



REDUCING FEDERAL ADMINISTRATIVE AND REGULATORY BURDENS ON RESEARCH

A Report by the
RESEARCH BUSINESS MODELS WORKING GROUP
COMMITTEE ON SCIENCE

of the
NATIONAL SCIENCE & TECHNOLOGY COUNCIL

MAY 2018

About the National Science and Technology Council

The National Science and Technology Council (NSTC) is the principal means by which the Executive Branch coordinates science and technology policy across the diverse entities that make up the Federal research and development enterprise. A primary objective of the NSTC is to ensure science and technology policy decisions and programs are consistent with the President's stated goals. The NSTC prepares research and development strategies that are coordinated across Federal agencies aimed at accomplishing multiple national goals. The work of the NSTC is organized under committees that oversee subcommittees and working groups focused on different aspects of science and technology. More information is available at <http://www.whitehouse.gov/ostp/nstc>.

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The Office of Science and Technology Policy (OSTP) was established by the National Science and Technology Policy, Organization, and Priorities Act of 1976 to provide the President and others within the Executive Office of the President with advice on the scientific, engineering, and technological aspects of the economy, national security, homeland security, health, foreign relations, the environment, and the technological recovery and use of resources, among other topics. OSTP leads interagency science and technology policy coordination efforts, assists the Office of Management and Budget with an annual review and analysis of Federal research and development in budgets, and serves as a source of scientific and technological analysis and judgment for the President with respect to major policies, plans, and programs of the Federal Government. More information is available at <http://www.whitehouse.gov/ostp>.

About the Research Business Models Working Group

The purpose of the Research Business Models Working Group is to advise and assist the Committee on Science and the NSTC on policies, procedures, and plans relating to business models for the performance and management of federally sponsored scientific research. The goal of the RBM is to solve problems. The subcommittee aims to facilitate a strong, coordinated, trans-agency effort to address important policy implications arising from the changing nature of basic and applied research, examine the influence of these changes on the business models for how the research is conducted, and review the challenges to improved performance and mechanisms for more transparent accountability of the research enterprise.

About this Document

Title II, Section 201 of the 2017 American Innovation and Competitiveness Act (AICA) directed the Office of Management and Budget (OMB), in coordination with the Office of Science and Technology Policy (OSTP), to establish an interagency working group (Working Group) to reduce administrative burdens on federally funded researchers while protecting the public interest through the transparency of and accountability for federally funded activities. The Act instructs the Working Group to review the relevant regulations and recommend ways to minimize the burden associated with the regulations, to address several specific, promising approaches to reducing burden, and to report to Congress annually for three years.

OMB and OSTP agreed to convene the RBM to execute the Working Group responsibilities called out in the AICA. This report is the product of the RBM and is the first of the three mandated reports.

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Introduction

The 2017 American Innovation and Competitiveness Act (AICA) directed the Office of Management and Budget (OMB), in coordination with the Office of Science and Technology Policy (OSTP), to establish an interagency working group (Working Group) to reduce administrative burdens on federally funded researchers while protecting the public interest through the transparency of and accountability for federally funded activities. Since the passage of AICA, OMB has released the President's Management Agenda (PMA) outlining a long-term vision for modernizing the Federal Government in key areas to improve agencies' ability to: deliver mission outcomes; provide excellent customer service; and effectively steward taxpayer dollars. The PMA also includes the Cross-Agency Priority (CAP) Results-Oriented Accountability for Grants. This CAP goal is consistent with the intent of AICA and aims to reduce Federal award recipient burden and better position agencies to manage awards by: improving the use and collection of data; creating digital tools to manage risk; and perform risk-based performance management.

This report outlines ongoing efforts of the Research Business Models Working Group and government-wide efforts associated with the PMA to improve the management of Federal awards to significantly reduce the regulatory burdens associated with federally funded research activities. Reducing or eliminating regulatory and administrative burdens that neither add value nor prevent the risk of fraud, waste, and abuse is critical to ensuring the health and efficiency of the Nation's research enterprise. It is especially important to do so in cases where substantial and unproductive administrative burdens affect our Nation's scientists, thereby impeding the rate of scientific and technological advancement – and hence our National competitiveness. Many reports have been written and numerous Congressional hearings have been held on this issue over the past several decades, identifying particular regulations or processes and offering proposals for significant improvement.

As required by AICA, the Working Group is expected to review the relevant regulations and recommend ways to minimize the burden associated with the regulations. The AICA specifically directed the Working Group to make progress, to the extent practicable, in four areas:

1. Establishment of a centralized assurances repository;
2. Establishment of a centralized researcher profile database;
3. Development of a simplified, uniform grant application format and associated processes to streamline grant application and review; and
4. Simplification of mandatory progress reports, with an emphasis on performance outcomes.

The Working Group was further charged to regularly review relevant administrative regulations and make further recommendations to eliminate, streamline, or otherwise improve relevant regulations or processes, focusing on performance-based goals insofar as possible.

OMB and OSTP chose the National Science and Technology Council's Research Business Models (RBM) Working Group to serve as the interagency Working Group called for in the AICA, and the agency members of the RBM accepted the assignment willingly. The RBM, which has been chartered since 2006, has the appropriate membership and authorities to carry out the mandates related to administrative burdens on researchers. RBM has always aimed to ensure that the business of Federal research funding is efficient, effective, and accountable to the American public. OMB and OSTP will collaborate closely to ensure that the RBM achieves all the AICA objectives assigned to the Working Group.

The RBM has previously conducted work in all four of the work areas called out in the bill, as well as others, and continues to work to identify additional areas for improvement. This report describes progress to date on those four topic areas as well as ideas for possible further activity. In conducting its

work, RBM routinely consults extensively with outside stakeholders, particularly professional organizations that represent researchers and administrators from research institutions. An important forum for collaboration and stakeholder feedback is the National Academies of Sciences' (NAS) Federal Demonstration Partnership (FDP)¹, an NAS initiative involving 10 Federal agencies and 154 institutional recipients of Federal funds that is dedicated to reducing the administrative burdens associated with research grants and contracts.

RBM takes a holistic approach as it explores opportunities to reduce administrative burdens. Actions that reduce burden on research institutions may increase burden on researchers or on the agencies that fund them. Conversely, actions that make Federal systems more efficient can sometimes significantly reduce burdens on researchers and research institutions. Recent consultation with stakeholders indicates that risk-based and performance-based approaches to managing Federal awards might yield reduced burdens on researchers, institutions, and even agencies. RBM prioritizes holistic improvements over those focused on researchers alone.

The 2017 21st Century Cures Act directs OMB to establish a "Research Policy Board" (RPB) consisting of Federal Government and non-Federal Government members that "shall make recommendations regarding the modification and harmonization of regulations and policies across research funding agencies to ensure that the administrative burden of such research policy and regulation is minimized". The RPB would operate as a Federal Advisory Committee and would include a representative from RBM to ensure constructive coordination between these two bodies that share similar missions.

Progress Report on the Four AICA-Assigned Tasks

Establishment of a Centralized Assurances Repository

Currently, every application for a Federal grant must include a set of statements certifying or assuring the Federal agency that the applicant's home institution is in compliance with all applicable laws and regulations. Some examples of laws and regulations an organization must certify compliance with are, but not limited to, the following:

1. Will comply with all limitations imposed by annual appropriation acts.
2. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and public policies governing Federal financial assistance awards and any Federal financial assistance project covered by this certification document, including but not limited to:
 - Trafficking Victims Protection Act of 2000, as amended, 22 U.S.C. § 7104(g).
 - Drug Free Workplace Requirements for Federal Grant Recipients, 41 U.S.C. § 8103.
 - Protection from Retaliation for Disclosure of Certain Information, 41 U.S.C. § 4712.
 - National Environmental Policy Act of 1969, as amended, 42 U.S.C. § 4321 et seq.
 - Universal Identifier and System for Award Management, 2 C.F.R. part 25.
 - Reporting Subaward and Executive Compensation Information, 2 C.F.R. part 170.
 - OMB Guidelines to Agencies on Government-wide Debarment and Suspension (Non-procurement), 2 C.F.R. part 180.
 - Civil Actions for False Claims Act, 31 U.S.C. § 3730.
 - False Claims Act, 31 U.S.C. § 3729, 18 U.S.C. §§ 287 and 1001.

¹ <http://sites.nationalacademies.org/pgafdp/index.htm>

- Program Fraud Civil Remedies Act, 31 U.S.C. § 3801 et seq.
- Lobbying Disclosure Act of 1995, 2 U.S.C. § 1601 et seq.
- Title VI of the Civil Rights Act of 1964; 42 U.S.C. § 2000d et seq.
- Title VIII of the Civil Rights Act of 1968, 42 U.S.C. § 3601 et seq.
- Title IX of the Education Amendments of 1972, as amended; 20 U.S.C. § 1681 et seq.
- Section 504 of the Rehabilitation Act of 1973, as amended; 29 U.S.C. § 794.
- Age Discrimination Act of 1975, as amended 42 U.S.C. § 6101 et seq.

Several of these statutes are included in a standard certifications and representation form that many agencies use. The agencies may require additional certifications and representations that are specific to their agency or program.

Annually, the Federal government receives over 200,000 grant applications that require the completion of assurances. Most organizations, particularly research organizations, submit multiple applications throughout the year, many of which are not funded.

The practice of providing written assurances on each grant application for government-wide requirements is unnecessary and duplicative. To reduce this unnecessary burden, an interagency working group has developed a draft government-wide annual standard set of assurances for grant applicants and recipients. The intent is to establish a centralized service for the collection of and access to government-wide assurances that apply to grants, leveraging the Integrated Award Environment managed by the General Services Administration. As reflected in the Sharing Quality Services CAP Goal it is anticipated that this service will be made available in Quarter 2 of Fiscal Year 2019. Once available and fully implemented, grant applicants will no longer make multiple assurances on their applications; they would only indicate that their institution's assurances are up to date in the centralized system. Federal awarding agencies will have access to the Integrated Award Environment, similar to how the process works for Federal procurement applicants.

This approach eliminates the need to make multiple assurances on a grant-by-grant basis and eliminates the need for funding agencies to review assurances on each grant application. It reduces duplication and paperwork, as well as significantly streamlines the relationship with awarding agencies across the government. It is worth emphasizing that this innovation will pertain to not just research grants, but all types of Federal grant applications, which means that the burden reduction will benefit the entire community of Federal grant applicants. With over 200,000 applications received annually from approximately 40,000 recipients, it is estimated that this will result in a reduction of over 150,000 burden hours annually.

In compliance with the Paperwork Reduction Act, applicants and recipients will have a future opportunity to provide comments on the proposed information collection. RBM is following the progress of this project, will provide comments as appropriate during the public comment period, and will continue to track the project, as it is an important opportunity to reduce research administrative burdens.

Establishment of a Centralized Researcher Profile Database

A Centralized Researcher Profile database could significantly reduce administrative burdens on researchers. Through work with the FDP RBM has learned several specific lessons about what a truly efficient and effective research profile system might look like.

The application and reporting requirements associated with Federal research funding are only a small part of the administrative burden researchers face when maintaining and supplying research profile data, including information about their affiliations, publications, and career histories, for example. The various forms they must fill out typically reside in multiple, incompatible electronic systems. For example, researchers maintain profiles about their careers at their institutions for tenure and promotion, in funding databases associated with grant applications and research progress reports, and in publishing systems as supplements to manuscript submissions. Each new research activity or product results in a need to update multiple systems.

Because researchers already use multiple profile systems, it is not clear that a new stand-alone system would reduce their burden or add value to Federal research programs. Since much of the relevant researcher-profile data resides outside Federal systems, a system that focused solely on Federal data would not be comprehensive, and therefore would not significantly reduce researcher burden. Further, developing information systems that meet the needs for multiple Federal agencies can be expensive, both in absolute dollars, as well as in the staff time it takes to maintain multiple interagency agreements. Finally, since researchers are already tracking their profile information in multiple systems, creating a separate Federal system would present not just technical challenges, but adoption challenges as well.

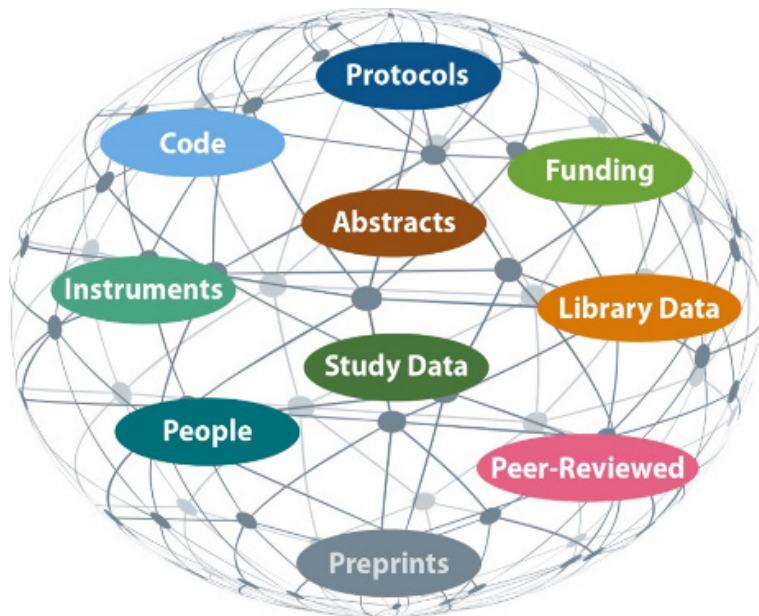


Figure 1: Types of research products generated by researchers. They then manually manage product citations in multiple profile systems to ensure that each product is linked to them, their co-creators, and their funding. RBM seeks to combine data streams about different research products to reduce burden and improve accuracy. RBM is piloting ways to automatically link all of these pieces of information through two public-private partnerships.

For the reasons described above, RBM anticipates that it is best to avoid full-scale development of a stand-alone system, but, instead, to adapt existing workflows and systems that researchers are already using. This would avoid the adoption problem and allow Federal agencies to share development costs across the systems that are already collecting profile data.

A comprehensive profile system needs an accurate and low-burden method to manage information from multiple sources, including multiple funders (e.g. private funders, Federal funders, international funders). As illustrated in Figure 1, numerous types of research products and data elements of a profile system can interconnect through persistent identifiers. For example, funding and person information are listed in the metadata of a research paper, person information is listed in funding metadata, both

papers and funding are listed as accomplishments of a person, etc. As many of these data elements are maintained on separate Internet repositories, such as publisher or funder websites, these repositories should all have the ability to feed a comprehensive profile system. For example, if a researcher creates a profile with a persistent identifier that is used by funders and publishers, those same funders and publishers can automatically update the researcher's profile when they publish a paper or issue a grant.

This automatic information exchange already works for scholarly papers that use the same universal identifier system (Digital Object Identifiers or DOIs). It is more difficult for funding information since each funder, including Federal funders, uses different information systems and identifiers. Five current Federal activities designed to promote a universally useful and used researcher profile system, including possible use of DOIs for grant applications as well as publications, are described below.

1. Piloting Ways to Manage Researcher Profile Data Through Public-Private Partnerships

RBM is monitoring cooperative public-private efforts to address the challenges above. As described below, NIH is currently engaged in pilots with two non-profit groups and other funders to address scope, effectiveness, funding information, and financing aspects of standardized systems. Together, these private groups have a user base many times larger than the largest Federal grants system, and have established relationships with other funders, academic institutions, publishers, and repositories that include data exchange and financial support. Thus, through these groups, the Federal government can move faster and cheaper by leveraging an existing user base, infrastructure, and relationships than it can by starting from scratch. The caveat is that collaborations with external groups will, in general, involve compromises on flexibility.

Together, the FDP and NIH are exploring cooperative efforts for researcher-profile data on a pilot basis. RBM will track and support the pilots as appropriate. If successful, the pilots would evolve into a data system that benefits the public and private sectors by delivering capabilities to:

- Identify experts;
- Verify scientists' identities and their contributions;
- Measure the impact of research investments; and
- Capture conflicts of interest and possible overlaps in funding.

Most importantly, these pilots have the potential to reduce burden as well as potential errors that arise when researchers repeatedly enter their profile information into multiple electronic systems.

Descriptions of these pilots, and some potential applications, are provided below. By the end of calendar year 2018, it is expected that the pilots will have developed data models and NIH will have begun small-scale testing of workflows for these data. RBM will follow their progress and support as appropriate.

2. A Pilot with ORCID to Manage Curriculum Vitae Data

Rather than develop a profile data hub in isolation, NIH is partnering with ORCID (Open Researcher and Contributor Identification) to expand the ORCID data model to include additional Curriculum Vitae (CV) fields. The ORCID Reducing Burden and Improving Impact Tracking (ORBIT) pilot project² will expand the ORCID data model, which focuses on publications, to include data elements typically found on a CV, such as grants awarded, courses taught, presentations, university service, and other research products.

² <https://orcid.org/content/orbit-project>

ORCID is a not-for-profit organization that assigns unique persistent identifiers³ to researchers and scholars to link professional activities such as publications and patents while removing author ambiguity and facilitating easier information searches, reporting, and analysis. Persistent identifiers will ensure that a scientist working across multiple arenas—e.g. journals, books, foundations, etc.—will have their products automatically and accurately attributed to them. Over 7,000 journals use ORCID as part of their workflow, and with the user’s permission, they automatically populate ORCID user accounts with citations when publications are issued.

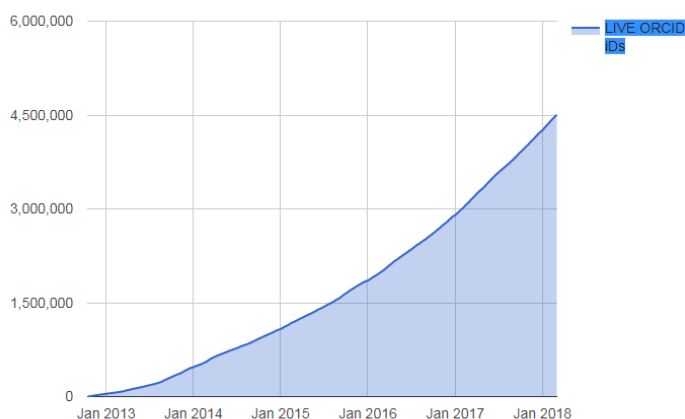


Figure 2: Growth of ORCID. ORCID has more than 10 times as many users as NIH’s grant system, and is growing fast.

As shown in Figure 2, ORCID’s user base has rapidly grown since 2012 and is now more than 10 times larger than the user base for NIH’s electronic Research Administration (eRA Commons) system. As of January 2018, ORCID has over 4.5 million live ORCID accounts linked to more than 28 million different research outputs (e.g., publications, data sets, patents, etc.).⁴ Because their user base is so much larger, it is more effective to develop profile systems in partnership with ORCID than tackle government system development and user expansion at the same time.

NIH eRA Commons is establishing a real-time link with ORCID, which allows users to associate ORCID with their eRA account. Investigators are encouraged to create an ORCID profile⁵, which takes about 30 seconds (creating a fully-fleshed out profile will take more time). Participants should expect to see additional functionality over time, such as assistance in completing NIH applications and reports, as well as allowing public data on NIH grant awards to populate ORCID.

3. A Pilot with CrossRef to Create a Universal Funding Identifier

Drawing lessons from science publishers, NIH is working on a pilot program with CrossRef⁶ and a coalition of funders to create a universal funding identifier.⁷ Publishers maintain hundreds of separate information systems, but they need a universal publication identifier to track citations efficiently and accurately. They assign Digital Object Identifiers (DOIs) to their papers through CrossRef and thereby avoid making extensive revisions to their own information systems. DOIs now serve as the universal publication identification system for research.

NIH believes the same can be done with DOIs across funders to create a universal grant identifier. If this pilot is successful, it would be simpler, cheaper, and more accurate to track products associated with individual grants by linking funding DOIs for publication and other research product DOIs. It would also be simpler, cheaper, and more accurate to compare investments across funders, because funders will

³ <https://support.orcid.org/knowledgebase/articles/150557>

⁴ <https://orcid.org/statistics>, accessed March 8, 2018.

⁵ <https://orcid.org/register>

⁶ <https://www.crossref.org/>

⁷ <https://www.crossref.org/community/funders/>

be using a consistent method for tracking and reporting their investments. Because the DOI system would overlay each funder’s existing information system, funders would not have to change their internal operations in any significant way.

4. Science Experts Network Curriculum Vitae (SciENcv)

Federal agencies already have considerable expertise in integrating profile data from multiple sources to generate reports. SciENcv is a Federal-government-wide, electronic researcher-profile project that enables researchers to more easily create and maintain biosketches to be submitted with Federal grant applications and annual reports for the National Institutes of Health (NIH), the Institute of Education Sciences (IES), and, on a pilot basis, the National Science Foundation (NSF). It is a free biosketch writer that is open to all researchers and was first released in September 2013. It eliminates the need for researchers to repeatedly enter biosketch information and reduces the administrative burden associated with Federal grant submission and reporting requirements.

SciENcv currently has over 86,000 users with biosketches across all three Federal agencies.

SciENcv was built and is currently maintained by the National Center for Biotechnology Information (NCBI), part of NIH’s National Library of Medicine. SciENcv uses data feeds from the National Library of Medicine’s My Bibliography and PubMed systems, eRA Commons, and ORCID to reduce data-entry burden. Figure 3 shows how SciENcv integrates data from NIH, ORCID, and RIS-format user uploads from reference management software. SciENcv then helps users turn these data into biosketches for participating agencies.

SciENcv was an early effort by RBM to harmonize the process for creating biosketches across research agencies. While it has achieved some successes, its burden reduction impact is limited by its focus on only Federal systems and reporting.

The pilots with ORCID and CrossRef will provide richer data to feed SciENcv and further simplify biosketch creation. The ORBIT pilot will allow SciENcv to eventually test sending data to ORCID as well as drawing data down from ORCID (Figure 4). With bilateral data exchange, updates researchers

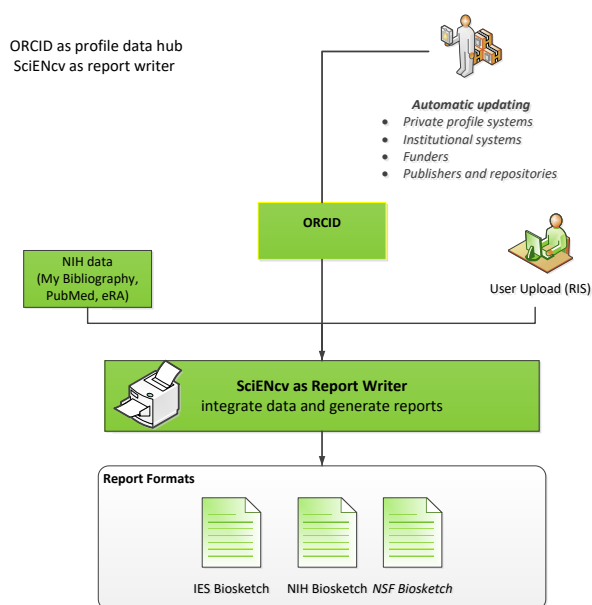


Figure 3: SciENcv currently integrates data from ORCID, NIH, and users to create biosketches. Data exchange is unidirectional; data do not pass from SciENcv and biosketches back to ORCID and other profile systems.

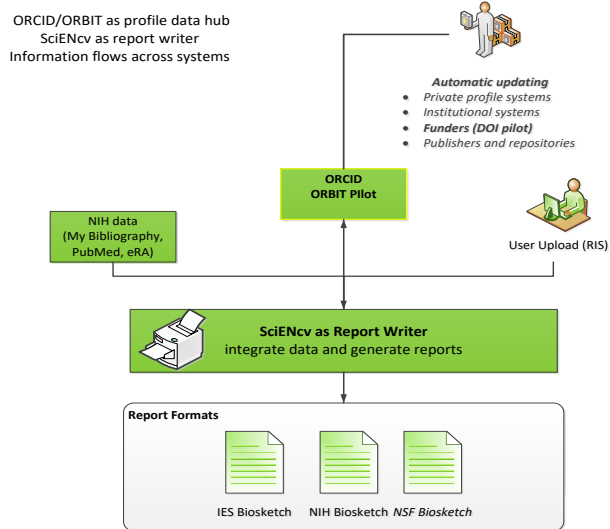


Figure 4: Under the ORBIT pilot, SciENcv could test bilateral data exchange with ORCID. It will also be able to import funding DOI information through the CrossRef pilot via ORCID, which could support new functionality over time.

make in NIH systems could feed ORCID, and by extension, update their faculty system profiles. With reliable funding data coming through the CrossRef system via DOIs, the SciENcv system could eventually be enhanced so as to populate other grant-application sections, such as “Current and Pending Support.”

5. Linking Profile Data to Maximize Results and Reduce Burden

Research products can be tracked through identifiers like Research Resource Identifiers and Digital Object Identifiers. People can be tracked through ORCID and funding through Digital Object Identifiers. This is the key to maximizing burden reduction. RBM is also working with the community to link every part of the research ecosystem (see Figure 1) through persistent identifiers.

A research product identifier (e.g., a DOI for a peer-reviewed journal article) can include ORCIDs of the creators and DOIs of the funding in their metadata. When such a product identifier becomes public, ORCID automatically includes the product citation in the creators ORCID profile, reducing researcher burden. When one product cites another (e.g., a paper using a dataset), those citations can also be tracked and used to measure impact.

By piloting development in partnership with trusted community-driven organizations, Federal research agencies can capitalize on the relationships these organizations already have with other data systems and providers (e.g., publishers, data repositories, and university profile systems). For example, publisher databases or funders can automatically update ORCID profiles through the DOI system, improving accuracy and reducing researcher burden.

Through the ORBIT expansion of ORCID to encompass a broader range of profile data, researchers would continue to maintain their profile data in the system they wish (e.g., their faculty profile system). Those data can be integrated with all other systems, including Federal funders, through community partners like ORCID (see Figure 5). Since ORCID data are public, Federal funders can use those data, and all the links between products, people, and funding, to better understand the impact of Federal research investment.

An added benefit to this approach is that ORCID users could share their profile data with networking services, leading to more efficient and equitable ways for people to find reviewers, collaborators, and mentors. Moreover, this richer data will make it easier for the scientific community to create measures and incentives for better scientific practices such as openness, rigor, and impact.

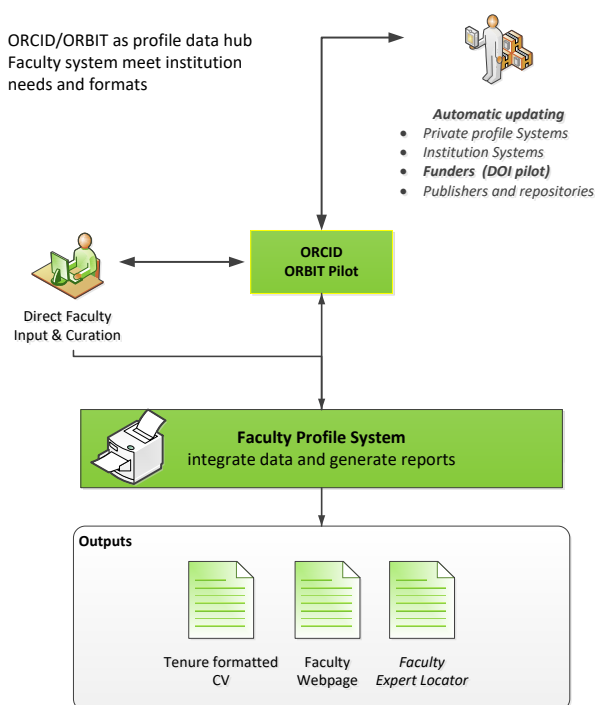


Figure 5: ORCID can serve as a data hub for multiple systems, reducing burden and increasing accuracy. ORCID is piloting a broader data model to capture CV elements, including funding DOIs from the CrossRef pilot. Each profile system exchanges public data with ORCID, and researchers can use their faculty profile system draw from ORCID data to create reports their institution like CVs or faculty webpages.

Development of a Simplified and Uniform Grant Application Format and Associated Processes to Streamline Grant Application and Review

1. Standardized Grants Management Business Processes

The President's Management Agenda prioritizes reducing burden and sets a cross-agency priority goal specific to Results-Oriented Accountability for Grants. This builds on initial work which began in 2017, when an interagency working group began an effort to identify a set of standard business capabilities for grants management, leveraging the Federal Integrated Business Framework (FIBF) model managed by the Unified Shared Services Management (USSM).⁸ This approach recognizes that much of the burden on recipients is a result of disparate internal business processes across the Federal government. Building off the standard business capabilities established in 2017, the community is currently developing standard data elements. This work is also leveraging the results of the DATA Act Section 5 Pilot⁹ in which OMB committed to take action to continue to standardize data elements and leverage standardized data to eliminate unnecessary duplication in reporting.

2. Uniform Grant Application Format

Mindful of the burdens created when grant applicants have to work with multiple, disparate grant application forms with varying data elements captured, and multiple, disparate agency computer systems, an interagency committee of approximately 15 research agencies undertook efforts to create a standard grant-application form in 2003 (the SF424RR, where RR stands for Research and Related). To date, the agencies have:

- Identified common data elements (must have been common to at least 3 agencies);
- Developed data standards;
- Developed a modular approach to the grant application forms to optimize flexibility for agencies while maintaining fed-wide standard approaches for the community;
- Developed standard approaches for combining fed-wide and agency specific forms to meet the information requirements of the research agencies; and
- Developed standard help text for the fed-wide forms.

NIH and NSF, the co-chairs of the RBM interagency committee, worked closely with the Federal Demonstration Partnership¹⁰ to refine approaches to the electronic implementation of the forms. They also hold training meetings for research institutions and system-improvement discussions with both the applicants and Federal community members.

3. Additional Processes to Streamline Grant Applications and Review

The AICA directed the Working Group to consider:

- Procedures for preliminary project proposals;
- Increased use of "Just-in-Time" procedures for submitting documentation not directly relevant to scientific merit; and
- Simplified initial budget submissions with detailed budget proposals for applicants identified as likely to be funded during peer review.

⁸ <https://www.ussm.gov/>

⁹ https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/sequestration_reports/2017_data_act_section5_report.pdf

¹⁰ http://sites.nationalacademies.org/pgs/fdp/pgs_054588

Several RBM member agencies have experimented with such innovations and have lessons to share from their experiences. RBM will explore these lessons and seek others about these approaches to reducing the burdens of initial applications. After assessing the available knowledge base, RBM will devise recommendations for how best to proceed with regard to streamlined grant applications and review.

Simplification of Mandatory Progress Reports for Agency Review, with an Emphasis on Performance Outcomes

The current mandated progress report is the Research Performance Progress Report (RPPR), which resulted from an RBM initiative to create greater consistency in the administration of Federal research awards. It enables grantees to submit annual, interim, and final performance reports to Federal funding agencies that support research and research-related activities.

Until 2011, researchers who received funding from more than one Federal agency had to use a wide variety of reporting forms or formats to report on the progress of their federally funded award. Knowing that unnecessary differences in research progress reporting contributes to administrative burden in the research community, takes valuable research time from investigators, and increases costs involved in the management of research programs, RBM developed a standardized reporting format that researchers could use to prepare interim (e.g., annual) progress reports to any Federal agency that supports research. As part of the development process, a draft standardized format, the Research Performance Progress Report (RPPR), was published in the Federal Register for public comment. The input provided was fully considered as part of the finalization process. The RPPR was published in final form in the Federal Register on January 13, 2010.

RPPR Report Components and Reporting Categories

Mandatory Category that must be used by all agencies:

- Accomplishments: What was done? What was learned?

Optional Categories that may be used by agencies:

- Products: What has the project produced?
- Participants & Other Collaborating Organizations: Who has been involved?
- Impact: What was the impact of the project? How has it contributed?
- Changes/Problems
- Special Reporting Requirements (where applicable)
- Budgetary Information
- Project Outcomes: What were the outcomes of the award? (for final reports only)
- Appendix: Demographic Information for Significant Contributors

RBM developed a standardized RPPR that would be both easier to produce and review. Implementation guidance was issued via a joint OSTP and OMB Memorandum in April 2010.^{11, 12}

¹¹ https://rbm.nih.gov/rppr_approval_memo.pdf

¹² The requirement for use of the RPPR was formalized in 2 CFR 2 00.328 by stipulating that, “The Federal awarding agency must use standard, OMB-approved data elements for collection of performance information (including performance progress reports, Research Performance Progress Report, or such future collections as may be approved by OMB and listed on the OMB Web site).”

The RPPR directly benefits the recipients of Federal grants and cooperative agreements by standardizing the types of information required in performance reports, reducing both administrative effort and costs. The RPPR also makes it easier to compare the results of Federal investment in research and research-related (e.g., research training) programs across government.

The standardized RPPR format was intended to replace other performance reporting formats currently in use by agencies supporting research and research-related activities. As designed and approved for agency implementation, the RPPR format asks researchers to report on recent progress at the frequency required or designated by the agency. Information, once reported, is not required to be submitted again for later progress reports. The RPPR was designed to be as flexible as possible and allow agencies to implement in a variety of formats to suit their individual needs. For example, agencies can use the format in either paper or electronic form, and can choose which of the optional categories to implement. Only one reporting category—Accomplishments—is required for all agencies in their implementation.

Agency adoption of the RPPR for interim progress reports was successful and led to a revised version of the format being republished in the Federal Register for public comment in 2016 to incorporate lessons learned by agencies during the initial implementation. The feedback received was fully considered in development of the revised format which was published in final form in the Federal Register in November 2016. As part of this revision, the RPPR was expanded to allow agencies to use the format for final performance reports in addition to interim reports. In addition, a new optional category was added to the format for the researcher to provide a brief summary of the cumulative outcomes or findings of the project. Some agencies (e.g., NSF and NIH) now post these outcomes on their websites for access by the public. Currently, the following agencies have implemented or are in the process of implementing the RPPR: Department of Agriculture (USDA), Department of Homeland Security (DHS), Department of Commerce (DOC), Department of Defense (DOD), Department of Energy (DOE), Department of Justice (DOJ), Environmental Protection Agency (EPA), Department of Education's IES, National Aeronautics and Space Administration (NASA), National Endowment for the Humanities (NEH), NIH (and other Public Health Service (PHS) agencies), and NSF.¹³

The NSF serves as the steward of the RPPR format, and all relevant documents are maintained on the NSF RPPR website.¹⁴ Agencies continue to be required to submit to OMB, in accordance with the Paperwork Reduction Act, revisions to their currently approved performance progress reporting information collections to comply with the uniform RPPR format.

The RPPR consists of eight sections: two mandatory (cover page and accomplishments) and six optional (products; participants and other collaborating organizations; impact; changes; self-reporting requirements; and budgetary information).¹⁵ Agencies have the ability to make any of the six optional sections mandatory as well as add additional questions not specified in the RPPR; this flexibility enables agencies to meet their needs while simultaneously reducing burden for grantees and agencies in preparing and reviewing progress reports. For example, NIH requires nine fields and a series of additional questions; NSF uses the standard RPPR format of two mandatory and six optional questions; USDA requires eight sections; and, the Department of Defense requires four RPPR sections and includes seven additional sections. The estimated time to complete the RPPR varied highly among Federal

¹³ National Science Foundation. 2017. "Research Performance Progress Report (RPPR)." Available at: <https://www.nsf.gov/bfa/dias/policy/rppr/>.

¹⁴ The NSF RPPR is available at: <https://www.nsf.gov/bfa/dias/policy/rppr/index.jsp>

¹⁵ National Academy of Sciences. 2016. "Optimizing the Nation's Investment in Academic Research: A New Regulatory Framework for the 21st Century." DOI: 10.17226/21824.

agencies. For example, the NIH estimates that it will take grantees approximately 15 hours to complete the RPPR¹⁶ while the USDA National Institute of Food and Agriculture estimated 3.1 hours per response.¹⁷

Further Recommendations to Minimize Regulatory Burden While Emphasizing Performance

The Working Group was further charged to regularly review relevant administrative regulations and make further recommendations to eliminate, streamline, or otherwise improve relevant regulations or processes, focusing on performance-based goals insofar as possible. The RBM has identified two areas in which there is opportunity for improvement based upon recommendations for reducing regulatory burden for Federally funded researchers made by three major reports—by the National Science Board¹⁸, the National Academy of Sciences¹⁹, and the Government Accountability Office²⁰ (see Appendix 1).

As a start, based on an initial assessment of these reports, RBM plans to examine options to reduce burdens associated with the following, which were identified in all three major reports as significantly burdensome and minimally helpful.

Clarify Responsibilities for Monitoring Subrecipients

OMB's 2014 Uniform Guidance (2 CFR 200)²¹ (UG) aimed to reduce administrative burden associated with Federal awards while reducing the risk of waste, fraud, and abuse. When issuing the UG, OMB allows for recipients to take a risk based approach to monitoring subrecipients. For instance, if a subrecipient is subject to (and in good standing in) the single audit, a pass-through entity may monitor a subrecipient less, recognizing that recipients must prioritize oversight of those subrecipients who are or higher risk. Reports from the field indicate that institutions (as pass-through entity) still feel they are responsible for separately auditing sub-recipients who are subject to the single audit or resolving cross cutting audit findings that do not pertain to their specific sub-award. Thus, they are still undertaking additional responsibilities that are not required.

RBM has agreed to investigate the factors that have inhibited the intended effect of the UG language on sub-recipient monitoring. The committee will then offer recommendations about what can be done to clarify the intent and reduce unnecessary, duplicative monitoring activities, which will reduce this administrative burden, enabling grantees to devote more attention to research performance and results.

¹⁶ National Institutes of Health. 2017. "NIH and Other PHS Agency Research Performance Progress Report (RPPR) Instruction Guide." Available at: https://grants.nih.gov/grants/rppr/rppr_instruction_guide.pdf.

¹⁷ Federal Register. 2017. "Submission for OMB Review; Comment Request. A notice by the Agriculture Department on 05/02/2017." Available at: <https://www.gpo.gov/fdsys/pkg/FR-2017-05-02/pdf/2017-08788.pdf>.

¹⁸ <https://www.nsf.gov/pubs/2014/nsb1418/nsb1418.pdf>

¹⁹ <https://www.nap.edu/catalog/21824/optimizing-the-nations-investment-in-academic-research-a-new-regulatory>

²⁰ <https://www.gao.gov/products/GAO-16-573>

²¹ <https://www.ecfr.gov/cgi-bin/text-idx?SID=9753a50d824a942cb367a62721b97431&mc=true&node=pt2.1.200&rgn=div5>

Improve Grantee Financial Conflict of Interest (FCOI) Regulations

Section 200.112 of the UG requires that agencies establish conflict of interest policies for Federal awards. To comply with this requirement, agencies have in turn drafted and implemented policies applicable to their agency awards. However, there is no single Federal policy for what constitutes a financial conflict of interest. As a result, agencies have adopted differing and, in some cases, inconsistent FCOI reporting requirements, forcing researchers and their sponsored programs offices to maintain awareness of a range of requirements and to develop systems to accommodate all of them.

RBM will examine the studies of the effectiveness of FCOI policies as well as the associated burdens and consider ways to harmonize requirements across agencies so as to reduce burdens.

Conclusion

Research regulations and procedures are necessary to ensure safety and promote efficiency and effectiveness of federally funded research projects, as well as to prevent fraud, waste, and abuse. However, incompatible reporting systems and requirements and excessively elaborate forms consume researcher time and effort without yielding significant benefits.

In support of activities specified in AICA's four topic areas, RBM has introduced and supported a variety of interagency projects, including efforts to create a centralized researcher profile database and a current pilot program, and developing a simplified and uniform grant application format. These efforts coupled with those to establish a centralized assurances repository and streamlined mandatory progress reports for agency review exemplify RBM's commitment to fully achieving AICA's priorities, reducing impediments to American science and technology advancements, and improving our Nation's economic competitiveness. Across the coming year, the RBM will make advances on the topics described in this report and identify additional areas to reduce bureaucracy and return invaluable time to the Nation's researchers and innovators.

Appendix 1

Summary of Recommendations from Recent Reports on Reducing Administrative Burdens to Researchers and Research Institutions

Reducing Investigators' Administrative Workload for Federally Funded Research (March 2014)

The **National Science Board** identified a number of areas that applicants and awardees considered to be sources of heavy administrative workload, including financial management, grant proposals and processing, progress reports, human subjects' research, time and effort reporting, animal welfare, personnel management, subcontracts, financial conflict of interest reporting, and laboratory safety and security. The Board urged Federal agencies to:

- “Focus on the Science” by simplifying grant proposals and progress reports, for example, by significantly reducing requirements that are not critical to a proposals merit review until the proposal has been positively reviewed and is being considered for funding.
- “Eliminate or Modify Ineffective Regulations” by re-evaluating approaches to time and effort reporting as well as to human subjects' protection, conflict of interest reporting, and safety and security requirements. Removing these burdens would simultaneously accelerate the pace of scientific discovery and innovation.
- “Harmonize and Streamline Requirements” for grant proposals and management, as the lack of consistency and standardization comes at a high cost to investigators and institutions. Several aspects of this could be addressed through a high-level, inter-agency, inter-sector, multi-stakeholder committee.
- “Increase University Efficiency and Effectiveness” through dissemination of effective practices and models, such as through Federal agency collaboration with stakeholders to identify and disseminate best practices.

Optimizing the Nation's Investment in Academic Research: A New Regulatory Framework for the 21st Century (2016)

A panel convened by the **National Academies of Science** provided a comprehensive review, describing in detail ways that the government-research university partnership is “under stress.” They expressed that “Federal laws, regulations, rules, policies, guidance, and reporting requirements, while essential to a well-functioning, responsible system of research, have led over time to an environment wherein a significant percentage of an investigator's time is complying with regulations, taking valuable time away from research, education, and scholarship.” The NAS authors offered a number of valuable overarching insights with regards to this landscape: 1) There is value in collecting and analyzing data on the cumulative effect of research regulations; 2) There is a need to identify and consider unintended consequences; 3) Academic research institutions are diverse—in geographic location, public or private status, size, legal structure, mission, financial and physical resources, and research interests. This diversity affects the ability of institutions to respond to regulatory requirements; 4) Academic research institutions often receive funding from different Federal agencies that at times issue inconsistent, duplicative, or unclear regulations and policies; and 5) Some academic institutions and research communities have failed to adequately address transgressions or failures of scientists to meet reasonable standards and norms. Their recommendations are highlighted below, and for each, specific and detailed actions were recommended in their full report:

- The regulatory regime governing federally funded academic research should be critically reexamined and recalibrated.
- Research institutions must demand the highest standards in institutional and individual behavior, and those universities that deviate from or fail to enforce the norms of behavior should be sanctioned.
- Creation of a new mechanism, to include an active public-private forum and a designated official within government, to foster a more effective conception, development, and harmonization of research policies.

Opportunities Remain for Agencies to Streamline Administrative Requirements (July 2016)

The **US Government Accountability Office** (GAO) issued a report that investigated research grant requirements and their administrative workloads and costs. It also examined: (1) the sources and goals of selected requirements, (2) factors affecting universities' administrative workload and costs for complying with the requirements, and (3) efforts by OMB and research funding agencies to reduce the requirements' administrative workload and costs, and the results of these efforts. GAO selected and examined in detail nine areas of administrative requirements at DOE, NASA, NIH, and NSF, and interviewed administrative staff and researchers from six universities. GAO selected agencies and universities ranged in the amount and type of research funding provided or received. The report was based on interviews of officials from universities and stakeholder organizations. The interviewees identified three common factors that in their view unnecessarily add administrative workload:

- Variations in agencies' requirements;
- Pre-award documentation requirements that accompany grant proposals; and
- Increased prescriptiveness of certain requirements.

The GAO noted that OMB and research funding agencies are already taking steps to standardize requirements, to postpone certain pre-award requirements, and to allow universities greater flexibilities, yet states that "opportunities exist in each of the three areas to further reduce universities' administrative workloads and costs." Nine specific recommendations were made for executive action, identifying additional areas where requirements, such as those for budgets or purchases, can be standardized, postponed, or made more flexible, while maintaining oversight of Federal funds. DOE, NASA, and NIH generally concurred, and OMB and NSF did not comment on the recommendations.