



June 2016

# FEDERAL RESEARCH GRANTS

Opportunities Remain  
for Agencies to  
Streamline  
Administrative  
Requirements

# GAO Highlights

Highlights of [GAO-16-573](#), a report to congressional requesters

## Why GAO Did This Study

The federal government obligated over \$27 billion for university research in fiscal year 2015, according to NSF. To allow for oversight of these funds, Congress and research funding agencies established administrative requirements that universities must comply with as part of grants they apply for and receive. University stakeholders have studied and raised concerns about the workload and costs to comply with the requirements.

GAO was asked to review research grant requirements and their administrative workloads and costs. This report examines (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 that ranged in the amount and type of research funding provided or received.

## What GAO Recommends

GAO recommends that OMB, DOE, NASA, NIH, and NSF identify 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.

View [GAO-16-573](#). For more information, contact John Neumann at (202) 512-3841 or [neumannj@gao.gov](mailto:neumannj@gao.gov).

June 2016

## FEDERAL RESEARCH GRANTS

### Opportunities Remain for Agencies to Streamline Administrative Requirements

## What GAO Found

Administrative requirements for federal research grants include (1) Office of Management and Budget (OMB) government-wide grant requirements for protecting against waste, fraud, and abuse of funds and (2) agency-specific requirements generally for promoting the quality and effectiveness of federally funded research. For example, OMB requires grantees to maintain records sufficient to detail the history of procurement for all purchases made with grant funds, and the Department of Energy (DOE), National Aeronautics and Space Administration (NASA), National Institutes of Health (NIH), and National Science Foundation (NSF) require applicants to develop and submit biographical sketches describing their professional accomplishments so agencies can consider researchers' qualifications when deciding which proposals to fund.

Officials from universities and stakeholder organizations GAO interviewed identified common factors that add to their administrative workload and costs for complying with selected requirements: (1) variation in agencies' implementation of requirements, (2) pre-award requirements for applicants to develop and submit detailed documentation for grant proposals, and (3) increased prescriptiveness of certain requirements. They said that these factors add to universities' workload and costs in various ways, such as by causing universities to invest in new electronic systems or in the hiring or training of staff. For example, university officials told GAO that new OMB requirements for purchases made with grant funds will result in added costs for hiring administrative staff to handle an increased volume of purchases that are subject to some form of competition.

OMB and research funding agencies have made continuing efforts to reduce universities' administrative workload and costs for complying with selected requirements, with limited results. These included efforts in three areas: (1) standardizing requirements across agencies; (2) postponing certain pre-award requirements until after making a preliminary decision about an applicant's likelihood of funding; and (3) in some cases, allowing universities more flexibility to assess and manage risks for some requirements. For example, funding agencies have developed a standard set of administrative terms and conditions for research grants and a standard form for research progress reports. Such efforts are in accordance with federal goals, such as those in a 2011 executive order that calls for agencies to harmonize regulations and consider regulatory approaches that reduce burdens and maintain flexibility. However, opportunities exist in each of the three areas to further reduce universities' administrative workload and costs. First, efforts to standardize requirements have not fully addressed variations in agency implementation of requirements, such as agencies' forms and systems for collecting project budgets and biographical sketches. Second, funding agencies have not fully examined pre-award requirements to identify those—such as requirements for detailed budgets—that can be postponed. Third, some requirements—such as those for obtaining multiple quotations for small purchases—limit universities' flexibility to allocate administrative resources toward oversight of areas at greatest risk of improper use of research funds. Further efforts to standardize requirements, postpone pre-award requirements, and allow more flexibility for universities could help ensure agencies do not miss opportunities to reduce administrative workload and costs.

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### Abbreviations

DOE	Department of Energy
HHS	Department of Health and Human Services
NASA	National Aeronautics and Space Administration
NIH	National Institutes of Health
NSF	National Science Foundation
OMB	Office of Management and Budget
OSTP	Office of Science and Technology Policy
RBM	Research Business Models working group
SF-424	Standard Form 424
Uniform Guidance	<i>Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards</i>

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June 22, 2016

The Honorable Barbara Comstock  
Chairwoman  
Subcommittee on Research and Technology  
Committee on Science, Space, and Technology  
House of Representatives

The Honorable Mo Brooks  
House of Representatives

The Honorable Larry Bucshon  
House of Representatives

University research contributes to American competitiveness and leadership in science, and the federal government has long played a central role in funding and setting priorities for university research.<sup>1</sup> According to National Science Foundation (NSF) data, the federal government funds the majority of research performed by colleges and universities, obligating over \$27 billion for such research in fiscal year 2015.<sup>2</sup> Many agencies fund specific types of research to support their missions. For example, the National Institutes of Health (NIH) within the Department of Health and Human Services (HHS) funds research into new medical treatments, and the Department of Energy (DOE) funds research into clean energy technologies. NSF funds a wide range of research as part of its mission to promote the progress of science in general.

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<sup>1</sup>Federal agencies provide research funding through several mechanisms, including grants, cooperative agreements, and contracts. We focused our review on agencies' use of grants and cooperative agreements to fund research and, for purposes of our report, refer to both mechanisms as grants. Agencies in our review provide the majority of their research funding to universities through grants and cooperative agreements, according to officials.

<sup>2</sup>National Science Foundation, National Center for Science and Engineering Statistics, *Higher Education Research and Development Survey, Fiscal Year 2014* (November 2015) and *Survey of Federal Funds for Research and Development, Fiscal Years 2014–16* (April 2016). NSF data include funds for basic research, applied research, and development. For purposes of our report, we refer to these generally as research funding. NSF's data for fiscal year 2015 are preliminary.

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To allow for oversight of federal research funding, Congress and federal agencies have established a variety of administrative requirements for the use of these funds.<sup>3</sup> Some requirements were established or strengthened in response to cases of researchers improperly spending funds or out of concerns about the integrity of the research being conducted. Others were established to meet broader policy objectives, such as increasing access to research data and results. University administrators and researchers must comply with certain requirements when developing and submitting grant applications and with others as part of the terms and conditions of any awards they receive. For example, agencies generally require that applicants provide biographical sketches describing their professional accomplishments when submitting grant proposals, and require that grantees document the personnel expenses—such as researcher salaries—and the purchases—such as equipment and supplies—charged to a grant.

During the last two decades, organizations that have studied these administrative requirements have raised concerns about the workload and costs for researchers and universities to comply with the requirements and about the effect of requirements on researchers' ability to efficiently conduct research. For example, the National Science Board reported in 2014 that the administrative workload placed on federally funded researchers is more than needed to ensure accountability, transparency, and safety.<sup>4</sup> This report, based on a survey of federally funded researchers and on discussions with universities' administrative staff members, recommended that agencies take actions to reduce the administrative workload associated with applying for grants and reporting on research progress, eliminate or modify ineffective requirements, and improve coordination and harmonization of similar requirements across funding agencies. Other organizations representing the university research community have raised similar concerns.

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<sup>3</sup>Some provisions governing these funds appear in statutes or regulations, while others appear in agency guidance documents. For purposes of this report, we refer to all of these provisions as "requirements."

<sup>4</sup>National Science Board, *Reducing Investigators' Administrative Workload for Federally Funded Research*, NSB-14-18 (Mar. 10, 2014). The National Science Board establishes the policies of NSF within the policy framework set forth by the President and Congress, and serves as an independent policy advisory body to the President and Congress on science and engineering research and education issues.

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Several executive orders and a presidential memorandum have called for streamlining regulations and guidance to reduce grant recipients' administrative workload and costs. For instance, Executive Order 13563 of January 18, 2011 called for greater coordination across agencies to reduce costs and simplify and harmonize rules, and for agencies to identify and consider regulatory approaches that reduce burdens and maintain flexibility. In addition, in December 2013, the Office of Management and Budget (OMB) consolidated its grants management circulars into a single document—the *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance)—to streamline its guidance, promote consistency among grantees, and reduce administrative burden on nonfederal entities, as well as to strengthen oversight of federal funds to reduce risk of waste, fraud, and abuse.<sup>5</sup> Despite these and other federal efforts to streamline research requirements, universities and stakeholder organizations continue to cite increasing administrative workload and costs for complying with requirements. Federal agencies reimburse universities for their administrative costs up to a cap established in OMB guidance, and universities pay the remainder.<sup>6</sup>

You requested that we review requirements on federal research funding that create administrative workload and costs for universities. This report examines (1) the sources and goals of selected research grant requirements, (2) the factors that contribute to universities' administrative workload and costs for complying with these requirements, and (3) efforts OMB and research funding agencies have made to reduce the

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<sup>5</sup>The Uniform Guidance is implemented through individual federal agency regulations that were to take effect no later than December 26, 2014. OMB developed the Uniform Guidance with input from the Council on Financial Assistance Reform, an interagency council that OMB established in October 2011 and that has led several efforts to improve delivery, management, coordination, and accountability of federal grants and cooperative agreements. The council is composed of the eight largest federal grant-making agencies and one rotating small grant-making agency. Office of Management and Budget, *Creation of the Council on Financial Assistance Reform*, OMB Memorandum M-12-01 (Washington, D.C.: 2011).

<sup>6</sup>We have previously reported on agencies' reimbursement of administrative and other indirect costs associated with university research. See GAO, *University Research: Policies for the Reimbursement of Indirect Costs Need to Be Updated*, [GAO-10-937](#) (Washington, D.C.: Sept. 8, 2010).

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administrative workload and costs for complying with these requirements, and the results of these efforts.

We selected and examined in detail administrative requirements in nine categories that multiple universities and university stakeholder organizations have cited as contributing to universities' administrative workload and costs, have been the subject of recent streamlining efforts or changes in OMB or agency guidance,<sup>7</sup> or have been part of the findings of recent reports by agency inspectors general. For example, these include requirements related to research project budgets, research personnel, and oversight of subrecipients. Our findings from our reviews of these requirements cannot be generalized to all administrative requirements.

To examine the sources and goals of selected requirements, we reviewed guidance documents, regulations, *Federal Register* notices, and other documentation of research requirements at OMB and four research funding agencies: DOE, the National Aeronautics and Space Administration (NASA), NIH, and NSF. We selected NIH and NSF because they are the two largest funders of research at universities and colleges, according to NSF data. We selected DOE and NASA as examples of agencies with smaller amounts of university research funding and different types of research. According to the NSF data, these four agencies provided about 83 percent of federal funding for research at universities and colleges in fiscal year 2015. We interviewed officials from these agencies and from their offices of inspector general on the sources and goals of these requirements. Our findings from our reviews of these four agencies cannot be generalized to all agencies that fund research.

To examine the factors that contribute to universities' administrative costs for complying with selected requirements, we selected a nongeneralizable sample of six public and private universities that range in the amount of research funding they receive and other characteristics. We identified and selected these universities using NSF data on federal research funding provided to universities, information on their membership in the Federal

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<sup>7</sup>For the purposes of this report, we use the term guidance to refer to agency and OMB regulation, formal policy, and informal policy.

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Demonstration Partnership,<sup>8</sup> and audit reports on university research grants conducted by agencies' inspectors general. We conducted in-depth interviews with administrative staff and researchers from these universities to collect qualitative information on the types of administrative workload and costs resulting from selected requirements, and we reviewed university policies and documentation related to their processes for complying with selected requirements. We also interviewed officials from several university stakeholder organizations. We identified these organizations based on discussions with agency officials and reviews of published reports, and selected those organizations that had studied administrative workload and costs related to our selected categories of requirements.

To examine the efforts that OMB and research funding agencies have made to reduce the administrative costs of complying with selected requirements and the results of these efforts, we interviewed officials from selected universities and stakeholder organizations about OMB and funding agency efforts, the efforts' effects on universities' administrative workload and costs, and universities' and stakeholder organizations' suggestions for further efforts. We interviewed agency officials and reviewed agency documents regarding processes for developing and modifying requirements and efforts to reduce the costs of complying with requirements. We also interviewed staff from OMB and the Office of Science and Technology Policy (OSTP) about their roles in establishing and coordinating government-wide research policies. For more information on our scope and methodology, including a full list of the universities and stakeholder organizations included in our review, see appendix I.

We conducted this performance audit from April 2015 to June 2016 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain

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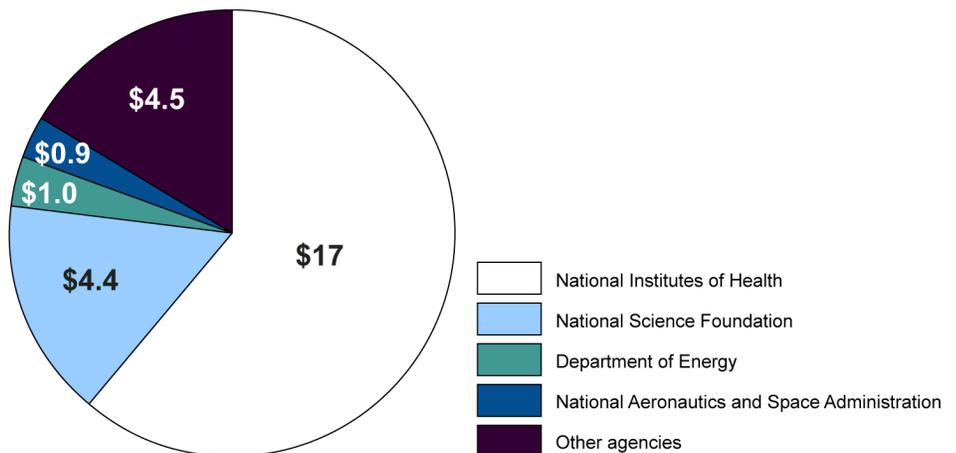
<sup>8</sup>The Federal Demonstration Partnership is a cooperative initiative of 10 federal agencies and 155 institutional recipients of federal funds, whose purpose is to reduce the administrative burdens associated with research grants and contracts. The Federal Demonstration Partnership has initiated several efforts, in coordination with federal agencies, to pilot streamlined approaches for administering research grants over the past three decades. In some cases, these pilots have become the basis for broader reforms of agencies' research grant requirements. The Federal Demonstration Partnership is sponsored in part by the National Academies.

sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

## Background

More than two dozen federal agencies use grants and other mechanisms to fund research at universities and colleges, as well as at other nonprofit and for-profit organizations, in support of agency missions related to public health, energy security, and space exploration, among others. NIH provides more than half of all federal funds for university and college research, and NSF, DOE, NASA, and other agencies provide the remaining funding (see fig. 1).

**Figure 1: Federal Obligations for Research at Universities and Colleges, by Agency, in Billions, Fiscal Year 2015**



Sources: National Science Foundation, National Center for Science and Engineering Statistics, *Survey of Federal Funds for Research and Development, Fiscal Years 2014–2016*. | GAO-16-573

Note: National Science Foundation data for fiscal year 2015 are preliminary.

OSTP is responsible for advising the President on the federal budget for research and shapes research priorities across agencies with significant portfolios in science and technology. OSTP also helps develop and implement government-wide science and technology policies and coordinate interagency research initiatives. OMB is responsible for developing government-wide policies to ensure that grants—including grants for research and for other purposes such as housing, education, transportation, and health care—are managed properly and that grant funds are spent in accordance with applicable laws and regulations. For

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decades, OMB has published guidance in various circulars to aid grant-making agencies with such subjects as record keeping and the allowability of costs, which for research grants may include researcher salaries and wages, equipment, travel, and other costs.<sup>9</sup> Congress may pass laws establishing additional reporting and oversight requirements on grant-making agencies and grantees. Funding agencies implement these requirements through regulations, agency guidance, and the terms and conditions of grant awards. In addition, funding agency offices of inspector general may conduct audits to evaluate grantee compliance with requirements. When audits result in findings of noncompliance, such as grantees charging unallowable costs to grants, grantees may need to repay funding agencies for these costs.

Competitively awarded federal research grants generally follow a life cycle comprising various stages—pre-award, award, post-award implementation, and closeout. For competitive research grant programs, in the pre-award stage, a funding agency notifies the public of the grant opportunity through an announcement, and potential recipients submit applications for agency review. In the award stage, the agency identifies successful applicants and awards funding. The post-award implementation stage includes payment processing, agency monitoring, and recipient reporting, which may include financial and performance information. Grant closeout includes preparation of final reports and financial reconciliation. Over this life cycle, applicants and recipients must complete various administrative tasks in order to comply with OMB and funding agency requirements, particularly in the pre-award and post-award implementation stages. See figure 2 for an overview of the administrative tasks associated with our nine selected categories of requirements across the grant life cycle.

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<sup>9</sup>In 1971, OMB published standards for establishing consistency and uniformity in the administration of grants and other types of financial assistance to state and local governments and certain Indian tribunals. The first circular was No. A-102, *Uniform Administrative Requirements for Grants-In-Aid to State and Local Governments*. In 1976, OMB published Circular No. A-110, *Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals and Other Nonprofit Organizations*. Other key circulars and guidance include OMB Circulars Nos. A-21, A-87, and A-122, establishing principles for determining costs applicable to grants, contracts, and other agreements with educational institutions; state, local, and tribal governments; and nonprofit organizations, and OMB Circular No. A-133, setting standards for obtaining consistency and uniformity among federal agencies for the audit of states, local governments, and nonprofit organizations expending federal awards.

**Figure 2: Sources of Selected Federal Research Requirements and Key Administrative Tasks for Complying with Them over the Grant Life Cycle**

Source	Requirement category	Pre-award	Award	Post-award implementation	Closeout
OMB's Uniform Guidance, implemented through funding agency guidance <sup>a</sup>	Competing and documenting purchases			Obtain price or rate quotations, competitive bids, or competitive proposals for certain purchases of goods and services, and maintain documentation of purchases	
	Documenting personnel expenses			Document salaries and wages charged to grants based on records that accurately reflect the work performed	
	Preparing and managing project budgets	Develop and justify proposed project budget and submit it to agencies		Manage project budget and report to agencies on the use of funds	
	Subaward reporting <sup>b</sup>			Report information on subaward recipients and amounts of funds they received to a federal website	
	Subrecipient monitoring			Evaluate subrecipient risk of noncompliance with federal statutes, regulations, and the terms and conditions of the subaward; monitor subrecipient progress and use of funds; and review subrecipient audits	
Research funding agency guidance <sup>c</sup>	Biographical sketches	Develop and submit information on experience, publications, and accomplishments of project personnel			
	Financial conflicts of interest <sup>d</sup>	Disclose and review financial interests to identify conflicts and develop a plan to manage conflicts <sup>e</sup>		Regularly update financial interest disclosures, review financial interests to identify conflicts, and implement conflict management plans	
	Managing and sharing research data and results	Develop and submit a plan to manage and share data and other research results		Manage and share data and research results in accordance with plan	
	Researcher mentoring and development	Develop and submit a plan for mentoring and developing researchers		Mentor and develop researchers in accordance with plan	

Source: GAO analysis of Office of Management and Budget (OMB) and funding agency requirements. | GAO-16-573

Notes: Funding agencies and OMB have requirements that apply to grantees at the award and closeout stages, but we did not focus our review on requirements at these stages. This figure describes the tasks OMB and agencies generally require of applicants and grantees. Specific tasks vary depending on agencies' implementation of requirements, and not every agency has established requirements for every category shown.

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<sup>a</sup>OMB consolidated its grants management circulars into a single document, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance) in 2013. 78 Fed. Reg. 78,590 (Dec. 26, 2013).

<sup>b</sup>The Federal Funding Accountability and Transparency Act of 2006, as amended, contains government-wide subaward reporting requirements, including that recipients report subaward information and agencies make it available on a public website in the same manner as data regarding other federal awards.

<sup>c</sup>In some cases, funding agencies established requirements in their guidance in response to specific executive or legislative directives. For example, agencies developed requirements for managing and sharing research data and results to implement a 2013 Office of Science and Technology Policy memorandum directing agencies to support increased public access to the results of federally funded research. In addition, in the America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science Act of 2007, Congress directed the National Science Foundation (NSF) to require postdoctoral mentoring plans in any proposals that include postdoctoral researchers.

<sup>d</sup>The Uniform Guidance contains a general provision for agencies to establish policies that apply to conflicts that might arise around how recipients expend award funds. Nevertheless, we categorized the source of conflict of interest requirements as agency-specific guidance, because agencies have established specific requirements for how grantees must identify and manage conflicts of interest.

<sup>e</sup>The National Institutes of Health requires institutions to review financial interests to identify conflicts and develop a plan to manage them prior to expending award funds, but not necessarily prior to award. Similarly, NSF requires institutions to manage, reduce, or eliminate conflicts of interest prior to expending award funds, but not necessarily prior to award.

Stakeholder organizations representing universities and federal agencies have raised concerns about the administrative workload and costs for complying with federal research requirements, and they have issued several reports with recommendations for agencies to modify requirements in order to achieve their goals while reducing administrative workload and costs. For example, in 2012, the Federal Demonstration Partnership surveyed principal investigators of federally funded research projects.<sup>10</sup> The report on this survey found that principal investigators estimated they spent, on average, 42 percent of their time meeting requirements—including those associated with pre- and post-award administration and preparation of proposals and reports—rather than conducting active research.<sup>11</sup> However, the survey did not specify how much of this time was due to administrative tasks driven by university-specific processes or policies rather than federal requirements, or to nonadministrative tasks that contribute to the scientific aspects of the

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<sup>10</sup>NIH defines a principal investigator as the individual designated by the grantee institution (or applicant organization) to have the level of authority and responsibility to direct the project or program to be supported by the grant award.

<sup>11</sup>Federal Demonstration Partnership, *2012 Faculty Workload Survey: Research Report*, (April 2014). The study's authors solicited responses from 53,428 principal investigators and received an overall response rate of 31 percent.

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research, such as writing scientific material for proposals and reports. In addition, the survey did not include universities' administrative research staff members, who help universities comply with federal and other administrative requirements on research awards. In March 2013, the National Science Board issued a request for information to identify which federal agency and institutional requirements contribute most to principal investigators' administrative workload, and conducted a series of roundtable discussions with faculty and administrators. The board found that the most frequently cited areas associated with high administrative workload included financial management, the grant proposal process, progress and other outcome reporting, and personnel management, among others.<sup>12</sup>

There has been a series of legislative and executive goals and directives for agencies to simplify aspects of the grants management life cycle and minimize administrative burden for grantees, particularly those that apply for and obtain grants from multiple federal agencies. Table 1 lists several of these goals and directives related to streamlining administrative grant requirements.

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<sup>12</sup>National Science Board, *Reducing Investigators' Administrative Workload for Federally Funded Research*. The study's authors issued a request for information, through NSF, to principal investigators with federal research funding. They reported receiving 210 responses: 192 from individuals, 12 from institutions providing institutional responses, and 6 from stakeholder organizations providing responses on behalf of their members, which may have been based on a survey the organizations conducted. The report did not specify how many individuals received the request for information or what the overall response rate was. The study's authors also conducted a series of roundtable discussions with over 200 faculty and administrators.

**Table 1: Selected Federal Goals and Directives Related to Streamlining Administrative Requirements on Grants**

Source	Streamlining goal or directive
Federal Financial Assistance Management Improvement Act of 1999 <sup>a</sup> (November 20, 1999)	The act’s purpose was to improve the effectiveness and performance of federal financial assistance programs, simplify federal financial assistance application and reporting requirements, improve the delivery of services to the public, and facilitate greater coordination among those responsible for delivering such services. The act required agencies to establish a common application reporting system, including uniform administrative rules for federal financial assistance programs.
Executive Order 13563 (January 18, 2011)	The order calls for greater coordination across agencies to reduce redundant, inconsistent, or overlapping regulatory requirements.  The order also calls for agencies to (1) identify and consider regulatory approaches that reduce burdens and maintain flexibility and freedom of choice for the public, where relevant, feasible, and consistent with regulatory objectives, and to the extent permitted by law; and (2) consider how best to promote retrospective analysis of rules that may be outmoded, ineffective, insufficient, or excessively burdensome, and to modify, streamline, expand, or repeal them accordingly.
Presidential Memorandum on Administrative Flexibility, Lower Costs, and Better Results for State, Local, and Tribal Governments (February 28, 2011)	This memorandum directs the Office of Management and Budget (OMB) to review and where appropriate revise guidance concerning grants and other financial assistance awards—including grants to universities—in order to eliminate, to the extent permitted by law, unnecessary, unduly burdensome, duplicative, or low-priority recordkeeping requirements and effectively tie such requirements to achievement of outcomes.
Digital Accountability and Transparency Act of 2014 (May 9, 2014)	The act’s purposes include simplifying reporting for entities receiving federal funds by streamlining reporting requirements and reducing compliance costs while improving transparency. It requires OMB to (1) review the information required to be reported by recipients of federal awards to identify unnecessarily duplicative or burdensome reporting requirements, and (2) establish a pilot program to address such unnecessary duplication in financial reporting and reduce compliance costs for recipients of federal awards.

Source: GAO analysis of laws, executive orders, and a presidential memorandum. | GAO-16-573

<sup>a</sup>The act—commonly referred to by the grants community as P.L. 106-107—expired in 2007, but a number of reform initiatives that began in response to the act continue. As defined in the act, “federal financial assistance” includes grants, cooperative agreements, loans, loan guarantees, insurance, interest subsidies, and other forms of assistance. Pub. L. No. 106-107, § 4(3), 113 Stat. 1486 1487 (1999), citing 31 U.S.C. § 7501(a)(5).

There have also been several recent directives intended to strengthen accountability over federal funds. For example, Executive Order 13520 of November 20, 2009 adopts a set of policies for transparency and public scrutiny of significant payment errors throughout the federal government and for identifying and eliminating the highest improper payments.

In response to such streamlining and accountability directives, in December 2013, OMB consolidated its grants management circulars into a single document, the Uniform Guidance. The requirements in the Uniform Guidance apply broadly to different types of grantees—including state, local, and tribal governments, institutions of higher education, and nonprofit organizations—and different types of grants—including grants for research or other purposes. The Uniform Guidance is implemented

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through individual federal agency regulations that were to take effect no later than December 26, 2014.<sup>13</sup> When issuing the final guidance, OMB stated that it would (1) monitor the effects of the reforms in the Uniform Guidance to evaluate the extent to which the reforms were achieving their desired results for streamlining and accountability and (2) consider making further modifications as appropriate.

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## OMB's Government-Wide Requirements Generally Govern the Proper Use of Grant Funds, and Agency-Specific Requirements Generally Govern Research Quality and Effectiveness

Selected administrative requirements in OMB's government-wide grant guidance generally focus on protecting against waste, fraud, and abuse of funds. These include requirements we selected related to competing and documenting purchases, documenting personnel expenses, preparing and managing project budgets, reporting on subawards, and monitoring subrecipients. Selected administrative requirements in agency-specific guidance generally focus on promoting the quality and effectiveness of federally funded research. These include requirements related to developing and submitting biographical sketches; mentoring and developing researchers; identifying, reporting, and managing financial conflicts of interest; and managing and sharing research data and results.

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## Selected Administrative Requirements in OMB's Government-Wide Grant Guidance Generally Focus on Protecting against Waste, Fraud, and Abuse of Funds

OMB developed the Uniform Guidance to (1) streamline OMB's guidance for federal awards to ease administrative burden and (2) strengthen oversight of federal funds to reduce risks of waste, fraud, and abuse.<sup>14</sup> OMB developed the Uniform Guidance over more than 2 years, and it reflects input from federal agencies, auditors, and recipients of federal awards, which OMB solicited in an effort to balance its dual goals of streamlining and accountability. The Uniform Guidance includes provisions related to a range of administrative requirements on research grants, including ones we selected related to competing and documenting purchases, documenting personnel expenses, preparing and managing project budgets, subaward reporting, and subrecipient monitoring. OMB

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<sup>13</sup>78 Fed. Reg. 78,590 (Dec. 26, 2013).

<sup>14</sup>78 Fed. Reg. 78,590 (Dec. 26, 2013).

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required each individual funding agency to implement the Uniform Guidance by adopting regulations that apply to the agency's awards.<sup>15</sup> See appendix II for additional information on selected requirements in the Uniform Guidance.

The requirements in the Uniform Guidance aim to protect against waste, fraud, and abuse in various ways, as follows.

- **Budgets.** Funding agencies implement Uniform Guidance requirements for budget preparation and management by designing forms and processes to review applicants' requests for funding, and grantees' use of funding, to determine, among other things, whether costs are allowable. These requirements allow for identification of questionable requests for funding in applications or unallowable post-award charges to grants.
- **Personnel expenses.** To document personnel expenses, grantees must maintain a system of internal controls over their records used to justify the costs of salaries and wages so these records accurately reflect the work performed. Salary and wage costs generally represent the largest portion of expenditures on research grants according to agency officials, and NSF and HHS offices of inspector general have reported on the need for oversight to prevent improper or fraudulent salary charges. For example, the NSF Office of Inspector General has documented instances of researchers charging their full-time salaries to federal grants at one university while simultaneously working full-time at another university or for-profit company.
- **Purchases.** To meet documentation requirements for purchases made with grant funds, grantees must maintain records detailing the procurement history for all purchases.<sup>16</sup> Funding agencies and their inspectors general use such purchasing records for oversight, including detection and prosecution of fraudulent purchases. Audit reports by the NSF and HHS offices of inspector general have found

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<sup>15</sup>OMB allowed funding agencies some flexibility in their implementation of the guidance by permitting agencies to seek OMB approval for exceptions to certain requirements under certain circumstances.

<sup>16</sup>Specifically, the Uniform Guidance requires recipients to maintain records including, but not limited to, the rationale for the method of procurement, selection of contract type, contractor selection or rejection, and the basis for the contract price.

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instances of researchers using grant funds for personal purchases. In addition, the Uniform Guidance requires that purchases be conducted in a manner providing full and open competition, and establishes five methods for purchasing goods or services. These methods include obtaining price or rate quotations, competitive bids, or competitive proposals for certain purchases.

- **Subrecipients.** Universities frequently collaborate with and provide federal research funds to other institutions, domestic and foreign, through subawards. Awarding agencies rely on grantees to monitor subrecipients to ensure that they use research funds for authorized purposes and stay on track to meet performance goals. In addition, requirements for grantees to report on their subawards provide agencies, Congress, and the public more information on subrecipients' use of taxpayer dollars.

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### Selected Administrative Requirements in Agency-Specific Guidance Generally Focus on Promoting the Quality and Effectiveness of Federally Funded Research

Funding agencies have established administrative requirements—in some cases, in response to directives from Congress and OSTP—to promote the selection and development of qualified researchers, protect against bias in the conduct of research, and improve access to research results. Agencies implement these requirements through their grants guidance documents and the terms and conditions of their awards. See appendix II for additional information on selected agency-specific requirements.

- **Promoting the selection and development of qualified researchers.** Funding agencies require applicants to submit biographical sketches so the agencies have information they need to select well-qualified researchers. All four funding agencies in our review have agency-specific requirements for biographical sketches in their grants guidance, including requirements for applicants to list information about past publications and current and prior academic or professional positions. Also, to promote the professional development of researchers, two of the four agencies have requirements related to researcher development or mentoring plans. First, as directed in the America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science Act of 2007, NSF requires that all proposals with postdoctoral researchers include a plan describing the mentoring to be provided to these researchers. Second, NIH encourages institutions to use individual development plans to identify and promote the career goals of graduate students and postdoctoral researchers associated with NIH awards, and requires grantees using

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individual development plans to describe their use of these plans in annual progress reports.

- **Protect against bias in the conduct of research.** NASA, NIH, and NSF have implemented financial conflict of interest requirements to help protect against bias in the conduct of research, and DOE is in the process of establishing such requirements.<sup>17</sup> For example, NIH and NSF require researchers to disclose and universities to review financial interests to identify potential conflicts, such as investments in or income from entities that might benefit from a research project. Since 1995, NIH-funded researchers have been subject to HHS financial conflict of interest regulations designed to promote objectivity.<sup>18</sup> HHS revised its regulations in 2011 to address the growing size and complexity of biomedical and behavioral research and corresponding concerns about financial ties between researchers and industry—including pharmaceutical, medical device, and biotechnology companies. For example, congressional committee investigations had found cases of financial conflicts of interest that may have led to bias in NIH-funded research, including researchers failing to disclose substantial payments from drug and medical device companies. Similarly, in implementing its financial conflict of interest policy in 1994, NSF stated that it encourages the involvement of researchers and educators with industry and private entrepreneurial ventures but recognizes that these interactions are accompanied by an increased risk of conflicts of interest—a risk that its policy was intended to address.

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<sup>17</sup>The Uniform Guidance does not establish specific requirements for how grantees must identify and manage conflicts of interest, although it contains a general provision for agencies to establish policies that apply to conflicts that might arise around how recipients expend award funds, and a requirement that the grantee must maintain written standards of conduct covering conflicts of interest and governing the performance of its employees engaged in the selection, award and administration of contracts.

<sup>18</sup>HHS's financial conflict of interest regulation applies to institutions that receive funding from agencies in HHS's Public Health Service, including NIH. Each recipient institution must maintain an up-to-date, written, enforced policy on financial conflicts of interest that complies with the regulation. For the purposes of this report, we focused on NIH's implementation of the HHS financial conflict of interest regulation and did not review implementation by other Public Health Service agencies. The regulation defines an investigator as the person responsible for the design, conduct, or reporting of research funded by NIH and other Public Health Service agencies. For the purposes of this report, we use the term researcher instead of investigator.

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- **Improve access to research results.** In 2013, OSTP directed federal agencies to support increased public access to the results of federally funded research, including results published in peer-reviewed journals as well as digital data.<sup>19</sup> According to the OSTP directive, policies that provide greater access to peer-reviewed publications and scientific data maximize the impact and accountability of the federal research investment. In response to this directive, agencies established requirements for researchers to develop and comply with data management plans that describe the scientific data to be collected and how the researcher will provide access to and reliable preservation of the data. All four funding agencies in our review require applicants to include data management plans in their proposals.<sup>20</sup>

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## Selected Universities Identified Common Factors That Add to Their Workload and Costs for Complying with Selected Administrative Requirements

Selected universities and stakeholder organizations identified common factors that add to their administrative workload and costs for complying with selected requirements: (1) variation in agencies' implementation of requirements, (2) detailed pre-award requirements for applicants to develop and submit documentation for grant proposals, and (3) increased prescriptiveness of certain requirements.

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## Variation in Funding Agencies' Implementation of Administrative Requirements

At all six universities we selected for our review, officials told us that variation in funding agencies' implementation of certain administrative requirements included in our review contributes to workload and costs. For example, they said variation contributes to universities' costs because they have to design and implement multiple processes and may need to

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<sup>19</sup>Director of the Office of Science and Technology Policy, *Increasing Access to the Results of Federally Funded Scientific Research*, Memorandum for the Heads of Executive Departments and Agencies from John P. Holdren, (Feb. 22, 2013).

<sup>20</sup>If appropriate, researchers can explain in data management plans why they cannot justify long-term preservation of and access to scientific data.

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invest in electronic systems to comply with agencies' requirements, and it contributes to the workload of researchers and administrative staff because they must spend time learning the different requirements, processes, and systems.

Officials we interviewed from stakeholder organizations and the six universities cited variation in funding agencies' implementation of three categories of requirements in particular as adding to administrative workload and costs: developing and submitting biographical sketches; identifying, reporting, and managing financial conflicts of interest; and preparing and managing project budgets. For example, the biographical sketches agencies require applicants to submit differ in formatting as well as in content, including the information applicants must provide on past publications, research collaborators, and academic positions. In addition, agencies' financial conflict of interest requirements differ in the types of financial interests that researchers must disclose to their institutions, the information that institutions must report to agencies, and requirements for training researchers on conflicts of interest. Agency implementation of budget preparation and management requirements differs in several ways, including the forms and level of detail required in proposed budgets and the systems for grantee financial reporting. In 2014, the National Science Board reported that faculty and administrative staff participating in roundtable discussions and responding to its request for information cited a lack of consistency and standardization within and among agencies in all aspects of grant management—including regulations, guidance, reporting requirements, forms and formatting, and electronic systems—as a substantial source of administrative workload and costs, resulting in a loss of research time.<sup>21</sup> Appendix III provides detailed examples of the differences in agencies' implementation of selected requirements.

University officials we interviewed cited specific examples of increases in administrative workload and costs that resulted from variation in funding agencies' implementation of requirements:

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<sup>21</sup>National Science Board, *Reducing Investigators' Administrative Workload for Federally Funded Research*.

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- **Electronic systems costs.** Universities have invested in electronic grant management systems for submitting grant applications and ensuring compliance with multiple agencies' application requirements. Variations in requirements can make it more difficult for applicants to comply, and applications can be rejected for noncompliance, including noncompliance with formatting requirements such as page lengths or fonts. Universities' systems help minimize such rejections by identifying noncompliant application elements prior to submission, according to university officials. To address variation between NIH's and NSF's conflict of interest requirements, five universities in our review updated their electronic systems, for example, to allow researchers and administrative staff to differentiate the types and thresholds for financial interests required to be disclosed by different agencies, according to university officials.
  - **Administrative staff workload and costs.** Officials from the six universities in our review cited examples of investments in administrative staff that they made in part to address variation in agencies' implementation of requirements. For example, according to officials we interviewed, four universities in our review employ specific administrative staff members with specialized expertise in the policies and procedures of particular agencies to review proposals and help ensure compliance with those agencies' requirements. Universities' administrative staff members may also in some cases manage proposal processes for multiple agencies, so the universities need to help them build and maintain expertise in the agencies' various application systems and requirements, according to officials.
  - **Researcher workload.** Officials at the six universities in our review said that researchers must spend time learning different agencies' requirements and customizing and reformatting application materials for different agencies. For example, according to officials at the six universities, researchers spend time customizing the content, format, and length of biographical sketches to agency-specific requirements and learning how to comply with each agency's policies on what information to include in proposed budgets.

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## Detailed Pre-Award Administrative Requirements

Funding agencies require researchers to prepare detailed documentation—including proposed budgets, biographical sketches, information on subawards, data management plans, and in some cases information on conflicts of interest and researcher mentoring and development plans—and submit it to university administrators and agencies as part of the application process. Agencies require much of this information to help them select proposals for funding, according to

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agency officials and guidance. According to university officials we interviewed, developing this documentation is time-consuming and adds to universities' administrative workload and costs. Moreover, the likelihood of an agency selecting a proposal for funding is relatively low. For example, in fiscal year 2015, NIH awarded funding to 18 percent of applicants and NSF awarded funding to 24 percent of applicants—similar to funding rates from other years.<sup>22</sup> As a result, for most grant proposals, universities' investment of time and resources does not result in their receiving research funding.

According to officials from five of our selected universities, as well as reports from stakeholder organizations, pre-award requirements are one of the main sources of frustration and administrative workload and costs among researchers and administrative staff. The National Science Board reported in 2014 that faculty responding to its request for information cited the proposal and submission process, including preparing supporting documentation, as one of the grants management areas that contributed most to their administrative workload.<sup>23</sup> For example, in response to the National Science Board's request for information, the Federation of American Societies for Experimental Biology surveyed researchers, lab workers, and administrative staff and found that the respondents cited

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<sup>22</sup>NSF data reflect the percentage of final proposals that resulted in awards—the data do not account for preliminary proposals, whereby an applicant submits a limited set of application materials and may be discouraged or barred from submitting a final proposal. As a result, the percentage of applicants receiving awards is somewhat lower than reflected by these data.

<sup>23</sup>National Science Board, *Reducing Investigators' Administrative Workload for Federally Funded Research*. The grants management area that respondents to the request for information most frequently cited as burdensome was financial management, which includes some pre-award activities such as budget preparation. The proposal and submission process was the second most frequently cited area of burden.

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grant proposal preparation and submission as the greatest source of administrative burden out of 15 categories of burden in the survey.<sup>24</sup>

Researchers and administrative staff at the six universities in our review told us that during the pre-award stage, there can be a relatively high level of uncertainty about specific details of a research project, including detailed budget information about potential vendors or travel costs, expected research data and results, and planned contributions by postdoctoral or graduate researchers. They said that complying with agencies' requirements to prepare and submit documents at a stage when these details remain uncertain is not an efficient use of their time. Similarly, the Federation of American Societies for Experimental Biology reported that difficulty in accurately predicting detailed research budgets when submitting a proposal was specifically raised as a source of administrative burden in comments on its survey.

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### Administrative Requirements That Have Become More Prescriptive

Recent OMB and HHS policy reforms have resulted in changes to selected requirements that have made them more prescriptive from the standpoint of universities and that, according to university officials, have added to their universities' administrative workload and costs. Specifically, the Uniform Guidance—which was intended in part to better protect against waste, fraud, and abuse of grant funds—included revised requirements for competition and documentation of purchases that were more prescriptive than those in OMB's prior circular that applied to universities.<sup>25</sup> In addition, in 2011, HHS revised regulations governing financial conflicts of interest—which apply to research funded by NIH and

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<sup>24</sup>The Federation of American Societies for Experimental Biology, *Findings of the FASEB Survey on Administrative Burden* (June 7, 2013). The survey on administrative burden was distributed to the federation's 26 member societies, which collectively represent over 115,000 biological and biomedical researchers, as well as through the listservs of other professional societies, universities, and research coalitions. The survey was completed by 1,324 respondents. The report did not specify how many individuals received the survey or what the overall response rate was. The results of the survey were included in the National Science Board's results.

<sup>25</sup>Stakeholder organizations raised concerns to OMB about increased administrative workload and costs resulting from its revised purchasing requirements, and OMB delayed implementation of the new requirements for 2 full fiscal years after the effective date of the Uniform Guidance. The revised purchasing requirements will become effective for universities sometime in 2017, depending on universities' fiscal calendars.

several other HHS agencies—to address concerns about the objectivity of the research it funds. These revisions included more prescriptive requirements for, among other things, the types of financial interests researchers must disclose. See table 2 for requirements that have become more prescriptive under recent reforms.

**Table 2: Selected OMB and HHS Requirements That Have Become More Prescriptive**

Requirement category	Prior version	Current version
Competition and documentation of purchases	<p>Office of Management and Budget (OMB) Circular No. A-110 required grantees to maintain documentation of some form of cost or price analysis for all purchases.</p> <p>For purchases in excess of the small purchase threshold (\$25,000 when OMB issued the circular), grantees were also required to maintain documentation on the basis for contractor selection; justification for lack of competition when competitive bids or offers were not obtained; and basis for award cost or price.</p>	<p>The <i>Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards</i> (Uniform Guidance) requires grantees to maintain records sufficient to detail the history of procurement for all purchases. Such documentation must include, but is not limited to, rationale for the method of procurement, selection of contract type, contractor selection or rejection, and the basis for the contract price.</p> <p>For purchases above the micropurchase threshold (\$3,000 when OMB issued the Uniform Guidance), grantees must generally obtain price or rate quotations, competitive bids, or competitive proposals. Price and rate quotations and competitive bids must be from an adequate number of qualified sources.<sup>a</sup></p>
Financial conflict of interest (Department of Health and Human Services) <sup>b</sup>	<p>The Department of Health and Human Services' (HHS) 1995 regulations governing financial conflicts of interest included the following requirements:</p> <ul style="list-style-type: none"> <li>Financial interests of \$10,000 or more that would reasonably appear to be affected by the research for which funding is sought must generally be disclosed.</li> <li>Researchers do not need to disclose income from any nonprofit entities for activities such as seminars, lectures, or teaching.</li> <li>The regulation does not specifically address occurrences of reimbursed or sponsored travel.</li> </ul>	<p>HHS's 2011 regulations governing financial conflicts of interest include the following requirements:</p> <ul style="list-style-type: none"> <li>Financial interests of \$5,000 or more that are related to the researcher's institutional responsibilities must generally be disclosed.<sup>c</sup></li> <li>Researchers do not need to disclose income from some nonprofit entities, such as universities and teaching hospitals, for activities such as seminars, lectures, or teaching.</li> <li>The regulation requires disclosure of occurrences of reimbursed or sponsored travel related to institutional responsibilities, including the purpose, sponsor, destination, and duration of trips.</li> <li>The regulation includes additional requirements for institutions to train researchers on conflict of interest issues in certain circumstances, including when the researcher is new to the institution; make public any identified financial conflicts of interest held by senior/key personnel; and retrospectively review the researcher's activities and the research project whenever a financial conflict of interest is not identified or managed in a timely manner to determine whether any research conducted during the period of noncompliance was biased in its design, conduct, or reporting.</li> </ul>

Source: GAO analysis of OMB and HHS requirements. | GAO-16-573

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<sup>a</sup>OMB delayed implementation of the Uniform Guidance procurement standards for 2 full fiscal years after the effective date of the Uniform Guidance. The revised standards will become effective for universities sometime in 2017, depending on universities' fiscal calendars. The Uniform Guidance defines the micropurchase threshold as the threshold set by the Federal Acquisition Regulation at 48 C.F.R. Subpart 2.1 (Definitions). It is \$3,000 except as otherwise discussed in Subpart 2.1 of that regulation, but this threshold is periodically adjusted for inflation. See 2 C.F.R. § 200.67. At the time of our report, the threshold was \$3,500. The Uniform Guidance provides an exception to competition of purchases above the threshold in limited cases, such as purchases of items that are only available from a single source.

<sup>b</sup>HHS's financial conflict of interest regulation applies to institutions that receive funding from agencies in HHS's Public Health Service, including NIH. Each recipient institution must maintain an up-to-date, written, enforced policy on financial conflicts of interest that complies with the regulation. The regulation defines an investigator as the person responsible for the design, conduct, or reporting of research funded by NIH and other Public Health Service agencies. For the purposes of this report, we use the term researcher instead of investigator.

<sup>c</sup>HHS defines institutional responsibilities as researchers' professional responsibilities on behalf of their institution, and as defined by an institution in its policy on financial conflicts of interest, which may include activities such as research, research consultation, teaching, professional practice, institutional committee memberships, and service on panels such as institutional review boards or data and safety monitoring boards.

Officials at universities in our review stated that the more prescriptive requirements add to universities' workload and costs when, for example, new or updated systems and processes must be implemented. Officials cited the following examples of needing to implement new or updated systems and processes to comply with the more prescriptive requirements:

- Officials at all six universities told us that they expect the new purchasing competition and documentation requirements—particularly the new micropurchase threshold for obtaining price or rate quotations from multiple vendors—will result in added costs for updating their electronic purchasing systems.<sup>26</sup> For example, prior to the Uniform

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<sup>26</sup>The Uniform Guidance requires that all procurement transactions be conducted in a manner providing full and open competition, and establishes five methods for purchasing goods or services: (1) procurement by micropurchases, which applies to purchases under the micropurchase threshold and does not require soliciting competitive quotations if the grantee considers the price to be reasonable; (2) procurement by small purchases, which are methods for purchases that do not cost more than the simplified acquisition threshold—currently set at \$150,000—and for which grantees must obtain price or rate quotations from an adequate number of qualified sources; (3) procurement by sealed bids, for which grantees must publicly solicit bids and award a firm fixed price contract to the responsible bidder whose bid is the lowest in price; (4) procurement by competitive proposals, which is normally conducted with more than one source submitting an offer; and (5) procurement by noncompetitive proposals, which the Uniform Guidance allows in limited cases, such as for items that are only available from a single source.

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Guidance, five of the universities in our review told us that they had established a higher threshold than the Uniform Guidance for obtaining multiple quotations, and that there will be a large increase in the number of transactions exceeding the new threshold. The grantee community raised concerns to OMB about not being adequately prepared to comply with the more prescriptive purchasing requirements, and OMB delayed implementation of the purchasing requirements for 2 years.

- Five of the universities in our review developed and implemented a new electronic system to comply with NIH's revised conflict of interest requirements, according to university officials. Similarly, officials from the Association of American Medical Colleges who are studying the effect of NIH's conflict of interest requirements told us that institutions have reported incurring costs to implement processes and systems, such as financial interest-tracking software, to comply with the new requirements.<sup>27</sup>

Universities have had to hire and train staff to comply with more prescriptive requirements, according to officials at the six universities in our review. Officials at four universities said they expect to hire staff to handle the added workload resulting from an increased volume of purchases subject to OMB's revised purchasing competition and documentation requirements. In addition, officials from all six universities said that they provided additional training to researchers on NIH's conflict of interest requirements—as required by the revised rule—and officials from three universities said that each university hired an additional administrative staff member to manage the overall process for reviewing and reporting on financial conflicts of interest.

In contrast with its revised purchasing requirements, OMB largely maintained existing subrecipient monitoring requirements in the Uniform Guidance. Nevertheless, according to officials from universities and stakeholder organizations we interviewed, the prescriptive nature of the subrecipient monitoring requirements adds to universities' administrative

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<sup>27</sup>The Association of American Medical Colleges, in coordination with NIH, is conducting a review to understand the effect of the revised NIH conflict of interest requirements by comparing institutions' resources needed to comply with the requirements in the year prior to the revisions, with the resources needed for compliance in the years following the revisions.

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workload and costs. Under these requirements, grantees have the flexibility to conduct some monitoring activities, such as on-site reviews or subrecipient training, as they determine appropriate based on their assessment of a subrecipient's risk of misusing grant funds. However, the Uniform Guidance requires grantees to (1) follow-up and ensure that every subrecipient, regardless of risk, take timely and appropriate action on all deficiencies pertaining to the subaward detected through audits, on-site reviews, and other means, and (2) issue management decisions for such deficiencies. University officials we interviewed said that to meet these requirements, they may have to review audits of hundreds of subrecipients each year, including lengthy audits of state governments for subawards provided to public universities. Officials from universities and stakeholder groups we interviewed said that much of the administrative workload and costs for complying with the audit review and follow-up requirements is unnecessary, particularly for low-risk subrecipients such as those with histories of successfully conducting federally funded research.

In some cases—particularly for universities subject to state requirements—the revised requirements did not substantially add to universities' administrative workload and costs. The three public universities in our review have had to comply with state requirements related to purchasing or conflicts of interest that were already more stringent than federal requirements in some ways. For example, officials at one public university told us that the university was well-positioned to comply with NIH's conflict of interest requirements because it already had processes in place to comply with more stringent state conflict of interest requirements.

Agency officials said that some of universities' administrative workload and costs may be due to their interpretations of requirements that are stricter than agencies intended. For example, OMB staff said grantees do not have to review audits of subrecipients' full financial statements and internal controls systems, since the Uniform Guidance requires grantees to follow up and issue management decisions only for audit findings that are related to their subaward. However, officials from universities and stakeholder groups said that universities are concerned that they need to interpret and comply with requirements to the standards they believe agency inspectors general may apply in an audit. These officials cited recent audit reports by the HHS and NSF offices of inspector general that found universities had charged unallowable or questionable costs to research grants. Some of these audit findings stemmed from differences in how auditors, agencies and universities interpreted requirements.

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## OMB and Funding Agencies Have Made Continuing Efforts to Reduce Universities' Administrative Workload and Costs, with Limited Results

OMB and the four research funding agencies in our review have made continuing efforts to reduce universities' administrative workload and costs for complying with selected requirements. These efforts have included (1) standardizing requirements across agencies, (2) streamlining pre-award requirements, and (3) in some cases allowing universities more flexibility to assess and manage risks for some requirements. In each of these areas, OMB and agency efforts have resulted in some reductions to administrative workload and costs, but these reductions have been limited.

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## OMB and Funding Agency Efforts to Standardize Some Administrative Requirements Have Not Fully Addressed Variations

OMB and funding agencies have made several efforts to reduce grantees' administrative workload and costs by standardizing selected requirements, in accordance with federal goals, and several of these efforts are ongoing. The Federal Financial Assistance Management Improvement Act of 1999 was enacted in part to improve the effectiveness and performance of federal financial assistance programs and facilitate greater coordination among those responsible for providing such assistance. For example, the act, which expired in 2007, required agencies to establish a common application reporting system, including uniform administrative rules for federal financial assistance programs. More recently, Executive Order 13563 called for agencies to coordinate and harmonize regulations to reduce compliance costs. In addition, in 2003 OSTP established the Research Business Models working group (RBM)—which consists of officials from DOE, NASA, NIH, NSF, and other federal research funding agencies—to facilitate coordination across these agencies.<sup>28</sup> RBM's charter calls for it to examine opportunities and develop options to unify agency research grants administration practices, and to assess and report periodically on the status, efficiency, and performance of the federal-academic research partnership.

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<sup>28</sup>RBM is an interagency working group within the National Science and Technology Council. This council, within OSTP, is the executive branch's principal means for coordinating science and technology policy across the entities that make up the federal research and development enterprise.

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In accordance with such federal goals, OMB-led efforts to standardize selected requirements—particularly requirements for budget preparation and management—include the following:

- **Grants.gov.** In 2003, OMB created Grants.gov—a common website for federal agencies to post discretionary funding opportunities and for grantees to find and apply for them.<sup>29</sup> Intended in part to simplify the grant application process and save applicants costs and time, Grants.gov allows for standard government-wide submission processes and forms for research grants.
- **Standardization of financial and performance reporting forms.** As discussed previously, in December 2013, OMB consolidated its grants management guidance into a single document, the Uniform Guidance, which established standard requirements for financial management of federal awards across the federal government. In particular, it generally requires the use of OMB-approved government-wide standard forms for reporting financial and performance information.
- **Digital Accountability and Transparency Act pilot program.** The Digital Accountability and Transparency Act of 2014 requires OMB to establish a pilot program to identify ways to standardize financial and other information that recipients of federal awards are required to report to agencies across the government, among other things.<sup>30</sup> This pilot is ongoing and includes testing approaches to (1) allow grant recipients to submit financial reports in one central system and (2) develop consistent government-wide financial and other terms and definitions to simplify recipient reporting and help agencies create information collection forms.<sup>31</sup>

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<sup>29</sup>The Federal Financial Assistance Management Improvement Act of 1999, commonly referred to by the grants community as P.L. 106-107, required OMB to direct, coordinate, and assist agencies in developing and implementing a common application and reporting system for grants.

<sup>30</sup>Pub. L. No. 113-101, 128 Stat. 1146 (May 9, 2014).

<sup>31</sup>We reported in April 2016 that the portion of the Digital Accountability and Transparency Act pilot program focused on reducing grantee reporting burden is generally on track to meet the requirements of the act. GAO, *Data Act: Section 5 Pilot Design Issues Need to Be Addressed to Meet Goal of Reducing Recipient Reporting Burden*, [GAO-16-438](#) (Washington, D.C.: Apr. 19, 2016)

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In addition, research funding agencies have led several efforts through RBM to standardize selected requirements, including the following:

- **Federal research terms and conditions.** In 2008, RBM developed a standard core set of administrative terms and conditions for research grants, which implemented OMB's grants management guidance in effect at that time. The research terms and conditions included standard provisions related to some selected post-award requirements, such as budget management and financial reporting. In 2014, RBM began a process to develop a revised set of standard terms and conditions to apply to research grants subject to OMB's revised requirements under the Uniform Guidance. Agency officials said they estimate that the revised standard terms and conditions will be issued in late 2016 or early 2017.<sup>32</sup>
- **Research Performance Progress Report.** In 2010, RBM issued, and OSTP and OMB directed agencies to implement, the Research Performance Progress Report, a uniform format for post-award performance reporting for federally funded research projects. The report is intended to reduce recipients' administrative workload by standardizing the types of information required in interim performance reports, such as budget information. In 2015, RBM drafted a revised version of the Research Performance Progress Report, which is to be used for both interim and final reports.
- **SciENcv.** In 2013, research funding agencies worked under RBM's direction to develop SciENcv, a central electronic portal where researchers can assemble biographical information, intended to reduce the administrative workload and costs associated with creating and maintaining federal biographical sketches. Initially designed for NIH applications, SciENcv is currently being expanded to allow researchers to generate and maintain biographical sketches for multiple agencies, including NSF, in the formats required by those agencies.

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<sup>32</sup>Agencies are using agency-specific research terms and conditions to apply to awards made after the Uniform Guidance became effective in December 2014 and until the revised set of standard research terms and conditions are issued. An official leading the development of the standard research terms and conditions said that because there are multiple committees and federal agencies involved in reviewing and approving the terms and conditions, it is not certain when exactly they will be finalized and implemented by agencies.

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See appendix IV for more information on OMB and funding agency efforts to standardize selected administrative requirements.

However, OMB's efforts to standardize requirements did not fully address the variations in requirements, thereby limiting the potential reductions in universities' administrative workload and costs. For example, the Uniform Guidance does not prohibit agencies from varying in their implementation of aspects of budget preparation and management requirements. Specifically, as previously discussed, the four funding agencies in our review vary in the forms and level of detail required in proposed budgets, their systems for financial reporting, and other aspects of budget preparation and management requirements.

Similarly, research funding agency and OSTP efforts have not fully addressed variation in requirements. For example, (1) RBM has not initiated a process to standardize pre-award requirements (its standard terms and conditions and Research Performance Progress Report both focus on post-award requirements); (2) SciENCv provides a central system for assembling biographical sketches, but it does not provide standardized formats and content and it has not been adopted outside of NIH and NSF; and (3) RBM's efforts to standardize research terms and conditions, both prior to and following the issuance of the Uniform Guidance, allow for agency-specific variations. For example, according to officials drafting the revised research terms and conditions, RBM considered establishing a standard 120-day deadline for institutions to submit final reports required for closing out grants—an increase over the 90-day deadline some agencies had previously established. However, the officials said that some agencies indicated they would not increase their closeout deadlines beyond 90 days. The officials said that to gain these agencies' agreement to use the standard terms and conditions, the terms and conditions will allow deviations from the standard closeout time frames.

According to OMB staff and funding agency officials, several factors can limit agencies' ability to standardize administrative requirements on research grants. First, funding agencies must comply with differing statutory or other requirements, which can result in differences in their requirements for grantees. For example, NIH must comply with HHS's regulations on conflict of interest requirements and is limited in how it can

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change its conflict of interest requirements to align with those of other agencies without HHS amending its regulations.<sup>33</sup> Second, there are differences in the types of research or recipients agencies fund that can limit their ability to standardize requirements. For example, the types of data that research projects generate, and the constraints on sharing such data, can vary depending on the type of research universities are conducting. Researchers may not be able to share personally identifiable medical data as they would other types of data, for instance. These differences can limit agencies' ability to standardize requirements related to data management and sharing, according to agency officials.

Nevertheless, agencies have opportunities to standardize requirements to a greater extent than they have already done. In particular, they have flexibility in how they implement certain aspects of selected requirements that are not subject to statutory or other requirements or to agency-specific differences in types of research or grant recipients. According to some funding agency officials we interviewed, aspects of requirements where agencies have such flexibility include, for example, the format and content of biographical sketches, the budget forms and content of budget justifications that agencies require in applications, and the types of budget revisions agencies allow grantees to make without obtaining prior approval. Officials at NSF, NIH, and OSTP who co-chair RBM told us that the group has been fully occupied with ongoing efforts related to developing standard research terms and conditions and the Research Performance Progress Report. RBM officials leading these efforts said that they expect them to be complete in late 2016 or early 2017, and that RBM is well suited to pursue further efforts to standardize requirements and to report on its efforts. Such efforts could help ensure that agencies do not miss opportunities to reduce universities' administrative workload and costs and to improve their oversight of funding and support of research quality.

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<sup>33</sup>A bill pending in the Senate (S. 2742) would, among other things, require the Secretary of Health and Human Services to harmonize existing conflict of interest policies and reduce administrative burden on researchers while maintaining the integrity and credibility of research findings. S. 2742, § 3(a)(1)(B).

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## Funding Agency Efforts to Reduce Pre-Award Administrative Workload and Costs by Postponing Proposal Requirements Have Not Been Extended to All Applicable Grants or Requirements

DOE, NASA, NIH, and NSF have made efforts to reduce pre-award administrative workload and costs associated with proposal preparation by postponing certain requirements until after a preliminary decision about an applicant's likelihood of funding.<sup>34</sup> These efforts require applicants to provide a limited set of application materials—often referred to as a preliminary proposal—for initial evaluation before possible submission of a full proposal. Preliminary proposals are intended, in part, to reduce applicants' administrative workload and costs when applicants' chances of success are very small. Such efforts are in line with RBM's charter, which calls for agencies to identify approaches to streamline research grants administration practices. Furthermore, several organizations representing federal agencies and university researchers, including the National Science Board and Federation of American Societies for Experimental Biology, have recommended such efforts to streamline proposal processes. For example, according to findings from the National Science Board's request for information, respondents suggested that much of the information agencies required at proposal submission may not be necessary, and the board recommended that agencies modify proposal requirements to include only information needed to evaluate the merit of the proposed research and make a funding determination.<sup>35</sup>

The funding agencies in our review implement a range of preliminary proposal processes, which can involve postponing requirements related to budget preparation, biographical sketches, data management plans, and researcher mentoring and development plans. For example, NSF's preliminary proposals generally include a four-page project description and a one-page description of project personnel, among other elements, but may not include budgets, budget justifications, data management plans, or postdoctoral mentoring plans. NIH's "just-in-time" process

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<sup>34</sup>In addition to agency efforts to postpone pre-award requirements until preliminary decisions about the likelihood of funding have been made, agencies have made efforts to reduce pre-award administrative workload and costs by streamlining application instructions and formatting or through the use of electronic application portals and other information technology systems. For example, NIH has an ongoing effort to enhance and streamline its processes for peer reviews of applications by, for example, shortening page limits and aligning application elements with review criteria.

<sup>35</sup>National Science Board, *Reducing Investigators' Administrative Workload for Federally Funded Research*.

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allows some elements of an application to be submitted after the application has gone through initial peer review and received a qualifying score from the peer review panel. For example, certain data management plans can be submitted at the just-in-time stage, but other information, such as budgets and biographical sketches, must generally be submitted with the initial application. In some cases, agencies use peer reviewers to evaluate preliminary proposals and make binding decisions as to whether applicants can submit full proposals. In other cases, agency program officers evaluate preliminary proposals and provide feedback either discouraging or encouraging applicants to submit full proposals. See appendix IV for more information on funding agency efforts to streamline selected pre-award administrative requirements through preliminary proposals.

According to university officials, stakeholder organizations, and information from the four funding agencies in our review, efforts to postpone the timing of certain pre-award requirements have generally led to reductions in universities' administrative workload and costs. For example, one NSF division evaluated its preliminary proposal pilot in 2014, and reported that the pilot led to reduced applicant workload by lessening the number of proposal pages researchers needed to write and simplifying the documents university administrative offices required of applicants, since preliminary proposals do not include budgets. According to NSF data, NSF received approximately 4,900 preliminary proposals in fiscal year 2014 and discouraged or barred applicants from submitting full proposals for more than 3,700 of them. As a result, those applicants avoided the administrative workload and costs of preparing full budgets and other documentation for proposals that would not be funded. Officials from the six universities in our review said that application processes that allow researchers to focus more of their pre-award time developing and describing the scientific and technical aspects of the proposed research were a more efficient use of their time than developing detailed budgets or other information that agencies may not need to make an initial funding decision and that may change by the time the research is conducted. For example, as noted above, staff at the six universities told us that budget details such as potential vendors or travel costs, or other details such as expected research data and results or planned contributions by postdoctoral researchers, are often not known with certainty at the pre-award stage. Similarly, according to findings from the National Science Board's request for information, respondents suggested that the administrative workload of both applicants and reviewers can be substantially reduced through use of preliminary proposals and other approaches for postponing submission of information.

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However, agencies have not extended these pre-award streamlining efforts to all grant solicitations for which they could be used to reduce workload and costs. In addition, for certain requirements, agencies still require documentation that they may not need to effectively evaluate initial proposals. For instance, NIH's just-in-time process does not generally postpone requirements for proposed budgets, disclosure of significant financial interests, or biographical sketches, among others—requirements that other agencies have determined are not necessary for preliminary proposals. In addition, pre-award streamlining efforts at DOE, NASA, and NSF are limited to certain offices or certain programs within the agencies, in some cases because the efforts are still in pilot phases. Partly in response to the National Science Board's 2014 recommendations to reduce administrative workload by expanding the use of preliminary proposals or just-in-time submissions,<sup>36</sup> NSF took steps to identify opportunities for expanding pre-award streamlining efforts agency-wide. Specifically, in 2015, NSF senior leadership directed officials from NSF's directorates to review and identify options to reduce researchers' administrative workload and costs, including by expanding use of preliminary proposals and by focusing application reviews on a minimum set of elements that are needed to meet NSF's two merit review criteria: (1) intellectual merit and (2) broader impact, which encompasses the potential benefit to society. As a result of the directive, three NSF directorates expanded their use of preliminary proposals, for instance, by piloting efforts to postpone requirements to submit detailed budgets until proposals are recommended for award. DOE, NASA, and NIH have not conducted similar agency-wide reviews to identify opportunities for reducing administrative workload and costs by expanding their use of preliminary proposals or just-in-time submissions, according to agency officials.<sup>37</sup> Such reviews may help ensure that agencies do not miss

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<sup>36</sup>National Science Board, *Reducing Investigators' Administrative Workload for Federally Funded Research*.

<sup>37</sup>In commenting on a draft of our report, HHS stated that in 2014, NIH commissioned an evaluation to recommend ways to further optimize the process of reviewing, awarding, and managing grants and to maximize the time researchers can devote to research. The resulting report also found that the use of preliminary proposals could be expanded and included a recommendation that NIH pilot test preliminary proposals. NIH, Scientific Management Review Board, *Report on Streamlining the NIH Grant Review, Award, and Management Process* (July 2015).

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opportunities to reduce unnecessary pre-award administrative workload and costs for applicants that do not receive awards.

According to funding agency officials we interviewed, preliminary proposals may not be effective in reducing administrative workload and costs for certain solicitations or certain research grant programs. For example, DOE officials said they do not use preliminary proposals for certain specialized grant programs in fields with a small number of scientists who are likely to apply. Similarly, NSF officials said that preliminary proposals can create additional workload and costs for solicitations where the large majority of applicants go on to submit full proposals. Officials from DOE and NASA also said that researchers value the opportunity for peer review and feedback on their full proposals because it helps them improve their future applications. In addition, agency regulations may establish time frames that prevent postponing certain requirements until a smaller pool of likely awardees has been identified. For instance, under HHS regulations governing NIH's financial conflict of interest requirements, researchers who have not previously disclosed their significant financial interests must do so no later than the time of application for NIH funds.<sup>38</sup> However, Executive Order 13563 directs agencies to identify and consider regulatory approaches that reduce burdens and maintain flexibility. For research grant requirements, such approaches could include modifying regulations to allow for postponing pre-award requirements. Coordinating and reporting on opportunities agencies have identified for expanded use of preliminary proposals would be in line with RBM's charter.

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### OMB and Funding Agency Efforts to Allow More Flexibility Have Not Addressed Some Requirements

OMB and funding agencies have made efforts, in accordance with federal goals, to reduce administrative workload and costs by allowing universities more flexibility to assess and manage risks related to certain administrative requirements. Executive Order 13563 calls for agencies to identify and consider regulatory approaches that reduce burdens and maintain flexibility for the public. Accordingly, one of OMB's stated objectives for its reforms in the Uniform Guidance was "focusing on performance over compliance for accountability." For example, in its statements in the *Federal Register* accompanying the final Uniform

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<sup>38</sup>42 C.F.R. § 50.604(e)(1).

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Guidance, OMB reiterated its commitment to allow recipients of federal awards the flexibility to devote more effort to achieving programmatic objectives rather than complying with complex requirements, such as by reforming requirements that are overly burdensome. Efforts by OMB and the funding agencies in our review to allow universities more flexibility to assess and manage risks related to administrative requirements—particularly requirements for budget preparation and management and documentation of personnel expenses—include the following:

- **Expanded authorities.** OMB revised its grants guidance in the 1990s to allow “expanded authorities” for grant recipients. The expanded authorities allowed funding agencies to waive requirements for recipients to obtain agencies’ prior written approval before making certain changes to project budgets, such as rebudgeting funds across budget categories and carrying forward unobligated balances to later funding periods. Under RBM’s 2008 standard terms and conditions that implemented that guidance, DOE, NASA, NIH, and NSF waived many requirements for recipients to obtain prior approvals for budget revisions. Agency officials said that since the issuance of the Uniform Guidance they are continuing many of these waivers.
- **Revised requirements for documenting personnel expenses.** In the Uniform Guidance, OMB modified requirements for documenting personnel expenses to focus on establishing standards for recipients’ internal controls over salary and wage expenses, without prescribing procedures grantees must use to meet the standards. OMB expected this change to reduce grantees’ administrative workload and costs by allowing them the flexibility to use internal controls that fit their needs. In 2011, prior to the Uniform Guidance, four universities, in coordination with the Federal Demonstration Partnership and research funding agencies, began piloting a new method for documenting salary and wage charges to federal awards, known as

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payroll certification.<sup>39</sup> OMB and the offices of inspector general at NSF and HHS agreed that the pilot would include subsequent audits by the offices of inspector general in order to evaluate the results.

- **Modular budgets.** In 1999, NIH implemented modular budgets, which generally apply to all NIH research grant applications requesting up to \$250,000 per year. NIH allows recipients to request budgets in \$25,000 increments—or “modules”—and decide after receiving an award whether to establish detailed budgets or to continue budgeting in \$25,000 increments. In addition, under modular budgets, NIH allows applicants to provide more limited narratives to support certain budget line items than they would provide under non-modular budgets.

See appendix IV for more information on OMB and funding agency efforts to allow flexibility for grantees related to selected administrative requirements.

OMB’s and funding agencies’ efforts to allow universities more flexibility have led to reductions in administrative workload and costs. For instance, officials from the four funding agencies and six universities in our review generally agreed that OMB’s expanded authorities reduced grantees’ administrative workload and costs associated with post-award budget revisions. In addition, officials from both universities in our review that piloted a payroll certification system said that it resulted in over an 80 percent reduction in the number of forms that principal investigators needed to review and corresponding reductions in time needed to develop and process these forms. Officials from both universities also said the time and costs of training staff were lower under the pilot, because fewer people were responsible for certifying payroll reports than

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<sup>39</sup>The Federal Demonstration Partnership proposed and initiated this pilot. Prior to the pilot, the four universities employed the widespread practice of using effort reports as the main support for salary and wage charges to federal grants and contracts. Effort reporting is a person-based methodology that allocates each individual’s salary to the various projects he or she worked on during the reporting period. In contrast, payroll certification is a project-based methodology that relies on a project’s principal investigator to certify that all salaries charged to the project are fair and reasonable in relation to the work performed. The Federal Demonstration Partnership asserted that payroll certification is preferable to effort reporting because (1) effort is difficult to measure and therefore effort reports provide limited internal control and (2) effort reporting systems can be expensive to implement and maintain.

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had been responsible for certifying effort reports, and the concept of payroll certification is easier to understand than effort reporting. Furthermore, agency inspector general audits of two of the universities participating in the pilot found that the universities' implementation of payroll certification did not weaken accountability over federal funds for salaries and wages; an audit of the third university was inconclusive, and the fourth audit report had not been issued as of April 2016.<sup>40</sup>

In April 2016, OMB staff said other reforms in the Uniform Guidance also reduced administrative workload and costs by providing universities and other grantees more flexibility. For example, the Uniform Guidance includes provisions specifically allowing the use of fixed amount awards—grant agreements for which accountability is based primarily on performance and results rather than accounting for incurred costs—which OMB staff said can reduce administrative workload and costs, for example, for submission of invoices by the fixed amount award recipient.<sup>41</sup> Also, in the Uniform Guidance, OMB clarified its prior guidance by detailing the conditions under which grantees may directly charge administrative support costs to grants—rather than being

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<sup>40</sup>Audit reports for George Mason University and Michigan Technological University found that the universities' implementation of payroll certification did not weaken accountability over federal funds for salaries and wages. See National Science Foundation Office of Inspector General, *Labor Effort Reporting under the Federal Demonstration Project's Pilot Payroll Certification Program at George Mason University*, 15-1-017 (July 31, 2015) and *Labor Effort Reporting under the Federal Demonstration Partnership Pilot Payroll Certification at Michigan Technological University*, 15-1-023 (Sept. 30, 2015). The audit report for the University of California, Irvine was inconclusive regarding whether its pilot system provided accountability over salary and wage charges, because the auditors could not reconcile certain university accounting records. See Department of Health and Human Services Office of Inspector General, *The University of California at Irvine's Pilot Payroll Certification System Could Not Be Assessed*, A-04-13-01027 (Dec. 2014). The audit report for the University of California, Riverside had not been issued as of April 2016.

<sup>41</sup>Under fixed amount awards, payments are based on meeting specific requirements of the award, and there is no agency review of the actual costs incurred. Awarding agencies or pass-through entities may use fixed amount awards if the project scope is specific and if adequate cost, historical, or unit pricing data are available to establish a fixed amount award.

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reimbursed for these costs as part of their indirect (or overhead) costs.<sup>42</sup> OMB staff said this change reduced administrative workload and costs by better allowing universities to assign administrative staff to specific research projects so that researchers can focus more of their time on the scientific aspects of the projects. However, fixed amount awards and direct charging of administrative support costs were both allowed under certain circumstances prior to the Uniform Guidance, and we did not specifically discuss the reforms with universities, so we do not know to what extent universities believe the reforms reduced their administrative workload and costs.

Despite efforts to allow universities more flexibility, as previously discussed, several administrative requirements—in particular, OMB requirements related to purchases and subrecipients and NIH requirements related to financial conflicts of interest—limit universities' flexibility and require them to allocate administrative resources toward oversight of lower-risk purchases, subrecipients, and financial interests. These requirements limit universities' flexibility in the following ways:

- **Competition and documentation of purchases.** In developing the Uniform Guidance, OMB established the micro-purchase threshold—above which grantees must generally obtain price or rate quotations, competitive bids, or competitive proposals—based on the threshold for competition of purchases made under federal contracts.<sup>43</sup> University officials said that prior to the Uniform Guidance, the universities had set their thresholds based on consideration of the potential savings and administrative costs of competition or, in the case of public universities, state requirements. As previously

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<sup>42</sup>OMB's prior guidance required administrative costs to be charged indirectly but otherwise provided that costs are direct when they may be specifically allocated to one award. The Uniform Guidance requires that salaries of administrative and clerical staff normally be treated as indirect costs, but that direct charging of these costs may be appropriate if they are (1) integral to a project or activity, (2) for individuals who can be specifically identified with the project or activity, (3) explicitly included in the budget or have the prior written approval of the awarding agency, and (4) not also recovered as indirect costs.

<sup>43</sup>The Uniform Guidance defines the micro-purchase threshold as the threshold set by the Federal Acquisition Regulation at 48 C.F.R. Subpart 2.1 (Definitions). It is \$3,000 except as otherwise discussed in Subpart 2.1 of that regulation, but this threshold is periodically adjusted for inflation. See 2 C.F.R. § 200.67. At the time of our report, the threshold was \$3,500.

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discussed, officials at five of the universities in our review told us that they had each established a higher threshold than the Uniform Guidance for obtaining multiple quotations. Furthermore, officials from the six universities in our review said that for relatively small purchases, the administrative workload and costs associated with competition may outweigh the savings gained.

- **Monitoring subrecipients.** In developing the Uniform Guidance, OMB largely based its subrecipient monitoring requirements on those in its prior guidance and did not provide certain flexibilities to grantees to assess and manage risks. Specifically, the Uniform Guidance allows grantees to use a risk-based approach to monitor subrecipients, but it does not allow a risk-based approach to following up on audit findings that pertain to the subaward. The requirement for a university to follow up on audit findings is not risk based in that it applies to all subrecipients, regardless of their risk as assessed by the university. Officials we interviewed from the six universities in our review and stakeholder organizations generally agreed that administrative resources spent reviewing and following up on audits of low-risk subrecipients, such as those that have long track records of conducting federally funded research, could be better targeted on monitoring higher-risk subrecipients. These officials also noted that because the Uniform Guidance requires universities to review financial and performance reports and perform other project-level oversight of subrecipients, following up on audit findings may result in little added protection against improper use of funds and poor performance. OMB staff said that they have drafted an audit reporting form that universities can use to reduce the workload of reviewing subrecipients' audit reports. However, the form had not been issued as of April 2016, and the draft form does not change the requirement for universities to follow up on audit findings for all subrecipients, regardless of risk.
- **Identifying and managing researcher financial conflict of interest.** Under the HHS regulations governing NIH's conflict of interest requirements, researchers must disclose to their institution a range of financial interests held by them, their spouses, or their dependent children. These financial interests include investments in or income from a company involved in similar research, patents or copyrights that generate income for the researcher, or reimbursed or sponsored travel, among others. These different types of financial interests vary in the frequency with which they occur and in the risk they might pose to the integrity of the NIH-funded research. Officials we interviewed from the six universities in our review and stakeholder organizations generally agreed that the additional financial interests that must be

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disclosed and reviewed under the revised requirements—particularly reimbursed or sponsored travel costs, which officials said are common among academic researchers—rarely result in identification of actual conflicts that could bias their research.

OMB, in developing the Uniform Guidance, and HHS, in developing the financial conflict of interest regulations that apply to NIH awards, each went through multiyear public rule-making processes and incorporated input from a range of stakeholders concerned about administrative workload and costs as well as accountability and research integrity. OMB plans to evaluate the guidance's overall impact on burden and waste, fraud, and abuse by January 2017 to identify opportunities to enhance its effectiveness. Similarly, as stated in the final rule for its conflict of interest regulation, HHS plans to evaluate the effects of certain provisions of the regulation. Since issuing these rules, OMB and HHS, as well as stakeholder organizations, have begun collecting information on the effects of the rules that the agencies can use in their evaluations. OMB directed agencies to report, beginning in January 2015, information on their implementation of the Uniform Guidance, including metrics on the overall impact on burden and waste, fraud, and abuse.<sup>44</sup> In addition, the Federal Demonstration Partnership has gathered information from member universities to report to OMB on how the Uniform Guidance purchasing requirements will affect universities' administrative workload and costs. Similarly, the Association of American Medical Colleges has gathered information from its member institutions on how HHS's new regulation has affected their administrative workload and costs for disclosing and reviewing financial interests, and how it has affected the number of actual conflicts of interest institutions have identified. The additional information agencies and stakeholder organizations are gathering could allow OMB and HHS to more fully consider the requirements' effects on universities' administrative workload and costs and balance such considerations against the requirements' added protections for accountability and research integrity.

Federal standards for internal control call for agencies to identify risks, analyze them to estimate their significance, and respond to them based

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<sup>44</sup>Office of Management and Budget, *Metrics for Uniform Guidance (2 C.F.R. 200)*, OMB Memorandum M-14-17 (Washington, D.C.: Sept. 30, 2014).

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on their significance and the agency's risk tolerance.<sup>45</sup> The standards also state that management may need to conduct periodic risk assessments to evaluate the effectiveness of risk response actions. Neither OMB nor HHS has specified whether its evaluation of the Uniform Guidance and financial conflict of interest regulations, respectively, will include evaluating options for targeting requirements on areas of greatest risk, particularly in the areas of competing and documenting purchases, monitoring subrecipients, or identifying and managing research conflict of interest. Evaluating such options could help universities focus administrative resources on areas of highest risk and allow researchers to maximize the time spent on conducting research versus completing administrative tasks.

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## Conclusions

OMB and research funding agencies—in response to congressional or executive directives—have established administrative requirements on research grants. Such requirements help to protect against waste, fraud, and abuse of funds and to promote the quality and effectiveness of federally funded research, but they also create administrative workload and costs for universities. OMB and funding agencies have made a number of efforts to reduce workload and costs—such as by standardizing requirements across agencies, streamlining pre-award requirements, and allowing universities more flexibility to manage risks—and have had some success.

However, opportunities remain for research funding agencies to achieve additional reductions in administrative workload and costs while still protecting against waste, fraud, and abuse. RBM—whose charter calls for it to examine opportunities and develop and report on options to unify and streamline agency research grants administration practices—is well suited to pursue such efforts. First, agencies have opportunities to standardize requirements through RBM to a greater extent than they have already done, by addressing variations in budget forms, biographical sketches, and conflict of interest requirements, among others. Such standardization could reduce universities' administrative workload and costs associated with investing in systems and spending researcher and

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<sup>45</sup>GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: Sept. 2014).

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administrative staff time learning and complying with agencies' varying requirements. Second, NSF senior leadership has called for an agency-wide review to identify options for expanding preliminary proposals or other pre-award streamlining efforts, but DOE, NASA, and NIH have not called for similar reviews. Agency-wide reviews to identify opportunities to use preliminary proposals or similar approaches where applicable could reduce administrative workload and costs associated with proposal preparation, particularly for the large majority of applicants that do not receive awards.

Opportunities also remain for OMB and HHS to reduce administrative workload and costs by allowing universities more flexibility to assess and manage risks related to certain administrative requirements, as they have already done with requirements for documenting personnel expenses and preparing and managing budgets and as called for in federal streamlining directives. Specifically, (1) OMB's planned evaluation of the Uniform Guidance presents an opportunity for OMB to consider targeting requirements for purchasing and subrecipient monitoring on areas of greatest risk to proper use of research funds and (2) HHS's planned evaluation of its revised conflict of interest requirements presents an opportunity for HHS to consider targeting conflict of interest requirements on areas of greatest risk to research integrity. By evaluating options for targeting these requirements, OMB and HHS may identify ways to reduce universities' administrative workload and costs while maintaining accountability over grant funds.

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## Recommendations for Executive Action

We are making four recommendations for identifying and pursuing opportunities to streamline administrative requirements on research grants to universities.

To further standardize administrative research requirements, the Secretary of Energy, the NASA Administrator, the Secretary of Health and Human Services, and the Director of NSF should coordinate through OSTP's Research Business Models working group to identify additional areas where they can standardize requirements and report on these efforts.

To reduce pre-award administrative workload and costs, particularly for applications that do not result in awards, the Secretary of Energy, the NASA Administrator, and the Secretary of Health and Human Services should conduct agency-wide reviews of possible actions, such as further use of preliminary proposals, to postpone pre-award requirements until

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after a preliminary decision about an applicant's likelihood of funding and, through OSTP's Research Business Models working group, coordinate and report on these efforts.

To better target requirements on areas of greatest risk, while maintaining accountability over grant funds,

- the Secretary of Health and Human Services, as part of the planned evaluation of the HHS regulation governing financial conflicts of interest in NIH-funded research, should evaluate options for targeting requirements on areas of greatest risk for researcher conflicts, including adjusting the threshold and types of financial interests that need to be disclosed and the timing of disclosures, and
- the Director of OMB, as part of OMB's planned evaluation of the Uniform Guidance, should evaluate options for targeting requirements for research grants to universities, including requirements for purchases and subrecipient monitoring, on areas of greatest risk for improper use of research funds.

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## Agency Comments and Our Evaluation

We provided a draft of this report to DOE, HHS, NASA, NSF, OMB, and OSTP. DOE, HHS—responding on behalf of NIH—and NASA provided written comments, which are reproduced in appendixes V, VI, and VII, respectively, and NSF and OMB provided oral comments. DOE, HHS, and NASA generally concurred with our findings and recommendations and provided specific comments which we discuss in more detail below. NSF and OMB did not comment on our recommendations. DOE, HHS, NSF, and OMB also provided technical comments, which we incorporated as appropriate.

DOE, HHS, and NASA concurred with our first recommendation to coordinate through RBM to identify additional areas where they can standardize requirements. In their comments, the agencies said they would continue to build on RBM's previous efforts to standardize requirements and report on their efforts according to RBM's charter. NSF did not formally state whether it concurred with the recommendation, but NSF officials told us that research funding agencies already coordinate effectively through RBM and other groups, on such efforts as the standard research terms and conditions and the Research Performance Progress Report. However, these current efforts are expected to be complete in late 2016 or early 2017, and we continue to believe that agencies have opportunities to standardize requirements in areas that

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have not yet been addressed by current efforts, and achieve additional reductions in administrative workload and costs while still protecting against waste, fraud, and abuse.

DOE and HHS concurred, and NASA partially concurred, with our second recommendation to conduct agency-wide reviews of possible actions to postpone pre-award requirements until after a preliminary decision about an applicant's likelihood of funding. DOE stated that it would review pre-award requirements and coordinate through RBM to define actions to be taken to reduce burdens of these requirements, and HHS stated that NIH will review what components of grant applications are strictly needed to provide information for balanced and fair review and funding considerations, and what components can be added to the information requested during the just-in-time stage. In its technical comments, HHS stated that in 2014, NIH charged its Scientific Management Review Board to conduct an evaluation to recommend ways to further optimize the process of reviewing, awarding, and managing grants and maximize the time researchers can devote to research.<sup>46</sup> In line with our second recommendation, the Board's report also found that the use of preliminary proposals could be expanded and included a recommendation that NIH pilot test preliminary proposals. In its comments, NASA agreed to review existing documents and reports to identify best practices that postpone pre-award requirements, but stated that program offices should determine whether or not these practices are in the best interest of the program mission. We acknowledge in our report that preliminary proposals may not be effective in reducing administrative workload and costs for certain research grant programs or solicitations, and our recommendation allows for program offices to use discretion in determining what actions to take, if any, to postpone pre-award requirements until after a preliminary decision about an applicant's likelihood of funding.

HHS concurred with our third recommendation to evaluate options for targeting its financial conflict of interest requirements on areas of greatest risk for researcher conflicts. HHS stated in its comments that it has partnered with the Association of American Medical Colleges to measure

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<sup>46</sup>NIH, Scientific Management Review Board, *Report on Streamlining the NIH Grant Review, Award, and Management Process* (July 2015).

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the effectiveness of the financial conflict of interest requirements and identify areas that may create administrative burden.

OMB did not formally state whether it concurred with our fourth recommendation to evaluate options for targeting requirements for purchases and subrecipient monitoring on areas of greatest risk for improper use of research funds. However, OMB staff told us that they agree that opportunities remain for streamlining administrative requirements. In addition, in technical comments on our draft, OMB staff stated that its grants policy applies to all types of grants and recipients—not just research grants to universities. We have revised our report to clarify that OMB’s requirements apply to all types of grants and recipients. With regard to our recommendation, it is important to note that the Uniform Guidance states that OMB may allow exceptions to requirements for classes of federal awards or recipients—for example, when doing so would expand or improve the use of effective practices in delivering federal financial assistance. We believe that our recommendation that OMB evaluate options for targeting requirements for research grants to universities could lead to such improvements for universities and potentially for other types of recipients. In particular, if implemented by OMB, our recommendation could help universities focus administrative resources on areas of highest risk and allow researchers to maximize the time spent on conducting research versus completing administrative tasks.

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As agreed with your offices, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the report date. At that time, we will send copies to the appropriate congressional committees, the Director of the National Science Foundation, the Director of the Office of Management and Budget, the Director of the Office of Science and Technology Policy, the Secretary of Energy, the Secretary of Health and Human Services, the Administrator of the National Aeronautics and Space Administration, and other interested parties. In addition, the report will be available at no charge on the GAO website at <http://www.gao.gov>.

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If you or your staff members have any questions about this report, please contact me at (202) 512-3841 or [neumannj@gao.gov](mailto:neumannj@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix VIII.

A handwritten signature in black ink, appearing to read "John Neumann", with a long horizontal flourish extending to the right.

John Neumann  
Director, Natural Resources and Environment

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# Appendix I: Objectives, Scope, and Methodology

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This report examines (1) the sources and goals of selected research grant requirements, (2) the factors that contribute to universities' administrative workload and costs for complying with these requirements, and (3) efforts the Office of Management and Budget (OMB) and research funding agencies have made to reduce the administrative workload and costs for complying with these requirements, and the results of these efforts.

To address these objectives, we selected four agencies that fund research grants to universities and focused on nine categories of requirements associated with these agencies' research grants:

- The four funding agencies were the Department of Energy (DOE), National Aeronautics and Space Administration (NASA), National Institutes of Health (NIH) within the Department of Health and Human Services, and National Science Foundation (NSF). We selected NIH and NSF because they are the two largest funders of research at universities and colleges, according to NSF data. We selected DOE and NASA as two agencies providing smaller amounts of research funding, and funding for different types of research, to universities and colleges. According to NSF data, these four agencies provided about 83 percent of federal funding for research at universities and colleges in fiscal year 2015. Our findings from our reviews of these four agencies cannot be generalized to all agencies that fund research.
- The nine categories of administrative requirements on research grants were (1) competition and documentation of purchases, (2) documenting personnel expenses, (3) preparing and managing project budgets, (4) subaward reporting, (5) subrecipient monitoring, (6) biographical sketches, (7) financial conflicts of interest, (8) managing and sharing research data and results, and (9) researcher mentoring and development. We chose these requirements based on several factors. In particular, we chose requirements that multiple universities and university stakeholder organizations had cited as contributing to universities' administrative workload or costs. In addition, we chose requirements that had been the subject of recent streamlining efforts or of recent changes in OMB or funding agency guidance, or that had been part of the findings of recent reports by agency inspectors general on research grants to universities. Our findings from our reviews of these requirements cannot be generalized to all administrative requirements. See appendix II for more information on these requirements, including their definitions, sources, and goals.

To examine the sources and goals of these nine categories of requirements, we reviewed documents related to establishing the requirements and any changes that had been made. These documents included public laws; *Federal Register* notices and other documentation related to OMB's development of the *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance); and other documentation of government-wide requirements, such as the February 2013 Office of Science and Technology Policy (OSTP) memorandum on increasing access to the results of federally funded scientific research. We also examined DOE, NASA, NIH, and NSF documents related to their implementation of the nine categories of requirements, including agency-specific guidance on grant proposal and award policies and procedures and agency regulations implementing the Uniform Guidance. To ensure the accuracy and completeness of the information we collected, we obtained input from the four agencies in our scope by obtaining their edits and additions to a matrix we prepared summarizing the sources and goals of the nine requirements. For further information, we interviewed OMB staff about the development of the Uniform Guidance, including its provisions specific to university research grants, and we interviewed DOE, NASA, NIH, and NSF officials responsible for developing research grant requirements at their agencies. We also reviewed audit reports issued by the DOE, NASA, NIH, and NSF offices of inspector general related to research grants and the nine categories of requirements included in our scope to determine how the inspectors general apply the requirements, and we interviewed office of inspector general officials from each of the four agencies.

To examine factors that contribute to universities' administrative workload and costs for complying with selected requirements, we selected a nongeneralizable sample of six universities to conduct in-depth interviews of officials regarding each of the nine categories of requirements in our scope and to collect qualitative information on the types of administrative workload and costs resulting from the requirements—such as administrative staff costs, researcher time, and investments in systems and processes. The six universities were George Mason University; Johns Hopkins University; Massachusetts Institute of Technology; University of California, Riverside; University of Massachusetts, Amherst; and University of Southern California. We selected these universities because they ranged in the amount of federal research funding they received in fiscal year 2014, as reported by NSF, and because they provided a diverse sample that included both public and private institutions and both member and nonmember institutions in the Federal Demonstration Partnership—a cooperative initiative of 10 federal

agencies and 155 university recipients of federal funds that works to reduce the administrative burdens associated with research grants and contracts. We also considered whether these universities had participated in pilot streamlining efforts related to one or more of the nine categories of requirements included in our scope.

At each of the six universities, we reviewed university policies for implementing federal requirements and other relevant documentation, and we interviewed officials from the central offices for administration of grants, principal investigators who led research projects funded by grants, and administrators within the academic departments where principal investigators hold positions. In particular, we discussed the officials' views on the effects of prior, current, and proposed changes to requirements and their suggestions for streamlining requirements. For further context on universities' administrative workload and costs, including suggestions for streamlining and views on changes to requirements, we interviewed officials from and reviewed studies conducted by the following stakeholder organizations: the Association of American Medical Colleges, Council on Governmental Relations, Federal Demonstration Partnership, Federation of American Societies for Experimental Biology, National Academy of Sciences, and National Science Board. We identified these organizations based on discussions with agency and university officials and reviews of published reports, and selected those that had studied administrative workload and costs related to our selected categories of requirements.

To examine OMB and agency efforts to reduce the administrative workload and costs for complying with the requirements included in our scope and the results of these efforts, we focused on government-wide efforts led by OMB and OSTP as well as on agency-specific efforts at DOE, NASA, NIH, and NSF. We identified current and past streamlining efforts by reviewing agency documents, attending presentations by agency officials at Federal Demonstration Partnership and other public meetings, and interviewing OMB and OSTP staff as well as officials from the four research funding agencies in our scope. To determine the results of these streamlining efforts, we reviewed agency documents, including assessments of the results of their efforts, and interviewed agency and university officials. We also interviewed agency officials regarding government-wide efforts to coordinate development and implementation of requirements among agencies and the feasibility of suggestions for streamlining requirements. We interviewed OMB staff regarding their plans to review the effects of the Uniform Guidance, including the effects on universities' administrative workload and costs, and we interviewed

OSTP and agency officials on streamlining and coordination efforts by the Research Business Models working group within the National Science and Technology Council's Committee on Science. Finally, we interviewed officials from offices of inspectors general at the four funding agencies in our scope about the potential effects of changes to requirements on the ability of grant-making agencies to ensure transparency and accountability, and about the NIH and NSF inspector general audits of a pilot program at four universities to streamline requirements for documenting personnel expenses.

We conducted this performance audit from April 2015 to June 2016 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

# Appendix II: Sources and Goals of Selected Administrative Requirements

Table 3 lists the sources and goals of selected administrative grant requirements.

**Table 3: Sources and Goals of Selected Administrative Requirements**

Requirement category	Description	Primary goal	Selected agencies implementing requirements	Sources
Competition and documentation of purchases	Requirements for grantees to obtain price or rate quotations, competitive bids, or competitive proposals for certain purchases of goods and services made using grant funds, and to document such purchases.	For competition requirements: to ensure that procurement transactions are conducted in a manner providing full and open competition. For documentation requirements: to ensure that grantees maintain records sufficient to detail the history of procurement.	<ul style="list-style-type: none"> <li>Office of Management and Budget (OMB)</li> <li>Department of Energy (DOE)</li> <li>National Aeronautics and Space Administration (NASA)</li> <li>National Institutes of Health (NIH)</li> <li>National Science Foundation (NSF)</li> </ul>	OMB's <i>Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards</i> (Uniform Guidance) contains government-wide purchasing competition and documentation requirements. <sup>a</sup> OMB delayed implementation of the Uniform Guidance purchasing requirements for 2 full fiscal years after the effective date of the Uniform Guidance. These requirements will become effective for universities sometime in 2017, depending on universities' fiscal calendars. The four funding agencies in our review implemented the Uniform Guidance through agency regulations, guidance, and the terms and conditions of their awards.
Documenting personnel expenses	Requirements for grantees to maintain documentation and systems to support charges to federal awards for salaries and wages.	To ensure that the grantees' accounting practices with respect to salary and wage charges to federal awards are consistent with federal cost principles.	<ul style="list-style-type: none"> <li>OMB</li> <li>DOE</li> <li>NASA</li> <li>NIH</li> <li>NSF</li> </ul>	OMB's Uniform Guidance contains government-wide requirements for documenting personnel expenses. The four funding agencies in our review implemented the Uniform Guidance through agency regulations, guidance, and the terms and conditions of their awards.

**Appendix II: Sources and Goals of Selected Administrative Requirements**

<b>Requirement category</b>	<b>Description</b>	<b>Primary goal</b>	<b>Selected agencies implementing requirements</b>	<b>Sources</b>
Preparing and managing project budgets	Requirements for how applicants must develop and justify research project budgets and submit them to agencies; for how grantees may modify and manage budgets; and for how grantees must report on the use of funds over the course of research projects.	For pre-award budget preparation requirements: to allow agencies to determine whether requested funds are reasonable, allocable, and allowable in accordance with cost principles for federal awards.  For post-award budget management requirements: to allow agencies to ensure compliance with statutory and public policy requirements, the terms and conditions of the award, and cost principles for federal awards.	<ul style="list-style-type: none"> <li>• OMB</li> <li>• DOE</li> <li>• NASA</li> <li>• NIH</li> <li>• NSF</li> </ul>	OMB's Uniform Guidance contains government-wide budget preparation and management requirements.  The four funding agencies in our review implemented the Uniform Guidance through agency regulations, guidance, and the terms and conditions of their awards. The agencies have additional requirements related to budget preparation and management, such as requirements for the specific information and forms used to collect proposal budgets, the types of post-award budget revisions recipients can make, and the systems for financial reporting.
Subaward reporting	Requirements for primary grant recipients to report information on subawards made to institutions helping conduct research.	To ensure full disclosure of entities receiving federal funding.	<ul style="list-style-type: none"> <li>• OMB</li> <li>• DOE</li> <li>• NASA</li> <li>• NIH</li> <li>• NSF</li> </ul>	OMB's Uniform Guidance requires agencies and grantees to comply with the Federal Funding Accountability and Transparency Act of 2006, which contains government-wide subaward reporting requirements, including that recipients report subaward information and agencies make it available on a public website. <sup>b</sup>  The four funding agencies in our review implemented the Uniform Guidance through agency regulations, guidance, and the terms and conditions of their awards.
Subrecipient monitoring	Requirements for primary grant recipients to evaluate the risk of subrecipients' noncompliance with federal statutes, regulations, and the terms and conditions of subawards, and to monitor subrecipient activities accordingly.	To ensure that subaward funds are used for authorized purposes, in compliance with federal statutes, regulations, and the terms and conditions of the subaward, and that the subaward performance goals are achieved.	<ul style="list-style-type: none"> <li>• OMB</li> <li>• DOE</li> <li>• NASA</li> <li>• NIH</li> <li>• NSF</li> </ul>	OMB's Uniform Guidance contains government-wide subrecipient monitoring requirements.  The four funding agencies in our review implemented the Uniform Guidance through agency regulations, guidance, and the terms and conditions of their awards.

**Appendix II: Sources and Goals of Selected Administrative Requirements**

<b>Requirement category</b>	<b>Description</b>	<b>Primary goal</b>	<b>Selected agencies implementing requirements</b>	<b>Sources</b>
Biographical sketches	Requirements for applicants to submit information on the experience, publications, and accomplishments of project personnel as part of research grant proposals.	To provide application reviewers with the information necessary to assess applicants' qualifications to carry out the proposed research.	<ul style="list-style-type: none"> <li>• DOE</li> <li>• NASA</li> <li>• NIH</li> <li>• NSF</li> </ul>	The four funding agencies in our review generally implemented requirements for biographical sketches through agency guidance.
Financial conflicts of interest <sup>c</sup>	Requirements for applicants and grantees to identify, report, and manage researchers' financial conflicts of interest.	To promote research objectivity by establishing standards to protect against bias in the design, conduct, and reporting of research.	<ul style="list-style-type: none"> <li>• NASA</li> <li>• NIH</li> <li>• NSF</li> </ul>	NASA and NSF established requirements for financial conflicts of interest in agency guidance.  The Department of Health and Human Services (HHS), with input from NIH, revised its regulations governing financial conflict of interest for research funded by NIH and other HHS agencies, in part in response to Congressional directives. <sup>d</sup> NIH implemented these requirements through agency guidance.
Managing and sharing research data and results	Requirements for applicants to develop and submit to agencies plans to manage and share data products, publications, or other information resulting from grant-funded research, and for grantees to comply with those plans over the course of research projects.	To ensure that the direct results, including digital data, of federally funded scientific research are made available to and useful for the public, industry, and the scientific community.	<ul style="list-style-type: none"> <li>• Office of Science and Technology Policy (OSTP)</li> <li>• DOE</li> <li>• NASA</li> <li>• NIH</li> <li>• NSF</li> </ul>	An OSTP memorandum provides the principal government-wide guidance on management and sharing of research results and data. <sup>e</sup>  The four funding agencies in our review developed and implemented plans to support increased public access to the results of research they fund, as the OSTP memorandum directed. These plans specify data management requirements for grantees.

**Appendix II: Sources and Goals of Selected Administrative Requirements**

<b>Requirement category</b>	<b>Description</b>	<b>Primary goal</b>	<b>Selected agencies implementing requirements</b>	<b>Sources</b>
Researcher mentoring and development	Requirements for applicants to develop and submit to agencies plans to mentor and develop researchers, and for grantees to comply with those plans over the course of research projects.	<p>For NIH's requirement, based on agency guidance: to assist graduate students and postdoctoral researchers in achieving their career goals and becoming contributing members of the biomedical workforce.</p> <p>For NSF's requirement, based on agency guidance: to support researchers' career development in areas such as research management, publishing, and collaboration, as well as teaching and mentoring.</p>	<ul style="list-style-type: none"> <li>• NIH</li> <li>• NSF</li> </ul>	<p>NIH guidance encourages institutions to use individual development plans to identify and promote the career goals of graduate students and postdoctoral researchers associated with NIH awards, and requires grantees using individual development plans to describe their use of these plans in annual progress reports.</p> <p>NSF established its requirements for postdoctoral mentoring plans in agency guidance, as directed by Congress in the America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science Act of 2007.<sup>f</sup></p>

Source: GAO analysis of OMB, OSTP, and research funding agency guidance and regulations. | GAO-16-573

<sup>a</sup>OMB consolidated its grants management circulars into a single document, the Uniform Guidance, in 2013. 78 Fed. Reg. 78,590 (Dec. 26, 2013).

<sup>b</sup>Pub. L. No. 109-282, 120 Stat. 1186 (2006) as amended.

<sup>c</sup>We focused our review on agency requirements related to conflicts of interest that could bias the conduct of research, such as medical researchers with financial ties to pharmaceutical companies that might be affected by research results. The Uniform Guidance does not establish specific requirements for how grantees must identify and manage conflicts of interest, although it contains a general provision for agencies to establish policies that apply to conflicts that might arise around how recipients expend award funds, and a requirement that the grantee must disclose in writing any potential conflict of interest to the federal awarding agency or pass-through entity in accordance with applicable awarding agency policy.

<sup>d</sup>Pub. L. No. 111-117, Div. D, Title II, § 219, 123 Stat. 3259 (2009). The HHS regulations appear at 76 Fed. Reg. 53256 (Aug. 25, 2011).

<sup>e</sup>Director of the Office of Science and Technology Policy, *Increasing Access to the Results of Federally Funded Scientific Research*, Memorandum for the Heads of Executive Departments and Agencies from John P. Holdren, (Feb. 22, 2013).

<sup>f</sup>Pub. L. No. 110-69, Title VII, § 7008, 121 Stat. 680 (2007).

# Appendix III: Examples of Differences in Selected Administrative Requirements across Agencies in GAO's Review

Table 4 shows examples of differences in selected administrative requirements across agencies in our review.

**Table 4: Examples of Differences in Selected Administrative Requirements across Agencies in GAO's Review**

Department of Energy (DOE)	National Aeronautics and Space Administration (NASA)	National Institutes of Health (NIH)	National Science Foundation (NSF)
<b>Financial conflict of interest</b>			
N/A <sup>a</sup>	<p>Recipients must maintain written conflict of interest standards that establish what financial interests are not substantial and what disciplinary actions are to be applied for violations of the standards.</p>	<p>Researchers must generally disclose the following types of financial interests to their institutions, among others:<sup>b</sup></p> <ul style="list-style-type: none"> <li>• interests that reasonably appear to be related to their institutional responsibilities, including activities such as research, research consultation, teaching, professional practice, and institutional committee memberships;</li> <li>• reimbursed or sponsored travel costs, including the purpose, duration, destination, and sponsor of the trip; and</li> <li>• income from non-profit entities.</li> </ul> <p>The threshold for interests that researchers must disclose is generally \$5,000, or any amount of equity in non-publicly traded entities.</p> <p>Institutions must report all conflicts to NIH unless they are eliminated prior to the expenditure of funds.</p> <p>The Department of Health and Human Services' regulation includes additional requirements for researcher training, retrospective review of conflicts identified that had not been managed as required when research was being conducted, and making public any identified conflicts for senior personnel.</p>	<p>Researchers must generally disclose the following types of financial interests to their institutions, among others:<sup>c</sup></p> <ul style="list-style-type: none"> <li>• interests that reasonably appear to be affected by the NSF-funded research, or that are in entities whose financial interests reasonably appear to be affected by such activities.</li> </ul> <p>Researchers are generally not required to disclose the following interests, among others:</p> <ul style="list-style-type: none"> <li>• reimbursed or sponsored travel costs (no specific disclosure requirement) and</li> <li>• income from non-profit entities for certain activities.</li> </ul> <p>The threshold for interests that researchers must disclose is generally interests in excess of \$10,000, or in excess of 5 percent ownership interest in a single entity.</p> <p>Institutions must report conflicts to NSF only if they cannot be satisfactorily managed, reduced, or eliminated or if research will proceed without the imposition of conditions on the conflicts.</p> <p>NSF's policy does not specifically require researcher training, retrospective review of conflicts identified after research has been conducted, or making public any identified conflicts, but provides examples of conditions to manage or reduce conflicts, including public disclosure or monitoring of the research.</p>

**Biographical sketches**

**Appendix III: Examples of Differences in  
Selected Administrative Requirements across  
Agencies in GAO's Review**

<b>Department of Energy (DOE)</b>	<b>National Aeronautics and Space Administration (NASA)</b>	<b>National Institutes of Health (NIH)</b>	<b>National Science Foundation (NSF)</b>
Formatting requirements: two-page limit <sup>d</sup> Content requirements include: <sup>d</sup> <ul style="list-style-type: none"> <li>List of publications: up to 10</li> <li>Information about research collaborators: list in alphabetical order all persons who have been collaborators in the 48 months prior to submission of application</li> <li>List of academic/professional positions: chronological order</li> </ul>	Formatting requirements: two-page limit Content requirements include: <ul style="list-style-type: none"> <li>List of publications: no limit</li> <li>Information about research collaborators: one page per co-investigator</li> <li>List of academic/professional positions: none</li> </ul>	Formatting requirements: five-page limit Content requirements include: <ul style="list-style-type: none"> <li>List of publications: up to 24</li> <li>Information about research collaborators: none</li> <li>List of academic/professional positions: chronological order</li> </ul>	Formatting requirements: two-page limit; must use certain fonts Content requirements include: <ul style="list-style-type: none"> <li>List of publications: up to 10</li> <li>Information about research collaborators: none</li> <li>List of academic/professional positions: reverse chronological order</li> </ul>

**Budget preparation**

Each of the budget forms listed below has a different format, set of line items, and set of instructions. The level of detail also varies among forms, with NIH's modular budget form requiring relatively little budget detail, the government-wide Standard Form 424 (SF-424) research and related budget form requiring an intermediate amount of detail, and DOE's Office of Energy Efficiency and Renewable Energy budget form requiring relatively detailed budget information. Some forms require applicants to list indirect costs individually, while one form requires applicants to group indirect costs together. In addition, some forms require applicants to provide information on the type of work and reason for subawards, while other forms only require applicants to list the subaward cost amount.

Budget forms:	Budget forms:	Budget forms:	Budget forms:
<ul style="list-style-type: none"> <li>SF-424 research and related budget form for Grants.gov applications</li> <li>DOE's Office of Energy Efficiency and Renewable Energy budget form for applications submitted to that office's electronic grant proposal submission system</li> <li>DOE's Advanced Research Projects Agency—Energy budget form and questionnaire for applications submitted to that agency's electronic grant proposal submission system</li> </ul>	<ul style="list-style-type: none"> <li>SF-424 research and related budget form for Grants.gov applications</li> <li>NASA Research Education and Support Services budget form for applications submitted to NASA's electronic grant proposal submission system</li> </ul>	<ul style="list-style-type: none"> <li>SF-424 research and related budget form for Grants.gov applications requesting \$250,000 or more per year</li> <li>NIH's modular budget form for Grants.gov applications requesting up to \$250,000 per year</li> </ul>	<ul style="list-style-type: none"> <li>SF-424 research and related budget form for Grants.gov applications</li> <li>NSF budget form for applications submitted to NSF's electronic grant proposal submission system</li> </ul>

**Appendix III: Examples of Differences in Selected Administrative Requirements across Agencies in GAO's Review**

<b>Department of Energy (DOE)</b>	<b>National Aeronautics and Space Administration (NASA)</b>	<b>National Institutes of Health (NIH)</b>	<b>National Science Foundation (NSF)</b>
<b>Budget management and financial reporting</b>			
Funding agency guidance waives prior approval requirements for many types of budget revisions. We examined the following examples of budget revisions for which agencies' prior approval requirements vary: awarding fixed amount subawards; direct charging clerical and administrative salaries; and charging travel costs not previously included in research budgets.			
Budget revisions for which DOE generally requires prior approval include: <ul style="list-style-type: none"> <li>travel costs not previously included in research budget<sup>e</sup></li> </ul> Budget revisions for which DOE generally waives prior approval requirements include: <ul style="list-style-type: none"> <li>awarding fixed amount subawards</li> <li>direct charging clerical and administrative salaries</li> </ul>	Budget revisions for which NASA generally requires prior approval include: <ul style="list-style-type: none"> <li>awarding fixed amount subawards</li> <li>direct charging clerical and administrative salaries</li> <li>travel costs not previously included in research budget</li> </ul> NASA does not waive prior approvals for any of these examples of budget revisions.	NIH does not require prior approvals for any of the examples of budget revisions we examined. <sup>f</sup> Budget revisions for which NIH generally waives prior approval requirements include: <sup>f</sup> <ul style="list-style-type: none"> <li>awarding fixed amount subawards</li> <li>direct charging clerical and administrative salaries</li> <li>travel costs not previously included in research budget</li> </ul>	Budget revisions for which NSF generally requires prior approval include: <ul style="list-style-type: none"> <li>awarding fixed amount subawards</li> <li>direct charging clerical and administrative salaries</li> </ul> Budget revisions for which NSF generally waives prior approval requirements include: <ul style="list-style-type: none"> <li>travel costs not previously included in research budget<sup>g</sup></li> </ul>
Financial reporting system: <ul style="list-style-type: none"> <li>Fed Connect</li> </ul>	Financial reporting system: <ul style="list-style-type: none"> <li>Payment Management System<sup>h</sup></li> </ul>	Financial reporting system: <ul style="list-style-type: none"> <li>Payment Management System<sup>h</sup></li> </ul>	Financial reporting system: <ul style="list-style-type: none"> <li>Award Cash Management Service</li> </ul>
Final reporting deadline: <ul style="list-style-type: none"> <li>within 90 days of the end of the period of performance</li> </ul>	Final reporting deadline: <ul style="list-style-type: none"> <li>within 90 days of the end of the period of performance</li> </ul>	Final reporting deadline: <ul style="list-style-type: none"> <li>within 120 days of the end of the period of performance</li> </ul>	Final reporting deadline: <ul style="list-style-type: none"> <li>within 120 days of the end of the period of performance</li> </ul>

Source: GAO analysis of research funding agency guidance. | GAO-16-573

<sup>a</sup>In accordance with the *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance), DOE is in the process of drafting a conflict of interest policy that applies to conflicts that might arise around how recipients expend award funds, such as when selecting a subrecipient or procuring goods and services.

<sup>b</sup>HHS's financial conflict of interest regulation applies to institutions that receive funding from agencies in HHS's Public Health Service, including NIH. Each recipient institution must maintain an up-to-date, written, enforced policy on financial conflicts of interest that complies with the regulation. For the purposes of this report, we focused on NIH's implementation of the HHS financial conflict of interest regulation and did not review implementation by other Public Health Service agencies. The regulation defines an investigator as the person responsible for the design, conduct, or reporting of research funded by NIH and other Public Health Service agencies. For the purposes of this report, we use the term researcher instead of investigator.

<sup>c</sup>NSF requires grantee organizations employing more than 50 persons to have a disclosure policy that generally requires disclosure, reporting, and management of financial interests listed in this table.

<sup>d</sup>These requirements are based on the biographical sketch template used by DOE's Office of Science—which provided 67 percent of DOE's funding for university research in fiscal year 2015. DOE does not have agency-wide requirements for applicants to use a specific biographical sketch.

<sup>e</sup>In commenting on a draft of our report, DOE stated that, as a matter of practice, DOE's Office of Science does not require prior approval for these travel costs.

<sup>f</sup>NIH waives prior approval for budget revisions of direct cost items such as travel costs unless there is a change in scope. NIH waives prior approvals for fixed amount subawards, provided that the

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**Appendix III: Examples of Differences in  
Selected Administrative Requirements across  
Agencies in GAO's Review**

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subawards meet the requirements for fixed amount awards in 45 C.F.R. 75.201. In addition, NIH's Streamlined Non-competing Awards Process grants have different prior approval rules.

<sup>9</sup>NSF waives prior approval requirements for international travel not previously included in the research budget, but does not specify the prior approval requirements for domestic travel not previously included in the research budget.

<sup>10</sup>NASA and NIH require recipients to submit the cash management transaction portion of the Federal Financial Report through the Payment Management System.

# Appendix IV: Office of Management and Budget and Selected Research Funding Agency Efforts to Reduce Administrative Workload and Costs Related to Selected Requirements

Table 5 provides information on Office of Management and Budget (OMB) and selected funding agency efforts to standardize forms, systems, processes, and provisions related to our selected administrative requirements on research grants. The efforts listed in table 5 all share the goal of reducing universities' and other grantees' administrative workload and costs, according to agency officials and documents.

**Table 5: Examples of OMB and Selected Research Funding Agency Efforts to Standardize Selected Administrative Requirements**

Effort	Description	Outcomes and effects on administrative workload and costs
Grants.gov—a common website for universities and other grantees to find and apply to funding opportunities posted by federal agencies	OMB created Grants.gov in 2003 in part to simplify the grant application process. The website allows for common application forms and submission processes for research grants, including proposed budgets and other information required in grant applications.	We reported in 2013 that many users have said Grants.gov made it easier for applicants to search for and identify federal grant funding opportunities. <sup>3</sup> However, DOE, NASA, and NSF use agency-specific systems in addition to Grants.gov to receive or process applications. These systems can include different application forms and requirements. In addition, DOE, NASA, NIH and NSF use “back-end” systems that process applications submitted through Grants.gov and that, in some cases, can reject applications that do not meet agency-specific requirements for formatting and content. University officials generally agreed that variation in application systems adds to administrative workload and costs for applying for grants.
OMB requirements for standard financial and performance reporting forms	In December 2013, OMB consolidated its grants management circulars into a single document, the <i>Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards</i> (Uniform Guidance). <sup>4</sup> The Uniform Guidance set standard requirements for financial management of federal awards, including that agencies require university grant recipients to use OMB-approved government-wide standard forms for reporting financial and performance information for active grants.	Consistent with the Uniform Guidance, DOE, NASA, NIH, and NSF require grantees to use standard forms, such as the Research Performance Progress Report, for reporting financial and performance information. The Uniform Guidance does not standardize all requirements related to the financial management of grants. For example, the four agencies vary in their forms and submission systems for pre-award budget proposals, their systems for financial reporting, and their requirements for recipients to obtain prior approval to make certain post-award changes to project budgets.

**Appendix IV: Office of Management and Budget and Selected Research Funding Agency Efforts to Reduce Administrative Workload and Costs Related to Selected Requirements**

Effort	Description	Outcomes and effects on administrative workload and costs
Pilot program to develop a central system for financial reporting and consistent government-wide terms and definitions	The Digital Accountability and Transparency Act of 2014 directed OMB, among other things, to establish a pilot program to address unnecessary duplication in financial reporting and reduce compliance costs for recipients of federal awards. The pilot program is ongoing and includes testing approaches to (1) allow grant recipients to submit financial reports in one central system, rather than in multiple systems for different agencies, and (2) develop consistent government-wide financial terms and definitions to simplify recipient reporting and help agencies when creating information collection forms.	We testified in 2014 that the Digital Accountability and Transparency Act could help promote the creation of reliable and consistent agency information, including information about how research grant funds are spent. <sup>c</sup> In addition, we reported in April 2016 that the portion of the pilot program focused on reducing grantee reporting burden is generally on track to meet the requirements of the act, and that OMB has made considerable progress designing an approach that will examine a variety of potential ways to simplify reporting for grant recipients. <sup>d</sup>
Standard administrative terms and conditions for research grants	In 2008, RBM <sup>e</sup> issued, and research funding agencies implemented, a standard core set of administrative terms and conditions on research and research-related awards. In 2014, RBM began working on a revised set of standard terms and conditions for grants subject to the Uniform Guidance. Both versions of the standard terms and conditions include standard provisions related to budget management, financial reporting, purchasing, and subrecipient monitoring. For example, the standard terms and conditions generally require recipients to provide financial and other reports for project closeout within 120 calendar days after the end date of the project's period of performance. NIH and NSF led these efforts through RBM.	DOE, NASA, NIH, NSF, and eight other agencies adopted the 2008 standard terms and conditions. The Department of Defense—which, after NIH and NSF, provides the largest amount of federal funding for research to institutions of higher education—adopted the 2008 version of the standard terms and conditions but did not adopt the revised version.  According to officials who led the development of the standard terms and conditions, RBM permitted agency exceptions in order to gain broader agency participation. For example, some agencies allow grantees to charge travel costs that were not previously included in project budgets without obtaining prior agency approval, while other agencies require grantees to obtain prior approval.
Standard research progress report	RBM issued the Research Performance Progress Report in 2010 to reduce recipients' administrative workload and costs through standardization of the types of information required in interim performance reports. The report includes standard components and reporting categories, including a category for budget information. In 2015, RBM drafted a revised version of the report, which will be used for final reports as well as for interim reports.	OMB and OSTP issued a memorandum in 2010 requiring agencies to use the Research Performance Progress Report, and OMB, in the Uniform Guidance, directed agencies to require recipients to use standard, OMB-approved data elements, such as those in that report, for collection of performance information.  RBM had not issued a final version of the report as of April 2016, so its effect on administrative workload and costs is not known.

**Appendix IV: Office of Management and Budget and Selected Research Funding Agency Efforts to Reduce Administrative Workload and Costs Related to Selected Requirements**

Effort	Description	Outcomes and effects on administrative workload and costs
Central electronic system for assembling biographical sketches	In 2013, under the leadership of RBM, seven research funding agencies including DOE, NIH, and NSF developed SciENCv. SciENCv is a central electronic system researchers can use to assemble information on professional qualifications to develop biographical sketches for research grant applications.	SciENCv was initially designed to generate biographical sketches for NIH applications, and its developers plan for it to be expanded to generate biographical sketches for other agencies in the formats required by those agencies. SciENCv does not include standardized formats or content for biographical sketches. In addition, it had not been adopted by agencies other than NIH and NSF as of April 2016.

Legend

- DOE: Department of Energy
- NASA: National Aeronautics and Space Administration
- NIH: National Institutes of Health
- NSF: National Science Foundation
- OMB: Office of Management and Budget
- OSTP: Office of Science and Technology Policy
- RBM: Research Business Models working group

Source: GAO analysis of OMB, OSTP, and research funding agency guidance. | GAO-16-573

<sup>a</sup>GAO, *Grants Management: Improved Planning, Coordination, and Communication Needed to Strengthen Reform Efforts*, [GAO-13-383](#) (Washington, D.C.: May 23, 2013).

<sup>b</sup>78 Fed. Reg. 78,590 (Dec. 26, 2013).

<sup>c</sup>GAO, *Federal Data Transparency: Effective Implementation of the DATA Act Would Help Address Government-wide Management Challenges and Improve Oversight*, [GAO-15-241T](#) (Washington, D.C.: Dec. 3, 2014).

<sup>d</sup>GAO, *DATA Act: Section 5 Pilot Design Issues Need to Be Addressed to Meet Goal of Reducing Recipient Reporting Burden*, [GAO-16-438](#) (Washington, D.C.: Apr. 19, 2016).

<sup>e</sup>RBM is an interagency working group within the National Science and Technology Council. This council, within OSTP, is the executive branch's principal means for coordinating science and technology policy across the diverse entities that make up the federal research and development enterprise. RBM membership consists of officials from federal research funding agencies—including DOE, NASA, NIH, and NSF—as well as officials from OMB and OSTP.

Table 6 provides information on agency efforts to streamline selected pre-award administrative requirements, in particular by postponing certain requirements until a preliminary decision has been made about the likelihood of a proposal being funded. The efforts listed in table 4 all share the goal of reducing applicants' administrative workload and costs for developing proposals—particularly in cases where the chance of the proposal being funded is small.

**Appendix IV: Office of Management and Budget and Selected Research Funding Agency Efforts to Reduce Administrative Workload and Costs Related to Selected Requirements**

**Table 6: Examples of Selected Research Funding Agency Efforts to Streamline Selected Pre-Award Administrative Requirements through Preliminary Proposals**

Agency	Effort	Outcomes and effects on administrative workload and costs
DOE	<p>DOE uses several types of preliminary proposals.<sup>a</sup> Generally, DOE’s preliminary proposals require brief descriptions of proposed projects, including the technology they involve and their potential impact. They generally do not require detailed budgets, biographical sketches, or data management plans.</p> <p>DOE reviewers assess the preliminary proposals, encourage a subset of applicants to submit full applications, and discourage others.</p>	<p>DOE’s Office of Science used some form of preliminary proposals for about 85 percent of its research grant solicitations from fiscal years 2013 through 2015. Most applicants submitting preliminary proposals during that time were invited to submit full proposals, according to estimates from DOE.</p> <p>DOE’s Office of Energy Efficiency and Renewable Energy used preliminary proposals on nearly all of its competitive solicitations. In the past year, between one-half and three-quarters of applicants submitting such proposals were encouraged to submit full applications, according to estimates from DOE.</p>
NASA	<p>NASA uses a two-step proposal process, under which applicants start by submitting short, step-1 proposals. The elements of step-1 proposals vary across research programs, but are generally limited to summaries of the proposed project’s goals and objectives and its methodology. Step-1 proposals do not include detailed budgets.</p> <p>NASA evaluates step-1 proposals to decide whether to invite step-2 proposals. NASA’s decision on step-1 proposals can be either (1) nonbinding, where a step-2 proposal may be submitted even if the step-1 proposal resulted in the applicant being discouraged, or (2) binding, where a step-2 proposal cannot be submitted if it was not invited.</p>	<p>NASA began piloting the two-step proposal process in spring 2012, initially in one research program. According to officials, NASA has expanded the process to about half of the research portfolio in the directorate that provides over half of NASA’s total research funding for higher education institutions, as well as to some grants within another directorate.</p> <p>NASA information on its pilot showed that the results of the two-step proposal process differed across its programs. For example, in one program, around half of applicants were discouraged from submitting step-2 proposals. In another program, NASA discouraged about 7 percent of applicants from submitting step-2 proposals.</p>
NIH	<p>NIH uses a “just-in-time” process, under which certain elements of an application are not required to be submitted until after the application has gone through initial peer review and has received a qualifying score from reviewers. Information NIH requests at the post-review just-in-time stage can include (1) information on plans for sharing genomic data and (2) information on non-NIH sources of applicant financial support, which NIH reviews for budgetary overlap with requested NIH funding. The just-in-time process does not delay requirements for application elements such as project budgets or biographical sketches.</p>	<p>According to officials, NIH uses the just-in-time process for most grant programs but NIH does not maintain data on what percentage of applications reach the just-in-time stage. Therefore, it is not known how many applicants did not qualify to submit just-in-time materials. According to an internal NIH evaluation from May 2005, around three-quarters of researchers and administrative staff reported overall satisfaction with the just-in-time process.</p>

**Appendix IV: Office of Management and Budget and Selected Research Funding Agency Efforts to Reduce Administrative Workload and Costs Related to Selected Requirements**

Agency	Effort	Outcomes and effects on administrative workload and costs
NSF	<p>NSF uses several types of preliminary proposals, which generally contain an overview of the proposed research with sufficient detail to allow assessment of the major ideas and approaches to be used. NSF’s preliminary proposals typically include four-page project descriptions and a one-page description of project personnel, among other elements, but do not include budgets, budget justifications, data management plans, or postdoctoral mentoring plans.</p> <p>In addition, in fiscal year 2016, some NSF research programs began a zero dollar budget pilot program, under which proposals require a basic justification of the overall resources necessary to complete the project, without itemized dollar amounts for each budget category. If a proposal is recommended for award, NSF will request a full budget and budget justification.</p> <p>Some NSF preliminary proposal processes result in binding decisions as to whether applicants can submit full proposals, and others result in recommendations for applicants to submit or not submit full proposals.</p>	<p>According to NSF data, in fiscal year 2014, over 3,700 of the approximately 4,900 applicants that submitted preliminary proposals were discouraged from submitting, or not invited to submit, full proposals. An internal evaluation by one NSF division found that preliminary proposals generally succeeded in reducing applicant workload, for example, by lessening the number of proposal pages being written by researchers and simplifying the documents required from university administrative offices.</p>

Legend

DOE: Department of Energy

NASA: National Aeronautics and Space Administration

NIH: National Institutes of Health

NSF: National Science Foundation

Source: GAO analysis of research funding agency guidance. | GAO-16-573

Note: The agency efforts listed here involve postponing pre-award requirements until preliminary decisions about the likelihood of funding have been made. In addition to these efforts, agencies have made efforts to reduce pre-award administrative workload and costs by streamlining application instructions and formatting, or through the use of electronic application portals and other information technology systems. For example, NIH has an ongoing effort to enhance and streamline its processes for peer reviews of applications by, for example, shortening page limits and aligning application elements with review criteria. NIH also implemented an electronic web-based system that helps streamline the preparation and submission of applications through Grants.gov to NIH and other participating agencies.

<sup>3</sup>DOE uses several terms to describe its different preliminary proposal processes, including concept papers, letters of intent, and pre-applications.

Table 7 provides information on OMB and agency efforts to reduce grantees’ administrative workload and costs related to selected requirements, by allowing them more flexibility in their grant management approaches.

**Appendix IV: Office of Management and Budget and Selected Research Funding Agency Efforts to Reduce Administrative Workload and Costs Related to Selected Requirements**

**Table 7: Examples of OMB and Selected Research Funding Agency Efforts to Allow Grantees Flexibility Related to Selected Administrative Requirements**

<b>Effort</b>	<b>Description</b>	<b>Outcomes and effects on administrative workload and costs</b>
Expanded authorities	OMB revised its grants guidance in the 1990s to allow “expanded authorities” for grant recipients. <sup>a</sup> The expanded authorities allow funding agencies to waive requirements for grant recipients to obtain agencies’ prior written approval before making certain changes to project budgets, such as carrying forward unobligated balances to later funding periods.	Under RBM’s 2008 standard terms and conditions that implemented OMB’s grant management guidance in effect at that time, DOE, NASA, NIH, and NSF waived many cost-related prior approvals, with some exceptions, such as for specific grants or types of recipients. Agency officials said that under the revised standard research terms and conditions currently being developed, agencies will continue waiving many prior approval requirements.  Officials from agencies and universities we interviewed generally agreed that the expanded authorities reduced grantees’ administrative workload and costs associated with budget revisions.
Uniform Guidance changes and agency efforts to allow flexibility for documenting personnel expenses	In the 2013 <i>Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards</i> (Uniform Guidance), <sup>b</sup> OMB modified requirements for documenting personnel expenses to focus on recipients establishing a strong system of internal controls over salary and wage expenses, while allowing greater flexibility in the processes recipients use to meet the requirements.  In 2011, four universities, in coordination with the Federal Demonstration Partnership and research funding agencies, began piloting a new method for documenting salary and wage charges to federal awards, known as payroll certification. <sup>c</sup> The objectives of the pilot were to achieve more efficiency and effectiveness in the management of salaries and wages charged to federal awards, compared to the widely-used effort reporting method outlined in OMB’s grants guidance at the time, and to better ensure that salary and wage expenditures are appropriately charged to federal awards. OMB and the offices of inspector general at NSF and HHS agreed that the pilot would include subsequent audits by the offices of inspector general to evaluate the results.	As of April 2016, the HHS and NSF offices of inspector general had issued audit reports for three of the four universities in the payroll certification pilot. Two of the reports found that the universities’ implementation of payroll certification did not weaken accountability over federal funds for salaries and wages. The third report was inconclusive on this issue because the auditors could not reconcile certain university accounting records. The HHS Office of Inspector General had not issued the fourth university’s audit report as of April 2016.  Officials from the two pilot universities said that the pilot resulted in reductions of over 80 percent in the number of forms that needed to be reviewed by principal investigators for oversight of salary and wage charges on their grants, and corresponding reductions in time needed to develop and process these forms. The officials also said the time and costs of training staff were lower under the pilot, because fewer people were responsible for certifications, and the concept of payroll certification is easier to understand than effort reporting. In addition, officials from these universities told us that payroll certification led to stronger internal controls, because researchers and administrative staff have a better understanding of the salary and wage charges they are certifying than they did with effort reporting.

**Appendix IV: Office of Management and Budget and Selected Research Funding Agency Efforts to Reduce Administrative Workload and Costs Related to Selected Requirements**

Effort	Description	Outcomes and effects on administrative workload and costs
Uniform Guidance provisions for fixed amount awards	In the Uniform Guidance, OMB added provisions specifically allowing the use of fixed amount awards—grant agreements for which accountability is based primarily on performance and results rather than accounting for incurred costs. For example, award payments are based on meeting specific performance requirements of the award, and there is no agency review of the actual costs incurred. Awarding agencies or pass-through entities may use fixed amount awards if the project scope is specific and adequate data on cost or pricing are available.	OMB staff said that fixed amount awards can reduce some administrative burden and recordkeeping requirements, such as submission of invoices by the fixed amount award recipient. Agencies allowed fixed amount awards under certain circumstances prior to the Uniform Guidance, and OMB did not provide specific evidence to support that these reforms reduced administrative workload and costs. In addition, we did not specifically discuss the reforms with universities, so we do not know to what extent universities believe the reforms reduced their administrative workload and costs.
Uniform Guidance clarifications for direct charging of administrative support costs	In the Uniform Guidance, OMB clarified its prior guidance by detailing the conditions under which grantees may directly charge administrative support costs to grants—rather than being reimbursed for these costs as part of their indirect (or overhead) costs.	OMB staff said that this change reduced administrative workload and costs by better allowing universities to assign administrative staff to a specific research project, which in turn will allow researchers to focus more of their time on the scientific aspects of the project. Agencies allowed direct charging of administrative support costs under certain circumstances prior to the Uniform Guidance, and OMB did not provide specific evidence to support that these reforms reduced administrative workload and costs.
NIH modular budgets	In 1999, NIH implemented modular budgets as part of a streamlining initiative designed to focus the attention of researchers and NIH staff on science rather than budget details. Modular budgets generally apply to all NIH research grant applications requesting up to \$250,000 per year, and allow recipients to (1) request budgets in “modules” of \$25,000 and (2) decide after receiving an award whether to establish detailed budgets or to continue budgeting in \$25,000 modules. Under modular budgets, applicants must provide budget narratives to support the personnel who will be working on the grant, but applicants generally do not need to provide narratives to support budget line items as they would with non-modular budgets.	According to a 2005 NIH evaluation, most principal investigators and other institutional officials surveyed reported that they were satisfied overall with the modular grant application process. The NIH evaluation and officials from four of the universities in our review also noted limitations in the workload reductions resulting from modular grant applications, such as when universities require principal investigators to submit a detailed budget to university administrators even though NIH does not.
NIH streamlined process for annual award monitoring	In 1994, NIH implemented an award process with a number of provisions for streamlined award negotiations, annual progress reports, and financial reports. Under the process, the NIH awarding officer negotiates direct costs for the entire project period at the time of the award, thereby eliminating the need for annual budget submissions and negotiations and reducing the information NIH requires to review, approve, and monitor awards for subsequent project periods.	NIH routinely uses the streamlined award process for awards that make up around three-quarters of NIH funding for research grants, although specific awards may be excluded from the streamlined process under certain conditions, such as awards to high-risk recipients. NIH officials said that the streamlined process allows grantees to focus more on the scientific aspects of their work and be less burdened with administrative processes.

Legend  
 DOE: Department of Energy  
 HHS: Department of Health and Human Services  
 NASA: National Aeronautics and Space Administration  
 NIH: National Institutes of Health  
 NSF: National Science Foundation

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**Appendix IV: Office of Management and Budget and Selected Research Funding Agency Efforts to Reduce Administrative Workload and Costs Related to Selected Requirements**

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OMB: Office of Management and Budget

RBM: Research Business Models working group

Source: GAO analysis of OMB and research funding agency guidance. | GAO-16-573

<sup>a</sup>Office of Management and Budget, *Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals and Other Nonprofit Organizations*, OMB Circular No. A-110 (1999).

<sup>b</sup>78 Fed. Reg. 78,590 (Dec. 26, 2013).

<sup>c</sup>This pilot was proposed and initiated by the Federal Demonstration Partnership—a cooperative initiative of 10 federal agencies and 155 institutional recipients of federal funds, with the purpose of reducing the administrative burdens associated with research grants and contracts. Prior to the pilot, the four universities employed the widespread practice of using effort reports as the main support for salary and wage charges to federal grants and contracts. Effort reporting is a person-based methodology that allocates each individual's salary to the various projects worked on during the reporting period. In contrast, payroll certification is a project-based methodology that relies on a project's principal investigator to certify that all salaries charged to the project are fair and reasonable in relation to the work performed. The Federal Demonstration Partnership asserted that payroll certification is preferable to effort reporting because (1) effort is difficult to measure and therefore effort reports provide limited internal control and (2) effort reporting systems can be expensive to implement and maintain.

# Appendix V: Comments from the Department of Energy



## Department of Energy

Washington, DC 20585

June 3, 2016

Mr. John Neumann  
Director  
Natural Resources and Environment  
United States Government Accountability Office  
441 G Street, NW  
Washington, DC 20648

Dear Mr. Neumann:

This letter provides the U.S. Department of Energy's (DOE) consolidated comments to the Government Accountability Office (GAO) draft report entitled, *Federal Research Grants: Opportunities Remain to Streamline Administrative Requirements (GAO-16-573, June 2016)*. We appreciate GAO's perspectives on the administrative burden placed on universities performing research under grants and cooperative agreements.

The draft report directs two recommendations to the Secretary of Energy focused on pursuing opportunities to streamline administrative requirements on research grants. The Department concurs with these two recommendations and will continue to work with the other agencies identified in the report to improve the award and administration of grants and cooperative agreements to all recipients.

Thank you for the opportunity to comment on the report. If you have any questions, please contact Ms. Carol Jenkins at (202) 287-1827 or [carol.jenkins@hq.doe.gov](mailto:carol.jenkins@hq.doe.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Ingrid Kolb".

Ingrid Kolb  
Director  
Office of Management

Attachment



**Response to Report Recommendations**

**Recommendation 1:** To further standardize administrative research requirements, the Secretary of Energy, the NASA Administrator, the Secretary of HHS and the Director of NSF should coordinate through the Office of Science and Technology's Policy (OSTP) Research Business Models working group to identify additional areas where they can standardize requirements, and report on these efforts.

***Management Response:*** Concur. We will continue to build on previous efforts to streamline, simplify and standardize requirements. Reports will be issued according to the working group's charter. DOE will evaluate any working group recommendations resulting from this effort and provide comments within the specified timelines of the request.

**Recommendation 2:** To reduce pre-award administrative workload and costs, particularly for applications that do not result in awards, the Secretary of Energy, the NASA Administrator, and the Secretary of HHS should conduct agency-wide reviews of possible actions such as further use of preliminary proposals, to postpone pre-award requirements until making a preliminary decision about an applicant's likelihood of funding and through OSTP's Research Business Models working group, coordinate and report on these efforts.

***Management Response:*** Concur. DOE will review pre-award requirements and work with NASA and HHS through the OSTP Research Business Models working group to define actions to be taken to reduce the burdens of pre-award requirements. DOE will evaluate any working group recommendations resulting from this effort and provide comments within the specified timelines of the request.

# Appendix VI: Comments from the Department of Health and Human Services



DEPARTMENT OF HEALTH & HUMAN SERVICES

OFFICE OF THE SECRETARY

Assistant Secretary for Legislation  
Washington, DC 20201

JUN 02 2016

Mr. John Neumann  
Director, Natural Resources and Environment  
U.S. Government Accountability Office  
441 G Street NW  
Washington, DC 20548

Dear Mr. Neumann:

Attached are comments on the U.S. Government Accountability Office's (GAO) report entitled, "*FEDERAL RESEARCH GRANTS: Opportunities Remain for Agencies to Streamline Administrative Requirements*" (GAO-16-573).

The Department appreciates the opportunity to review this report prior to publication.

Sincerely,

A handwritten signature in black ink that reads "Jim R. Esquea".

Jim R. Esquea  
Assistant Secretary for Legislation

Attachment

**GENERAL COMMENTS OF THE DEPARTMENT OF HEALTH AND HUMAN SERVICES (HHS) ON THE GOVERNMENT ACCOUNTABILITY OFFICE'S DRAFT REPORT ENTITLED: FEDERAL RESEARCH GRANTS: OPPORTUNITIES REMAIN FOR AGENCIES TO STREAMLINE ADMINISTRATIVE REQUIREMENTS (GAO-16-573)**

The Department of Health and Human Services appreciates the review conducted by Government Accountability Office (GAO) and the opportunity to provide clarifications on this draft report.

**GAO Recommendation 1:**

To further standardize administrative research requirements, the Secretary of HHS should coordinate through OSTP's Research Business Models working group to identify additional areas where they can standardize requirements, and report on these efforts.

**HHS Response:** HHS concurs with GAO's finding and corresponding recommendation regarding the coordination through the Office of Science and Technology Policy's (OSTP) Research Business Models (RBM) working group to identify additional areas where they can standardize requirements and report on these efforts. The NIH, as one of the Co-Chairs of the RBM, will continue to provide leadership and work with RBM to further standardize administrative research requirements.

The NIH, in coordination with RBM and participating federal agencies, has already made great strides in standardizing administrative research requirements. An interagency task force was established to consider revisions to OMB Circular A-21, "Cost Principles for Educational Institutions." The task force considered revisions to the Circular A-21 and related documents that could reduce compliance costs and administrative burdens associated with federal grants and contracts awarded to educational institutions, while maintaining responsible oversight of federal investments in R&D. The streamlining recommendations put forward by the task force played a significant role in the development and implementation of the Uniform Guidance [December 26, 2014].

The NIH also coordinated with RBM and other participating federal agencies to standardize forms used for performance progress reporting. The Research Performance Progress Report (RPPR) that was originally developed for use in preparation and submission of annual and other interim performance progress reports resulted from an initiative of RBM. To expand the work done with the implementation of the RPPR, an updated standardized RPPR format to be used for both interim and final performance progress reporting is in development and has been out for comment in the Federal Register.

Our current efforts with RBM focus on the update and revision of federal-wide Standard Terms and Conditions for Research Grants. The NIH, as well as other participating agencies, are currently working with RBM to revise and update the research terms and conditions (standard core set of administrative terms and conditions on research and research-related awards) to implement the requirements of the Uniform Guidance as it applies to the research and research-related grants made by the federal awarding agencies. This core set of administrative requirements for participating federal research agencies has not only standardized administrative requirements, they also created greater consistency in the administration of federal research awards.

**GENERAL COMMENTS OF THE DEPARTMENT OF HEALTH AND HUMAN SERVICES (HHS) ON THE GOVERNMENT ACCOUNTABILITY OFFICE'S DRAFT REPORT ENTITLED: FEDERAL RESEARCH GRANTS: OPPORTUNITIES REMAIN FOR AGENCIES TO STREAMLINE ADMINISTRATIVE REQUIREMENTS (GAO-16-573)**

Other current efforts include a collaboration with RBM working to develop a federal-wide Researcher Profile Project, SciENcv (as noted in this draft GAO report). SciENcv is an electronic system that will enable researchers to easily assemble biographical information in order to simplify the work flow associated with federal funding. The system will interact with other biographical and network tools and it will help federal funders better describe the impact of the nation's scientific investments. The project is currently being tested in a Beta Version and in the future the system would offer a way to generate and maintain biosketches including those for the National Science Foundation and other federal agencies.

**GAO Recommendation 2:**

To reduce pre-award administrative workload and costs, particularly for applications that do not result in awards, the Secretary of HHS should conduct agency-wide reviews of possible actions, such as further use of preliminary proposals, to postpone pre-award requirements until making a preliminary decision about an applicants' likelihood of funding, and through OSTP's Research Business Models working group, coordinate and report on these efforts.

**HHS Response:** HHS concurs with GAO's finding and corresponding recommendation regarding conducting agency-wide reviews of possible actions, such as the further use of preliminary proposals, to postpone pre-award requirements until making a preliminary decision about an applicants' likelihood of funding, and through the RBM working group, coordinate and report on these efforts.

The NIH has developed and implemented a number of policies to reduce pre-award administrative workload and associated costs for grantees. Most notably, most NIH programs and award mechanisms use Just-in-Time (JIT) procedures to enable specific elements of a grant application to be submitted later in the application process, following review when the application is still under consideration for funding. This procedure reduces the time to award while ensuring the accuracy and timeliness of information needed to award NIH grants. The NIH also implemented modular budgets that allow recipients to request budgets up to \$250,000 in \$25,000 increments or modules and decided after receiving an award whether or not to establish detailed budgets or to continue incremental budgeting. The NIH also shortened and restructured applications as a result of our Enhancing Peer Review Initiative.

In light of these recommendations and given that there are further opportunities available to reduce pre-award work administrative workloads and costs, the NIH will begin to pursue the feasibility of an approach that reduces the elements of an application that are requested initially and defers the submission of these elements after the completion of the peer review and prior to funding (during Just-In-Time). As part of this effort to streamline requested application information, the NIH will review what components of a grant application is strictly needed to provide information for balanced and fair review and funding considerations (e.g. biosketches, total budget, research plan), and which specific elements or components can be added to the already requested information during Just-in-Time procedures for applications meeting established review criteria and that fall within a certain percentile or priority score ranges.

**GENERAL COMMENTS OF THE DEPARTMENT OF HEALTH AND HUMAN SERVICES (HHS) ON THE GOVERNMENT ACCOUNTABILITY OFFICE'S DRAFT REPORT ENTITLED: FEDERAL RESEARCH GRANTS: OPPORTUNITIES REMAIN FOR AGENCIES TO STREAMLINE ADMINISTRATIVE REQUIREMENTS (GAO-16-573)**

**GAO Recommendation 3:**

To better target requirements on areas of greatest risk, while maintaining accountability over grant funds, the Secretary of HHS, as part of the planned evaluation of the HHS regulation governing financial conflicts of interest in PHS-funded research, should evaluate options for targeting requirements on areas of greatest risk for researcher conflicts, including adjusting the threshold and types of financial interests that need to be disclosed and the timing of disclosures.

**HHS Response:** HHS concurs with GAO's finding and corresponding recommendation that as part of the planned evaluation of the HHS regulation governing financial conflicts of interest in PHS-funded research, HHS should evaluate options for targeting requirements on areas of greatest risk for researcher conflicts, including adjusting the threshold and types of financial interests that need to be disclosed and the timing of disclosures.

Currently, the NIH has partnered with the Association of American Medical Colleges (AAMC) (and their 74 participating member institutions) as they conducted the Financial Conflicts of Interest (FCOI) Metrics Project (as noted in this draft GAO report). This project provides detailed, de-identified aggregate data for consideration in the evaluation of the 2011 FCOI regulation. The AAMC Metric's Project data helps to measure the effects and effectiveness of the regulatory requirements and identify areas that appear to create an administrative burden.

# Appendix VII: Comments from the National Aeronautics and Space Administration

National Aeronautics and Space Administration  
Headquarters  
Washington, DC 20546-0001



MAY 26 2016

Reply to Attn of: Office of Procurement

John Neuman  
Director  
Natural Resources and Environment  
United States Government Accountability Office  
Washington, DC 20548

Dear Mr. Neuman:

The National Aeronautics and Space Administration (NASA) appreciates the opportunity to review and comment on the Government Accountability Office (GAO) draft report entitled, "Federal Research Grants: Opportunities Remain for Agencies to Streamline Administrative Requirements" (GAO-16-573), dated May 4, 2016.

In the draft report, GAO makes two recommendations addressed to the NASA Administrator intended to standardize administrative research requirements, and reduce pre-award administrative workload and costs for grant-seeking universities. NASA's response to GAO's recommendations, including planned corrective actions, follows:

**Recommendation 1:** To further standardize administrative research requirements, the NASA Administrator should coordinate through the Office of Science and Technology Policy's (OSTP) Research Business Models working group to identify additional areas where they can standardize requirements, and report on these efforts.

**Management's Response:** Concur. NASA will continue to work, through the OSTP Research Business Models working group, to identify and evaluate areas that could be standardized for the administrative research requirements. Reports will be issued according to the working group's charter.

**Estimated Completion Date:** Reviews and comments will be provided to any working group recommendation within the specified time lines of the request.

**Recommendation 2:** To reduce pre-award administrative workload and costs, particularly for applications that do not result in awards, the NASA Administrator should conduct agency-wide reviews of possible actions, such as further use of preliminary proposals, to postpone pre-award requirements until making a preliminary decision about an applicant's likelihood of funding, and through OSTP's Research Business Models working group, coordinate and report on these efforts.

**Management's Response:** Partially concur. NASA agrees to review existing documents and reports to identify best practices that postpone pre-award requirements. However, we believe it is in the Agency's best interest to allow the program offices to determine whether or not these practices are in the best interest of the program mission.

**Estimated Completion Date:** September 30, 2017

Once again, thank you for the opportunity to review and comment on this draft report. If you have any questions or require additional information, please contact Barbara Orlando on (202) 358-3911.

Sincerely,



William P. McNally  
Assistant Administrator for Procurement

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# Appendix VIII: GAO Contact and Staff Acknowledgments

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## GAO Contact

John Neumann, (202) 512-3841 or [neumannj@gao.gov](mailto:neumannj@gao.gov).

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## Staff Acknowledgments

In addition to the contact named above, Joseph Cook (Assistant Director), Ellen Fried, Cindy Gilbert, Elizabeth Hartjes, Terrance Horner, Miles Ingram, Richard Johnson, Sarah Martin, Dan Royer, and Monica Savoy made key contributions to this report.

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