

## Understanding the Costs of Federally Sponsored Research at Universities

The Internet, GPS technology, and treatments for cancer and heart disease are just a few examples of the countless technologies, innovations, and medical breakthroughs that have resulted from research performed at U.S. universities and transformed our daily lives. Federal investments in university-based research benefit all Americans not only by producing the discoveries that serve as the foundation for technological and medical progress but also by training the next generation of scientists and innovators.

For the most part, universities are awarded research funds through a competitive grant process that helps ensure the best research ideas receive federal support. Federal research grants awarded to a university comprise two essential parts: Direct Costs and Facilities and Administrative (F&A) Costs, often referred to as Indirect Costs.

- **Direct Costs** – Direct research costs are what people generally think of when it comes to federal support of research projects. These costs solely support research that is about to take place and often include laboratory supplies, specific research equipment, salary support for researchers and lab personnel, and travel for conducting research or disseminating research results. This is the core of university research, and it's also where the bulk of the federal investment is spent.
- **Facilities and Administrative (F&A) Costs** – In order to perform research on behalf of federal agencies, universities incur a variety of other significant costs both leading up to and during a specific research project that they would otherwise not incur. F&A costs cover the portion of these infrastructure and operational costs related to federally-funded research. As described in more detail below, such shared costs include the maintenance of sophisticated, high-tech labs specifically designed for cutting-edge, federally-sponsored research; utilities such as light and heat; telecommunications; hazardous waste disposal; and the infrastructure necessary to comply with various federal, state, and local rules and regulations. The federal government reimburses universities for the share of these university costs that are attributable specifically to federal research.

### **What sorts of expenses are considered F&A Costs?**

Universities and the federal government both contribute to the cost of supporting the environment and infrastructure necessary to keep labs running and research advances coming. Such shared costs include the portion of construction and upkeep of labs that are devoted to federally-sponsored research projects. These costs also include expenses such as utilities, telecommunications, radiation safety, hazardous waste disposal, security and fire protection, and liability insurance. F&A costs also cover the personnel, paperwork, and other costs involved in complying with various federal, state, and local rules and regulations. This includes, for example, compliance with human or animal subjects protection rules, biosecurity regulations, chemical safety rules, and regulations to manage conflicts of interest related to medical research. All of the costs are necessary in order to conduct the actual research. All are considered F&A costs only to the extent they are attributable to federally sponsored research.

### **How are F&A costs calculated?**

In theory, the federal government could seek to determine the exact share of F&A costs required for each individual research grant. However, federal agencies issue tens of thousands of grants annually, so such a system would be a costly bureaucratic nightmare. Instead, the government has developed a system that, while certainly not simple, provides predictable reimbursement rates and eliminates the need for repeated complex calculations leading to significantly increased government expense and inefficiency.

Whether it is the cost of building or maintaining a lab, fees for hazardous waste disposal, or operating a temperature-controlled room, what a university pays a vendor for items that fall under the F&A category will tend to cover a variety of projects, not solely for a specific federal research grant and not even solely for federal research. For example, a university may pay a \$5,000 quarterly fee for hazardous waste

*“There is ample support for the proposition that appropriately defined indirect costs of research incurred by universities should be fully recoverable. Indirect costs are **real** costs of research.”*

*-“Research Universities and the Future of America”, National Research Council, 2012*

disposal from its labs. Since only a portion of that hazardous waste may be the byproduct of federal research, guided by very strict rules established by the Office of Management and Budget (OMB) and overseen by the university's federal rate setting agency (either the Department of Defense's Office of Naval Research or the Department of Health and Human Services Division of Cost Allocation), the government pays only for the share of the waste produced during the course of federally sponsored research. It would be more costly, time consuming, and generally inefficient to have two separate hazardous waste disposal contracts – one for federal research and another for everything else.

In order to determine the level of reimbursement, a university and the federal government periodically assess all of these shared costs and work together to figure out the appropriate federal share. The overall figure is ultimately calculated *as a percentage of the amount the federal government awards for direct research costs* (not a percentage of the overall funds, which is a common misperception). For example, after reviewing all of the expected costs and looking at past research projects, a university and the federal government may determine that an amount equal to 50 percent of direct research costs is appropriate for the federal government to contribute toward F&A costs. In that case, if the federal government awards a university \$300,000 for the direct research portion of a grant, then it also awards \$150,000 for F&A costs, for a total of \$450,000 (therefore, the F&A costs make up 33 percent of the total federal grant). These overall institutional indirect cost rates are then applied uniformly to each grant to avoid the tedious and expensive process of computing the additional costs for individual awards. *(Note: In practice, the total F&A reimbursement would likely be slightly less since certain elements of direct costs are excluded from the F&A calculation.)*

### **How is accountability built into the F&A reimbursement system?**

Universities are always mindful of the imperative to use federal resources appropriately and contain costs while getting the most out of their research projects. In fact, it is worth noting that the total F&A costs for research performed by universities are, on average, comparable to, if not slightly less, than other research performers, such as federal laboratories and private contractors. Moreover, since 1991, OMB has maintained a cap on the percentage of government funds that can be provided to universities to cover administrative expenses (including costs incurred by the university to comply with federally mandated regulations).

The percentage resulting from the F&A calculation varies from university to university because actual costs vary based on a variety of factors that include geographic location, the condition of facilities and buildings, and the amount of renovation and construction needed to house certain types of research projects. A university's specific percentage rate is applied to all federal grants moving forward for a three- or four-year period. During that time, the federal government requires a rigorous review and audit of a university's facilities and administration expenses to ensure that the school is using the funds appropriately. The rate is reexamined at the end of that period, and upward or downward adjustments are made as warranted.

### **Universities and the federal government share the total cost of research**

The historic partnership between the federal government and research universities has produced tremendous returns on investment in the form of improvements in human health, transformative technologies, and the development of the world's best research workforce. All of these have benefitted our nation's security and prosperity. Performing research to benefit humankind is a fundamental mission of U.S. universities. Without the federal government's support of F&A costs, universities would not be able to carry out the research projects that may help develop the next vaccine or cure, or the next technological innovation. After all, the groundbreaking science that takes place in university labs could not happen if there were no labs.

Universities share a commitment to transparency, to careful stewardship of taxpayer dollars, and to conducting quality research and training. While the current system of F&A rates is complex, it is integral to the successful university-government partnership. Thus, universities continue to work with the federal government to identify ways to make this process even clearer and more effective.

## Frequently Asked Questions (FAQs) about the Indirect Costs of Federally Sponsored Research

### 1. Why does the federal government provide support for indirect costs of research?

In order to perform research on behalf of federal agencies, universities incur a variety of costs they would not otherwise have, both leading up to and while conducting a specific research project. Facilities and Administrative (F&A) costs, often referred to as indirect costs, cover a portion of the university's infrastructure and operational costs related to federally-funded research. Such shared costs encompass the maintenance of sophisticated, high-tech labs for cutting-edge research; utilities such as light and heat; telecommunications; hazardous waste disposal; and the infrastructure necessary to comply with various federal, state, and local rules and regulations.

### 2. How do universities spend indirect cost payments from the federal government?

Indirect cost payments are actually reimbursements for costs that universities have *already* paid for expenses incurred in conducting federally-sponsored research. Universities and the federal government both contribute to the cost of supporting the infrastructure and environment necessary to keep labs running and research advances coming. Universities typically pay many of these costs in advance, and the federal government reimburses them for part of that expense. Such shared costs include the portion of construction and upkeep of labs that are devoted to federally-sponsored research projects. These costs also include expenses such as utilities, telecommunications, radiation safety and hazardous waste disposal, security and fire protection, and liability insurance. F&A costs also cover the personnel, paperwork, and other costs involved in complying with various federal, state, and local rules and regulations. This includes, for example, compliance with human or animal subjects protection rules, biosecurity regulations, chemical safety rules, and regulations to guard medical research from conflicts of interest. Research could not be conducted without these necessary expenses.

### 3. Is it true that some universities spend up to 50 to 75 percent of the funds they receive from the federal government to pay for indirect costs?

No, it is not true. A university's indirect cost rate does NOT indicate the percentage of the total federal research grant spending for indirect costs. Rather, a second calculation must be done to determine that percentage.

Here's how it works: In order to determine the level of reimbursement, a university and the federal government periodically assess all of these shared costs and work together to figure out the appropriate federal share. The overall figure is ultimately calculated *as a percentage of the amount the federal government awards for direct research costs* (**not** a percentage of the overall funds, the figure most people see, which is a common misperception).

For example, after reviewing all of the expected costs and looking at past research projects, a university and the federal government may determine that an amount equal to 50 percent of direct research costs is appropriate for the federal government to contribute toward F&A costs. In that case, if the federal government awards a university \$300,000 for the direct research portion of a grant then it also awards \$150,000 for F&A costs, for a total of \$450,000. These overall institutional indirect cost rates are then applied uniformly to each grant at the university to avoid the very tedious and expensive process of computing the additional costs for individual awards. *(Note: In practice, the total F&A reimbursement would likely be slightly less since certain elements of direct costs are excluded from the F&A calculation.)*

**4. Do universities contribute any of their own funds towards research or do they only use federal and state dollars to support research?**

Yes, universities use their own funds for research. Universities are the second leading sponsor of research conducted on their campuses. They fund nearly 20 percent of university research expenditures – significantly exceeding the combined total of state, industry, foundation, and other non-federal support which equals only about 10 percent of total support for academic research. Over the past 20 years, according to National Science Foundation (NSF) data, the university share of support for university-based research has grown faster than any other sector. Included in this amount are the costs of compliance and administration which are above the cap for which the federal government reimburses costs; universities subsidize these costs from their own financial resources.<sup>i</sup>

**5. How does what the federal government pays to universities for indirect costs on research compare to what the government pays for other performers of government research, such as the national laboratories or industrial contractors?**

Total F&A costs for research performed by universities are, on average, comparable to if not slightly less than other research performers, such as federal laboratories and private contractors. Moreover, since 1991, the Office of Management and Budget (OMB) has had in place a cap of 26 percent on the percentage of government funds that can be provided to universities to cover administrative expenses (including costs incurred by the university to comply with federally mandated regulations). Universities are the only sector with such a cap. They are always mindful of their responsibility to be good stewards of federal resources and to contain costs to get the most out of federal research project grants.

**6. Is the federal government actually subsidizing the work being sponsored by foundations and industry?**

No, this is prohibited by current OMB rules. Rules outlined in the OMB's Circular A-21 (which governs federally sponsored research at universities) specifically requires universities to ensure the federal government does not subsidize other non-federal activity in the reimbursements it provides for indirect costs associated with the performance of federal research. Under these rules, universities must demonstrate and explain exactly how they do that and thus are held accountable. In fact, all the funds received from any source go into the F&A base, from which the

rate is calculated. What this means is that additional dollars from foundations or industry go into the denominator of the rate calculation. This has the effect of *lowering* the final F&A rate, actually reducing the total reimbursement from the federal government.

**7. Why do federal grants need high indirect costs when universities accept grants from non-profit foundations with zero to low indirect costs?**

Historically, most foundations view their grants as supporting an activity or a scientist currently doing research in an area of science that falls within the mission of the foundation, therefore *supplementing* existing support the researcher or university has from other sources. Until recently, the amounts of funding provided by foundations have been relatively small, compared to what federal agencies provide, for example. This is still the case for many foundations, although fairly new foundations such as the Gates Foundations have provided much larger grants, with specific project goals and expectations. While these larger organizations acknowledge the reality and necessity of F&A costs, they continue to only pay 10 or 20 percent. So most universities decide to accept such grants, knowing that the university (not the federal government) will be subsidizing the research conducted under such grants, and possibly end up with a somewhat lower F&A rate in its next rate negotiation. This is one of the key ways universities leverage their own funds to support research.

**8. Are federal indirect cost payments being used to subsidize other campus accounts, such as athletics or construction? How does the government ensure accountability for these payments?**

No, this is prohibited by current OMB rules which require that indirect cost reimbursements be based ONLY on research space, not on education or other university facilities. Research costs are accounted for with a great deal of care. In recent years, federal agencies have increased audits and oversight of university accounts. The government requires yearly independent audits of university accounts in accordance with government prescribed guidelines in OMB Circular A-133. OMB has tightened the rules governing accountability several times over the past 15 years. In addition, historically, most research facilities have been planned and funded by universities. In committing to a major new research facility, a university assumes all of the risk. It plans the building, raises the capital, and then constructs the facility. Only after that process is completed – and then only if the faculty can successfully compete for research dollars – does the university recover some portion of the costs already incurred through its negotiated facilities and administrative cost rate. Again, indirect cost payments are actually reimbursements for allowable research expenses already paid for by universities.

**9. Why is there so much variation in indirect cost rates between institutions?**

The percentage resulting from the F&A calculation varies from university to university because actual costs vary based on a variety of factors that include energy costs for heating and cooling, which depends upon geographic location, the age and condition of facilities and buildings, and the amount of renovation and construction needed to house certain types of research projects.

## **10. How often does a university's indirect cost rate from the federal government change?**

A university's specific percentage rate is applied to all federal grants moving forward for a three or four-year period. During that time, the federal government requires a rigorous review and audit of a university's facilities and administration expenses to ensure that the school is using the funds appropriately. The rate is reexamined at the end of that period, and upward or downward adjustments are made as warranted.

## **11. If the government cut back on the amount it was willing to pay for indirect costs, how would universities cover these costs?**

Universities have a limited number of funding sources. The primary funding sources for research universities to perform their research and educational missions are tuition, research grants and contracts, philanthropy, endowment income, and, in the case of public institutions, state appropriations. When universities are unable to recover the full allowable costs of research, they must rely on other primary funding sources to make up the difference. A cap on F&A costs might result in:

- institutions refusing to accept research awards that require significant institutional subsidy;
- the deterioration of research facilities as the risk becomes too great to invest institutional funds;
- a substandard compliance environment because institutions cannot afford to pay for mandated compliance costs; and,
- increases in tuition rates to cover costs that have been shifted to the institution.

Each of these would result in harm to not only the institutions conducting research, but the nation which would lose its competitive edge in science and innovation.

## **12. Has the percentage of federal funding going towards indirect costs changed over time?**

Indirect costs recovered by both public and private institutions across the nation have remained, as a fraction of total costs, flat for decades. For example, according to NIH's FY2014 Congressional Justification, the agency's percent of total funding going towards indirect costs has remained unchanged, at approximately 27-28% of total funding, for more than a decade.

*-- Prepared by the Association of American Universities and the Association of Public and Land-grant Universities – October 2013*

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<sup>i</sup> NSF is working to improve the data on university R&D expenditures, which currently relies on a faulty system of institutional self-reporting. In some instances where institutions have, for various reasons, not reported this information to the NSF, they have inaccurately represented it in their data tables that the institution has not contributed any money to support research. In addition, many other institutions have been significantly underreporting the contribution they make to research.