units are involved in efforts to work with faculty on issues related to access of publications and developing data management plans. Many institutions strive to employ specialized staff, particularly in scholarly communications and data management along with a wider range of staff, particularly subject specialists, in these efforts. One institution described the library's strategy as moving from reactive to proactive; a number reported hiring new staff for data management, and strengthening relationships between the library and campus research and information technology offices.

- Some state universities are anticipating employing a statewide consortial digital library strategy for a data repository rather than developing a data repository for each campus.

- In less research-intensive universities and liberal arts colleges, the issues about compliance and new funder policies may receive much less attention from university administrators, and librarians who try to do outreach on this topic both to administrators and faculty may find little interest. On the other hand, as one participant pointed out, compliance developments may lead some of these institutions to recognize the need to improve, formalize and professionalize their organizational management and support of sponsored research.

- Answers varied as to who has the responsibility for compliance. In one case, an institution reported that the agency that provides the most grant funding for their researchers has made it clear that the investigators themselves are the ones ultimately responsible for compliance. Another institution described compliance as their biggest issue, and reported that their office of grants and contracts plays a major role in this area. At least one institution reported that faculty federal grant proposals had been *rejected* due to badly designed or explained data management plans (as opposed to failing to submit a data management plan); there are other reports of review comments that included critiques of data management plans. (Note: I have since learned of at least a small handful of other rejections from institutions not represented at the Roundtable.)

- Institutions described the use of various tools and products, including DMPTool, SYMPLECTIC, ORCIDs, FundRef, EasyID, Dataverse, and VIVO. Institutional or consortial initiatives to implement ORCIDs for researchers were particularly evident at participants' institutions. SYMPLECTIC, a commercial system, seems to be getting a good deal of attention from institutions. There is great interest and high hopes around the SHARE system that the Association of Research Libraries is developing in partnership with the Center for Open Science; institutions are starting to think through both how they will supply data to SHARE and, perhaps more important though certainly more complex, how they will make use of data coming *from* SHARE in their local processes and workflows. Broadly speaking, this area is calling for much greater integration among a myriad of systems and silos, both locally developed and commercial or open source, both internal and external; the technical challenges are substantial and many key standards are emergent, at best.

- Several participants described their desire to make deposit easy for researchers, for example having a button linked to a workflow that allows researchers to send data to a designated storage area while adding metadata. This is not something that institutions actually have in place at present.

- While much of the discussion focused on scientific publications and data, and US federal science agency (not private funder) requirements, several participants reminded the group that humanities and social sciences products of research,

particularly those involving multi-media components, also needed attention when building infrastructure and implementing policies.

- At least at some institutions both culture and compliance strategies very substantially from one school to the next.

- It will be important to think both about the curricular implication of these developments for programs at information schools and in terms of what additional education in-place staff at our institutions will need.

- Growing concerns by funders and journals, and by communities of scholars themselves, about the reproducibility of results and even scientific misconduct may well be additional potential drivers and sources of new requirements going forward.

Particularly for health science related datasets, there are some very specific (and expensive) conformance requirements that repositories must meet: the Health Insurance Portability and Accountability Act (HIPPA), the Federal Information Security Management Act (FISMA), etc.

Concluding Thoughts

Overall, US higher education institutions are still in early stages of implementation of the new federal regulations to provide access to research results in a systematic way, particularly regarding data. Many institutions are grappling with both policy and implementation issues that are complex and potentially costly. Compliance has been particularly difficult in that, despite the very long time spent obtaining, reviewing and approving agency regulations, the Office of Science and Technology Policy (OSTP) was unable to ensure or enforce much consistency across the agencies beyond the highest level of policy objectives. 2016 is the year that these new policies will hit researchers in earnest, although we don't yet know how rigorous agencies will be about checking compliance and who would do that work. The National Institutes of Health (NIH) is a harbinger of what might come in terms of compliance; they are taking it very seriously but encountering some substantial challenges.

A number of non-federal funders are also putting public access requirements in place; this is happening in the biomedical disciplines but also in the humanities. It remains to be understood how these compare with the federal agency approaches, and how much commonality will develop among non-federal funders, at least within a given discipline or disciplinary cluster.

One very important point (and potential source of vast confusion among researchers) is that the traditional "open access" that libraries have been advocating for more than a decade is *not* identical to the specific US federal agency requirements for public access, and simply publishing an article in an open access journal (regardless of the license terms attached to the article), and/or placing it in an institutional repository *does not* satisfy the requirements for article deposit into specific, agency-identified repositories. Many institutions are struggling with ways in which they can automatically make the

required deposits for articles placed in their institutional repositories (IRs). (They are also looking at ways to make it easy or automatic to move copies of open access articles into the institutional repository as well.) One of the biggest challenges for IRs is to determine if the version the author is allowed (by the publisher) to deposit in an IR is a "final version" meeting compliance standards. Open access advocates and repository teams within libraries are being forced to carefully refine their communication to faculty.

Note that there is an infrastructure problem in that well-established metadata standards do not currently exist to describe the various states that a version of an article may represent within the overall publication workflow (including post-publication events like embargo release); this is being worked on, but at present it is a genuine barrier.

Complexity (particularly complexity forced on researchers) was a persistent concern. Several participants expressed concerns specifically about situations where a research project had multiple funding sources, and the potential difficulty of complying with the various requirements of the various funders, especially when the research project was multi-institutional. Further, many researchers at US institutions are involved in international collaborations, and there were questions, but not much experience, about how multiple requirements from different nations would sort out in practice, and how to help researchers navigate these complexities. And, of course, researchers face an additional overlay of specific institutional and (for public institutions) state requirements about access to research outcomes.

Our international participants provided brief reports on some key developments in their home nations. These are summarized here with attribution, with their permission.

The representative from the Netherlands reported that a lot of emphasis in their country was on negotiation with publishers for gold open access licenses. Research data sharing is also a topic of interest at the institutional as well as the national level (although not explicitly included in above-mentioned negotiations with publishers). A national agenda for research data has been advanced by the research institutions in the Netherlands and SURF has been asked to coordinate. Data repository funding is one of the (complicated) matters that is being looked into. However, he noted that not only is the funding for data storage an issue, but also the need to determine who will pay for various kinds of work involved in data reuse, such as conversion of data, selecting subsets, and implementing software and workflows for analysis, all of which are roadblocks to wider-scale reuse practices. Finally, in the Netherlands, progress is now being made to replace the National Author Identifier (DAI) by the international solutions ISNI (for archival and right managements use) and ORCID (for use in scholarly communication).

In the UK, the disciplinary-based research councils set many of the requirements for public access to products of research. One of those councils so far has placed the onus on data management compliance on institutions (not researchers) and is doing compliance checking. The different requirements of the various councils creates problems for universities, similar to the different agency requirements in the US. There is interest in developing a shared research service at the national level to address gaps, specifically preservation and the user experience, but at present, there is no funding for

this solution. Much like with the Netherlands, UK national policies currently favor gold open access for publications, but a number of economic analyses are underway to examine the costs of the hybrid model that results from this strategy. (Note that subsequent to the roundtable there have been significant developments in both the way management of research funding is likely to be organized and in open access strategies in the UK.) The UK anticipates working with SHARE as that infrastructure component develops.

Some perspectives contributed by Germany included a description of an alliance of research organizations which has a long standing working group on data infrastructure that addresses data management, reuse of data, cost and financing of infrastructure and data management, and legal issues, especially privacy laws. The German science foundation (DFG) has rules of good scientific practice which institutions must sign in order to receive grants; these include making research data available for 10 years (this rule has been in place for a long time); for around five years, proposal forms have included space for researchers to include a data management plan. The DFG has funded a number of projects and strategic initiatives to support the various scientific domains in developing discipline-specific and detailed policies for data sharing.

It is clear that compliance and, more broadly, management of research outputs is one area in which institutional units are very much aware of the need for collaboration; many institutions reported on how the university's research office, grants office, library, IT unit, and others are working together to both heighten the awareness of faculty to new requirements and develop solutions to address these needs. Two libraries reported that the research/grants office notifies them early in the process when a researcher is developing a proposal so that library staff can do immediate outreach concerning data management plans and public access to products of research; this is a very valuable practice that other institutions might consider replicating.

Agreements across institutions may also be critical in this area. One participant described a situation in which a co-author found that the institution of the primary author was not in compliance with agency policies. What kinds of agreements should we be putting into place to avoid those situations? In addition, how should institutions address issues related to curation and compliance when a researcher who started his or her work at a particular university leaves to go to another; this concern was described by several participants. Obviously, this is best handled through very broad agreements among institutions, not a web of bi-lateral agreements; finding the right forum and leadership for such discussions is badly needed.

CNI's Executive Director Clifford Lynch raised the question of how institutions are thinking about the verification of whether specific commitments made in plans for public access are actually carried out when these commitments extend well beyond the life of the grant; for example, if there is a statement that data will be retained for ten years, is anyone checking? Are institutions developing periodic reappraisal processes? A small number of institutions stated that they are beginning to address these questions at an institutional policy level. One participant said that in a recent conference held by a higher education association, the audience was told that institutions have the ultimate responsibility for compliance since they sign the funding agreements. In terms of preservation, some replied that they have a commitment to preserving bit streams for

specific time periods but that does not mean the content would actually be usable for many purposes. In cases where institutions (or researchers) employ third party solutions, particularly for data storage (Box and Amazon were mentioned by a number of participants) as opposed to genuine curation, many expressed concerns that proper safeguards might not be in place for the long term access and usability of data stored in those environments. Others brought up the issue of metadata, noting that without useful metadata, such stored data was ultimately undiscoverable and unusable.

Some participants noted that many data sets produced by researchers are not large, but institutions still need policies and funding models that address the responsibilities for data curation. In many fields, national or international repositories, funded centrally, handle the needs for curation of large data sets. Many researchers say they would like a pay once model for data curation but in some institutions, state or university policies make that difficult or impossible.

At the moment, most institutions are so focused on setting up the infrastructure for compliance and educating researchers that they are not looking ahead to think through how to develop systems that will enable the most potentially beneficial re-use of the data and publications that they curate. For example, if compliance for public access to products of research results in very large collections of articles in PDF format, it will reduce the opportunities to use that corpus for large-scale analytics. As a participant who is now an administrator at a university but was formerly at a federal agency stated, during outreach to faculty, we need to frame the discussion as an opportunity for researchers to publicize research more widely and to offer opportunities for others to build on their research; this strategic goal is at the heart of policies for public access to publications and data resulting from funded research.

CNI Executive Roundtables, held at CNI's semi-annual membership meetings, bring together a group of campus partners, usually senior library and information technology leaders, to discuss a key digital information topic and its strategic implications. The roundtables build on the theme of collaboration that is at the foundation of the Coalition; they serve as a forum for frank, unattributed intra and inter-institutional dialogue on digital information issues and their organizational and strategic implications. In addition, CNI uses roundtable discussions to inform our ongoing program planning process.

The Coalition for Networked Information (CNI) is a joint program of the Association of Research Libraries (ARL) and EDUCAUSE that promotes the use of information technology to advance scholarship and education. Some 230 institutions representing higher education, publishing, information technology, scholarly and professional organizations, foundations, and libraries and library organizations, make up CNI's members. Learn more at cni.org.

Addendum I

CNI Executive Roundtable
Call for Expressions of Interest
Funders, Compliance, and Access to Research Results
Capital Hilton Hotel, Washington, DC
Monday, December 14, 2015
8:30 – 11:00 AM

At the Fall CNI meeting in Washington, DC we will continue our series of Executive Roundtables. The topic for this Fall's Roundtable will be **Funders, Compliance, and Access to Research Results.** We will discuss a wide range of topics related to institutional responses to regulations concerning access to publications and data that are products of funded research.

Both government and private funders have developed new requirements for access to research results that are produced as a result of their support. In the US, federal agencies have now issued specific requirements for implementing the Office of Science and Technology Policy's (OSTP) directive of February 2013, which created significant new compliance requirements. Other countries and regions, especially the UK and the EU, have developed similar regulations. These changes are not limited to public sector funding; a number of leading private foundations are instituting similar requirements as conditions of their grants.

These requirements include the need for researchers to identify the types of data their research will produce through the development of a data management plan with the goal of ensuring that data is appropriately curated, deposited and accessible (while taking into account privacy or other constraints). Specific requirements for accessibility of publications that result from the funded research have also been put into place, along with provisions for limited-time embargos. Stakes are high for failure to meet these requirements, and lack of compliance can result in significant penalties such as delayed payment on grants or disqualification from future funding. The responsibility for meeting these requirements is shared between investigators and their home institutions. In this Roundtable, we will explore what institutions are doing to both inform researchers about these new requirements and how they are instituting new policies,

procedures and services to support them. We will also discuss how institutions are protecting their broad interests by monitoring researcher compliance with the terms and conditions of their grants.

We will hold the Executive Roundtable on Monday, December 14, the morning of the first day of the fall membership meeting. **Any CNI institutional representative may apply to participate in this Roundtable, and the institution can be represented by either by one individual or a pair of individuals who have different roles, e.g. a library director, a CIO or a Chief Research Officer. If you wish to propose a team of more than two people, please contact Joan Lippincott.**

Cliff Lynch will moderate this session and provide some framing remarks, and then participants will have an opportunity to discuss issues with peers from other institutions. The Roundtables build on the theme of collaboration that is at the foundation of the Coalition. We want to promote institutional dialogue and inter- and intra-institutional information exchange on digital information issues. We see these Roundtables as one means of bringing together stakeholders.

CNI uses Roundtable discussions to inform our program planning process. We will disseminate a summary of the issues that emerge from the Roundtable, but in order to encourage frank discussion, there will be no individual or institutional attribution of statements without prior permission from the relevant party. A report from a previous Executive Roundtable is here https://www.cni.org/topics/digital-preservation/software-service-cloud-based-applications/

In order to have in-depth discussion, participation in the Roundtable will be limited to approximately 20 representatives**.**

The meeting will be held at the Capital Hilton Hotel on Monday, December 14, 2015 from 8:30 AM – 11 AM. The broad topic for this Executive Roundtable is **Funders, Compliance, and Access to Research Results** -- how institutions are responding to new compliance requirements for grants their researchers receive. Participants will share plans and perspectives on institutional initiatives in this area.

Potential topics to be explored – time permitting – could include:

- Institutional approaches to educating researchers about these requirements
- Means of supporting researchers developing data management plans
- Strategies for providing services for data deposit and curation
- Mechanisms for publication tracking
- Ways in which compliance to regulations relates to institutional faculty reporting systems or other related systems like VIVO.

- Facilitating the matching of publications with funding agencies; propagation and use of grant IDs, ORCID or other author identifiers, etc.
- Propagating data between institutional systems and funder or disciplinary repositories, e.g. PubMed
- Relationship of institutional open access policies to funder requirements
- Policy and management issues related to access to protected data (human subjects, materials sensitive to various groups)
- Institutional responses to the recent US Department of Health and Human Services (HHS) request for comments on a proposed revision to IRB and human subjects regulations.

To express interest in participating, please send a message by end of day Friday, October 16 to Joan Lippincott joan@cni.org with the name(s), title(s), and e-mail address(es) of the **one or two individuals** from your institution who would like to attend. We will choose approximately 20 individuals, using the criteria of position, experience, and balance of institutions (type, geographic area, etc.) to determine who will attend. **We will notify you by Wednesday, October 21 as to whether you have been accepted or whether you will be on a waiting list for participation.** If you have any questions about the Roundtable, please contact Joan Lippincott at joan@cni.org.