COGR

An Association of Research Institutions

RESEARCH SECURITY AND THE COST OF COMPLIANCE

PHASE I REPORT

Results from COGR's Phase I Survey on the Costs of Complying with Research Security Disclosure Requirements for the Fiscal Year 2022-2023

November 2022

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Executive Summary

Over the past four and a half years, universities and their affiliated academic medical centers (AMCs) and research institutions have focused on addressing federal funding agency requirements adopted to address inappropriate foreign influence on research. These requirements include new and clarified provisions calling for researchers to disclose all sources of research support and all types of appointments and affiliations ("Disclosure Requirements") so that agencies and institutions will have the information they need to identify any areas of commitment, funding, or scientific overlap. These Disclosure Requirements are set forth in the *Guidance for Implementing National Security Presidential Memorandum 33 (NSPM-33) on National Security Strategy for United States Government Supported Research and Development*[1] ("Implementation Guidance") and in agency notices.[2]

COGR conducted Phase I of the survey described in this report to quantify the considerable time and resources (financial and otherwise) that research institutions have invested (or will invest) to achieve compliance with the Disclosure Requirements. While the details of the survey process and data analysis follow later in the paper, the take-home message is clear:

The projected year one average total cost per institution for compliance with the Disclosure Requirements, regardless of institutional size, is significant and concerning. The figure ranges from an average of over $100,000 for smaller institutions to over $400,000 for mid-size and large institutions. Although some of these expenses are one-time costs, a sizeable portion will be annual recurring compliance costs. Overall, the cost impact to research institutions in year one is expected to exceed $50 million. Further, all research institutions will experience significant cost burden and administrative stress, and smaller research institutions with less developed compliance infrastructure may be disproportionately affected.

Phase I was conducted using the Alchemer on-line survey tool, and 26 complete responses were received. Phase II of the survey will be designed to better understand the costs to comply with the research security program standards and it will be conducted after OSTP publishes these requirements.[3]

Phase I examined institutional costs for fiscal year 2022-23 ("Year One"), the first fiscal year after NIH, NSF and OSTP took steps toward harmonizing and clarifying the Disclosure Requirements. Throughout this paper, the term "Year One costs" includes one-time investments and costs that

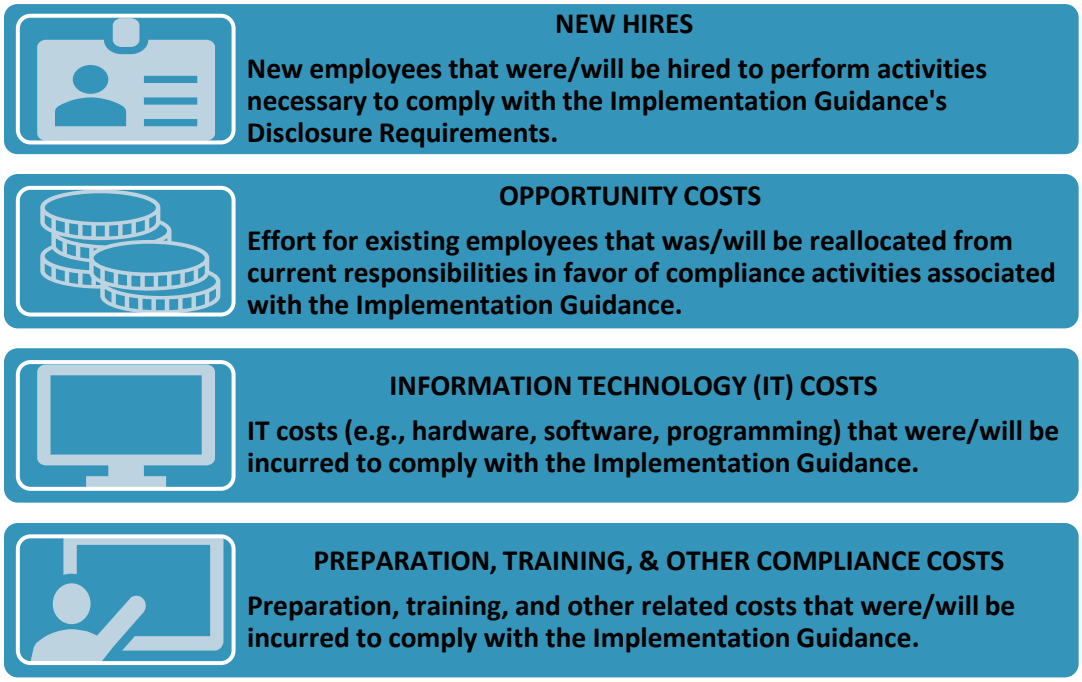
[1] National Science & Technology Council (NSTC) (Jan. 2022).
[2] *See, e.g.*, National Institutes of Health (NIH), *Other Support* webpage (last updated March 12, 2021) and *NSF-Approved Formats for Current and Pending Support* webpage (last accessed Aug. 16, 2022).
[3] At the time of this report, OSTP had not yet issued the security program standards. Phase I did include some initial bench-marking questions about anticipated research security program requirements, and the analysis of this data will be included in the Phase II report.

will recur on an annual basis with the goal of understanding the total cost of complying with the Disclosure Requirements.

COGR assigned institutional responses to one of two cohorts based on the institution's total federal research (R&D) expenditures as reported in the Fiscal Year 2020 National Science Foundation (NSF) Higher Education Research and Development (HERD) Survey[4] ("FY 2020 HERD Survey"):

> **Cohort A – Mid-Size to Large Institutions**: Twenty-two research institutions with annual federal R&D expenditures of $100 million or more.
>
> **Cohort B – Smaller Institutions**: Four research institutions with annual federal R&D expenditures of less than $100 million.

Survey Overview: The survey collected data on costs that institutions incurred across the following major categories of expenses to comply with the Disclosure Requirements ("Cost Drivers"):



Top Level Survey Results: Figure 1 summarizes primary survey results. It shows the projected average total cost per institution (Year One) based on average costs incurred across each of the four Cost Driver categories.

[4] NSF, FY 2020 HERD Survey, Data Tables, Table 23 (Dec. 27, 2021).

Figure 1, Projected Average Total Cost per Institution (Year One)

	Survey Responses	Average: New Hires	Average: Opportunity Cost	Average: IT Costs	Average: Prep., Training & Other	Average Total Cost per Institution (Year One)
Cohort A: Mid to Large (>=100M)	22	$140,160	$91,243	$147,050	$65,555	**$444,008**
Cohort B: Smaller ($15 – $99M)	4	$47,083	$33,250	$12,500	$7,369	**$100,202**

Extrapolation to All Mid-Size and Large Institutions: COGR employed an extrapolation method that used data from the 22 institutions in Cohort A to project the cost impact for the 116 institutions on the FY 2020 HERD survey[5] with more than $100 million in annual federal R&D expenditures ("HERD 116"). Cohort A institutions represent almost 19% of the institutions in the HERD 116. Institutions with this range of R&D expenditures generally have mature research infrastructure with the scope to support the scale of their research activities. As detailed more fully in the body of this paper, COGR considered the data from Cohort A sufficiently representative for a meaningful extrapolation to the HERD 116.

Figure 2 shows the projected average total cost (Year One) of $444,008 per institution in Cohort A extrapolated to the 116 institutions that make up the HERD 116.

Figure 2, Projected Average Total Cost, Extrapolated to the HERD 116

	Survey Responses	Projected Average Total Cost per Institution (Year One)	Number of Institutions to which Average is Extrapolated	Projected Total Cost (Year One) Extrapolated to HERD 116
Cohort A: Mid to Large (>=100M)	22	$444,008	116	**$51.5 million**

[5] The annual HERD Survey is administered by the NSF's National Center for Science and Engineering Statistics (NCSES) and published each November. COGR used the FY 2020 HERD Survey, which is the most recently available version of this survey. The HERD Survey is described more fully in "Phase I Methodology & Findings."

Indeed, the results of the extrapolation are concerning. Year One total cost burden exceeds $50 million for all institutions with at least $100 million in annual federal R&D expenditures, and highlights for institutions a key question of "how to pay?"

Cost Burden on Smaller Institutions: Only four of the institutions that responded to Phase I had annual federal R&D expenditures of less than $100 million per the FY 2020 HERD Survey. Consequently, extrapolation from this small cohort to a larger set of smaller institutions raises statistical concerns. However, each institution in Cohort B incurred significant cost, ranging between $60,000 and $150,000, with a projected average total cost (Year One) of just over $100,000 per institution, as shown in Figure 1. We believe it is reasonable to assume that all other smaller institutions will incur a similar heavy cost burden. Further, given that smaller institutions often have less developed compliance infrastructure, such costs may pose a serious, and perhaps insurmountable, barrier to entry for institutions that are early in building their research enterprise, thus hampering federal efforts to diversify the nation's research base.

How to Pay and Additional Considerations: Phase I data demonstrates the considerable cost impact that compliance with the Disclosure Requirements will have on institutions of all sizes. Despite the significance of these costs and the federal government's emphasis on the need for the provisions to protect national security interests, federal agencies have not yet fully addressed the issue of cost allocation between institutions and the federal government. Rather, except for the development of training materials, some of which will be funded by NSF, the cost burden associated with the Disclosure Requirements sits squarely on the shoulders of grantees, and we have no reason to expect otherwise for research security program costs. Further, unless agencies specifically address the allocation of these costs, the 26% cap placed on universities' recovery of administrative costs under the 2 C.F.R. Part 200 (Uniform Guidance),[6] effectively prevents any meaningful reimbursement of the new compliance costs incurred by university grantees.

Next Steps: COGR is providing this Phase I report to research institutions and federal research funding agencies in the hope that it will both encourage and facilitate discussions of equitable cost allocation, as well as how "return on investment" (ROI) should be considered and measured. We believe that this analysis also will be useful in considering other pertinent questions, including:

1) Why identified cost considerations pose significant and potentially insurmountable barriers to entry for smaller and mid-size universities seeking to become more engaged in research? and
2) How to identify and quantify unintended consequences, such as a decrease in legitimate international scientific collaborations?

Although we do not address these questions in depth in this report, COGR's ongoing efforts to quantify the "cost of research security compliance" will continue to be essential in framing discussions around cost burden and the significant consequences it may have on how science is conducted, and paid for, in the United States.

[6] 2 C.F.R. Part 200, Appendix III, C.8.

Regulatory Background & Survey Purpose

Since the publication of Dr. Francis Collins' August 2018 "Statement on Protecting the Integrity of the U.S. Biomedical Research,"[7] research institutions have spent enormous amounts of time and resources to implement evolving agency requirements aimed at mitigating "inappropriate foreign influence" on federally funded research. Led by the National Science and Technology Council (NSTC) and Office of Science and Technology Policy (OSTP), federal agencies issued new and/or clarified requirements designed to prevent conflicts of interest, conflicts of commitment, scientific funding overlap, and theft of intellectual property and/or confidential information. These requirements are summarized in the Implementation Guidance,[8] which addresses disclosure obligations, digital persistent identifiers (DPIs), consequences for disclosure violations, inter-agency information sharing, and research security programs.[9] COGR has provided analyses of OSTP and funding agency guidance in this area and has developed resources to assist research institutions in addressing inappropriate foreign influence concerns. These resources are located on COGR's Science and Security webpage.

Disclosure Requirements: Phase I examines Year One costs that research institutions have incurred, or will incur, to comply with new and clarified Disclosure Requirements for the complete and accurate reporting of affiliations/appointments and sources of research support. Federal research funding agencies and the Implementation Guidance require researchers who serve as principal investigators or senior/key personnel ("PI/Sr./Key Personnel") to initially disclose at the time of the funding application, and to thereafter update, all full-time, part-time, paid, and unpaid professional activities/associations and organizational affiliations, whether academic, professional, or institutional.[10] PI/Sr./Key Personnel also must disclose as "Other Support" or "Current and Pending Support" any sources of research support, whether monetary or in-kind[11] including:

- All research and development projects currently under consideration or ongoing, from any source, whether support is provided through the researcher's home institution, another entity or directly to the individual researcher. The support may be monetary or in-kind (e.g., office/lab space, equipment, supplies, or employees).
- Current/pending participation in, or applications to, programs sponsored by foreign governments or entities, including foreign government-sponsored talent recruitment programs (FTRPs).

[7] NIH (Aug. 23, 2018).
[8] *Supra* n. 1.
[9] *See*, COGR, *Summaries of NSPM-33 Disclosure Requirements and Other Provisions* (DPIs, consequences, information sharing, research security programs) (Jan. 10, 2022) and COGR, *Matrix of Science & Security Laws, Regulations, and Policies* (Sept. 7, 2022)
[10] *See, e.g.*, NIH, *Biosketch Format Pages, Instructions and Samples* webpage (last updated May 6, 2021); *NSF-Approved Formats for the Biographical Sketch* webpage (accessed July 5, 2022).
[11] *See, e.g.*, Dept. of Energy (DOE), *Financial Assistance Letter 2022-04*, (Jun.. 1, 2022); NIH, *Other Support* webpage (last updated Mar. 12, 2021); *NSF-Approved Formats for Current and Pending Support* webpage (accessed July 5, 2021).

- In-kind contributions. (Note, that the reporting mechanism for these contributions depends on whether the contribution is intended for the project being proposed or for a different project.)
- Visiting scholars and students/post-docs funded by an entity other than the PI/Sr./Key Personnel's home institution.
- Travel supported or paid by an entity other than the PI/Sr./Key Personnel's home institution to perform research activities with an associated time commitment.

Additionally, PI/Sr./Key Personnel must disclose private equity, venture, or capital financing to the home institution and/or funding agencies via conflict-of-interest processes.[12] Finally, all disclosures must be certified by the individual making the disclosure, and organizations must certify that they made the individual aware of all disclosure requirements.[13]

OSTP has encouraged agencies to harmonize their Disclosure Requirements and it has published, via NSF, draft disclosure forms for comment.[14] Some agencies such as NIH and NSF have made significant strides towards harmonization, but there are still key differences, and in a separate analysis COGR has developed a chart summarizing these requirements.[15]

Research Security Program Requirements: Phase II of COGR's survey will focus on cost and administrative burden associated with research security program requirements. OSTP is working with agencies to develop requirements for these programs, which will be mandated for institutions that receive more than $50 million in total annual federal science and engineering funding for the prior two fiscal years (as detailed in USASpending.gov). Program requirements will encompass each of the following elements: cybersecurity, foreign travel security, research security training, and export control training. Institutions will have a year after final research security program requirements are issued to comply,16 and both program documentation and certification are required. Phase II will be conducted after OSTP issues the research security program requirements, which is anticipated to occur later in 2022.[17]

Phase I Survey Process & Demographics

Phase I questions included multiple choice responses, data-entry specific to costs incurred and cost projections, and free-form comments, which were reviewed and categorized. The results for all completed surveys were saved in a Microsoft Excel format. The Alchemer survey tool results and

[12] *See, e.g.*, 42 CFR Part 50, Subpart F.
[13] Pub. L. 116-283, § 223, Fiscal Year 2021 National Defense Authorization Act (NDAA) (Jan. 1, 2021).
[14] NSF, *Agency Information Collection Activities: Request for Comment Regarding Common Disclosure Forms for the Biographical Sketch and Current and Pending (Other) Support*, 87 F.R. 53505 (Aug. 31, 2022).
[15] COGR, *Matrix of Science and Security Laws, Regulations, and Policies* (Sept. 2022).
[16] *See*, Implementation Guidance, *supra* n. 2, at p. 19-21.
[17] Note that any agency timelines referenced in this report or in other COGR publications cited herein are subject to change by the issuing agency. COGR will update this report and cited publications, as necessary.

spreadsheet served as the basis for data analysis and are the source materials for the results included in this report.

Initially, Phase I was provided to a trial cohort of ten COGR member institutions between December 2021 and February 2022. Data collected from this initial cohort was analyzed and presented at the March 2021 COGR Membership meeting.[18] After the March presentation, COGR staff invited additional member institutions to volunteer to take Phase I of the survey, and 16 more institutions agreed to participate. Between April and June 2022, Phase I was administered to this second cohort.[19] In July 2022, all institutions were provided a report of their responses and asked to do a review of the institutional data they submitted, and if necessary, update the data accordingly. COGR also confirmed with responders that the final survey results would be presented in a de-identified manner.

Data collection for Phase I of the survey was based on the following premises:

- Document all costs incurred at the time of survey completion (e.g., new staff, policy development, training, and information technology) to achieve compliance with the Disclosure Requirements;
- Project costs not yet incurred, but expected to be incurred in fiscal year 2022-2023, which for most academic institutions began July 2022; and
- Combine costs incurred to date with projected costs for FY 2023 to arrive at the Year One total costs per institution. While Year One costs may be higher because of some one-time investments, a significant portion of Year One costs (e.g., costs related to staffing, ongoing training, and software licenses) will continue as recurring costs in subsequent years. Further, although some initial investments may have been incurred prior to FY 2023, we believe they are appropriately considered as supporting the institution's Year One compliance program.

Of the 26 institutions that submitted complete responses to Phase I, 14 were public institutions and 12 were private institutions. A total of 17 institutions had an AMC, one institution was a standalone AMC, and the remaining eight had no affiliated AMC.

[18] *See*, COGR March 2021 post-meeting update report, including a link to the slides shown at the March 2021 COGR membership meeting regarding the survey. A recording of the session is available at https://cogr.member365.org/sharingnetwork/education/video/24/2 (log-in required).

[19] Although the questions in Phase I focus on institutional responses to agency Disclosure Requirements, the version of Phase I administered to the second cohort included additional questions about activities that institutions were taking to prepare for research security program requirements. COGR also provided this revised version of Phase I to the original cohort of ten institutions to review/update their data and to answer the additional questions. COGR will address the data collected regarding research security programs when it reports on Phase II of the survey.

Figure 3, Federal R&D Expenditures for FY2020 (NSF 2020 HERD)

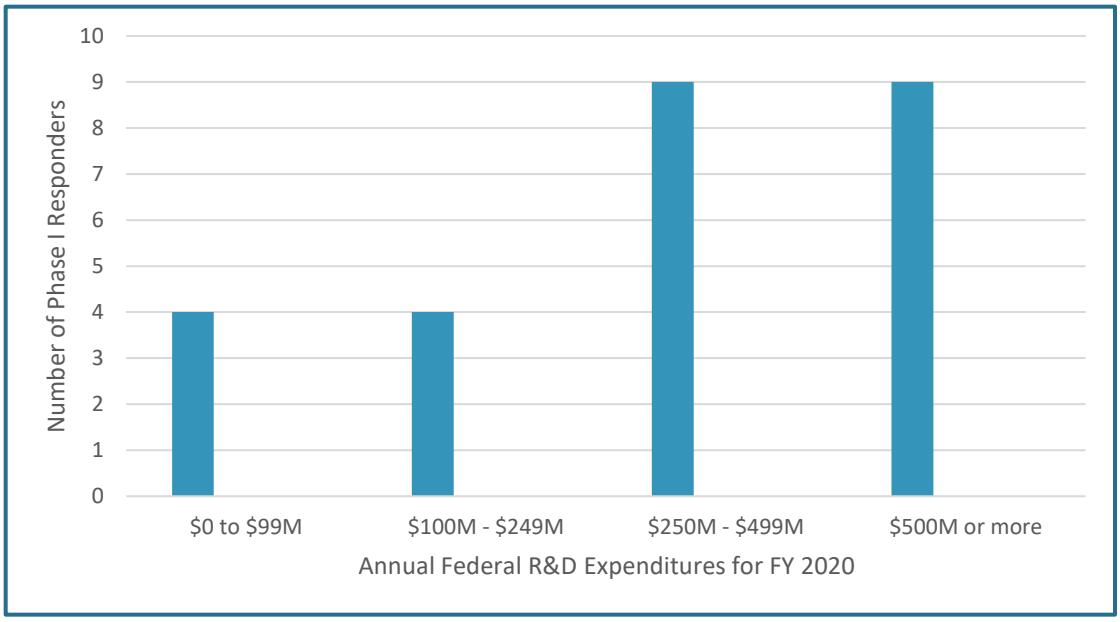


Figure 3 demonstrates the diversity of research volume across the survey respondents. Per the FY 2020 HERD survey, 22 of the responders had $100 million or more in annual federal R&D expenditures and 4 responders had less than $100 million. In terms of the types of research conducted, all Phase I responders conduct fundamental research. Twenty-one institutions also conduct research that is subject to export controls, although seven of those institutions advised that this research constituted a very small part of their research portfolio. Finally, seven institutions reported conducting classified research, as well.

Figure 4, Major Federal R&D Funding Agencies for Phase I Responders

Item	Overall Rank	Rank Distribution	Score	No. of Rankings
NIH	1		93	22
NSF	2		86	23
DOD	3		73	22
DOEnergy	4		44	21
Other (Please specify in comment box below)	5		34	13

Lowest Rank — Highest Rank

[*Note that of those institutions who selected "Other," NASA was the most cited agency.*]

Figure 4 shows that although most institutions selected NIH as their largest research funder, funding from NSF, DOD, and Department of Energy (DOE), and in some cases, "Other agencies," also is significant. Consequently, observations concerning cost burden can reasonably be applied broadly across all federal funding agencies.

Phase I Methodology & Overall Findings

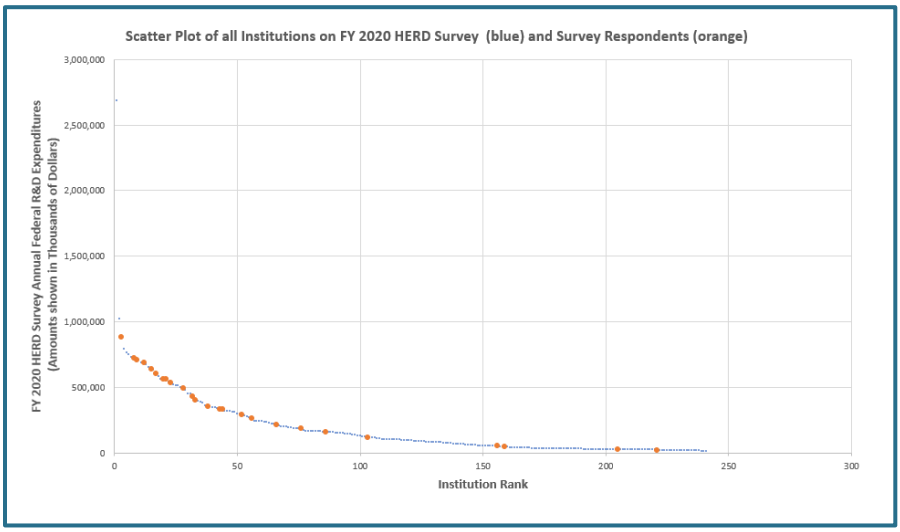
This section of the paper provides additional detail about the methodology used to arrive at the figures presented in the Executive Summary and elsewhere in this paper.

The annual HERD Survey is administered by the NSF's National Center for Science and Engineering Statistics (NCSES) and published each November/December. COGR used the most recently available version—the FY 2020 HERD Survey[20]—in its analysis and reporting of the Phase I data. Included in the FY 2020 HERD Survey is Data Table 23, which ranked the 655 U.S. institutions that completed the survey based on their annual federal R&D expenditures.[21] Data Table 23 is an important foundation for the Phase I extrapolation methodology described below. Phase I responders were grouped into two cohorts based on the FY 2020 HERD Survey: Cohort A – institutions with $100 million, or more, in annual federal R&D expenditures, and Cohort B – institutions with less than $100 million in annual federal R&D expenditures.

Extrapolation Justification and Methodology – Cohort A: The institutions in Cohort A comprise nearly 85% of the Phase I responders. Given the size of this cohort, COGR evaluated data from these responders to determine if it was sufficiently representative to permit extrapolation to a larger group. The FY 2020 HERD Survey lists 116 institutions with more than $100 million in annual federal R&D expenditures (the "HERD 116"), and we noted important similarities between the HERD 116 and Cohort A. First, the 22 institutions in Cohort A account for almost 19% of the HERD 116. Second, the scatter plot in Figure 5 shows the distribution of Phase I responders across the 655 institutions that responded to the FY 2020 HERD Survey, and it demonstrates a solid distribution of Cohort A responders across the HERD 116. Finally, it is worth noting that nearly all (98%) of the HERD 116 are COGR members. Accordingly, we considered the data from Cohort A to be sufficiently representative to justify extrapolation to the other institutions that make up the HERD 116.[22]

[20] NSF (Dec.27, 2021).
[21] *Id.* at Table 23.
[22] We are not suggesting that the cost burden associated with the new Disclosure Requirements is limited to the HERD 116 institutions, but our limited sample of institutions with annual federal R&D expenditures less than $100 million did not support further extrapolation. Nonetheless, it is likely that cost burden will extend to all 655 institutions.

Figure 5, Distribution of Phase I Responders Across FY2020 HERD Responders



After determining that the Cohort A data was sufficiently representative, COGR employed the following extrapolation methodology to project the cost impact to all institutions that make up the HERD 116 and the results are shown below in Figure 6:

- Average[23] cost per institution for each Cost Driver was calculated.
- Projected average total cost per institution (Year One) was calculated as the sum of the average cost for each of the four Cost Drivers.
- The resulting projected average total cost per institution (Year One) was multiplied by 116 (i.e., the number of institutions in the HERD 116) to provide the total extrapolated cost for this group.[24]

Figure 6 reconfigures the extrapolation results from Figure 2 to include separate results for each of the four Cost Drivers. Results for each Cost Driver are described in more detail later in the paper (Results for Cost Drivers).

Figure 6, Average Total Cost by Cost Driver, Extrapolated to the HERD 116

Avg. New Hires	Avg. Opportunity Cost	Avg. IT Cost	Avg. Prep, Training & Other	Avg. Total Cost per Institution in Cohort A	Extrap. Factor	Projected Total Cost (Year One) Extrapolated to HERD 116
$140,160	$91,243	$147,050	$65,555	$444,008	X 116	**$51.5M**

[23] Note that our analysis uses the mean as a benchmark, rather than the median, to allow all reported data to be included. Per Appendix 1, Survey Results by Institution (Figure A), the median would fall between the 11th and 12th institutions (if sorted by the final column, Projected Year One Cost) and results in a value of approximately $269,000.
[24] *See also*, Figure 2.

The deidentified institution-by-institution results are shown in Appendix 1, Survey Results by Institution (Figure A).

Impact on Smaller Institutions – Cohort B:

The four institutions in Cohort B (one private and four public) were too few to support a statistically sound extrapolation to a larger cohort, as we did for the HERD 116. Nonetheless, data from these four institutions provides some insight on the Disclosure Requirements' impact on smaller institutions.

The impact on smaller institutions is particularly relevant to many COGR member institutions, as over one-third of COGR members would be considered a "smaller research institution" when that term is defined as an institution that has less than $100 million in annual R&D expenditures. In fact, institutions of all sizes will be impacted by the costs of complying with the Disclosure Requirements, a point that is particularly significant for the diverse institutions that make up COGR's membership, as well as the rest of the institutions on the FY 2020 HERD Survey

Unlike the research security program requirements, which apply only to institutions with $50 million or more in annual federal science and engineering support,[25] the Disclosure Requirements have no financial trigger, and apply equally to *all* institutions. Each of the institutions in Cohort B incurred costs to address the Disclosure Requirements, although as Figure B in Appendix 1 demonstrates, not every institution incurred costs for each of the Cost Driver categories. Total Year One costs for these institutions ranged between $60,000 and $150,000, for an average Year One total cost of just over $100,000 per institution. Certainly, if most smaller institutions incurred costs in this general ballpark, it would add up to millions of dollars of cost impact for this cohort of institutions.

Although the $444,008 total average Year One cost for Cohort A is substantially more than the $100,202 cost for Cohort B (see Figure 1), the burden may be greater for smaller research institutions that do not have an existing extensive compliance infrastructure to leverage. Indeed, some smaller institutions that want to initiate a federally funded research program may find that these new compliance costs pose a significant barrier to entry, especially when added to other compliance infrastructure costs.

To assess this burden, COGR calculated a "Cost Burden Factor" for both Cohorts A and B by dividing the average Year One total cost for each cohort by the average federal R&D expenditures for the cohort. The results are shown in Figure 7.

[25] *See*, NSPM-33 Implementation Guidance, *supra* n. 7, at p. 18-19.

Figure 7, Cost Burden Factors for Cohorts A and B

Federal R&D Expenditures per FY 2020 HERD Survey	Average Total Cost (Year One)	Average Fed R&D for the Cohort	Cost Burden Factor
Cohort A: Mid to Large (>=$100M)	$444,008	$454M	**0.98**
Cohort B: Smaller ($15 – $99M)	$100,202	$36M	**2.78**

This Cost Burden Factor allows for a comparison of relative burden across institutions of different sizes as a function of their total federal R&D expenditures, with a higher number indicating greater stress on the institution managing the federally funded research. Our quick analysis would suggest that smaller institutions have a significantly higher burden factor than larger ones. Although the limited number of data points for Cohort B limits the strength of conclusions we can make, we have nonetheless included this cost burden factor in Figure 7 for consideration. Our experience in analyzing cost burden associated with compliance requirements suggests that smaller institutions are consistently faced with greater challenges in implementing federal compliance mandates, and we suggest this will be no different when implementing the new Disclosure Requirements.

Results for Cost Drivers

In addition to providing data regarding the Disclosure Requirements' overall cost impact to institutions, Phase I also provided insight on institutional expenditures in each of the Cost Driver categories: New Hires, Opportunity Costs, Information Technology, and Preparation, Training and Other Compliance Costs. The analysis that follows provides results for each of these Cost Drivers for the institutions in Cohort A data. While averaging across all respondents is meaningful and consistent with the previous discussion and extrapolations in this paper, not every institution incurred each of the Cost Drivers, so an additional focus on those that responded "Yes" for a given Cost Driver provides additional insight into cost impact of each Cost Driver.

A "Cohort A Data Analysis Chart" is provided below for each Cost Driver, which shows the average cost for the Cost Driver calculated over all 22 survey respondents (baseline analysis), followed by the average cost only for those that actually incurred such costs and thus responded "Yes" (shaded in red on the chart).Separate charts provide Cohort B cost data for each Cost Driver. Also note, the deidentified institution-by-institution results for both Cohorts A and B results for all Cost Drivers are shown in Appendix 1, Survey Results by Institution.

NEW HIRES

As shown in Figure 8, 17 of the 26 responders across both Cohorts A and B reported they have already hired, or expect to hire, new staff for Fiscal Year 2023 who will have significant job duties (e.g., more than 25% of their time) that include addressing the Disclosure Requirements. Fourteen institutions that answered "yes" to this question stated that hiring would extend to one or two employees, while three institutions stated that hiring would include four to five or more employees. Institutions that responded "yes" to this question also indicated the approximate salary (plus benefits) applicable to the new staff. For all the institutions that have hired, or plan to hire, new staff to implement the Disclosure Requirements, the expectation is that this will represent an annual, recurring cost, which may pose increased stress on institutions, given current limited hiring pools and inflationary pressures on salaries.

Figure 8, Number of New Employees Hired or Expected to be Hired for FY23

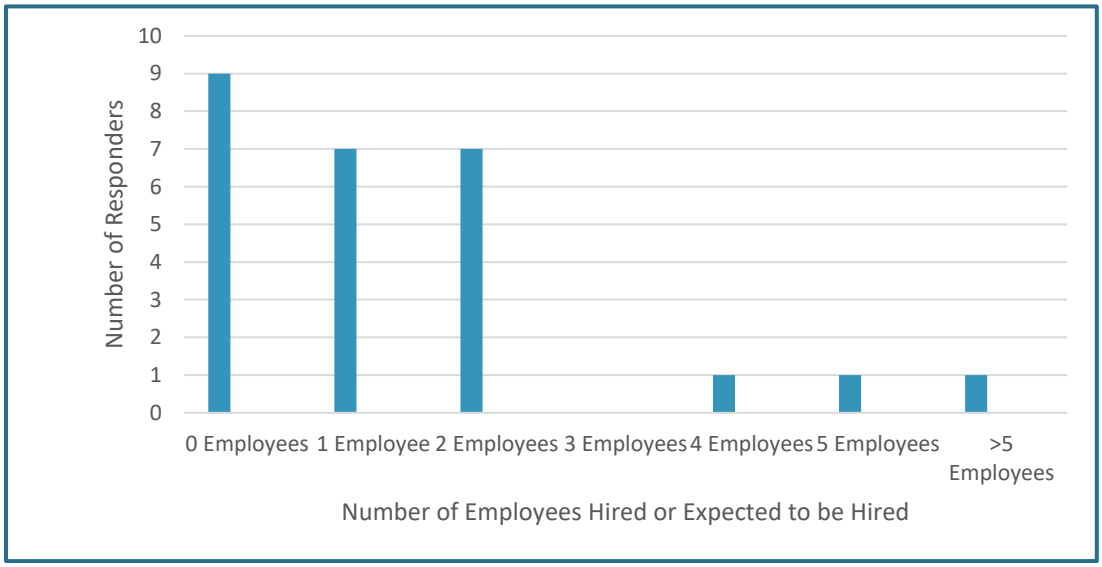


Figure 9 presents the new hires Cohort A data analysis results using the approach described at the beginning of this section, and it shows that for institutions with new hires, the average total cost (Year One) is $220,251.

Figure 9, Cohort A Data Analysis: New Hires

Total New Hires Cost (Year One): (see App. 1, A)	Cohort A Responses	Average New Hires (Year One)	"Yes" Response (out of 22)	Average New Hires (Year One): (per "Yes" response)
$3,083,510	22	$140,160	**14**	**$220,251**

Information for Cohort B is provided in Figure 10.

Figure 10, Cohort B Data Analysis: New Hires

Institution Number	New Hire Costs
1	$87,500
2	$33,333
3	$67,500
4	0
Average New Hire Cost (Year One): (per "Yes")	**$61,111**

Notably, three of the four Cohort B institutions hired, or plan to hire, staff to implement the Disclosure Requirements. This data suggests that hiring new staff to implement the Disclosure Requirements may be independent of federal research volume, but, as previously noted, the limited sample size of Cohort B makes it difficult to draw conclusions.

OPPORTUNITY COSTS

Opportunity costs are the "hidden" (but real) costs that are realized when one activity is foregone in lieu of engaging in a new activity. Opportunity costs were determined by asking the survey responders to indicate how many existing employees (and their corresponding effort) would be reallocated from current duties to new duties associated with the Disclosure Requirements. In addition to (or in some cases, in lieu of) hiring new employees, 84% of the institutions (22 out of 26) across both Cohorts A and B reported reallocating substantial responsibilities associated with the new disclosure requirements to existing employees. Institutions that responded "yes" to this question also indicated the approximate salary (plus benefits) applicable to the staff for whom responsibilities were being reallocated.

These existing employees work in sponsored programs, compliance, conflict of interest, and other central administrative units. The number of employees to which these additional responsibilities were reallocated is shown below in Figure 11 and ranges from one employee (reported by four institutions) to more than five employees (reported by five institutions). Clerical/operational staff and senior staff were the two main categories of employees to whom responsibilities were most frequently reallocated. The four institutions that did not/will not significantly reallocate responsibilities related to the Disclosure Requirements cited multiple reasons for this approach including delegating a smaller percentage of effort among a larger number of employees and incorporating the duties into existing processes that already were overburdened.

Figure 11: Institutions that Reallocated (or Will Reallocate) Significant Duties Related to the Disclosure Requirements to Existing Employees and the Number of Employees to Whom Such Duties Were (or Will Be) Reallocated

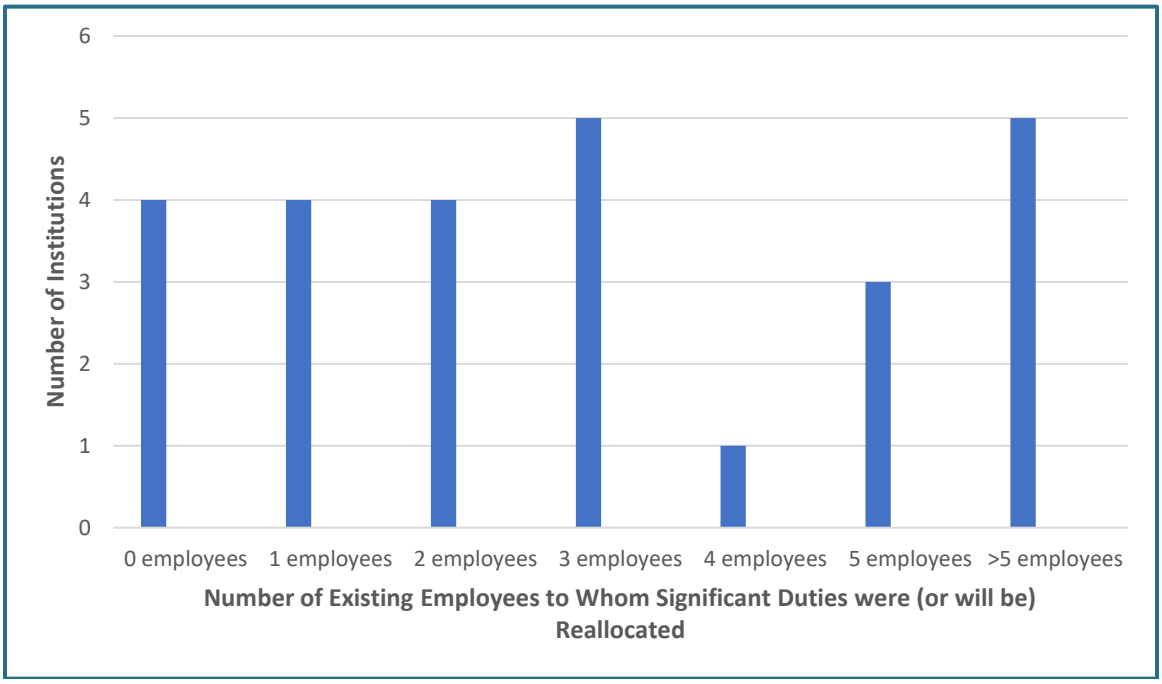


Figure 12 below presents the Cohort A opportunity cost data analysis results using the approach described at the beginning of this section. Figure 12 demonstrates that the average total cost (Year One) was $105,650 for institutions that reallocated duties.

Figure 12, Cohort A Data Analysis: Opportunity Cost

Total Opportunity Cost (Year One): (see App. 1, A)	Cohort A Responses	Average Opp. Cost (Year One)	"Yes" Response (out of 22)	Average Opportunity Cost (Year One): (per "Yes" response)
$2,007,357	22	$91,243	**19**	**$105,650**

Information for Cohort B is provided in Figure 13.

Figure 13, Cohort B Data Analysis: Opportunity Cost

Institution Number	Opportunity Cost
1	0
2	$43,000
3	$30,000
4	$60,000
Average Opp. Cost (Year One): (per "Yes")	**$44,333**

Opportunity cost can be construed as a "more flexible" cost than that of a new hire. After a new employee is hired, that cost (most likely) is a permanent one and recurs annually. Opportunity cost can also be shifted more easily based on the greatest and immediate needs of an institution. However, this flexibility does not make opportunity costs any less real or impactful to an institution. While an opportunity cost can be "hidden" in the short term, over the long term, it becomes increasingly difficult for existing staff to address continually increasing compliance responsibilities. Further, addressing opportunity costs over the long term can be more difficult for smaller institutions that have fewer employees among which to reallocate additional duties.

INFORMATION TECHNOLOGY (IT) COSTS

Figure 14 demonstrates that 22 of the 26 responders in both Cohorts A and B reported they have incurred, or will incur, new IT costs to address the Disclosure Requirements. In other words, 85% of Phase I responders have, or will, purchase new IT systems (e.g., software, applications, or hardware) or make changes to existing systems.

Figure 14, Institutions that Have Purchased or Will Purchase New, or Make Changes to Existing, IT Systems/Components to Address Disclosure Requirements

Some types of activities for which costs were, or will be, incurred include the purchase of new tools or software, as well as programmer and consulting time. Many institutions noted the need for programmers and consultants to carry out activities related to providing funding agencies with supporting documentation, such as implementing electronic signatures capabilities for researcher attestations and licenses for software to translate contracts that were not in English. Costs also

were reported for coordination of various systems used for the disclosure of information concerning conflicts of commitment, conflicts of interest, and other information.

Figure 15 below presents the IT cost data analysis for Cohort A using the approach described at the beginning of this section. Institutions that reported IT costs associated with implementation of the new Disclosure Requirements were confident of one-time costs they reported, both those incurred to date and those anticipated to be incurred near term. While many respondents expected some IT costs to be annual, recurring costs (e.g., software licensing fees), it was more difficult to accurately estimate these recurring costs based on available data, and consequently, these costs were excluded from the analysis. Nevertheless, the results of the survey confirm that IT costs are a significant component of the cost burden associated with the Disclosure Requirements.

Figure 15, Cohort A Data Analysis: Information Technology (IT)

Total IT Cost (Year One): (see App. 1, A)	**Cohort A Responses**	**Average IT Cost (Year One)**	**"Yes" Response (out of 22)**	**Average IT Cost (Year One): (per "Yes" response)**
$3,235,110	22	$147,050	**21**	**$154,053**

Information for Cohort B is provided in Figure 16.

Figure 16, Cohort B Data Analysis: Information Technology (IT)

Institution Number	**IT Cost**
1	0
2	0
3	$50,000
4	0
Average IT Cost (Year One): (per "Yes")	**$50,000**

Only one of the four institutions in Cohort B reported incurring IT Costs. This observation may suggest that smaller institutions have more resource restrictions when it comes to accessing new IT solutions and associated consulting services, and/or that more of these tasks are being performed manually.

PREPARATION, TRAINING & OTHER COMPLIANCE COSTS

Phase I collected data on the following three classes of costs relating to compliance with the Disclosure Requirements, each of which is discussed below: (a) preparation activities; (b) training activities; and (c) other compliance activities, including work to comply with requirements that were unique to a specific funding agency. All 26 Phase I responders reported some form of preparation, training, or other compliance activity, both as one-time, targeted activities in anticipation of the new Disclosure Requirements, as well as recurring, ongoing activities (e.g., annual training). In view of the crossover nature of many of these activities, their associated costs were combined and reported under the "Preparation, Training, and Other Compliance Costs" heading.

Preparation Activities: This category encompasses a wide range of activities, including the development of new policies and processes, informational meetings, intra- and inter-departmental staff meetings, and active engagement with faculty and academic department administrators. One hundred percent of responders across both cohorts reported engagement in these types of activities.

In addition, 17 of the 26 Phase I responders reported undertaking targeted preparation activities that include the formation of committees or working groups to develop and implement processes, policies, and training, and to conduct other activities necessary to implement the Disclosure Requirements. These committees/working groups include both administrators and faculty as members. Institutions that did not form new committees/working groups, reported using or re-purposing existing committees/working groups to analyze the Disclosure Requirements and determine how they should be addressed, using *ad hoc* groups for this purpose, or considering the establishment of a new committee.

Training Activities: Twenty-four of 26 Phase I responders (92.3%) reported training personnel on the Disclosure Requirements. Costs associated with training activities include the development or purchase of training modules and materials for both online and in-person training sessions for PI/SR./Key Personnel. Institutions also incurred costs for time associated with hiring personnel to manage training programs, as well as employee hours required to integrate new material into existing training systems and to conduct training. Furthermore, institutions reported that training would be an ongoing activity, and thus costs would continue to be incurred.

Other Compliance Costs: Institutions were asked to report any additional costs associated with Disclosure Requirements compliance that they had not previously reported, and over half of the survey responders reported incurring such costs. Examples include legal and consulting fees, translation costs, and staff training to learn what compliance with the Disclosure Requirements would entail for process and training development (as opposed to training PI/Sr./Key Personnel on their disclosure responsibilities, above). This category also includes compliance activities necessary to fulfill requirements unique to a specific funding agency, such as the NIH requirement to routinely provide translated copies of certain foreign contracts as supporting documentation. While not consistently identified as significant in the survey, some institutions did identify these agency-specific costs, and it is expected that more will do so as agency policies are finalized.

Faculty and Investigator Burden: Limitations of the survey methodology made engagement with faculty and investigators impractical, and consequently, estimates of the cost impact associated with these individuals are not part of the final survey results. Nevertheless, COGR anticipates that faculty and investigator burden will be significant given the extent to which disclosure and training activities focus on these individuals. The Federal Demonstration Project––an organization that includes federal and research institution members—has estimated that faculty administrative effort associated with federal research awards historically has exceeded 40% of the total research effort,[26] and implementation of the new Disclosure Requirements likely will increase this number.

Figure 17 below summarizes Cohort A data for the Preparation, Training and Other Compliance activities component of the cost burden associated with the Disclosure Requirements. Note, since all 22 survey respondents indicated "Yes," the average columns are identical.

Figure 17, Cohort A Data Analysis: Preparation, Training, Other Compliance

Total Prep., Training, Other (Year One): (see App. 1, A)	Cohort A Responses	Average Prep., Training, Other Cost (Year One)	"Yes" Response (out of 22)	Average IT Cost (Year One): (per "Yes" response)
$1,442,217	22	$65,555	**22**	**$65,555**

Information for Cohort B is provided in Figure 18.

Figure 18, Cohort B Data Analysis: Preparation, Training, Other Compliance

Institution Number	Prep., Training & Other Costs
1	$962
2	$27,692
3	$721
4	$100
Average Prep., Training, & Other (Year One)	**$7,369**

As with recurring IT Costs, it was difficult for institutions in both cohorts to accurately estimate which of their preparation, training, and other compliance costs will be annual, recurring costs, and thus these recurring costs were excluded from the analysis. Nevertheless, the results of the

[26] Federal Demonstration Project, 2018 Faculty Workload Survey.

survey confirm that costs in this category are a significant component of the fiscal burden associated with the Disclosure Requirements.

Additional Considerations

The data obtained from Phase I not only serves to estimate costs to comply with the new Disclosure Requirements, but also provides a mechanism for examining larger questions in the context of "inappropriate foreign influence," including:

- **Return on Investment (ROI)**: What is the ultimate goal of the Disclosure Requirements and research security provisions, and how will the federal government measure success? How should both research institutions and the federal government evaluate their "return on investment" for the resources they are committing to ensure compliance? Are security provisions sufficiently risk-based, both in terms of the type of research being conducted and the nature of the threats to that research?

- **Unintended Consequences**: What are the negative unintended consequences (e.g., reduced beneficial international collaborations) that may "discount" the ROI, and if so, how should that discount be measured?

- **Allocation of Costs**: As discussed further below, at present, institutions must absorb all costs associated with the Disclosure Requirements. Further, although NSF plans to fund the development of certain research security training materials and other online resources that institutions may use, institutions also are likely to bear the majority of costs associated with impending research security program requirements. Given the important national security and economic goals at stake, how can institutions best foster discussions with OSTP and government agencies regarding how costs are shared? Further, how can OSTP better ensure cross-agency requirement consistency, thus enabling more effective and efficient institutional compliance processes to reduce institutional cost and promote compliance?

- **Opportunity Costs**: The Phase I data indicates substantial reallocation of duties assigned to existing employees to address the new Disclosure Requirements. What are the areas from which effort has been diverted, and what is the impact of the reallocation on other compliance obligations?

- **Barriers to Entry**: Will compliance costs serve as a barrier to entry for smaller to mid-size institutions? What impact will these costs have on emerging and/or growing research institutions? Although there is a financial threshold for the establishment of a research security program requirements, there is no threshold for compliance with the Disclosure Requirements, and the associated costs are significant.

Each of these topics raises important questions, and we encourage federal policy leaders to consider these issues and to work with the research community to ensure that the ongoing implementation of NSPM-33 is done with comprehensive view of all impacts on the research ecosystem and with flexibility to address concerns.

How to Pay?

Finally, and importantly, the question of "how to pay?" must be considered. While research institutions are committed to maintaining a robust compliance infrastructure, the government and institutions must be transparent regarding the costs of such compliance and how these costs are allocated between research institutions and the federal government. Mitigating inappropriate foreign influence on federally funded research is an important national security and economic issue, and in matters of national security, the resources of the federal government must be leveraged.

Title 2 of the Code of Federal Regulations, *Grants and Agreements*, includes Part 200—*Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards*. Section 200.100(c) of Title 2[27] describes the partnership between research institutions and the federal government as it relates to the equitable sharing of costs:

> *Cost principles.* Subpart E of this part establishes principles for determining the allowable costs incurred by non-Federal entities under Federal awards … ***The principles are designed to provide that Federal awards bear their fair share of cost*** recognized under these principles except where restricted or prohibited by statute. [emphasis added]

While this requirement is helpful, Appendix 3, C.3.a. to Title 2, Part 200[28] severely limits the federal government's "fair share" contribution:

> Notwithstanding the provisions of subsection C.1.a, the administrative costs charged to Federal awards awarded or amended (including continuation and renewal awards) with effective dates beginning on or after the start of the institution's first fiscal year which begins on or after October 1, 1991, ***must be limited to 26%*** of modified total direct costs (as defined in subsection 2) for the total of General Administration and General Expenses, Departmental Administration, Sponsored Projects Administration, and Student Administration and Services … [emphasis added]

The 26% limitation is solely applicable to institutions of higher education. Given that nearly all colleges and universities, irrespective of size, exceed this 26% cap, it is clear that current cost reimbursement mechanisms available to research institutions ensure that federal awards will ***not***

[27] eCFR: 2 C.F.R. § 200.100 -- Purpose.
[28] eCFR: Appendix III to Part 200, Title 2 -- Indirect Costs Identification and Assignment, and Rate Determination for Institutions of Higher Education (IHEs)

bear their fair share of costs as stipulated in 2 C.F.R. Consequently, colleges and universities that conduct federally sponsored research are the ***only*** category of the federal government's grantee partners that is limited in its recovery of research compliance costs in this manner.[29] The administrative cap and its impact on the fair allocation of costs is an issue that has persisted for over three decades. Further, even when certain costs are permitted as direct charges, this does not provide an adequate solution if the project budget, as a whole, is not increased.

Institutions acknowledge the importance of the disclosure and upcoming research security program requirements, and they are committed to compliance with these requirements, just as they have done with prior compliance requirements. Yet, an even more critical factor to meeting national security and economic goals is the continued ability of the United States' leading universities to conduct cutting-edge scientific research and prepare the next generation of scientists. Equitable cost-sharing between universities and their federal partners is key to this endeavor, and thus, the time to address the issue of fair cost sharing for the national academic research enterprise is now.

Recommendations

The results of the COGR Phase I survey demonstrate that the cost impact on research institutions is significant. Without a strategy for how the federal government will address its fair share of this cost burden, ***research institutions of all sizes*** will be challenged to maintain an appropriate research compliance infrastructure. Accordingly, COGR suggests that OSTP and other research agency partners consider the following actions to reduce administrative burden and more equitably address costs associated with the Disclosure Requirements:

- OSTP, in partnership with OMB, should be designated as the central entity to enforce harmonization across all federal agencies. All proposed grant and contract requirements in this area should be provided to the research community for review and comment prior to their implementation, and, of course, any rulemaking should adhere to the notice and comment provisions of the Administrative Procedure Act.[30] ***All new rules and compliance requirements must be considered in the context of the new administrative and cost burden that they introduce, and failure to do so will harm researcher productivity, and ultimately, put at risk universities' ability to deliver cutting-edge research.***

- OSTP, in partnership with OMB and the research funding agencies, should advocate for the adoption of an addendum to or revision of 2 CFR Part 200 that addresses the administrative cost recovery limitation on colleges and universities. This approach would permit the federal government to fulfill its commitment to assume a "fair share" of the cost burden. One promising proposal is to amend 2 CFR Part 200 to recognize certain compliance costs as exempt from the administrative cost recovery limitation. ***Addressing this issue now is critical, especially as it relates to smaller and emerging research***

[29] *See*, COGR, *List of Regulatory Changes Since 1991* (Sept. 7, 2022).
[30] We note that the recent "Creating Helpful Incentives to Produce Semiconductors (CHIPS) and Science Act of 2022" (P.L. 117-167)) assigns to OSTP the task of ensuring consistency among federal agency policies with respect to the implementation of certain research security provisions (see., e.g., § 10634(a)(2)). However, OSTP is not provided with any authority to enforce harmonization.

institutions who are disproportionately impacted by the administrative cost recovery limitation. Not doing so will effectively prevent the participation of emerging research institutions in federally funded research endeavors.

- OSTP, and all federal agencies and policy leaders, should continue to engage with stakeholders in the research community to gather information on the impact of new research security requirements in terms of administrative and cost burden, as well as assessing the effectiveness of such measures. Agencies should use this data to determine whether the "return" from these measures supports the "investment" that institutions are being called upon to make. ***COGR is in a unique position to work with institutions in gathering impact data and stands ready to assist its federal partners in this regard.***

Under the leadership of OSTP and research funding agency partners, implementation of these actions will effectively advance the "how to pay?" question, facilitate the mitigation of "inappropriate foreign influence," and help assess the return on investment for research security measures associated with federally funded research.

These are challenging times in both the areas of national security and fiscal constraints, and research institutions take seriously the need for robust, risk-based research security measures that protect federally supported research. However, the cost burden associated with such matters is real and significant and must be dealt with openly and equitably. Discussions on this front must be data-driven, and the evidence that COGR presents in this report makes clear that research security costs will have a significant fiscal impact on research institutions and may prevent some institutions from participating in federally funded research.

We hope that the data and recommendations presented here will help to advance collaborative and beneficial discussions between research institutions and their federal partners as we work together to develop equitable solutions in the complex arena of research security.

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COGR is grateful to the 26 institutions that participated in the Phase I Survey. Their thoughtfulness and patience resulted in high-quality data that enabled COGR to make definitive conclusions based on the survey results.

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The Council on Governmental Relations (COGR) is an association of over 200 public and private U.S. research universities and affiliated academic medical centers and research institutes. We are a leading voice on the impact of federal regulations, policies, and practices on the performance of research conducted at our member institutions—and when appropriate, we regularly advocate for reducing administrative burden associated with federal regulation. Learn more about COGR at www.cogr.edu.

Appendix 1: Survey Results by Institution

Figure A, Total Cost per Institution for all Institutions in Cohort A

Resp.	HERD 2020 Federal R&D (as a range)	New Hires	Opportunity Cost	IT Cost	Prep, Trn. & Other Cost	Projected Year One Cost
1	$100 - $199 M	$84,000	$64,800	$2,000	$7,181	**$157,981**
2	$100 - $199 M	$68,850	$18,500	$710,000	$42,000	**$839,350**
3	$100 - $199 M	$150,000		$2,000	$64,183	**$216,183**
4	$200 - $299 M			$50,000	$29,808	**$79,808**
5	$200 - $299 M		$24,750	$50,000	$9,856	**$84,606**
6	$300 - $399 M		$30,000	$2,000	$1,442	**$33,442**
7	$300 - $399 M	$159,600	$82,673	$875,000	$962	**$1,118,234**
8	$300 - $399 M		$240,200	$30,750	$356,479	**$627,429**
9	$400 - $499 M	$125,000	$75,000	$25,000	$16,212	**$241,212**
10	$400 - $499 M				$4,687	**$4,687**
11	$400 - $499 M	$186,200	$108,000	$80,000	$94,808	**$469,008**
12	$400 - $499 M	$255,000	$97,500	$25,000	$6,010	**$383,510**
13	$400 - $499 M	$325,000	$252,000	$60,000	$18,750	**$655,750**
14	> $500 M	$135,000	$113,500	$2,000	$21,635	**$272,135**
15	> $500 M	$93,000	$69,850	$2,000	$13,942	**$178,792**
16	> $500 M		$180,000	$2,000	$84,135	**$266,135**
17	> $500 M	$562,000	$243,000	$150,000	$514,303	**$1,469,303**
18	> $500 M	$203,185	$72,124	$872,360	$22,769	**$1,170,438**
19	> $500 M	$100,000	$94,000	$2,000	$21,635	**$217,635**
20	> $500 M		$114,975	$250,000	$7,212	**$372,187**
21	> $500 M		$74,300	$41,000	$54,212	**$169,512**
22	> $500 M	$636,675	$52,185	$2,000	$50,000	**$740,860**
	TOTALS	**$3,083,510**	**$2,007,357**	**$3,235,110**	**$1,442,217**	**$9,768,194**
	AVERAGE	**$140,160**	**$91,243**	**$147,050**	**$65,555**	**$444,008**

Figure B, Costs for all Institutions in Cohort B

Resp.	HERD 2020 Federal R&D (as a range)	New Hires	Opportunity Cost	IT Cost	Prep, Trn & Other Cost	Projected Year One Cost
1	$15 - $49 M	$87,500	0	0	$962	**$88,462**
2	$15 - $49 M	$33,333	$43,000	0	$27,692	**$104,025**
3	$15 - $49 M	$67,500	$30,000	$50,000	$721	**$148,221**
4	$50 - $99 M	0	$60,000	0	$100	**$60,100**
	TOTALS	**$188,333**	**$133,000**	**$50,000**	**$29,475**	**$400,808**
	AVERAGE	**$47,083**	**$33,250**	**$12,500**	**$7,369**	**$100,202**