
SHARE NOTIFICATION SYSTEM PROJECT PLAN

SHared Access Research Ecosystem (SHARE)
a joint project of ARL, AAU, APLU



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Executive Summary

This SHARE Notification System Project Plan details the first in a series of activities to be undertaken by [SHARE \(the SHared Access Research Ecosystem\)](#) to ensure that scholarly research outputs are preserved, discovered, and built upon in a manner that facilitates and accelerates the research process. The SHARE notification system is consistent with higher education's ongoing mission to encourage community-driven solutions that increase public access to research and maximize **knowledge** creation.

Funding agencies, sponsored research offices at universities, institutional and disciplinary repositories, and other interested parties have found it difficult to keep abreast of the release of publications, datasets, and other results of scholarly research. Across the disciplines, principal investigators and other scholars do not have any single, structured way to report on these releases in a timely and comprehensive manner. The SHARE Notification System is a higher education-based initiative to strengthen efforts to identify, discover, and track research outputs.

In this initial stage, SHARE will focus on the development and deployment of a common notification system that notifies any interested stakeholder of the release of research results. SHARE will draw on a variety of sources to generate these notifications, primarily the following two:

- Incorporation of compatible metadata from repositories and other services to identify research release events (including publication of articles and the dissemination of research data). "Other services" encompasses a wide range of inputs (commercial, noncommercial, and governmental), including, but not limited to, research productivity tools such as bibliographic software systems, professional networks, and research collaboration sites.
- Incorporation of metadata from publishers, leveraging their existing manuscript management and publishing processes, as well as emerging mechanisms to track published research.

In addition, for instances in which research release events are otherwise uncaptured through the two channels above, the SHARE notification system will include a third option:

- A SHARE dashboard that provides researchers and their designated proxies with a very simple self-reporting form.

SHARE will distribute these notifications, including a concise set of metadata (fields might include ORCID, grant number, DOI(s), and agency IDs) to relevant parties, such as funding agencies, sponsored research offices, institutional repositories, and disciplinary repositories.

The SHARE notification system will also provide a record of these notifications that could be queried by interested stakeholders, including researchers themselves, in preparing faculty tenure review materials, creating progress reports, or doing compliance checks.

The SHARE Notification System Project Plan focuses on the process by which this system will be developed. This process will also make it possible for SHARE to develop the long-term vision of a robust repository ecosystem that includes not just the notification system, but also the following:

- A distributed registry layer that can accommodate not just publications but also research data.
- A discovery layer to help interested parties find research outputs across repositories.
- A content aggregation layer that moves beyond curation and discovery to facilitate data and text mining of large corpora of content, as well as other community-driven value-added services.

In its fully realized state, SHARE will let key stakeholders know when research release events occur in a timely, structured, and comprehensive manner. It will provide an inventory of what is available within publicly accessible repositories. SHARE will facilitate discovery of, and access to, content across these repositories. SHARE will expose this content so that the community can reuse, mine, and build services on top of the corpus. All of these layers, taken together, give campus-driven research outputs their widest exposure, and ensure that they can be broadly reused.

SHARE leadership anticipates that these three layers will be discussed, refined, and pursued in rough concert with the notification system planning. The precise timing and ordering of their development will be determined through community dialogue with SHARE working groups and other key stakeholders.

SHARE Overview

[SHARE \(SHared Access Research Ecosystem\)](#) is a higher education initiative to ensure the preservation of, access to, and reuse of research outputs. SHARE will develop solutions that capitalize on the compelling interest shared by researchers, libraries, universities, and other key stakeholders to maximize research impact, today and in the future. SHARE aims to make the inventory of research assets clearer and more accessible, and to enable the research community to build upon these assets in creative and unforeseen ways.

Fundamental SHARE Tenets

The SHARE project is guided by the following precepts:

- Ensuring broad and continuing access to research is central to the mission of higher education.
- Recent US government initiatives to ensure public access to federally funded research publications, research data, and other research outputs have created a new and timely opportunity for the higher education community to better structure its strategies and systems for managing both data and publications.
- Independent of how federal agencies choose to operationalize implementation of the new [Office of Science and Technology Policy \(OSTP\) directive](#), the higher education community is uniquely positioned to play a leading role in the good stewardship of research.
- The higher education community also has the responsibility to collect and preserve their researchers' scholarly output for reasons beyond ensuring access, such as for institutional planning and for analytic purposes.
- Research publications, research data, other research outputs, and their associated metadata should be publicly accessible. This accelerates research and discovery.
- Research publications, research data, other research outputs, and their associated metadata should be available for reuse, text mining, data mining, and machine reading. This, too, accelerates research and discovery.
- There are likely to be several, and perhaps many, agency and funder strategies to advance public access to research publications, research data, and other research outputs.
- Complying with multiple requirements from multiple funding sources will place a significant burden on principal investigators and offices of sponsored research.
- The higher education community is committed to facilitating their researchers' compliance with funder requirements.
- Solutions to address technical and operational issues related to the above tenets should

rely on existing standards where available. In situations where standards do not already exist, solutions should be developed collaboratively by the research and higher education communities.

SHARE Project Oversight

The Association of Research Libraries (ARL) has partnered with the Association of American Universities (AAU) and the Association of Public and Land-grant Universities (APLU) to develop SHARE with significant input from the three associations' member institutions and their broader stakeholder communities. ARL's members are 125 research libraries at comprehensive, research institutions—108 in the US and 17 in Canada. AAU's membership is composed of 60 US and 2 Canadian preeminent public and private research universities. APLU's members are 217 state universities, land-grant universities, state-university systems, and related organizations in all 50 states, US territories, and the District of Columbia.

Management of SHARE is overseen by a steering group drawing from the leadership and membership of ARL, AAU, and APLU. The steering group has engaged substantially, and will continue to engage, with a broad spectrum of stakeholders throughout the development of the notification system (see "Community Engagement" section below). The long-term oversight of SHARE is discussed in the "Governance" section below.

SHARE Notification System Benefits

In its initial project, SHARE will develop a notification system to provide key stakeholders with increased and accelerated awareness of the release of research results. SHARE will develop a notification system that can be implemented by stakeholders across a variety of software platforms, technical environments, and organizational support models. This notification system will enable funding agencies, sponsored research offices at universities, institutional and disciplinary repositories, and other interested parties to be notified of the publication of articles and the release of research. The notification system will draw from a variety of sources to generate the appropriate notifications in a single stream. While there are many ad hoc alerting mechanisms within the research community at present, the SHARE notification system will unify the delivery of key metadata elements in a manner that is timely, comprehensive, and structured.

To the greatest extent possible, the SHARE notification system will integrate with existing aspects of the research ecosystem to leverage established practices and behaviors. The SHARE notification system will solve a key coordination problem by making it substantially easier for all parties to manage and oversee the reporting of research results.

A successfully executed SHARE notification system will provide important benefits for many parties within the research and discovery ecosystem, including:

- **Researchers.** Researchers struggle to keep all interested parties apprised of their scholarly output, particularly when reporting requirements fall outside their typical workflow. This is especially true for funded research, which often has specific conditions placed upon it by sponsoring agencies and offices for funded research. The SHARE notification system will consolidate disparate processes by bringing key stakeholders under a single umbrella. By relying in part on existing procedures and activities (e.g.,

publishing, posting of materials in repositories and data archives) to trigger notifications, SHARE will reduce the effort required for researchers to notify relevant stakeholders of their activities.

- **Funding Agencies.** The SHARE notification system will capture a succinct digest of metadata information about sponsored research and alert funding agencies in a timely, comprehensive, and structured manner. By placing the authority of the university and the sponsored research office behind the notification system, SHARE will increase both compliance levels and data quality. For agencies seeking a long-term solution to preserve and display their research output, SHARE's efforts may be extended in future projects to encompass repository, discovery, text and data mining, and other value-added layers.
- **Universities.** SHARE will facilitate efforts by sponsored research offices to optimize the interaction between the researcher and the granting agency. The notification system will encourage an organic link between grant compliance systems and the analytics that universities use for faculty information systems and other purposes. SHARE will enable institutions with open access policies to better facilitate and track participation, the results of which will, in turn, enrich the metadata within the notification system. Additionally, universities that link the SHARE notification system to their local repositories will be able to leverage alerts to gain a fuller sense of the institution's research outputs. This, in turn, will serve as a helpful step in preserving and serving their institution's research outputs.
- **The General Public & Industry.** SHARE will increase the utility of scholarly research by making it easier for the public and industry to know who is producing what, and when. SHARE's adoption of standards and protocols will make it easier for commonly used search engines and third-party services to render this information discoverable and usable. This increased awareness will provide tangible benefits for knowledge workers, patients, practitioners, and other members of the general public. Additionally, the notification system will make it easier for entrepreneurs and cutting-edge research businesses to more easily leverage scientific knowledge to develop new products and technologies. The involvement of universities, traditional stewards of information, will provide a signal of confidence that access to these materials will be available over the long term.

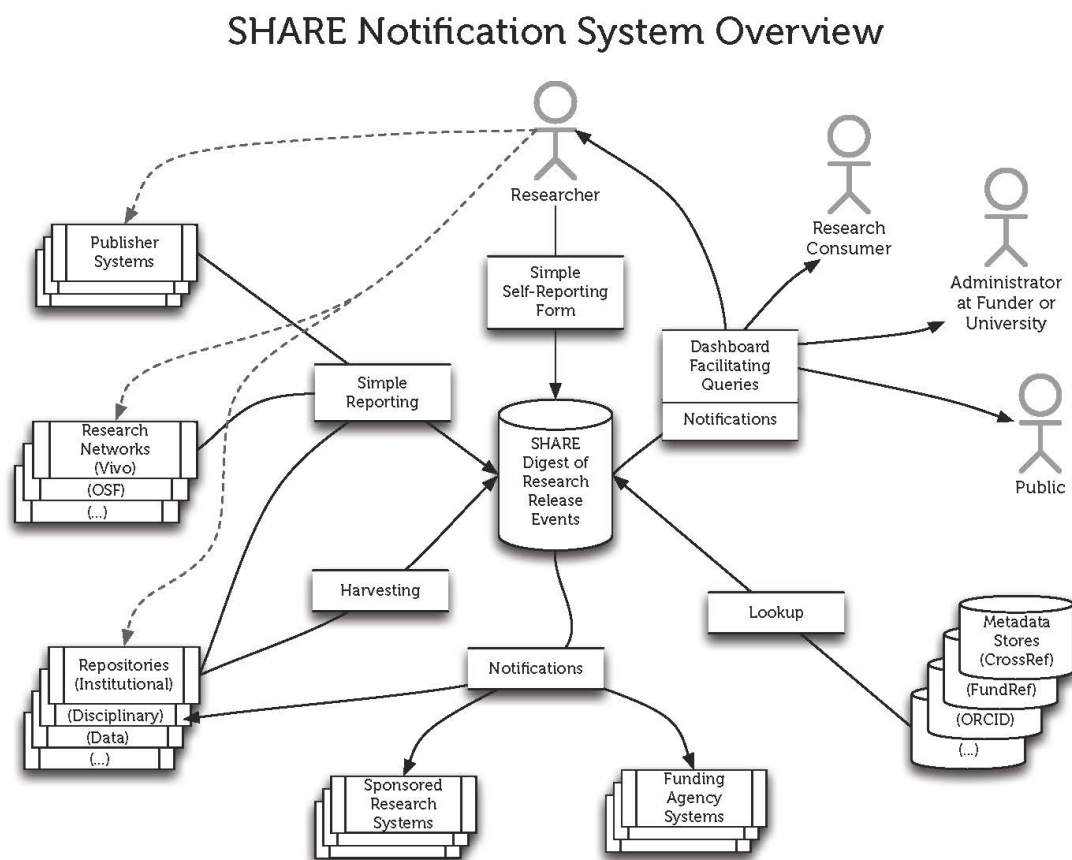
Notification System Purpose

The goal of the SHARE notification system is to demonstrate that a viable mechanism can be deployed to keep key stakeholders abreast of research release events in a structured, timely, and comprehensive manner. To this end, the SHARE project team will engage the research community and other appropriate parties to (a) understand the technical, operational, and strategic challenges associated with the development of this notification system; (b) develop an approach that can accommodate an array of common technical environments, funder requirements, and organizational support models; and (c) explore how the SHARE notification system can be scaled to accommodate a diverse array of stakeholders that maintain an interest in the accounting, preservation, and discovery of research.

Following the schedule detailed in the “Notification System Timeline” section below, the SHARE team will develop a working notification system. The notification system will demonstrate SHARE’s ability to generate notifications to relevant stakeholders (including funding agencies, sponsored research offices at universities, and institutional and disciplinary repositories) by drawing on a variety of sources that capture research release events. The system will likely include metadata-harvesting tools linked to publishers, the incorporation of compatible metadata from repositories and other services, and a SHARE dashboard for author self-reporting.

Notification System Schematic Overview

The following diagram provides a visual overview of the flow of information in the SHARE Notification System as described in this plan.



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Notification System Requirements

Workflow

The most crucial element of the SHARE notification system, and, indeed, any future SHARE projects, is an efficient user experience. Researchers are hesitant to learn new systems with complex procedures. Institutions need tools that help them more easily track research activities, not additional tasks to manage. Research funders are seeking partners to help them fulfill their public access directives and track compliance, not another add-on to already-complex workflows. SHARE must be accepted by these and other constituents as an improvement over existing processes, a system that makes their lives easier instead of more difficult. This will be the guiding principle driving SHARE's development.

As detailed in the "Community Engagement" section below, SHARE will engage stakeholders, both directly and through its Workflow Working Group, to better understand how current processes work and where efficiencies can be realized. This will include the development of a number of use cases to help define the workflow.

Institutional Integration

From the first release of its notification system, SHARE must integrate with commonly used technologies. In practical application, this means that the SHARE notification system must coordinate with the most widely adopted North American institutional repository environments (e.g., DSpace, Fedora, Digital Commons, and the University of California eScholarship platform). The notification system will demonstrate how institutions using any of the common repository solutions can integrate SHARE notifications as a means to keep abreast of research release events from their community of scholars.

In addition to institutional repositories, universities also maintain an interest in research release event information in conjunction with tenure and promotion activities, as well as the monitoring of sponsored research compliance. SHARE will seek to integrate its notifications with these workflows in a manner similar to the institutional repository plan described above.

Collaboration and Scale

The implementation of a common notification system across institutional environments will present distinct "rightscaling" opportunities through which participating parties can better identify collaborative paths to de-duplicate effort and investment in the repository environment and beyond. The SHARE notification system will be engineered with an eye toward the benefits of shared management of infrastructure, services, and discovery. SHARE expects that this landscape will steadily evolve with the introduction and maturation of commercial and noncommercial products and services and perhaps the collective development of implementation platforms within higher education.

APIs

Funding agencies, sponsored research offices, and other stakeholders will likely have an interest in assimilating SHARE data and analytics into their existing systems (compliance tracking, report generation, grants management, etc.). To facilitate this integration, SHARE should identify and develop appropriate APIs at the earliest possible convenience.

Community Engagement

The research ecosystem is supported and sustained by many constituencies. SHARE aims to engage these communities in an ongoing dialogue, beginning in the initial development phase, to ensure that the SHARE notification system makes it easier for them to perform their roles in tracking, preserving, and disseminating research.

Interested Parties

Higher Education

Individual Researchers

SHARE must gain a comprehensive understanding of how individual researchers compile and transmit the information requested by their funding agencies and their institutions, where the inefficiencies in these processes lie, what mechanisms researchers would like to see implemented to ease any burdens, and how these mechanisms can be rolled out in a manner that maximizes the likelihood of their adoption.

Senior Administration

As the campus authority best positioned to provide incentives for SHARE notification system adoption, it is critical to engage administration from SHARE's earliest stages. SHARE must seek to understand the lengths to which campus administrations are willing to go to ensure that the SHARE notification system can be positioned as the primary vehicle for alerting relevant stakeholders of research release events.

Sponsored Research Offices

Grants are typically administered from execution through compliance by sponsored research offices. These units therefore have a tremendous amount of experience that can be brought to the development of the SHARE notification system. Sponsored research offices also have the operational and fiscal leverage to promote adoption of the SHARE notification system on campuses.

Libraries & Repository Managers

Campus libraries have long played a leading role in scholarly communication issues. They have also been integrally involved with the development and management of institutional repositories. Given the significant overlap between the SHARE notification system and institutional repository interests, the library community must be an active partner in SHARE's notification system development.

IT Personnel

SHARE envisions an eventual workflow that integrates the notification system with a number of campus systems, including the institutional repository, the sponsored research office's grant-tracking software, and faculty information systems. This integration will require the input and expertise of campus IT personnel.

Funding Agencies

Federal Agencies

The OSTP directive has created a sense of urgency in the development of public access mechanisms. With more than 20 federal agencies actively working to develop and roll out their plans, the timing is opportune to engage these bodies on their notification requirements. SHARE aims to work with federal agencies to ensure they can be kept apprised of research release events resulting from their funding.

Other Funding Agencies

While the OSTP directive has driven the public access discussion over the past year, there are numerous other domestic and international funding agencies (including state and private funders) that have their own policies. These bodies should be engaged to better understand how their interests can be incorporated into the notification system.

Publishers

Publishers compile many of the elements core to the SHARE notification system as part of their existing manuscript management and publishing processes. SHARE will engage the publishing community to participate from the earliest stages in order to ensure that SHARE notifications are timely and comprehensive.

Disciplinary and Data Repositories

Disciplinary and data repositories intersect with SHARE from both the content provision and consumption perspectives. With respect to the former, the act of a researcher depositing materials in these repositories may be a “trigger event” to which other stakeholders in the value chain should be notified. With respect to the latter, disciplinary and data repositories may seek to be kept apprised of other publication and deposit activities by researchers so that they can capture metadata and links related to those activities in their own systems. SHARE will work with disciplinary and data repository stakeholders to ensure that their perspectives inform the notification system’s development.

Researcher Productivity Tools

Researchers already engage in the storage and sharing of their scholarly outputs in a variety of bibliographic software systems, professional networks, and research collaboration sites. Building the notification system will offer SHARE a chance to cultivate relationships with these tools. This will embed SHARE participation within the places where researchers are already depositing their works (beyond repositories).

Other Stakeholders

Private Sector Organizations

In recognition of the ongoing value that the private sector has brought to the improvement of scholarly communication, SHARE will seek to secure the involvement of interested technology organizations. Such participation may range from informal advising to direct involvement in the technical development of the SHARE notification system. This is consistent with the OSTP directive, which emphasizes public-private partnerships to improve public access to research.

Standards Organizations

A number of groups, both domestically and internationally, have worked extensively to articulate the efficient cross-system sharing of information. These proposals and findings, often drawing from a stakeholder population that overlaps with the SHARE community, can and will add vital context to the SHARE dialogue.

Advocacy Groups

A number of open access organizations have devoted significant attention to examining the practical aspects of public access developments. These organizations have cultivated relationships with members of the SHARE stakeholder population who can be developed as thought leaders for the SHARE notification system. SHARE will work with these open access organizations to identify and engage with these potential advocates.

International Community

Within each of the constituencies outlined above, there are experts and stakeholders situated outside of North America. Where appropriate, SHARE will solicit the participation of these international authorities to inform and refine the SHARE notification system.

Engagement Mechanisms

Working Groups

SHARE has developed a number of working groups to more directly and formally solicit the input of the communities whose interests intersect with SHARE. These working groups will meet at least once per month and be chaired by a member selected by his/her fellow members and approved by the SHARE steering group. At least one member of the SHARE steering committee will participate in each working group.

Technical Working Group

The Technical Working Group will be responsible for advising SHARE on matters of technology, standards, operational policies and procedures, scale, and innovation in the development of the SHARE notification system. The Technical Working Group will provide technical leadership in conceptualizing and developing the SHARE system. It will review, evaluate and make recommendations regarding technology-related topics relevant to the SHARE notification system project, including research and development activities, as well as technical and market risks associated with current and potential technical development strategies. The group will assess technology initiatives with respect to resource utilization and benefit to stakeholders. It will research and identify potential technologies, standards, and operational policies and procedures that can be adapted to meet SHARE's aims.

Repository Community Working Group

The Repository Community Working Group will be responsible for engaging with institutional and disciplinary repository stakeholders to ensure that they are kept apprised of, and can efficiently contribute to, SHARE's notification system development. The Repository Community Working Group will facilitate discussions about the SHARE notification system within the repository community. It will serve as a conduit for repository stakeholders to express their opinions on the SHARE development path, proposed features, and overall SHARE

strategy. The Repository Community Working Group members will also disseminate information regarding new SHARE developments to their constituencies, helping to socialize and optimize these plans.

Workflow Working Group

The Workflow Working Group will be responsible for engaging with the research community, research funders, and other stakeholders to ensure that the efficiency of the SHARE notification system is optimized. The Workflow Working Group will facilitate discussions about the SHARE notification system among these interested parties. It will serve as a conduit for the key actors involved in the research life cycle, including principal investigators, grant agencies, and sponsored research offices, to express their opinions on the SHARE notification system. The Workflow Working Group members will also disseminate information regarding new SHARE notification system developments to their constituencies, helping to socialize and optimize these plans.

Communications Working Group

The Communications Working Group will be responsible for conveying SHARE notification system developments with the scholarly communication community, as well as the general public, in a timely and transparent manner. The Communications Working Group will facilitate discussions about the SHARE notification system within the scholarly communication community, as well as for any other parties that might be interested (and fall beyond the purview of other SHARE working groups). It will serve as a conduit for SHARE to communicate new project developments, request input, and generally engage with the community in an open manner.

Campus Engagement

As a community of SHARE supporters blossoms, this backing will be leveraged at a campus level. This may entail brown bag lunches, presentations, discussions, and other forms of grassroots activity. Materials will be developed by the SHARE team to support these endeavors. The community will be invited to build upon these materials, and to circulate as appropriate. SHARE steering committee members will engage at the campus level in support of these local activities.

Social Media

SHARE will use Twitter (via the [@SHARE_research](#) handle), Facebook (the <http://www.facebook.com/SHARE.research> page), and other appropriate social media channels to disseminate project developments. These channels will also be used to engage the community, ask questions, address concerns, and generally serve as active points of contact for anyone interested in SHARE.

Wiki

SHARE will develop a wiki to serve as a knowledge base for the project. The wiki space will include areas for the project working groups to document their discussions and recommendations. As presently envisioned, access to the wiki will require the approval of SHARE leadership. This will ensure that stakeholders who are active participants in the project will have a protected space in which they can offer their unvarnished opinions, brainstorm, and

discuss key issues in a candid fashion.

Declaration of Support

SHARE will solicit a broad-based expression of community support for both its general aims and its specific notification strategy. This backing will draw from each of the stakeholder groups outlined above. SHARE will cultivate the support of organizations that represent these audiences, as well as prominent individuals from within these groups. The declaration of support is intended to demonstrate that SHARE's notification system approach is endorsed by a grand coalition of interested parties.

Costs

Notification System Development Stage

The SHARE notification system will be funded through a combination of external grants and modest support from ARL, AAU, and APLU. This support will cover project and technical management, as well as communications and logistical support. SHARE leadership, in conjunction with the working groups and other stakeholders, will determine the most cost-efficient manner in which to develop the notification system, as well as the best way to secure the necessary support.

Ongoing Costs

Throughout the initial development of the notification system, the financial, time, HR, technical, and managerial, and other expenditures will be tracked assiduously. This will enable SHARE to enumerate in a transparent manner the direct and indirect costs of ongoing participation in the SHARE notification system for participating institutions, funding agencies, and other stakeholders.

Governance

There is firm consensus among the stakeholder groups that in the long term the SHARE notification system and any follow-on projects should be administered with a deft and light touch. The number of scholarly communication oversight organizations that have proliferated in recent years has generated a general resistance to additional governing bodies. To that end, SHARE will seek to partner with existing organizations wherever possible to administer the program. This approach will reduce the number of new relationships and interactions required to ensure SHARE's efficient operation.

SHARE is presently managed by a steering committee designated by the Association of Research Libraries, the Association of American Universities, and the Association of Public and Land-grant Universities. It is anticipated that these groups will retain some long-term interest in SHARE. The development of a nimble, responsive governing structure will be a defined goal of the SHARE notification system phase. This structure will be established by a target date of mid-2015, concurrent with the wide release of the SHARE notification system.

Development Considerations

Funding will be sought to provide a project manager and programmers to develop the

notification system. The SHARE notification system will be developed in an iterative process using agile methodology, taking small steps writing working code that can be regularly tested and refined with participants. All SHARE code will be open source and exposed to community vetting and participation via a repository like GitHub. Data that is aggregated and developed to support the notification system will be provided to the community regularly under a CC0 license so that, in theory, another team could pick up where SHARE leaves off. Every effort will be made by the team to leverage existing libraries of code and existing protocols rather than reinventing solutions.

Local Considerations

A primary advantage of the SHARE notification system is the inherent linking of research release events with funding agency compliance activities, as well as with campus scholarly communication and monitoring systems. The successful deployment of the SHARE notification system will therefore benefit not only scholarly authors and funding agencies (by streamlining compliance notification procedures for both parties), but also the higher education institutions that serve as the conduit between the two. SHARE recognizes the essential role that sponsored research offices and other departments play in the receipt, administration, and monitoring of grants. The SHARE notification system will allow these institutional units to better track compliance and develop a finer-grain understanding of how grants flow through the institution.

More than 65 American colleges and universities have adopted some form of open access mandate for research outputs produced on their campuses. For these institutions, ensuring widespread participation among faculty has required substantial effort. The SHARE notification system will assist these institutions in tracking conformance with their open access mandates.

With respect to both sponsored research office procedures and open access mandates, SHARE will engage appropriate stakeholders to more fully understand how current protocols can be improved. SHARE will also seek to determine the types of analytics that would make oversight of these processes easier.

Notification System Challenges

There are a number of technical, political, logistical, and other complexities to which SHARE must give careful consideration as the notification system is developed. The successful execution of the SHARE notification system will require information gathering, discussion, and creative thinking on each of the issues outlined in this section.

Understanding Current Workflows

There are numerous steps that occur between the submission of a grant application by a researcher and research release events such as the publication of an article or the posting of a dataset. The specific protocols, and the flavor of their execution, differ by institution, discipline, and funding source, among other variables. In addition, it is probable that knowledge about the various steps—including grant administration, paperwork checking, compliance activities, and verification—is diffused across the various stakeholders.

Securing Participation

As envisioned, the SHARE notification system will draw from multiple streams to generate research release event notifications. Two of these streams—incorporating compatible metadata from repositories and services and the publisher metadata harvester—may potentially require the active consent of their respective communities. The third, a SHARE dashboard for author self-reporting, will require scholarly authors to actively participate, albeit as a last resort that fills the gaps left by the first two methods. Ensuring that all three streams are fully enabled is a critical component of the SHARE notification system.

Additionally, the SHARE team will need to focus on training, outreach, and implementation resources. This will maximize the stakeholders' interest in and ability to adopt the SHARE notification system. The Communications Working Group will be responsible for developing and disseminating appropriate assets toward this effort.

Standards and Protocols Considerations

An aim of the SHARE notification system is to develop a solution that relies on existing standards and protocols wherever appropriate. In some instances, such as the ORCID researcher identification scheme, these can be easily identified. There are certain emerging mechanisms, such as the FundRef taxonomy of funder names, which fall short of the definition of a standard but nevertheless merit serious consideration based on the benefit they can provide. There are other areas, such as real-time verification of grant numbers entered by principal investigators, where no standards or emerging solutions appear to exist. By working with organizations that develop and validate standards, SHARE can identify where standards are lacking and what role SHARE can play in developing solutions. Even as appropriate standards are identified, ensuring their widespread adoption may be problematic. ORCID and FundRef, for example, may be perfectly appropriate standards to be captured and disseminated within the SHARE notification system workflow. However, their utility will be bounded by the extent to which key stakeholders—publishers, research funders, and individual researchers chief among them—elect to incorporate these elements into their workflows.

Research Data

As an organization, SHARE will seek to promote the archiving and accessibility of research data. The promotion of this principle will be evidenced by the inclusion of research data as a “research release event” of which stakeholders should be notified. Note that SHARE’s desire for openness in the data realm will be pursued with respect for human subject privacy, HIPAA, regulatory, and IP considerations.

Scale

As outlined in the “Notification System Purpose” section above, one goal of the SHARE notification system is to explore how the system can be scaled to accommodate a diverse array of stakeholder systems and repositories. Beyond this, the scale question extends to encompass a range of institutional approaches, policies, and technologies pertaining to the local capture of research outputs. The SHARE notification system must successfully integrate with software platforms, technical environments, and organizational support models idiosyncratic to each participating organization. In doing so, SHARE must also be attuned to opportunities for achieving long-range scale within and beyond the academy. These opportunities, and the

attendant efficiencies they carry, may ultimately come in the form of technical resource sharing. It is possible that combining resources in certain areas may provide a means to more effectively promote the core tenets on which SHARE is based. It will be both a challenge and an opportunity to identify these areas of potential efficiency.

Notification System Timeline

Now–February 2014

In conjunction with the working groups, define the first iteration of minimum requirements for the SHARE notification system and its fundamental structure. Determine the degree to which SHARE will build upon or incorporate the work of others.

March–April 2014

Definition of architecture and protocols required to meet minimum requirements of the SHARE notification system. In conjunction with working groups, determine metadata requirements, existing protocols, and other technologies that will be helpful to accomplishing the task.

May–July 2014

Building the initial SHARE notification system prototype. Use prototype to interact with at least three repository platforms, five institutions, two funding agencies, and five publishers. Aim to process notifications for at least 50 research release events, including papers and data.

August–September 2014

Revise SHARE notification system prototype and expand participation, based on stakeholder feedback and working group insights. Use prototype to interact with at least three repository platforms, 15 institutions, three funding agencies, and eight publishers. Aim to process notifications for at least 150 additional research release events, including papers and data.

Fall 2014

Revise SHARE notification system prototype into first beta release, based on stakeholder feedback and working group insights.

Early 2015

Open SHARE notification system beta to wider group of beta participants.

Spring–Summer 2015

Expand SHARE notification system beta to include additional repositories, services, and other data sources. Deploy documentation and training to help sites interact with the SHARE notification system.

Fall 2015

First full release of SHARE notification system.

Future SHARE Initiatives

The SHARE notification system as presently envisioned will concentrate on a discrete problem—how to keep key stakeholders abreast of research release events in a timely, comprehensive, and structured manner. As the “Fundamental SHARE Tenets” above articulate, ensuring broad and continuing access to research is central to the mission of higher education. SHARE aims to build upon both the notification system and the relationships it establishes through the development process to advance this larger mission. A vibrant repository environment is central to these efforts. To that end, SHARE will set its long-range sites on projects that encourage the following:

- A distributed registry layer that can accommodate not just papers but also research data.
- A discovery layer to help interested parties find research outputs across repositories.
- A content aggregation layer that moves beyond curation and discovery to facilitate data and text mining of large corpora of content, as well as other community-driven value-added services.

The community engagement efforts, infrastructure work, and operational and strategic insights gained through the construction of the SHARE notification system will be leveraged to efficiently develop these complementary layers.