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Council On Governmental Relations

Excellence in Research: The Funding Model, F&A Reimbursement, and Why the System Works

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COGR LEADERSHIP & CONTRIBUTORS

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Council on Governmental Relations Leadership

Sara Bible, COGR Board Chair, Associate Vice Provost for Research, Stanford University ***(Contributor)***

Wendy Streitz, COGR President ***(Contributor)***

Anthony DeCrappeo, (Retired) Former COGR President ***(Contributor)***

Lois Brako, COGR Board and Chair of COGR Research Regulatory Reform, Assistant Vice President for Research, Regulatory and Compliance Oversight, University of Michigan,

Cynthia Hope, COGR Board and Chair of COGR Costing Policies, Assistant Vice President for Research, University of Alabama (***Editor and Contributor)***

Patrick Schlesinger, COGR Board and Chair of COGR Contracts & Intellectual Property, Assistant Vice Chancellor of Research Administration and Compliance, University of California Berkeley

Pamela Webb, COGR Board and Chair of COGR Research, Compliance and Administration, Associate Vice President for Research, University of Minnesota ***(Contributor)***

David Kennedy, COGR Vice President and Costing Policies Director ***(Editor and Contributor)***

Toni Russo, COGR Administrative Officer and Policy Analyst ***(Project Manager and Contributor)***

Contributors

Robert Andresen, Director of Research Financial Services and Associate Director in the Office of Research and Sponsored Programs, University of Wisconsin Madison

Sarah Axelrod, COGR Costing Policies, Assistant Vice President for the Office of Sponsored Programs, Harvard University

Susan Camber, Associate Vice President and Controller, University of Washington

Kimberly Croft, Senior Director, Research Administration for the Office of the Corporate Controller, Pennsylvania State University

Michael Daniels, COGR Costing Policies and Board Member, Executive Director, Research Financial Operations, Northwestern University

Amanda Dotson, COGR Costing Policies, Director for the System Internal Audit Department, A&M University System

Stephanie Endy, COGR RCA Committee, Associate Vice President for Research, Case Western University

James Fortner, COGR Costing Policies, Associate Vice President for Financial Services, Georgia Institute of Technology

Joseph Gindhart, COGR Costing Policies and Board Member, Associate Vice Chancellor for Finance and Sponsored Projects, Washington University in St. Louis

Vivian Holmes, COGR Costing Policies Committee, Assistant Dean for Research Administration, Boston University School of Public Health

Michael Legrand, COGR Costing Policies, Cost Policy and Analysis, University of California, Davis

Brian Lehman, Director, Public Affairs, Association of American Medical Colleges (AAMC)

Nate Martinez-Warman, COGR Costing Policies, Director for Sponsored Programs, Duke University

Lynn McGinley, COGR Costing Policies and Board Member, Assistant Vice President, Sponsored Programs Accounting and Compliance at University of Maryland Baltimore

Ross McKinney Jr., M.D., Chief Scientific Officer, The Association of American Medical Colleges (AAMC)

Michael Moody, COGR Costing Policies, Institute Auditor, Association of College & University Auditors Representative, Institute Auditor at Massachusetts Institute of Technology

Matt Owens, Executive Vice President and Vice President for Federal Relations, Association of American Universities (AAU)

Elizabeth Peloso, COGR CIP Committee and Board Member, Associate Vice President & Associate Vice Provost, Office of Research Services, University of Pennsylvania

Jennifer Poulakidas, Vice President, Congressional & Governmental Affairs, Association of Public and Land-grant Universities (APLU)

Twila Reighley, COGR RCA Committee and Board Member, Assistant Vice President for Research and Innovation, Michigan State University

Kevin Roberts, Senior Finance Analyst, Research Finance, Mayo Clinic

Jennifer Rodis, COGR RCA Committee Member, Policy Analyst of Research and Sponsored Programs, University of Wisconsin-Madison

Jeffrey Silber, COGR Costing Policies and Board Member, Senior Director of Sponsored Financial Services, Cornell University

Marcia Smith, COGR Costing Policies, Associate Vice Chancellor for Research Administration, University of California, Los Angeles

Tobin Smith, Vice President for Policy, Association of American Universities (AAU)

Cathy Snyder, COGR Costing Policies and Board Member, Director of Contract and Grant Accounting, Vanderbilt University

Krystal Toups, Assistant Vice Provost for the Office of Sponsored Projects and Research Compliance, Rice University

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EXECUTIVE SUMMARY

The Council on Governmental Relations (COGR), established in 1948, is an association of 190 leading universities and research institutions and is nationally recognized as the technical expert on a wide range of research policy issues, including how the research funding model works in the United States. Member institutions conduct more than $70 billion in research and development activities each year and play a major role in performing basic research on behalf of the federal government. COGR brings a unique perspective to research regulatory and issues and focuses on the influence of federal regulations, policies, and practices on the performance of research and other sponsored activities.

This paper, *Excellence in Research: The Funding Model, F&A Reimbursement, and Why the System Works*, describes how a reliable "Facilities and Administrative" (F&A) cost reimbursement policy is critical to the continued success of the U.S. research enterprise. The paper also provides a strong educational foundation for understanding how the current system works and explores potential improvements.

"Excellence in Research" provides a robust educational foundation on how the research funding model works and makes the strong assertion that the system is efficient and effective. Further, a reliable F&A cost reimbursement policy is imperative to the continued success of the U.S. research enterprise.

Excellence in Research addresses equitable reimbursement of F&A costs, how the F&A cost rate works, misunderstandings and myths, and related topics. Discussions include:

Brief History (Chapter 1) provides background on how the funding model has evolved since the 1930's and has had a significant, positive impact on the nation's status as the global leader in research. This historical perspective draws on the insights of key policy-makers, including past and present White House science office advisors, Vannevar Bush and Kelvin Droegemeier, and encourages stakeholders to understand the history of and the important role that F&A costs play in securing a stable U.S. research enterprise.

F&A for the Non-Accountant (Chapter 2) explains F&A costs in a simple, straightforward way, including everyday terminology, clarifying examples, case studies, and graphics.

F&A Nuts and Bolts (Chapter 3) describes in more detail the calculation and application of F&A cost rates that research institutions and the federal government use to determine federal reimbursements for institutions' F&A costs. While Chapter 2 is designed to simplify the

complexities, Chapter 3 enters into the details of the F&A cost rate calculation process. Key to the discussion is the role of 2 CFR 200 – *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (i.e., Uniform Guidance), managed by the Office of Management and Budget (OMB), and how the Uniform Guidance directs the F&A process.

Oversight and Audit (Chapter 4) depicts the value provided by the current oversight and audit infrastructure. This system helps to ensure effective administration of federal awards and provides assurance to stakeholders that F&A cost rates are tightly regulated and controlled. This infrastructure includes a wide variety of federal entities, auditors, and oversight bodies led by dedicated oversight and audit professionals who together safeguard federal awards, ensure compliance with federal requirements, and confirm that negotiated F&A cost rates fairly reflect the true F&A costs of the awards.

The next two chapters; ***Policy and Special Topics (Chapter 5) and The Facts (Not Myths) (Chapter 6)*** explore a variety of topics that prompt interesting and challenging policy discussions on F&A costs and their reimbursement. The chapter on facts and myths emphasizes the importance of data-driven, informed discussion around F&A, debunking common myths that mispresent the facts and are unproductive to policy discussions on F&A cost reimbursement.

The Administrative Cap and Burden (Chapter 7) describes the origin of the 26% administrative cap that was implemented in 1991 and is applicable only to colleges and universities. The link between the 26% cap and regulatory and administrative burden is well-known: Any new federal rule or regulation is an increase in the cost of compliance, and when the actual administrative portion of the F&A cost rate already exceeds the 26% cap, there is no mechanism to recover the compliance costs associated with the new regulation. In effect, the cost of complying with any new federal regulation is paid in full by the university. ***Appendix 2, Managing Burden***, provides an expansive discussion of regulatory and administrative burden.

Why the Current System Works (Chapter 8) contends that, although the current system always should be subject to critical review, it is based on sound principles and for decades has helped to foster the partnership between recipients of research funding and the federal government. The chapter documents the 5 reasons why the system is efficient, effective, and fuels the economy via jobs and economic growth.

Alternative Systems (Chapter 9) describes alternative models to the current system. While some of the alternative models could have benefits, unintended consequences may present significant risk to the stability of the U.S. research enterprise. Any proposed changes to the current system should be carefully evaluated and closely scrutinized by all key stakeholders.

Improving the Current System (Chapter 10) concludes the paper with 5 recommendations designed to enhance the current system and provide a forum for regular engagement by key stakeholders and policy leaders. The recommendations are:

1. **Better Language and More Transparency**. *Incorporating both into policy documents, campus communications, and other media can contribute to better communication across all stakeholders.*

2. **More Flexibility in Direct Charging**. *Allowing this flexibility can result in a more equitable allocation of costs and a more fair reimbursement process.*

3. **Meaningful Reduction in Regulatory Burden**. *Doing so could result in new efficiencies, and ultimately reduce the cost of compliance at research institutions.*

4. **Leverage the Uniform Guidance**. *Building upon this platform can further enhance grants administration reform, as well as improvements specific to F&A cost reimbursement.*

5. **Convene F&A Roundtables with Key Stakeholders**. *These forums can offer the opportunity to address the nuanced technical issues of F&A cost reimbursement, as well innovative practices and opportunities to improve the system.*

All five recommendations are attainable and provide the opportunity to advance the vision articulated by Vannevar Bush in the 1940s. Further, we hope *Excellence in Research* enhances the climate for productive dialogue, including policy discussions, about F&A cost reimbursement.

The success of the Government - Research Partnership is an impressive story, indeed. The research funding model and F&A cost reimbursement process are effective support systems of the U.S. research enterprise and should be valued for their ongoing contribution to our nation's excellence in research.

Excellence in Research is available online at the COGR Website, www.cogr.edu

CONTACT

Wendy Streitz □ President
(202) 289-6655, ext. 111 □ wstreitz@cogr.edu

David Kennedy □ Vice President and Costing Policies Director
(202) 289-6655, ext. 113 □ dkennedy@cogr.edu

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COGR appreciates the contributions of all its members in raising the challenges around research administration issues—and strategies for addressing these challenges—to the attention of their colleagues across the country. The COGR Costing Policies Committee, members of the Research Compliance & Administration (RCA) Committee, the COGR Board[1], and volunteers in the research administration community all made important contributions to this paper. ***Special recognition is given to the authors of and contributors to this paper, as shown at the front of the publication.***

[1] See https://www.cogr.edu/board-and-committees

INTRODUCTION

The core assumption underlying this paper is that the research enterprise in the United States is the finest in the world. No country can match the cutting-edge science and discoveries generated by researchers and investigators from our universities and nonprofit research institutions. Though countries like China and India are making huge investments in growing their research enterprises and could one day compete with our elite status, the fundamental infrastructure of the United States' system is healthy and the funding commitment by policymakers remains strong. Indeed, the research enterprise of the United States is thriving and well, but leaders in research policy, including organizations like COGR, need to keep the light shining brightly on important policy issues.

The Council on Governmental Relations[2] (COGR) is an association of almost 200 leading universities and nonprofit research institutions. COGR is nationally recognized as the technical expert on a wide range of policy issues, including how the research funding model works in the United States. COGR crafted this paper to focus primarily on this one facet of the research enterprise—***the Research Funding Model***—the longstanding, well-established, respected mechanism that underpins how research institutions are reimbursed for conducting research on behalf of the federal government.

This paper is particularly focused on "Facilities and Administrative" (F&A) cost reimbursement policy, within the context of the research funding model. F&A costs, also known as "indirect costs," are the real and tangible infrastructure costs that provide the foundation for our world-class investigators and researchers to do cutting-edge science. While widely accepted as crucial and real costs of conducting research, F&A cost reimbursement, at times, is a topic of consideration by federal policy makers.

The goal of this paper is to provide a basis for productive discussion so that research funding debates no longer are diverted by nonproductive disagreements about limitations on F&A cost reimbursement and misunderstandings about what is covered in the F&A cost rate.

In addition to setting the stage for productive discussion around the longstanding research funding model, and the role of F&A cost reimbursement, the paper addresses equitable reimbursement of

[2] More information on COGR can be found at www.cogr.edu. According to data from the 2017 National Science Foundation Higher Education Research and Development (HERD) Survey, member institutions conduct over $70 billion in research and development activities each year and play a major role in performing basic research on behalf of the federal government. COGR brings a unique perspective to regulatory and cost burden and focuses on the influence of federal regulations, policies, and practices on the performance of research and other sponsored activities.

F&A costs, how the F&A cost rate works, misunderstandings and myths, and related topics. The paper describes how a reliable F&A cost reimbursement policy is critical to the continued success of the research enterprise of the United States, while providing a strong educational foundation for understanding how the current system works and exploring potential improvements.

The Partnership

The United States' funding model is robust and unique: Twenty-six federal grant-making agencies[3] support the research mission of our country. Researchers and investigators are funded based on merit, and this competition among the best ideas is at the heart of what makes our system great. While federal awards are made to the institution, it is the researchers and investigators who generate the powerful ideas that fuel the process. Since these individuals are located across a diverse range of institutions spanning New Mexico to Maine and Georgia to Washington State, almost all congressional districts and all U.S. citizens receive the economic, medical, and other scientific benefits that are generated from the research enterprise.

A productive discussion must begin with an understanding of the underlying commitment of research institutions to the research enterprise and the importance of the continuing partnership with the federal government. These concepts are captured in the statement below from James Luther, Associate Vice President for Finance at Duke University and former COGR Board Chair, in his Written Testimony to the House Committee on Science, Space and Technology hearing titled "Examining the Overhead Cost of Research (May 24, 2017)":

> *The Nation's research institutions are active partners in research, providing the facilities, equipment and research personnel necessary to perform federally funded research. We fund one quarter of academic research, with the federal government funding over half, in a partnership that has made the U.S. scientific enterprise the envy of the world and this country the global leader in science and innovation. Declines in state funding for public universities, increasing regulations and reporting requirements, and federal F&A reimbursements that do not fully cover costs jeopardize this partnership. Any reduction in federal funding, including funding for research infrastructure, will result in less research, slower scientific progress, fewer medical treatments, fewer jobs, and likely fewer universities conducting research and undergraduates and graduate students educated in a research setting. Stable and consistent funding of the entire spectrum of research infrastructure and activities is necessary to maintain our standing. We need to remain at the forefront of innovation and continue to fully support our nation's research enterprise.*[4]

Research institutions are committed partners, but a sound, consistent, and reliable research funding model is critical to maintaining the nation's status as the global leader in research and innovation. Fair F&A cost reimbursement is key to the equation.

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[3] See grant-making agencies per Grants.gov: https://www.grants.gov/learn-grants/grant-making-agencies.html

[4] Full Oral Testimony: Examining the Overhead Costs of Research, May 24, 2017 (Oral Testimony)
Written testimony: Examining the Overhead Cost of Research, May 24, 2017 (Written Testimony)

F&A costs are real costs of conducting research and include:

- Constructing and maintaining technologically advanced research laboratories
- Protecting human and animal subjects in research
- Safeguarding the community from dangerous chemicals and biohazard waste
- Ensuring reliable financial stewardship
- Providing high-speed data processing and technology
- Supporting numerous other compliance and administrative activities that help researchers conduct their research in the least-burdensome environment possible

Such costs are unmistakably necessary for an institution to perform research. However, how the amounts attributable to research are calculated and who should pay for the various types of F&A costs are questions that, at times, are not answered to the satisfaction of either the research institutions or their funders. This, in large part, may be due to the intricate system that has developed over the years to accommodate the variety of circumstances and factors that impact F&A costs.

The current system for determining indirect cost reimbursement is based on longstanding principles developed by the Office of Management and Budget (OMB). The foundation of the system has withstood the test of time, is remarkably efficient and effective, and protects federal funds and taxpayers. Nonetheless, a review of the system in today's environment is a worthwhile endeavor. In this paper, we suggest improvements and support periodic, honest evaluation of the current system. We address opportunities and ideas for improvement to the current system in Chapter 10.

We also take seriously the importance of responsible dialogue when stakeholders address the topic of F&A costs. This includes federal policy leaders, university and research institution administrators, faculty and academic leaders, advocacy associations, and the media. In order to discuss the topic responsibly, all groups must grasp the basic concepts, recognize and put aside myths, ***and regularly affirm a commitment to the Government - Research Partnership***. This paper aims to facilitate conscientious and productive discussion.

To discuss the topic of F&A costs responsibly, it is important for all stakeholders to grasp the basic concepts, recognize and put aside myths, and regularly affirm a commitment to the Partnership.

The COGR E-Library contains many documents and other communications addressing the research funding model. The role of F&A costs is an important component of the E-Library. This paper builds on the E-Library and attempts to serve as an educational piece for various stakeholders and policymakers, while also assembling and memorializing the valuable work preceding this

effort. In addition, this paper evaluates the current system for calculating, allocating, and requesting reimbursement of F&A costs and provides an overview of its history and current issues.

Research Excellence

The Government - Research Partnership has led to a United States research enterprise that is the finest in the world. The partnership's merit-based system draws on brilliant and creative minds from all 50 states and the U.S. territories, allowing our scientists to explore the most vexing medical, engineering, and national security challenges with an unfettered charge to solve the seemingly unsolvable problems of our national and global communities.

Assessing the value of the Government - Research Partnership is not altogether straight-forward. Research outcomes are not instantaneous and accepting this can be difficult, especially when lives or national security are at stake or other needs of the nation seem more urgent. Fortunately, our nation's policy leaders understand that research results require time and investment. Basic research[5], while rarely leading to immediate scientific application, instead creates a platform for the next research experiment. This incrementally increases our base of knowledge, until one day the elusive cure for a disease is discovered or a technology breakthrough leads to expansion of the United States' economy, including new jobs and opportunities for its citizens.

Basic research often results in unexpected and even conflicting outcomes – these results never should be perceived as failures – rather they are the advancement of research. Funds committed to research are an investment that leads to new discoveries and growth, which absolutely benefits the national interest.

Dr. Kelvin K. Droegemeier, previously the Vice President for Research and the Regents' Professor of Meteorology at the University of Oklahoma, and confirmed in January 2019 as the Director of the Office of Science and Technology Policy (i.e., the Science Advisor to the President) highlighted this success in a Written Testimony to the Appropriations Sub-Committee on Labor,

[5] Vannevar Bush in "Science, the Endless Frontier" defined basic research, as follows: *Basic research is performed without thought of practical ends. It results in general knowledge and understanding of nature and its laws. The general knowledge provides the means of answering a large number of important practical problems, though it may not give a complete specific answer to any one of them. The function of applied research is to provide such complete answers. The scientist doing basic research may not be at all interested in the practical applications of his work, yet the further progress of industrial development would eventually stagnate if basic research were long neglected.* A more regulatory definition comes from ITAR, 22 CFR 125.4(c)(3): "Basic Research" means a systemic study directed toward greater knowledge or understanding of the fundamental aspects of phenomena and observable facts without specific applications towards processes or products in mind. It does not include "Applied Research"

Health and Human Services, Education and Related Agencies, United States House of Representatives, for the hearing titled "*The Role of Facilities and Administrative Costs in Supporting NIH-Funded Research*"[6] (Tuesday, October 24, 2017).

> *The U.S. science and engineering research and education enterprise is the envy of the world. It has produced innumerable breakthroughs that have translated to benefits for society, including the Internet, cures for insidious diseases, and technologies that help ensure national security as well as personal safety. From the iPhone to automobiles, to commercial airplanes, automated grocery checkout stands, unconventional recovery of crude oil and gas, and online shopping, the benefits of research – and their translation into products and services via the process of private sector innovation – are undeniable and pervasive.*

Cures for disease, technology breakthroughs, national and global security, and simply stated, making the world a better place are the goals of research, ***and basic research is the engine.***

Making the world a better place is the goal …

Basic research is the engine.

Support of the research funding model, which includes fair reimbursement of F&A costs, is a critical part of the research ecosystem and contributes to the incredible and continuous advance of science. An appreciation of the role of fair reimbursement of F&A costs and the critical role of the federal budget in supporting F&A cost reimbursement must be a priority of research policy in the United States.

The remainder of the paper addresses the key discussions about the research funding model, F&A costs, and why the system works.

[6] To read additional witness testimonies, click here. To view a recording of the hearing, click here.

CHAPTER 1: BRIEF HISTORY

The research funding model that has evolved since the 1930s has had a significant, positive impact on the nation's status as the global leader in research. The primary credit lies, of course, with the investigators and research scientists who do the research and make life-changing discoveries. Their efforts have been supported through the bold vision of policy leaders, Congress, and other national figures over the past eight decades. This vision also has paved the way for the development of our research funding model, which should be recognized for its steady, reliable role as a "great facilitator" of the research enterprise.

The research funding model should be recognized for its steady, reliable role as a "great facilitator"

The name Vannevar Bush[7] is prominent in the history of the Government - Research Partnership and the corresponding research funding model. Dr. Kelvin K. Droegemeier's Written Testimony (also referenced in the Introduction) is helpful in understanding the partnership and the role of Bush and others:

> *To understand how and why the current framework for federally-funded academic research in the U.S. came to be … it is instructive to begin with the 1930s … At this time, virtually all research in higher education was funded either by philanthropy or private foundations …*
>
> *By the late 1930s, Congress wanted more money for university research, and in 1937, the National Cancer Institute (NCI) was created within the NIH. This was an important development because NCI could issue grants for extramural research, whereas all other NIH research was performed in house …*
>
> *By 1939, President Roosevelt began mobilizing the nation for war in light of Germany's invasion of Poland. Vannevar Bush, then President of the Carnegie Institute of Washington and head of the National Advisory Committee for Aeronautics (NACA), supported such mobilization … NACA provided grants to individual researchers at academic institutions using contracts. This funding vehicle brought comfort because its structure and use was well known in the marketplace, and because contract funding clearly was not viewed as a government handout … Bush took into account the financial interests and ideological values of universities establishing a funding model in which indirect costs would be fully reimbursed …Key U.S. government sponsors of academic research as the war began were the Office of Scientific Research and Development (OSRD), established in 1941, and the National Defense Research Council (NDRC), both headed by Vannevar Bush. This funded research*

[7] For additional background on Vannevar Bush, see: https://www.britannica.com/biography/Vannevar-Bush

> *was performed on university campuses, and universities also administered most of the major wartime laboratories … NDRC followed NACA's model of indirect cost reimbursement, but broadened the definition and eliminated the process of itemization*

Vannevar Bush continued as a prominent leader in research and science policy into the 1960s. Among his many achievements, he is most known for his July 1945 manifesto, Science, the Endless Frontier: A Report to the President, commissioned while he served as the Director of the Office of Scientific Research and Development (OSRD). The paper sets the stage for the establishment of the National Science Foundation in 1950 and is still used today as an authoritative dissertation, advocating for the crucial role of the federal government in supporting the nation's research enterprise.

Indirect Costs and Controversy

Vannevar Bush also created the basis for the ongoing, robust, and sometimes contentious discussions regarding indirect cost reimbursement. As stated by Dr. Droegemeier in his written testimony:

> *The first controversy concerning indirect costs developed during the war, when OSRD objected to the fact that reimbursements were used to cover administrative support. This marked the beginning of a debate – which continues to this day – about the concept of indirect cost reimbursement and how the funds can be expended …*

In fact, Vannevar Bush was an advocate for fair reimbursement of administrative support costs incurred by those institutions conducting research on behalf of the federal government. As continued in Dr. Droegemeier's written testimony:

> *Bush thereby imposed a flat indirect cost rate of 50%, somewhat arbitrarily though justifiably in his mind, computing it as one-half of the 100% being charged at that time by industrial contractors …*

As the research enterprise flourished, the time came to formalize the reimbursement mechanism and other rules related to managing federal research awards. As documented by the RAND Corporation, Science and Technology Policy Institute in the report titled Paying for University Research Facilities and Administration (see Appendix A – Brief History of Circular A-21): Prior to the issuance of Circular A-21 in 1958, each federal agency developed and maintained its own cost recovery policies. Earlier, in 1947, the Office of Naval Research negotiated the first set of principles to determine indirect cost rates; it was referred to as the "Blue Book," or *Explanation of Principles for Determination of Costs Under Government Research and Development Contracts with Educational Institutions*.[8]

[8] See RAND Corporation, Paying for Research Facilities and Administration: https://www.rand.org/pubs/monograph_reports/MR1135-1.html

In 1958, official federal guidelines were issued by the Bureau of the Budget (now called the Office of Management and Budget) and resulted in Circular A-21, for use in determining allowable indirect costs at colleges and universities. Separate cost principles were issued for other nonprofit entities and state, local, and tribal governments. Circular A-21 continued to be reviewed and updated during the 1960's and 1970's, with a major revision in 1979.

Early in the 1980's, freezes and ceilings were proposed to limit recovery of indirect costs, and while none of these proposals were implemented, the revision of Circular A-21 in December 1986 set a 3.6% fixed allowance for faculty administrative costs, establishing a precedent for capping a portion of indirect costs.

Federal scrutiny directed at research universities, mostly around allegations of questionable costs being included in the negotiated F&A cost rates, led to the revision of Circular A-21 and the creation of a 26 percent cap on administrative costs in 1991[9]. It should be noted that universities are the only federal funding recipients to have their reimbursement limited by such a cap. Further changes in 1993 included restrictions on direct charging of administrative and clerical salaries. Other changes took place in 1996, including a general replacement of the term "Indirect Costs" with "Facilities and Administrative Costs" (F&A costs).

In 2014, OMB completed and released 2 CFR Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (also known as the "Uniform Guidance"). The Uniform Guidance consolidated eight circulars, including Cost Principles from Circular A-21 (specific to colleges and universities), Cost Principles from Circular A-122 (specific to nonprofit research institutions), Administrative Requirements from A-110 (applicable to all types of research institutions), and Audit Requirements from A-133 (applicable to all federal grant recipients).

The rules specific to F&A cost reimbursement for colleges and universities are contained in Appendix III of the Uniform Guidance and the rules for nonprofit research institutions are contained in Appendix IV. Of note, several hospitals around the country also house robust research programs. However, the rules for F&A cost reimbursement for hospitals were not updated as part of the Uniform Guidance. Instead, hospitals continue to follow the guidelines specified in 45 CFR Appendix E to Part 74 – Principles for Determining Costs Applicable to Research and Development under Grants and Contracts with Hospitals.

A Rich History

The rich history of the consideration of the appropriate level of F&A cost reimbursement has been documented. Dr. Droegemeier's testimony, referenced above, continues by describing important events from the 1950s to the present. Gary Talesnik, an iconic figure in the field of indirect cost policy, wrote a 1994 essay titled Dispelling the Myths About Indirect Costs, providing an insider's

[9] Several years after the indirect cost controversy and all universities were subject to the 26 percent cap on administrative costs, the lawsuit initiated by the federal government employee "whistleblower" who had alleged that improper costs were included in the F&A cost rate, was dismissed. See: https://www.paloaltoonline.com/weekly/morgue/news/1996_Sep_4.STANFORD.html

view on indirect cost policy. Mr. Talesnik wrote the essay after serving for many years as director of cost policy and indirect cost rate negotiations at the U.S. Department of Health and Human Services.

COGR also has been an authoritative voice on indirect cost policy since its founding in 1948. COGR's "50th Anniversary, 1948-1998, Compilation of Essays" included a piece by Dr. Robert M. Rosenzweig, The Politics of Indirect Costs. Dr. Rosenzweig served as President of the Association of American Universities (AAU) from 1983 to 1993. The AAU, along with other associations and advocates, has also provided a crucial voice for sound indirect cost policy.

The history is still being written. This paper memorializes key historical benchmarks through 2018. A comprehensive bibliography is included at the end of the paper and the links included throughout can be opened to access various resources. In addition, COGR's impressive E-Library,[10] covering F&A / indirect cost policy and related topics, is an available resource to which we regularly add new material.

We encourage all stakeholders to understand the history and to be informed about the important role F&A costs play in securing a stable research enterprise in the United States. The next chapters address F&A costs in more detail, through a basic description in non-accountant terms as well as a more detailed discussion of the complexities inherent in the F&A cost reimbursement process.

[10] To submit additions to the E-Library, contact COGR at trusso@cogr.edu

CHAPTER 2: F&A FOR THE NON-ACCOUNTANT

This chapter explains F&A costs in a simple, straightforward way, including everyday terminology, clarifying examples, case studies, and illustrative graphics. Subsequent chapters provide more in-depth discussion and analysis; including the F&A cost rate calculation, oversight and audit infrastructure, and other topics of interest.

Research sponsors, including the federal government, private industry, state and local governments, and nonprofit foundations, provide funding to research universities and nonprofit research institutions in the form of grants, cooperative agreements, and contracts.

Research universities include flagship state universities, land grant institutions, other state and public universities, and private universities. Nonprofit research institutions and hospitals also maintain robust research missions and represent major research centers within the broad research ecosystem. Throughout the remainder of this paper we will use the term "research institutions" to refer to these entities.

Awards generally include funds for "Direct" and "Facilities and Administrative" (F&A) costs. F&A costs is the most frequently used term in this paper but will be used interchangeably with "Indirect Costs." In Chapter 10 we introduce alternative terminology that could be helpful in future discussions about the research funding model.

Direct and F&A, together, are the real costs of doing research – eliminating either would effectively frustrate the ability to do quality research in the United States

Prior to issuance of an award, the grant application process begins with an investigator framing the intended research design and the corresponding budget proposal. The budget request process, however, can create a false narrative by separating direct and F&A costs as the investigator (and the institution that applies for funding on the investigator's behalf) is required to propose direct costs in a specified format. F&A costs, in the form of an F&A cost rate (see Chapter 3) are normally included at the bottom of the budget, also in a specific format.

However, separating direct and F&A costs into separate categories is misleading, as this might suggest one can exist without the other. In fact, direct and F&A, together, comprise the real costs of doing research, and eliminating either effectively impedes the ability to conduct quality research. An agency can fund direct costs in the form of researcher, postdoctoral, and graduate

student salaries; equipment; and supplies, but if the F&A costs are not funded, the research laboratory will not exist.

Direct Costs

Direct research costs are what people generally think of when it comes to federal support of research projects. These costs normally 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 is also where the bulk of the federal investment is spent.

Facilities and Administrative (F&A) Costs

To perform research on behalf of federal agencies, research institutions incur a variety of other significant costs for research projects that they otherwise would not incur. These infrastructure and operational costs are F&A costs and a proportionate share is allocated to externally-funded research through the F&A cost rate. Such shared costs include the maintenance of sophisticated, high-tech labs specifically designed for cutting-edge research, utilities such as electricity and heat, telecommunications, hazardous waste disposal, and the infrastructure necessary to comply with various federal, state, and local rules and regulations.

Adapted from the Association of American Universities (AAU) and the Association of Public and Land-Grant Universities (APLU). "Understanding the Costs of Federally Sponsored Research at Universities," October 2013.

Oil Change Case Study

Think about the price you pay to get your car's oil changed. The price is what you, the customer, will pay, and the costs are what the owner of the service shop incurs to provide the service to you. Some of the costs incurred by the owner are easy to recognize: the service technician's time, the oil filter, and the five quarts of oil. However, these "direct" costs are not the only costs the owner incurs to provide your oil change.

The owner of the shop also incurs facilities (F) costs: e.g., the cost of constructing the very specialized garage, the cost of the tools used on every oil change, utilities, property insurance, and employee safety training on use of the equipment. The owner also incurs the administrative (A) costs of running the auto shop: e.g., the accountant who keeps the books and pays the employees, the scheduling and billing clerk, and the cost of telephone service.

These F&A costs incurred by the owner are unquestionably real costs. While as customers we might welcome a price that does not include F&A costs, the reality is that no one would start a service shop business, nor could an existing one survive, without being reimbursed for those F&A costs. As customers, we accept that the price of an oil change includes direct and F&A costs, plus a profit factor.

Customers of the service shop do not expect F&A costs to be documented in the final bill for the oil change and would find it odd if the bill did include, for example, a 27¢ charge for utilities. In effect, we implicitly accept that the 27¢, and other amounts not easily identified to our individual oil change, are included in the total. Rather than expecting an itemization of those costs we understand that they are charged based on an allocation methodology, as it would be nearly impossible for the owner to determine the exact utility charge incurred with each oil change. Finally, we fully expect the owner to make a profit and we accept this as part of the price we pay for the oil change.

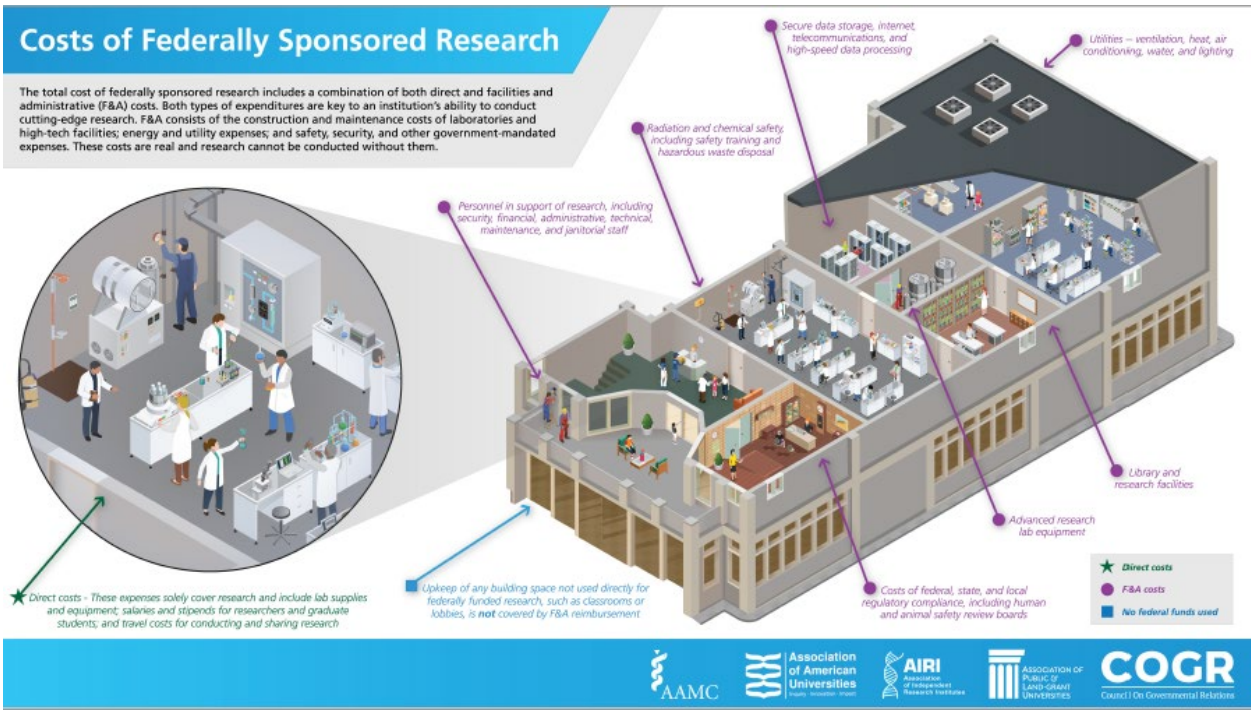
As described at the beginning of this chapter, and in the oil change case study, there are direct and F&A costs incurred in performing research. Research institutions identify direct costs to each individual award – researcher salaries and benefits, supplies, travel, etc. In addition, research institutions incur significant costs to construct and maintain specialized facilities in which to conduct research and must incur general administrative costs (accounting, human resource management, purchasing, etc.) just like the owner of the service shop.

Research institutions, like the oil change service shop, incur direct and F&A costs, which should be reimbursed. One difference is that while a profit factor is normal and expected for a business, research institutions are not allowed to include a profit factor.

Because of the significant number of regulations applicable to federal research awards, research institutions also incur very specialized compliance costs, such as human participant protection, prescriptive procurement procedures, documentation of salary distributions, laboratory safety inspections, etc. All these costs are real and necessary for conducting federally-sponsored research. So, like the service shop owner, a research institution needs a mechanism for reimbursement of its F&A costs, which is the institution's F&A cost rate.

F&A Illustrated, and Other Resources

In the summer of 2017, the F&A Associations Work Group (FAAWG), a consortium of higher education associations, developed the following Infographic[11] (click link for full-screen version) to demonstrate how direct and F&A activities are essentially one and the same and that it would be inconceivable to conduct cutting-edge research without recognizing that both the direct costs and F&A costs are real costs of doing research. For example, not only does the graphic incorporate the directly-charged researcher in the laboratory, but also the indirectly-charged hazardous waste disposal, air conditioning, safety boards, and networks that are critical to making the researcher's work possible. In effect, the interconnectedness of these activities in a research building at a research-intensive institution is a condition of research excellence.



In addition to the infographic developed by FAAWG, two videos are helpful in explaining the F&A process: "Understanding the Real Costs of Research," developed under FAAWG leadership and "F&A: The Bedrock of Biomedical Research," developed by the University of California at San Francisco. Each describes the essential role of F&A costs and the process for its reimbursement within the context of the United States research enterprise. These videos are recommended to all stakeholders as important resources.

[11] The FAAWG includes the Association of American Universities (AAU), the Association of American Medical Colleges (AAMC), the Association of Public Land-grant Universities (APLU), the Association of Independent Research Institutes (AIRI), the American Council on Education (ACE), the National Association of College and University Business Officers (NACUBO), and COGR.

The Federal Dollar and the Institutional Contribution

The Federal Dollar graphic was developed by the Massachusetts Institute of Technology.[12] The primary intent is to dispel the misunderstanding that a negotiated F&A cost rate of, for example, 54%, results in 54 cents of every federal dollar being allocated to F&A costs. This ranks as one of the most common F&A myths (see Chapter 6). Instead, the 54% rate is applied to a select base of direct costs (e.g., salaries, supplies, etc.), and the math will never result in 54% of total costs – rather, it will be closer to 25% to 30% of a federal grant. This is explained in more detail in Chapter 3, F&A Nuts and Bolts.

In fact, the Federal Dollar shown below is typical of a research-intensive university and shows that for every $1 of federal research support, 73 cents support direct costs and only 27 cents support F&A costs.

The Federal Dollar focuses on the split between direct costs and F&A costs in a federal award. However, the Federal Dollar does not capture the institution's financial contribution to research, which is in addition to the federal portion. In the case of F&A costs incurred by the institution, the 27 cents of federal reimbursement for F&A costs does not cover the full costs of F&A support paid for by the institution. Consequently, the institution subsidizes the unrecovered F&A costs through other institutional funding sources (see Chapter 5).

Every institution has its own unique combination of institutional contributions, and each can document the amount of institutional support that is contributed to the research function. ***Institutional support for research ranges from the tens of millions at smaller research institutions to hundreds of millions of dollars at the largest.***

[12] See http://web.mit.edu/fnl/volume/295/zuber.html for more information on MIT's Federal Dollar

Research institutions are enthusiastic contributors to the research enterprise. This is borne out in the National Science Foundation's (NSF) annual Higher Education Research and Development Survey (HERD). The 2017 NSF HERD Survey InfoBrief[13] shows $75.2 billion in total R&D expenditures reported by higher education institutions – of that $40.2 billion (53 percent) was federal and $18.9 billion (25 percent) was university-funded.

A research institution's negotiated F&A cost rate is not always charged to a project. Unrecovered F&A costs (the difference between the amount that could have been charged through multiplying the negotiated F&A cost rate by the appropriate direct costs, versus the amount actually charged, limited mostly by restrictions implemented by funding agencies) accounted for $5.2 billion[14] of the $18.9 billion university-funded share. The growth of the institutional contribution over recent years has been significant and, while institutions are passionate about supporting the nation's research enterprise, this trend has raised concerns about the sustainability of this contribution.[15]

COGR published a detailed discussion on the institution contribution in a 2014 paper titled, "Finances of Research Universities." The paper emphasizes the importance of maintaining a viable and healthy collaboration between the federal government and research institutions, and highlighted these two key points:

- The financial uncertainties troubling research universities, combined with the increased costs of performing research, threaten the nation's basic research capability.

- The imbalance between the outlays required in conducting research and the resources available to research universities needs to be addressed in the context of the historically productive Government - Research Partnership.

The research community will continue to develop new tools and approaches to explain F&A costs and cost rates. More opportunities for mutual understanding make it more likely that the research funding model remains consistent, stable, and reliable. The following chapters transition from an F&A cost discussion in non-accountant terms to a more detailed and complex analyses of F&A costs, F&A cost rates, F&A cost reimbursement, and related issues.

[13] The NSF HERD Survey site, with all reports, including the InfoBrief, is available at: https://nsf.gov/statistics/2019/nsf19302/

[14] In the NSF HERD survey, unrecovered F&A costs do not account for the impact of the 26-percent administrative cap, applicable only to colleges and universities. This cap is discussed in more detail in Chapter 7.

[15] The NIH salary limitation (in effect since 1990), which restricts the salary amount that an investigator can charge to an NIH award, is another example of an institution contribution (i.e., cost sharing) to the research enterprise. As of the date of this publication, the most recent NIH Notice regarding the NIH salary limitation can be found at: https://grants.nih.gov/grants/guide/notice-files/NOT-OD-18-137.html

CHAPTER 3: F&A NUTS AND BOLTS

The rules for determining F&A cost reimbursement for research institutions are established by the Office of Management and Budget (OMB) and are described in 2 CFR Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (also known as the "Uniform Guidance"). Examples of allowable, reimbursable Facilities & Administrative costs for Research Institutions are shown below:

Examples of Facilities (F) Costs
Cost (Depreciation) of Facility Construction
Cost (Depreciation) of Equipment
Interest on Facility Construction
Utilities
Custodial and Janitorial Services
Maintenance and Repairs
Security and Campus Protection
Property Insurance
Environmental Health and Safety
Hazardous Waste Disposal
Disaster Preparedness
Library books, periodicals, other materials

Examples of Administrative (A) Costs
Financial Management
Budgeting and Planning
Personnel Management
Safety and Risk Management
Human Subject Protection
Procurement
Data and Technology Management
Legal Counsel
Dean and School Management
Academic Department Management
Proposal Preparation
Award Billing and Financial Reporting

The mechanism used by research institutions to be reimbursed for their F&A costs is the calculation (described in the next section) and application of F&A cost rates. Under this mechanism, the appropriate ***F&A cost rate of the institution is applied to a subset of the direct costs charged to the award, known as Modified Total Direct Costs (MTDC)***, to determine how much each sponsored award should contribute to reimbursing the institution for its F&A costs. An example of how an F&A cost rate is applied to a research award is shown below.

Cost Item	Direct Amount	F&A Cost Rate	F&A Amount	Total Reimbursed
Salaries & Benefits (MTDC)	**200,000**	**54%**	**108,000**	**308,000**
Supplies (MTDC)	**30,000**	**54%**	**16,200**	**46,200**
Grad Student Tuition Remission	**25,000**	**n/a**	**0**	**25,000**
Equipment	**75,000**	**n/a**	**0**	**75,000**
TOTAL	**330,000**		**124,200**	**454,200**
% of the cost to the government	**72.7%**		**27.3%**	**100%**

Items Excluded from the Application of the F&A Cost Rate (Non-MTDC)
Portion of each subaward > $25,000
Equipment and other Capital expenses
Rental Costs
Charges for Patient Care
Participant Support Costs
Tuition Remission, Scholarships & Fellowships

Rules defined in the Uniform Guidance require that certain direct cost items are to be excluded from MTDC and the application of F&A cost rates. This prevents individual awards from being burdened inequitably. In the example above, F&A is not applied to the tuition remission of $25,000, nor to the equipment purchase of $75,000. The chart to the left lists the items generally excluded from the application of F&A cost rates. The subaward MTDC exclusion (i.e., the amount greater than $25,000) results in F&A being applied to only the first $25,000 of a subaward.

There are significant differences between the Oil Change Case Study from Chapter 2 and how costs are charged to federally sponsored research awards under the rules defined in the Uniform Guidance. A primary difference is in the determination of the F&A cost rate and the expectation, for the service shop, of full cost recovery. Furthermore, the service shop owner expects to make a profit, in addition to recovering all direct and F&A costs. ***The Uniform Guidance, however, deems only certain costs to be allowable for reimbursement through the F&A cost rate.***

The service shop owner is allowed to recover all F&A costs through the price charged, including items such as advertising campaigns and service shop holiday parties. Conversely, the Uniform Guidance specifically disallows inclusion in F&A cost rates of these types of costs and other costs that are necessary in operating the institution but are not viewed as beneficial to federally funded research, like fundraising and promotional advertising management fees. ***Also***, ***profit by research institutions (and all nonprofit entities) is explicitly not allowable on financial assistance awards***.

Examples of Unallowable Costs for the F&A Cost Rate
Fundraising
Investment Management
Lobbying
Public Relations and Advertising
Bad Debts, Fines and Penalties
Dependent Tuition Remission
Entertainment costs

Finally, the service shop owner can choose to allocate F&A costs to various jobs as he or she sees fit. The Uniform Guidance methodology requires that costs be allocated to the major functions of the institution (e.g., research, instruction, public service, other institutional activities). This ensures that the F&A cost rate applied to research awards does not include, for example, the F&A costs associated with running the student dormitories or teaching classes.

The F&A Cost Pools and Allocation Basis

The F&A cost rate is divided into cost categories, or F&A cost pools, as defined in the Uniform Guidance. Even though the F&A cost rate commonly is referenced as a single rate, there are two broad categories, facilities and administrative costs. Each of these categories is further divided into the F&A cost pools, which are allocated to the institution's functions (e.g., Instruction, Research, etc.) based on methodologies defined in the Uniform Guidance.

The following are the cost pools[16] included in F&A cost rates for college and universities:

Facilities (F) Cost Pools	Administrative (A) Cost Pools
Building and Improvement Depreciation	General Administration (GA)
Equipment Depreciation	Departmental Administration (DA)
Interest Expense	Sponsored Projects Administration (SPA)
Operations & Maintenance of Plant	Student Administration and Services (SAS)
Library Support	

The following summarizes the standard methodologies used to allocate each of the cost pools:

Cost Pools	Allocation Basis
Building and Campus Improvement Depreciation	Assignable square footage (ASF) of functions (Instruction, Research, etc.) based on functional use space survey. Improvements (e.g., lighting) normally are allocated based on full time equivalents (FTEs)
Equipment Depreciation	ASF based on functional use space survey
Interest Expense	ASF based on functional use space survey
Operations & Maintenance of Plant	The costs are sub-pooled then each sub-pool is allocated based on functional use space survey, or other appropriate statistics
Library Support	FTE statistics or other appropriate statistics
General Administration	Campus-wide MTDC
Departmental Administration	Department MTDC
Sponsored Projects Administration	Sponsored projects MTDC
Student and Administrative Services	Generally allocated to Instruction

[16] The costs in the Facilities costs pools relate to operating buildings and facilities. Operation of the library is also included under the Facilities category. The costs in the Administrative costs pools include functions such as Finance, Payroll, Human Resources, Procurement, Dean's Office, Academic Department Administration, Research Administration, and other related activities. Also see the beginning of Chapter 3 for other examples.

Calculating the F&A Cost Rate for Organized Research

As stated at the beginning of the chapter, the rules and methodologies governing F&A cost reimbursement are determined by OMB and are described in the Uniform Guidance. Specifically, universities and nonprofit research organizations calculate their F&A cost rate according to the methodologies found in the Uniform Guidance, Appendix III and Appendix IV, respectively. The rules for hospitals were not updated as part of the Uniform Guidance. Instead, hospitals continue to follow the guidelines as specified in 45 CFR Appendix E to Part 74 – Principles for Determining Costs Applicable to Research and Development under Grants and Contracts with Hospitals.

While the process of developing an F&A cost rate for research activities is complex, the principle is simple: The F&A cost rate is determined by dividing the total allocable F&A costs (excluding the unallowable costs previously described) by the direct costs of the research projects (excluding the non-MTDC cost items previously described), for a selected fiscal year. The rate is applicable to all research projects, or per the Uniform Guidance, "Organized Research." The organized research function includes not only research grants and contracts from all types of sponsors (federal, foundations, industry, etc.), but also selected university or gift funded projects, as well as grant and contract cost sharing and research project cost overruns.

$$\textbf{F\&A COST RATE} = \frac{\text{F\&A ALLOCABLE TO ON-CAMPUS RESEARCH}}{\text{MODIFIED TOTAL DIRECT COSTS (MTDC) FOR ON-CAMPUS RESEARCH}}$$

OR, BY EXAMPLE:

$$\textbf{54\%} = \frac{\text{\$21.6 MILLION ALLOCABLE TO ON-CAMPUS RESEARCH}}{\text{\$40.0 MILLION MTDC FOR ON-CAMPUS RESEARCH}}$$

Effectively, the 54% rate represents an "average" rate to be applied to all on-campus research projects. The "Averaging Model" is a key concept that is addressed in Appendix 1, and further identified in Chapter 8, "Why the System Works."

Negotiating On- and Off-Campus F&A Cost Rates

After an F&A cost rate is calculated and formally proposed to the federal government in an F&A cost rate proposal, the F&A cost rates are negotiated with the institution's Cognizant Agency for Indirect Costs. The negotiation process is meant to be a rigorous process designed to ensure that the negotiated rates are fair to the institution and to the federal government. The negotiation process is described in more detail in Chapter 4, "Oversight and Audit."

Federally negotiated F&A cost rates are established by type of activity and location of activity. Rates are negotiated for the cost of organized research performed in an institution's on-campus facilities. The example above illustrates the "on-campus" F&A cost rate for organized research, which includes both the "F" and the "A" in the numerator. A separate rate is determined for off-campus research projects performed in off-site locations. The "off-campus" F&A cost rate normally excludes the "F" and includes only the "A" in the numerator.[17] Off-campus F&A cost rates ensure that the federal sponsor does not pay for on-site facilities costs that are not used by projects conducted at an off-site location.

Typically, the off-campus rate is applicable to any project conducted in facilities that are not owned by the institution. Research conducted in leased buildings can be considered on or off campus, depending on whether the institution pays for the lease cost (hence, on-campus would be applicable) or the federal agency pays for the lease cost (hence, off-campus would be applicable). Clinical trials (which could take place in an off-site location, on-campus, or in an affiliated hospital) are another example where an off-campus F&A cost rate, or a specialized rate (see next section below) could be applicable.

F&A Cost Rates for Other Activities

F&A cost rates can be calculated for the other functions of the institution, as defined in the Uniform Guidance: Instruction, Other Sponsored Activity, and Other Institutional Activity. F&A cost rates also can be established for activities such as an Agriculture Experiment Station, Research Vessel, Clinical Trials[18], Specialized facilities, other off-campus sites, and other activities where a unique rate is warranted. Rates for other activities include only F&A costs that can be assigned to those activities and do not include facilities and administrative costs allocated to other rates. As with organized research, there may be a separate rate when these activities are performed at off-site locations. The establishment of rates for on- and off-campus and for different types of activities further ensures that facilities and administrative costs are charged proportionately and that the costs of one activity are not subsidized by another.

[17] The off-campus rate also can include "F" components, specifically, the Library component, if appropriate.

[18] Methodologies used to determine Clinical Trials F&A cost rates vary across institutions. The following could be applicable: On-Campus research rate, Off-campus research rate, a specialized rate for Clinical Trials only, or an Other Sponsored Activities rate. The methodology that is chosen is unique to the institution, and great care is used by the institution in determining the appropriate methodology.

Variations in F&A Cost Rates

F&A cost rates can vary significantly across institutions due to differences in costs across different regions of the country, urban versus more rural environments, the type and complexity of the research portfolio of the institution, and other variables that impact the cost of doing research. F&A cost rates are normally displayed on institutional websites and are fully accessible by the public. This level of transparency is important and helps instill stakeholder trust. The federal agencies responsible for establishing F&A cost rates for research institutions (see Chapter 4, "Oversight and Audit") have records for those institutions for which they have oversight.

F&A cost rate data across research institutions is available and informative, though a complete database for all research institutions requires the mining of websites or other survey mechanisms. One statistic is telling – while F&A cost rates have trended up over the past several decades, data from the National Institutes of Health indicates that F&A costs as a percent of NIH total awards has remained constant at slightly above 27 percent (27 cents of each dollar) over this time period. See below for NIH data from 2002 to 2018.[19]

Fiscal Year	Direct Awarded (000s)	F&A Awarded (000s)	Total Awarded (000s)	Direct as a Percent of Total	F&A as a Percent of Total
FY2002	12,822,068	4,835,456	17,657,524	72.6	27.4
FY2007	15,387,745	5,876,060	21,263,805	72.4	27.6
FY2012	15,978,032	6,182,900	22,160,932	72.1	27.9
FY2018	17,815,418	6,816,177	24,631,595	72.3	27.7

NIH funding accounts for over 50 percent of total federal research funding at research institutions. This data, therefore, suggests that at the federal macro level, even when F&A cost rates change over time, the proportion between direct and indirect over time remains constant.

In Oversight and Audit We Trust

Calculation of the F&A cost rate is simple in principle, but the complex rules governing it have been compared to the vagaries contained in the United States Tax Code. Consequently, for policy makers and other stakeholders to have trust in the system, a robust and effective system of oversight and audit must be in place. In the next chapter, we explore the oversight and audit system and how rigorous rate reviews by federal entities and oversight by the audit community help to ensure effective administration of federal awards and that negotiated F&A cost rates can be relied upon by all stakeholders.

[19] See page 95 of "Supplementary Tables" provided by the Office of Budget, National Institutes of Health at: https://officeofbudget.od.nih.gov/pdfs/FY19/br/Supplementary%20Tables.pdf

CHAPTER 4: OVERSIGHT AND AUDIT

Research institutions are subject to a variety of reviews and audits that collectively comprise an oversight and audit infrastructure. ***This infrastructure helps ensure effective administration of federal awards and further provides assurance to stakeholders that F&A cost rates are tightly regulated and controlled.*** Oversight and audits help assure that awards are administered in compliance with federal requirements and negotiated F&A cost rates fairly reflect the allowable F&A costs that benefit the awards.

The oversight infrastructure consists of the following: F&A cost rate reviews and audits (e.g., HHS, ONR, DCAA, and other agency oversight), Offices of Inspectors General audits (e.g., NSF OIG, HHS OIG, etc.), the Government Accountability Office (i.e., studies requested by Congress), agency grant reviews (appraisals by funding agency staff), Internal Audits (performed by institutional staff), and Single Audits (as required by law for any entity expending more than $750,000 in federal funds on an annual basis). Each is discussed in more detail below and contributes to a robust oversight and audit infrastructure that helps ensure effective administration of federal awards and that negotiated F&A cost rates can be relied upon.

HHS and ONR Oversight

The review, negotiation, and approval of F&A cost rates for research institutions generally is assigned to either the Department of Health and Human Services, Cost Allocation Services (HHS-CAS) or to the Office of Naval Research (ONR). ONR establishes F&A cost rates for approximately 44 research institutions and universities, with the remainder assigned to HHS-CAS. On average, HHS-CAS negotiates and issues approximately 3,000 rate agreements annually, including F&A cost rates, fringe benefit rates, and state cost allocation plans. Other agencies such as NSF and USDA oversee rates for a small number of non-university entities.

An F&A cost rate proposal can be several pages for a smaller college ("short-form") to 100s (even 1000s) of pages for a major research university completing a "long-form" proposal. A "risk-based" approach to review and/or audit by federal experts helps to ensure negotiated rates fairly reflect the allowable F&A costs that benefit federal awards.

The agencies to which the negotiations are assigned are known as the ***Cognizant Agencies for Indirect Costs***. For institutions that have HHS as their cognizant agency, the F&A cost rate proposal reviews and negotiations are done by cost negotiators in the office of Cost Allocation Services. For institutions that have ONR as their cognizant agency, F&A cost rate proposals are

subject to audit by the Defense Contract Audit Agency (DCAA) and the rates negotiated by ONR. Cognizance assignments for colleges and universities are evaluated no more frequently than every five years by HHS and ONR.

The F&A cost rate proposal and its underlying allocation mechanisms are reviewed by the cognizant agencies. For larger research institutions, additional materials and a site visit are often required, where research laboratories and space allocations are reviewed, principal investigators interviewed, equipment inspected, and other tests performed.[20] HHS-CAS and ONR staff are skilled in using a risk-based approach, and both maintain thorough operating practices and procedures for reviewing F&A cost rate proposals. In the case of HHS-CAS, a "Best Practices Manual" is utilized to focus on specific elements of an F&A cost rate proposal.[21]

Finally, a negotiation occurs between the cognizant agency and the institution resulting in a "Rate Agreement." Colleges and universities normally establish Predetermined rates, which are set for a two- to five-year period, though, at times, Fixed with Carry-forward rates or Provisional rates are used.[22] Other types of organizations may establish Predetermined rates under certain circumstances, or Fixed with Carry-forward or Provisional rates. The type of rate used is determined by the cognizant agency and based on the specific circumstances involved.

Offices of Inspectors General Audits

As a result of the Inspector General Act of 1978 as amended in 1988, more than 70 federal agencies have established Offices of Inspectors General (OIGs). These offices conduct audits, investigations, and other evaluations with the goal of promoting economy and efficiency and to reduce waste, fraud, and abuse within federal agency operations. Audits are conducted in accordance with Generally Accepted Government Auditing Standards, developed by the U.S. Government Accountability Office (GAO). OIGs issue audit reports to institutions and federal agencies and provide semiannual reports to Congress. OIG audits and evaluations include performance assessments of federal agency grantees and contractors. Areas of noncompliance are generally related to allowability and allocability of costs charged to federal awards.

[20] Smaller colleges and universities, normally with $10 million or less of direct costs under federal awards, can do a "short-form" proposal (simplified methodology), as opposed to the more intensive "long-form" proposal used for major research universities. Some nonprofit research institutions follow a format similar to the "short-form." In addition, hospitals follow a unique format as prescribed under hospital cost principles (see Chapter 3).

[21] It is not unusual for an institution to propose an F&A cost rate of, for example, 54 percent, and negotiate a rate lower than 54 percent. This situation reinforces the fact that F&A cost rate proposals are closely scrutinized and that adjustments to proposed rates are appropriate in some situations.

[22] Fixed with Carry-forward rates are premised on calculating the under- or over-recovery in past years, which is then "carried forward" as an adjustment to future year F&A cost rates. Provisional rates are subject to retroactive adjustments if the "final/actual" calculated rate for the period differs from the Provisional rate.

Government Accountability Office

Periodically, Congress asks the Government Accountability Office (GAO) to conduct a review of the F&A cost reimbursement process. Depending on the exact charge by Congress, GAO staff will conduct telephone interviews and/or site visits with key stakeholders including federal agency leaders and representatives from research institutions and associations (such as COGR) to collect data on the topic of interest to Congress. Over the past 20 years, a number of GAO studies[23] have been completed, and to date, none of these studies have identified major deficiencies or concerns with the F&A cost reimbursement process. The COGR E-Library contains links to relevant GAO reports.

National Academy of Sciences

When Congress is interested in an academic analysis of specific topics related to research, it may ask the National Academy of Sciences (NAS) to conduct a study. The impact of compliance and regulatory burden on research institutions (see Chapter 7) has been a recent focus of the Academy. While F&A cost reimbursement has not been a specific focus, it is an option available to Congress if it wants to study this topic in more depth.

Agency Grant Reviews

Agency grant reviews may be conducted by federal sponsors to ensure compliance with the sponsor's terms and conditions. These reviews may be informal in nature, such as a desk review where the sponsor requests certain documentation be submitted and reviewed at the sponsor's location or may include a site visit by the sponsor to review documentation, interview employees, and visit facilities. The sponsor may issue a formal report or a letter to management communicating the results of the review and requesting corrective action. The reviews are meant to provide institutions with results focused on the specific award and to assist management in identifying areas of noncompliance such as unallowable costs or noncompliance with reporting requirements. While not necessarily meant to focus on the F&A cost reimbursement process, agency grant reviews provide great value to both research institutions and the funding agencies, resulting in far-reaching benefits to the research community in terms of enhanced compliance.

Internal Audits

According to the Institute of Internal Auditors' *International Professional Practices Framework*, internal auditing is an independent, objective assurance and consulting activity designed to add value and improve an organization's operations. While internal audits certainly can be performed on specific federal programs, more often these audits are focused on the institution's internal

[23] See COGR E-Library for listings or visit GAO's website at: https://www.gao.gov/search?q=indirect+cost&Submit=Search

controls to mitigate risk, meet goals and objectives, and establish effective governance processes. These audits provide assurance on how the systems of internal control that are required by Uniform Guidance are performing. Internal audit reports generally communicate recommendations and management action plans to senior management, the governing board, and other stakeholders.

Internal audits also may provide management assurance related to internal controls over financial management systems, procurement systems, effort reporting systems, and compliance monitoring activities related to federal award administration. External auditors responsible for performing the single audit (see below) have access to all internal audit reports, as do DCAA, ONR and other government auditors, which contributes to a robust audit program at research institutions.

Single Audits

The Single Audit Act Amendments of 1996 (Single Audit Act) were enacted to streamline the audit requirements for federal award recipients. A single, annual, independent audit of a non-federal entity's financial statements and Schedule of Expenditures of Federal Awards (SEFA) is prescribed under the Single Audit Act to eliminate the need for multiple audits of individual federal programs. Audits may be conducted by external state or local government auditors or a by a public accounting firm. Single audits are relied upon by federal agencies in carrying out their monitoring responsibilities for awards. Under the single audit, auditors are required to express an opinion on financial statement presentation, internal control over financial reporting and compliance, and compliance and internal controls for major programs. These reports, along with a schedule of findings and questioned costs, are provided to a federal clearinghouse. Management must prepare a corrective action plan and summary schedule of the status of prior audit findings when applicable.

The Single Audit Act gives the Director of the Office of Management and Budget (OMB) the authority to prescribe guidance to implement the Single Audit Act. Subpart F – Audit Requirements, under the Uniform Guidance, provides direction to auditors and grantees regarding the conduct of the single audit. Prior to the Uniform Guidance, the requirements for conducting the single audit were included in OMB Circular A-133, *Audits of States, Local Governments and Non-Profit Organizations*.

The Uniform Guidance audit requirements became effective for audit years beginning after December 26, 2014. A key change from the previous guidance increased the threshold for entities required to have a single audit from $500,000 to $750,000 in federal expenditures. In addition, the threshold for reportable questioned costs was increased from $10,000 to $25,000. Other changes include the criteria for assessing risk related to federal programs and auditees, and new disclosures required to be included with the SEFA.

To guide auditors in performing the audit work required, a Compliance Supplement, published by the Office of Management and Budget, Office of Federal Financial Assistance, is provided and updated annually. The supplement identifies compliance requirements most likely to cause improper federal payments, fraud, waste, or abuse and provides suggested audit procedures for testing compliance with these requirements.

Institutions are required to establish and maintain internal controls over federal awards to provide reasonable assurance that the awards are managed in compliance with federal statutes, regulations, and award terms and conditions. The Uniform Guidance states these internal control systems should utilize one of the following frameworks:

- Standards for Internal Control in the Federal Government, commonly referred to as the Green Book, issued by the U.S. Comptroller General
- Internal Control Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO)

Integral to both these frameworks are the following components of internal control:

- Control environment
- Risk assessment
- Control activities
- Information and communication
- Monitoring

Finally, the Uniform Guidance allows OIGs to have oversight of the single audit process to monitor and ensure quality control. The Council of Inspectors General on Integrity and Efficiency (CIGIE) has developed a quality control review guide to assist agencies in assessing the quality and reliability of single audits performed in accordance with the Uniform Guidance. Further, OMB is charged with designating a federal agency to lead a government-wide single audit quality review once every six years, beginning in 2018. Federal awarding agencies are also required to develop metrics regarding the effectiveness of single audits in improving non-federal entity accountability and their use of these audits in making award decisions.

The rigorous and robust audit and oversight infrastructure helps to ensure that research institutions maintain a sound culture of compliance supporting the research function.

The oversight and audit infrastructure is impressive and inspires confidence and compliance in all areas of federal funds management, including F&A costs. All the components described in this chapter work together to provide thorough oversight of research institutions and their administration of federal funds. Consequently, stakeholders can be confident that federal funds are being closely scrutinized and that taxpayers are receiving the best value for their investment in the research enterprise.

CHAPTER 5: POLICY AND SPECIAL TOPICS

This Chapter explores a series of F&A topics that prompt interesting and challenging discussions about F&A costs and their reimbursement. Some of the discussions lead to important policy considerations. Consequently, all stakeholders and policymakers are encouraged to engage in the topics covered in this chapter.

Unrestricted Funds, Restricted Funds, and F&A Cost Reimbursement

Funding sources for public and private research institutions can be divided into unrestricted and restricted resources. Unrestricted resources typically are used ***at the discretion of the institution*** for the primary missions of teaching, research, public service, and any other activity. Many public research institutions are subject to additional state-imposed requirements that further define the allowable usage of unrestricted operating funds. The primary unrestricted sources are state appropriations (public/state institutions), student tuition (both public/state and private), and, because it represents reimbursement of costs already incurred, F&A cost reimbursement (both public/state and private). Restricted resources are those that are limited in use by third parties, such as donors and research sponsors. Restrictions are typically related to the use of the resources for an organizational unit (e.g., the physics department), a particular purpose (e.g., music scholarships), or a specific activity (e.g., an NIH-funded cancer research project).

F&A cost reimbursement is an important unrestricted funding source for research institutions. As noted throughout this paper, ***F&A cost reimbursement is reimbursement of F&A costs that already have been incurred by the institution***. A business executive who travels from Boston to Omaha on a business trip and charges the $800 roundtrip flight to her personal credit card will be reimbursed by her company. That payment is analogous to F&A cost reimbursement. When the executive is reimbursed $800 by corporate headquarters, she can use those reimbursed funds for whatever purpose she chooses. The same goes for the F&A cost reimbursement received by a research institution – these F&A costs were already incurred, and after the institution is reimbursed via the F&A reimbursement process, the institution, like the business executive, determines how these unrestricted funds should be used. The individual and the institution are made whole, to the extent the reimbursement covers all costs that were incurred.[24]

Internal Distribution of F&A Cost Reimbursement

Research institutions have well-documented policies on how they will use F&A cost reimbursement. As described in the previous section, use of these funds is entirely at the discretion of the institution and its governing bodies. The funds can be used for many things, such as

[24] Note, for the institution, F&A reimbursement normally is less than the actual expenses incurred. See the Federal Dollar and the Institutional Contribution (Chapter 2)

scholarships, new faculty research start-up funds, supporting the library, administrative purposes, enhancements of facilities, and other operational functions of the institution. Note that nonprofit research organizations, which do not have students and do not have student tuition as an unrestricted source of funds, are in a unique situation. As such, a significant portion of their F&A cost reimbursement is devoted to their general operations. Still, even with these types of organizations, the use of F&A cost reimbursements is at the institution's discretion.

Research institutions that conduct federally sponsored research are subject to audits, generally accepted accounting standards, transparent state and governing body oversight, IRS rules and regulations, and other forms of scrutiny and governance, which further ensures that F&A reimbursements are treated appropriately and in compliance with all applicable standards.

The Tuition and F&A Relationship

Historically, private universities relied on tuition as a consistent funding stream while public universities, on the other hand, depended more on state appropriations. State appropriations provided public universities with a consistent stream of funding, enabling them to rely less on tuition and reinforcing a strong state-public university partnership. For the past two decades, however, public universities have experienced a continuing trend of lower levels of state support.[25] Today, in effect, both private and public universities depend on tuition as a primary source of unrestricted operating funds.

In a climate where tuition increases are closely scrutinized for both private and public universities, and in the case of public universities receiving diminishing support from the state, more and more financial pressure is exerted on fair F&A reimbursement as a source of unrestricted funding. When fair F&A cost reimbursement is threatened, universities risk becoming more dependent on tuition funding levels. Public universities are constrained by multiple factors in determining tuition rates. Restrictions are embedded in state statutes and potential tuition increases are strongly questioned under the premise that higher education is a public good and should be accessible to all state residents. Private universities also are constrained, as increasing tuition rates contribute to a narrative of limited access and to scrutiny of university endowments.

Restrictions on fair F&A cost reimbursement can force tuition rates to be considered. While it is unacceptable, and often precluded by state requirements, for tuition to subsidize restrictions on F&A cost reimbursement, each time an F&A cap or limitation is proposed, the issue is raised. Unfortunately, the solution is not simply to make universities more efficient, as research institutions have implemented major initiatives around efficiency over the past two decades. Rather, it is recognition that fair F&A cost reimbursement is an integral part of the stability of the research enterprise and that fair F&A cost reimbursement must be a policy priority.

[25] See the 2014 COGR Publication "Finances at Research Universities" at: https://www.cogr.edu/finances-research-universities-june-2014

Federal Limits on Negotiated F&A Cost Rates on Federal Awards

The use of negotiated F&A cost rates on federally-sponsored projects can be limited by statutory restrictions associated with the federal funding or administrative restrictions imposed by an agency. For some federal agencies, such as the U.S. Department of Agriculture, F&A cost rates are limited by statute. In these cases, F&A limitations are determined by Congress and included in each program's legislation and the agency then passes these caps on to grantees.

In other situations, agency policy may result in limitations. The NIH, under an administrative practice, caps the F&A cost rate on training and career development (NIH K-awards) using an F&A cost rate of 8%. F&A cost rates also are restricted by all federal agencies for most fellowship and conference grants. Of course, the 26 percent "Administrative Cap" (see Chapter 7) implemented in 1991 is the most inequitable example of a restriction on fair F&A cost reimbursement as colleges and universities are the only recipients of federal awards that are subject to this cap. The Uniform Guidance (200.414(c)) requires federal agencies to use an institution's negotiated rates, and Appendix I of the Uniform Guidance restricts agencies from using inappropriate or "vague" requests for cost sharing. Whether statutory or agency-driven, limits on cost reimbursement increase the institution's share of the costs of federal research, requiring the institution to subsidize these unrecovered costs from other institutional funds.

Federal Treatment of Commercial and Industry Contractors

Like grantees from research institutions, commercial entities performing research or services for the federal government also seek reimbursement for the cost of the work they perform. Under federal cost principles, commercial contractors can recover their full direct cost, overhead costs and general and administrative costs, as well as a fee or profit, even when performing work for the federal government. The Federal Acquisition Regulation Subpart 31.2 – Contracts with Commercial Organizations, sets out the rules for determining the allowability of costs to be charged by commercial entities when performing federal work. This subpart identifies indirect costs as part of the actual costs of the contracted effort. Section 31.201-1 - Composition of total costs, paragraph (a) defines the total cost of a contract as "…*the sum of the direct and indirect costs allocable to the contract*…" Indirect costs are recognized by federal regulation as real costs that are vital to the contract performance.

Notably, commercial contractors and industry are not subject to the 26 percent administrative cap, as colleges and universities are. The RAND Corporation, Science and Technology Policy Institute report titled Paying for University Research Facilities and Administration included a comparison of administrative costs by performer (research universities, federal labs, and industry) and showed of these three performers, research universities had the lowest level of administrative costs. The 26 percent cap and the RAND study are explored in more detail in Chapter 7, "The Administrative Cap and Burden."

Foundations and Nonprofit Funders and F&A Reimbursement

Foundations and nonprofit funders are a diverse community supporting high-risk, high-reward research and other niche funding needs, while also complementing other funding sources, including federal funding. Historically and today F&A cost and infrastructure support has been understood by these funders primarily to be the role of the federal government. Whereas the federal government, as well as private industry, normally reimburses the negotiated F&A cost rate, many foundations, nonprofit funders, and charitable organizations limit grantee F&A cost reimbursement within their organization's internal policies. Many of these organizations recognize F&A costs as essential to research; however, the policies may be influenced by the organization's Board (or a specific donor) with the premise that donor contributions fund the "direct costs" of research only. Since many of these organizations have limited resources and are providing niche funding that isn't provided by federal sponsors, full funding of F&A cost reimbursement may not be practical or expected. On the other hand, when a foundation has the resources available and is funding more traditional types of research (e.g., similar to an NIH R01 award), application of the full F&A cost rate may very well be appropriate.

When research institutions do not receive full F&A funding, this can be troublesome as they are forced to either reject funding or subsidize the unfunded F&A costs.[26] Further, not providing full reimbursement of F&A costs ignores the fact that both direct and F&A costs, together, comprise the real costs of doing research. At times, these organizations fund certain costs that the federal government would typically not fund as a direct cost of research. Some examples of these costs include human subject review boards, technology transfer activities, high-speed data processing, hazardous waste removal, and in some cases, space-related costs. Consequently, when these types of costs are paid as direct, the subsidy impact to the institution is reduced.

Institutional Policy on Acceptance of Awards Without Full F&A

Many institutions establish policies to manage the cost sharing commitments applicable to awards that do not pay the full F&A and/or direct costs of research. The degree to which an institution is willing or able to cover these unreimbursed costs is normally documented in its policies for accepting or declining these awards. Some institutions have policies that require sponsors to cover the total costs of research, which may include supplemental guidance that is used to determine exceptions to a full-costing policy. Others have implemented policies that limit the number and/or value of awards without full F&A cost reimbursement that can be accepted by a department or school to control cost sharing commitments. In other cases, institutions require departments or schools that accept these awards to cover the unrecovered F&A costs, using unrestricted funding sources such as a faculty member's discretionary fund. Some make case-by-case decisions based on careful assessment of the role of the research to the campus mission, or to the particular researcher, department, or school.

[26] COGR is active in the Nonprofit Funder – Research Institution (NFRI) Partnership, which is focused on addressing solutions and opportunities around F&A cost reimbursement and other administrative issues. More information is available at: https://www.cogr.edu/nonprofit-funder-research-institution-partnership.

Many institutions require full reimbursement of direct and F&A costs for all industry-sponsored research[27], but will agree to cost share, by accepting a lower F&A cost rate, when the funding is from a nonprofit funder or foundation. Other policies may apply to acceptable recovery rates from state, local, and foreign government sponsors, and to decisions about cost sharing required by federal policy. In general, research institutions are increasingly aware of the need to manage these unrecovered costs and to monitor efforts to further reduce reimbursement of the institution's real costs of performing research.

F&A Models in Peer Countries

Policymakers, at times, inquire about research funding and F&A cost models used by other developed peer countries. Some of these models include block grants (where direct and F&A are captured in the block grant), infrastructure-only grants, a "Research Support Fund" (Canada)[28], and variations on the U.S. reimbursement model. A 2013 study, "Indirect Costs of Research," conducted by the Canadian Association of University Business Officers (CAUBO), with the support of the Canadian Association of University Research Administrators (CAURA), provided comparisons across Canada, the United Kingdom, Australia, and the United States. A broad conclusion of the study is that all systems are nuanced and have their unique complexities, and importantly, there is a risk to research institutions when real costs of research are not funded.[29] This conclusion aligns with a key theme of this paper: the Government - Research Partnership has led to a U.S. research enterprise that is the finest in the world, and the research funding model is an important component of the U.S. research enterprise.

Is the System Fair?

Finally, we pose the important policy question: Is the System Fair? There are many "fairness" issues that have been raised throughout this chapter. For example, differential treatment (i.e., the use of F&A caps) between commercial contractors and research institutions is a concern often raised by research institutions. A research institution's inability to fully recover its costs directly leads to a discussion on subsidies and their impact on the financial stability of a research institution. Other topics, such as the role of foundations, also raise important policy discussions.

In the remaining chapters, we take a deep dive into myths around F&A costs (Chapter 6), more analysis on the 26 percent administrative cap (Chapter 7), why the current system of F&A cost reimbursement works (Chapter 8), alternatives to the current system (Chapter 9), and opportunities for improvement (Chapter 10).

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[27] For industry-sponsored research, some institutions charge their uncapped F&A cost rate, which includes administrative costs above the 26 percent cap.

[28] The Research Support Fund assists Canadian postsecondary institutions with the costs of managing their research enterprises. More information is available at http://www.rsf-fsr.gc.ca/home-accueil-eng.aspx.

[29] See pages 4-5 of the 2013 study, Indirect Costs of Research, conducted by CAUBO/CAURA, which can be found at https://www.caubo.ca/wp-content/uploads/2016/03/Indirect_Costs_of_Research-CAUBO_2013.pdf

CHAPTER 6: THE FACTS (NOT MYTHS)

This chapter emphasizes data-driven facts about F&A costs, while concurrently dispelling corresponding myths. Many of these myths are cited when F&A cost reimbursement is under attack. Productive discussion requires averting these misunderstandings and is a key theme throughout this paper. The conclusion following each response is consistent – the Government - Research Partnership is best served when policy discussions focus on facts.

FACT #1 F&A Costs are Real Costs of Research

Myths	Facts
Myth #1a: The amount of direct costs funded on a peer reviewed research project covers all the costs of conducting the grant funded activity. The F&A payment is not a necessary part of any award.	The direct cost amount funded on a peer reviewed research project includes only those costs that can be directly assigned to a specific project, relatively easily and with a high degree of accuracy. Typical direct costs are scientists' salaries, technical materials and supplies, equipment, and travel. F&A costs also represent real costs that are necessary to perform the research project. F&A costs include shared resources such as utilities for research laboratory space and administrative support (grant management, accounting, payroll, procurement, etc.).
Myth #1b: F&A payments are simply a way for institutions to cover unrelated costs.	There is a federally-prescribed allocation methodology that assigns a fair portion of allowable space-related costs, administrative and compliance costs, and library costs to all institutional activities (i.e., research, teaching, and auxiliary activities).

Myths	Facts
Myth #1c: F&A payments are like a tax; an amount the institution determines is needed to fund all of its activities.	F&A cost reimbursements represent only costs allocable to the federally sponsored activity. Such allocable costs include the maintenance of sophisticated, high-tech labs specifically designed for cutting-edge research, utilities, telecommunications, hazardous waste disposal, and the infrastructure necessary to comply with various federal, state, and local rules and regulations.
Myth #1d: F&A payments are funneled back to faculty researchers and their departments to use for their own discretionary spending.	Distribution models for F&A cost reimbursement vary across institutions, but all F&A payments are reimbursements of real costs previously incurred by the institution. Once reimbursement of costs already borne by the institution is received, any methodology for distribution of those unrestricted funds is determined, appropriately so, according to the policies of the institution (see Chapter 5).

IN SUMMARY: F&A costs are real costs and only the portion of these costs allocable to research projects funded by the federal government are reimbursed through the F&A costs charged to those projects. Going back to the 1940s and the Vannevar Bush vision (see Chapter 1), the federal government has assumed funding responsibility for these F&A costs, which serves as a cost-effective alternative to using federal funds directly to build and maintain research buildings and labs. F&A cost rate proposals are reviewed and/or audited by federal agencies (see Chapter 4) to ensure that rates are based on actual costs supported by the books/records of the institution and compliant with OMB cost principles.

FACT #2 F&A Cost Reimbursement IS NEITHER Profit Nor a Tax

Myths	Facts
Myth #2a: F&A cost rates are not based on actual costs, but rather on costs plus a profit margin.	Federal F&A cost rates are based on actual costs, governed by strict federal cost principles defined in the Uniform Guidance. Further, profit is explicitly unallowable for nonprofit entities (research institutions) under the Uniform Guidance.
Myth #2b: F&A cost rates are based on market factors.	F&A cost rates are established based on actual expenses as reported in annual audited financial reports of the institution, which are further reviewed and/or audited and approved by the cognizant federal agency (Cost Allocation Services-HHS, or ONR, see Chapter 4).
Myth #2c: F&A payments on research subsidize other university endeavors (e.g. education or athletics).	F&A payments are reimbursements for research related costs only and F&A cost rate calculations are prohibited from including any other expenses.

IN SUMMARY: ***Research institutions are nonprofit organizations*** and F&A payments are for reimbursement of costs that institutions incur to support research that advances scientific and technological breakthroughs, leads to cures for diseases, and fosters other public benefits. While F&A payments normally are shown as an "add-on" to the cost of the research project and may look like a profit increment or a "tax" to some, this is simply a reimbursement methodology widely accepted by the federal oversight and audit community.

FACT #3 A 54% Rate DOES NOT EQUAL 54¢ of the Dollar to F&A

Myths	Facts
	F&A cost rates are applied to the Modified Total Direct Costs (see Chapter 3) of a research project – a rate of 54% applied to MTDC results in no more than one-third of the funds reimbursing F&A costs, and typically less (also see the Federal Dollar in Chapter 2).
Myth #3: An F&A cost rate of 54% means that over half of the funding goes to pay F&A costs and less than half to pay for direct costs.	For example, $100,000 of direct costs awarded to an institution is based on a thoughtful proposal to the federal agency, which documents and justifies the direct costs of the proposed project. F&A is applied "after the fact" based on the negotiated F&A cost rate and the portion of the $100,000 that is considered the Modified Total Direct Costs. If the MTDC is $80,000, the F&A applied to the project would be $43,200 ($80,000 X 54%). Hence, the total award amount is $100,000 + $43,200 = $143,200. The percentage of the award funding F&A costs is 30% ($43,200/$143,200), or 30¢ of the dollar. Consequently, 54¢ of the dollar DOES NOT go to F&A.

IN SUMMARY: F&A cost reimbursements are based on the F&A cost rate applied to the "modified total direct costs (MTDC)" (see Chapter 3). As supported by NIH data (see Chapter 3), F&A costs as a percent of NIH total awards has remained constant, at slightly above 27 percent (27 cents of each dollar) over the past two decades.

FACT #4 Flat Rates are Inequitable and Could Cripple Research

Myths	Facts
Myth #4: There should be only one federal F&A cost rate as this would level the playing field, encourage efficiency, and create equity between research organizations.	Certain types of research are significantly more expensive to support. For example, support costs at an institution performing extensive wet lab research will be far greater than at an institution with more focus on social sciences.
	Some of the cost differentials in F&A cost rates are due to the need for specialized equipment, use of hazardous materials, the need for large laboratory facilities, and extensive research support areas—such as cold rooms and animal procedure rooms—all of which are typically provided by the institution and reimbursed by sponsors through the F&A cost rate.
	Regional differences in costs, particularly space costs (acquisition of space, construction costs, & utilities) account for a significant amount of the variation in F&A cost rates.
	While institutions, in the short-term, could use discretionary resources to fund cutbacks in F&A cost reimbursements, many institutions could be forced to leave the research business entirely once it becomes prohibitively expensive to participate. This could disproportionately impact institutions in states and congressional districts where research is under-represented.

IN SUMMARY: Significant differences between institutions, such as geography, research infrastructure requirements, and research focus, are reflected through varying F&A cost rates. The viability of the research enterprise is put at risk whenever flat rates are considered.

FACT #5 Researchers and Faculty Benefit from F&A Activities

Myths	Facts
Myth #5a: F&A funding only supports the institution's infrastructure, which it should pay for anyway, and provides no benefit to the science.	F&A cost reimbursements support the space used by researchers. Many labs are built and maintained specifically to support the research performed by faculty and other scientific staff.
Myth #5b: Reducing F&A payments would mean additional funds would be available for scientific endeavors.	F&A cost reimbursements make funds available to support the research infrastructure and required administrative and compliance functions. These critical research support functions (see Chapter 3) are an integral part of the institution's scientific endeavors, which could not take place without funding for these functions.

IN SUMMARY: While some researchers view F&A cost as a "tax" (see Fact #2), reliable F&A cost reimbursement over many decades has created the infrastructure necessary to support a robust research program at research institutions all across the country. And reliable F&A cost reimbursement going forward will ensure that the research infrastructure is maintained.

FACT #6 Institutions Have Powerful Incentives to Control Costs

Myths	Facts
Myth #6a: Research institutions build new research buildings with no risk to the institution because the federal government will pay for the entire building through F&A cost reimbursements.	Research institutions pay for new research facilities up-front. They are reimbursed, after the fact, by federal and other sponsors only for the portion of the building that houses sponsored research. The prescribed OMB methodology in the Uniform Guidance dictates this (see Chapter 3), and the review and/or audit by the cognizant federal agency (Cost Allocation Services-HHS, or ONR, see Chapter 4) ensures this is the case.
Myth #6b: Bureaucracies, in the form of excessive administrative personnel or salaries, are included in the F&A cost rate and lead to rate increases. The more an institution spends, the more it is reimbursed; there is nothing that discourages excess spending.	F&A cost reimbursement for administrative expenses is capped at 26% (see Chapter 7) and the administrative expenses at most research institutions exceed the 26% administrative cap. Any additional administrative costs over the 26% cap do not increase F&A cost rates and are not reimbursed.
Myth #6c: Institutions have no incentive to control costs resulting in extravagant research buildings.	Research institutions have every incentive to control costs. F&A cost reimbursement is based solely on those research infrastructure costs that are allocable to the research function. If the institution builds a research building and no sponsored research is housed in the building, the institution bears the entire costs of the building.

IN SUMMARY: Institutions carefully plan all research support activities including the construction and renovation of research facilities, as well as employment strategies for the research administration workforce. Costs in excess of those allocable to research are costs borne solely by the institution. The RAND report (see Chapter 7) suggests that research universities have more efficient operations than industry and federal labs, further supporting the fact the research institutions are incentivized to control costs.

FACT #7 Institutions are Major Financial Contributors to Research

Myths	Facts
Myth #7a: F&A payments cover all the infrastructure costs of research operations at an institution.	F&A cost reimbursement is substantially less than the actual cost of supporting research. Every research institution subsidizes its federally funded research activities, including investment in research infrastructure and other forms of support that are not fully reimbursed.
Myth #7b: Increases in research support costs will be paid dollar for dollar by the federal government.	When institutions invest in incremental research infrastructure and support costs, they bear most of the financial burden until a future F&A cost rate is negotiated. While some of these costs may be allowed as "projected" costs when negotiating a new F&A cost rate, full recognition of the costs normally does not occur until a project is fully completed and the next F&A cost rate is negotiated.
Myth #7c: Research institutions expect the federal government to cover all costs of research.	The 2017 NSF Higher Education Research and Development (HERD) Survey showed a continuing trend of universities increasing their contributions to the research enterprise, both as a percentage of total research expenditures and in actual dollars (see Chapter 2).

IN SUMMARY: The 2017 NSF HERD Survey (see Chapter 2) showed that federal research expenditures as a percentage of total research expenditures continued its decrease over the past four decades. At the same time, institutional expenditures as a percentage of total research expenditures continued to increase and reached 25% of all research expenditures in 2017. This alone is not necessarily of concern as the federal government remains the primary supporter of research and research institutions appreciate the longstanding commitment of the federal government. The real concern is when F&A cost reimbursements are questioned and further limited, requiring research institutions to assume a disproportionate role in covering F&A costs.

FACT #8 The Federal Government DOES NOT Subsidize Other Funders

Myths	Facts
Myth #8: If a foundation, for example, allows a 10% F&A cost rate, the federal government is subsidizing this research.	The F&A cost model, prescribed by OMB in the Uniform Guidance requires that all F&A costs be fully and consistently allocated to all benefitting activities, regardless of whether the organization funding the activity reimburses F&A costs in full (see Appendix 1, Averaging Model). This ensures that all research is consistently costed. If a foundation pays less than the full F&A cost rate, the research institution, not the federal government, subsidizes the research. Foundations have a unique role in the research ecosystem (see Chapter 5); namely in supporting high-risk/high-reward research and other niche activities. F&A cost, historically, has been primarily the role of the federal government and the institution. At the same time, foundations directly fund certain costs that the federal government, typically, would not fund as a direct cost.

IN SUMMARY: Federal rules prescribed by OMB in the Uniform Guidance prohibit the federal government from subsidizing the research funded by other sponsors. Any shortfall in the financial support provided by foundations or other not-for-profit entities is paid by the institution.

Chapter 7, "The Administrative Cap and Burden," provides the opportunity for discussion of another subject in the myth-fact dichotomy. The myth is that federal partners share in the cost of new federal compliance mandates. The fact is that the 26 percent administrative cap (unique to research universities) results in research universities absorbing the entire cost of all new federal compliance mandates. This tension and related topics are covered in the next chapter.

CHAPTER 7: THE ADMINISTRATIVE CAP AND BURDEN

IN 1991, a 26 percent cap on administrative cost reimbursement was imposed on research universities after an investigation by Congress into how their indirect cost reimbursement was administered. This 26 percent administrative cap endures today. While many of the investigation's allegations were proven to be exaggerated, and in some cases untrue, the outrageousness of some of the costs allegedly included in the F&A cost rate brought the normally obscure issue of F&A cost reimbursement to the attention of Congress.

2 CFR Part 200 (Uniform Guidance), Appendix III, C.8 describes the 26 percent administrative cap and specifies its implementation:

> *8. Limitation on Reimbursement of Administrative Costs*
>
> *a. 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 ...*
>
> *b. Institutions should not change their accounting or cost allocation methods if the effect is to change the charging of a particular type of cost from F&A to direct, or to reclassify costs, or increase allocations from the administrative pools identified in paragraph B.1 of this Appendix to the other F&A cost pools or fringe benefits. Cognizant agencies for indirect cost are authorized to allow changes where an institution's charging practices are at variance with acceptable practices followed by a substantial majority of other institutions.*

A 2010 United States Government Accountability Office (GAO) report titled Policies for the Reimbursement of Indirect Costs Need to Be Updated (GAO-10-937.pdf) found:

> *The limitation on government reimbursement of administrative costs affects most schools. Based on our survey results, about 83 percent of schools had fiscal year 2007 administrative costs above the administrative cap, with a reported average administrative rate component of 31 percent. The cap was established in 1991 with the intent of limiting federal reimbursement for schools' indirect costs. When the cap was originally proposed in 1986, it was established at 26 percent for that year for the administrative portion of indirect costs because it was the 5-year average administrative cost reimbursement rate for all major universities.* ***OMB has not formally reexamined this cap since its implementation in 1991 {emphasis added}.*** *In survey responses and interviews, school and association officials reported that growing administrative costs were associated with modern research and complying with federal*

regulations. Some government officials also attributed the potential increase to federal regulations, particularly those enacted since September 11, 2001.

Implementation of the 26 percent administrative cap was the response to the allegations raised in front of Congress in 1991 and was intended to prevent "abuse" by universities. However, the unintended consequence is that it has resulted in a major shift of federal compliance costs mandated by the federal government to research universities.

Response to the Cap and Administrative Efficiency

In the 1990s, universities across the country responded by acquiring and designing advanced technology for additional accounting system controls to ensure proper exclusion of costs not allowable for federal reimbursement. These systems also introduced new efficiencies, while concurrently, universities developed streamlined organizational structures and implemented various cost-cutting measures.

The 26 percent administrative cap was, however, implemented in a climate of growing federal regulation of research. The 26 percent level was determined based on data representing average administrative costs at universities prior to 1991. Since then, compliance requirements have increased in number and complexity, making the 26 percent cap inappropriate (see Appendix 2, Managing Burden).

The Injustice of the 26% Cap

Only universities are subject to the 26% administrative cap. Private industry, nonprofit research institutions, and other entities are not. In the case of private industry, a profit factor is permitted. Studies have shown universities to be more efficient than both industrial and federal labs (RAND, 2000; see below), and long-sighted university initiatives to improve efficiency have effectively lowered administrative costs. Nonetheless, a steady stream of additional federal compliance mandates continues to offset efficiency gains, and most research universities incur administrative costs at a rate well above 26%. While unquestionably supporting a culture of compliance, universities pay a disproportionate share of the cost to maintain it.

Council on Governmental Relations, April 2019

In Paying for University Research Facilities and Administration (i.e., the RAND Report), the RAND Corporation identified a study showing that the fraction of total research costs classified as F&A costs was 31% for universities, 33% for federal laboratories, and 36% for industrial laboratories (Goldman et al., 2000, pp. 28-29). Universities receive proportionately less in F&A cost reimbursement than private contractors and other research performers. This indicates that although universities have more efficient operations as compared to other research performers, they do not recover their actual F&A costs because of caps and restrictions, leading to the conclusion that universities are not treated equitably by the federal government in how the costs of research are shared.

Despite significant increases in the real administrative costs of conducting federally-funded research since implementation of the administrative cap, it remains in effect at 26 percent. This is despite widespread agreement that federally-funded research performed by universities is vitally important to the United States' world leadership in science and technology and to sustaining American competitiveness.

Fair Share and the Tipping Point

Research institutions are enthusiastic contributors to the research enterprise. This is supported by the 2017 NSF HERD Survey (see Chapter 2), which shows $75.2 billion in total R&D expenditures reported by higher education institutions – of that $40.2 billion (53 percent) was federal and $18.9 billion (25 percent) was university-funded. And unrecovered F&A costs (the difference between the amount that could have been charged through the negotiated F&A cost rate and the amount actually charged) accounted for over $5.2 billion of the $18.9 billion university-funded share. Furthermore, the $5.2 billion does not include the unrecovered portion of F&A cost associated with administrative costs incurred above the 26 percent cap.

A "tipping point" may be in sight, as the inability to receive full reimbursement of F&A costs means that research institutions subsidize federally funded research at a level that may conflict with the historical terms of the research partnership.

The Tipping Point

When research institutions no longer can sustain subsidizing federally funded research, negative consequences may occur. Possible outcomes are a decline in the quality of research infrastructure and compliance oversight, a gradual degradation of laboratories and facilities, and ultimately, lost competitiveness as other countries increase the quality of their research enterprises and students and faculty look outside of the U.S. to learn and to conduct research.

Council on Governmental Relations, April 2019

The "Fair Share" principle is federal terminology, originally introduced in OMB Circular A-21 and subsequently incorporated into 2 CFR Part 200, Subpart B – General Provisions, §200.100(c), which states:

> *(c) Cost Principles.* Subpart E—Cost Principles of this part establishes principles for determining the allowable costs incurred by non-federal entities under federal awards. The principles are for the purpose of cost determination and are not intended to identify the circumstances or dictate the extent of federal government participation in the financing of a particular program or project. ***The principles are designed to provide that federal awards bear their fair share of cost {emphasis added}*** recognized under these principles except where restricted or prohibited by statute.

"Fair Share" recognizes that the federal government and research institutions are the primary financial contributors to the research enterprise. Historically, the federal government has been the principal funder, with research universities/institutions as well as other important contributors including state and local governments, industry, and nonprofit research foundations, providing important, but less significant, funding.

"Fair Share" also recognizes that as the federal government and research institutions are the primary contributors of direct costs (e.g., salaries of investigators, technicians, graduate students, other research personnel, plus research supplies and related expenditures, etc.), F&A cost reimbursement should proportionately (and fairly) follow the direct cost contribution. This is implemented by the application of the institution's negotiated F&A cost rate to the allowable direct costs of the federal research award.

The 26 percent cap is just one example of where the "Fair Share" principle is disregarded and where the university contribution seems more like a subsidy than a part of partnering in the research. Other examples include statutory caps (e.g., USDA research), agency-imposed caps on specific programs (e.g., NIH K-awards, Department of Education), and inappropriate agency requests to cost share. ***In all cases, the impact to research institutions is compounded when considered in the context of regulatory burden and compliance mandates issued by federal agencies.***

As stated in an article in the January 2008 edition of Physics Today, universities have contended for years that actual administrative costs exceed the reimbursement allowed under the 26 percent cap. In the Physics Today article, COGR maintained that universities have had to "*shoulder the full costs of a plethora of federal regulatory and record-keeping requirements that have been imposed in recent years, in areas such as export controls, conflict-of-interest reviews, foreign-student visas, hazardous materials, and the protection of human subjects of research*."

The remainder of this chapter explores the composition of administrative costs at research universities, including summaries of those administrative costs that are allowable as part of the F&A cost rate and those that are unallowable, or unallocable, and non-reimbursable. The chapter concludes with a discussion on regulatory burden and how research institutions manage compliance when confronted with an ever-increasing list of regulatory requirements.

Allowable Administrative Costs

The Uniform Guidance (2 CFR Part 200), Appendix III and Appendix IV, defines allowable administrative costs that can be charged, when allocable, via the F&A cost rate to federal awards[30]. For colleges and universities, these administrative costs are broken down into four cost groups (also see Chapter 3, F&A Nuts and Bolts), which combined are capped at 26 percent. The four administrative cost pools are General Administration (GA), Departmental Administration (DA), Sponsored Project Administration (SPA) and Student Administration and Services (SAS).

- **GA.** University's general and administrative offices, including, but not limited to the President, Provost, University Counsel, Vice President for Finance, Planning and Budget, Human Resources, and Information Technology operations.

- **DA.** Deans' offices and the administrative activities of each of the departments within the colleges/schools, including the activities of the chairpersons, center/institute directors, and their administrative staffs. It also includes the non-labor costs associated with department administrative operations. Such costs include, but are not limited to, office supplies, telephone, postage, general purpose equipment, and academic association membership dues.

- **SPA.** Costs of offices responsible for administering sponsored project activity. Normally, the pre- and post-award offices along with other compliance related offices supporting research activities.

- **SAS.** Costs of offices supporting graduate and undergraduate student services, normally including the costs of counseling, health services, admissions, and similar activities. Normally, only costs associated with graduate students are considered allowable.

Unallowable Administrative Costs

The Uniform Guidance specifies those administrative costs that are unallowable and cannot be charged to federal awards, either as direct costs or through the F&A cost rate. Research institutions have developed sophisticated accounting systems and review processes to ensure these costs are not included in the institution's F&A cost rate.

Examples of unallowable costs include:

- Alcoholic beverages
- Alumni activities
- Losses from bad debts and related legal costs
- Convocations and commencements
- Contingency provisions

[30] As noted in Chapter 3, Hospital cost principles were not updated as part of the Uniform Guidance. Instead, hospitals continue to follow the guidelines as specified in 45 CFR Appendix E to Part 74.

- Entertainment costs
- Goods or services for the personal use of employees
- Institution-furnished automobiles for personal use
- Legal costs of certain criminal and civil proceedings, appeals and patent infringement
- Donations and contributions made by an institution
- Fund-raising activities
- Executive and legislative lobbying
- Insurance against defects
- Fines and penalties
- Housing and personal living expenses of an institution's past or present officers
- Memberships in any civic, community, or social organization or country club
- Selling or marketing of goods or services

Unallowable costs cannot be allocated through F&A cost pools, and the research institution is required to certify that these activities have been identified and excluded from the F&A cost rate proposal.

Considering Regulatory and Administrative/Compliance Burden

Both regulatory and administrative/compliance burden are real, and together result in an expensive compliance infrastructure at research institutions. Regulatory burden comprises the laws, mandates, and regulations assigned to research institutions via either legislation or agency rules. Administrative burden is more specific to actual impact at the institution and how research institutions implement laws, mandates, and regulations.

Research institutions support thoughtful, effective regulation that protect human subjects and animals, enhance safety in the lab, demonstrate accountability to the American public, and support good public policy. However, the burden associated with conducting research continues to grow. As described in the previous section, allowable administrative and compliance functions, which support federally funded research, are included in the F&A cost rate. However, the 26 percent administrative cap prevents most research universities from receiving full reimbursement, and any new federal regulation that is implemented, therefore, is at the expense of the university.

A National Academies study, Optimizing the Nation's Investment in Academic Research: A New Regulatory Framework for the 21st Century, National Academies Press (Part 1, released in September 2015 study, followed by Part 2 in 2016) provided recommendations for how regulatory burden could be reduced, with the goal of reducing administrative burden at research institutions. The study was conducted at the request of Congress and ultimately was used by Congress to help craft important regulatory reforms included in the 21st Century Cures Act and in the American Competitiveness and Innovation Act.

The impact regulatory reform will have on reducing administrative burden is to be determined. The Federal Demonstration Partnership (FDP), established in 1986 with the mission of bringing together research institutions and federal agencies to address issues of common interest, plays an important role on this topic. The FDP released the third version of its Faculty Workload Survey,

the 2018 Survey, which shows that principal investigators and scientists continue to contribute significant amounts of their federal research time to administrative duties (e.g., procurement of lab supplies, effort reporting, etc.). ***The 2018 survey showed 44 percent of investigator time spent on research activity is related to administrative duties, rather than the actual science.***[31] To the extent these administrative activities are directly allocable to federal awards, the federal government is paying for faculty to do work that could be completed by administrative staff, thus compromising research productivity.

While action by Congress is welcomed and participation by federal agencies in the FDP is crucial, an ongoing commitment to address regulatory burden is necessary.

> ***Any new federal rule or regulation is an increase in the cost of compliance for the university, and when the actual administrative portion of the F&A cost rate already exceeds the 26% cap, there is no mechanism for the university to recover the compliance costs associated with the new regulation. In effect, the cost of compliance with any new federal regulation is paid in full by the university.***

Reducing regulatory burden, and the corresponding administrative/compliance burden, is a key mission of the Council on Governmental Relations. COGR conducts regular analyses related to regulatory burden and maintains the COGR List of Regulatory Changes Since 1991, a comprehensive listing of all new research regulations imposed by federal agencies since the 1991 implementation of the 26 percent administrative cap.

Appendix 2, Managing Burden**,** contains a robust discussion on the compliance infrastructure at research institutions and the challenges posed by unchecked regulatory burden. We encourage stakeholders to use this appendix, as well as other COGR resources, as a complement to policy discussions about F&A cost reimbursement, the 26% administrative cap, and related issues. Research is a highly complex, federally-regulated endeavor, and as such, is an expensive endeavor. Research institutions recognize the critical importance of compliance and good management practices. Working in conjunction with policymakers and other stakeholders, continued efforts to reduce regulatory burden are imperative to a thriving research enterprise.

[31] According to the FDP Faculty Workload Survey, investigator time away from research has increased to 44.3% from 42.3% in both 2007 and 2012.

CHAPTER 8: WHY THE SYSTEM WORKS

The Facilities & Administrative (F&A) cost rate is the current, and longstanding, agreed upon mechanism between the federal government and research institutions to reimburse recipients of awards for the portion of their facilities and administration infrastructure supporting research and other types of sponsored projects. Though the current system is not perfect and should be open to critical review, it incorporates sound principles that help foster the partnership between recipients of research funding and the federal government.

In this chapter, we start with an analysis of why the existing system for reimbursing F&A costs works and, further, how the system is remarkably effective and efficient. While there are concerns that the current system has deficiencies related to fair reimbursement of F&A costs, overall the system provides research institutions with a reliable funding source that covers a portion of the real costs of the F&A infrastructure. In Chapter 9, we discuss alternatives to the current system and how alternatives could affect the stability of the current research funding model. In the final chapter, Chapter 10, "Improving the System," we address select components of the current system that may provide opportunities for improvement.

REASON 1: THE SYSTEM WORKS … Because Rate Calculations Are Tightly Controlled

Since the beginning of the partnership between the federal government and research institutions, reimbursement of F&A costs has been recognized as an important component requiring thoughtful costing principles. The framework and requirements have evolved over time since the initial principles were established in the 1940s (see Chapter 1, Brief History). The benefit of these costing principles is that all research institutions and other grant recipients are calculating and establishing F&A cost rates based on consistent and established methodologies.

Under the current system, the development or calculation of a base year F&A cost rate is a complicated and time-consuming process (see Chapter 3, F&A Nuts and Bolts). Each of the F&A cost pools is carefully constructed and allocated to the benefiting functions of the institution based on specific statistics and methodologies identified as appropriate for that pool.

Further, each institution's rate calculation is reviewed and/or audited, and the rates are negotiated and agreed to by the federal government and the institution. The cognizant agencies (HHS, ONR and DCAA) review the institution's F&A cost rate proposal to assure that negotiated F&A cost rates fairly reflect the F&A costs that benefit federal awards (see Chapter 4, Oversight and Audit). This process supports fair reimbursement and substantiates that the federal government is reimbursing research institutions only for those F&A costs that are necessary to support the federally funded programs of the institution.

REASON 2: THE SYSTEM WORKS … Because it is Based on the Cost Structure of the Institution

Misconceptions about F&A cost rates are common, primarily due to a lack of understanding that the rates represent actual costs incurred by the institution and that the application of the rates is part of the process to equitably assign costs to the activities they support. As described in Chapter 3, F&A Nuts and Bolts, the overall rate is an accumulation of an institution's allowable costs sorted into specific F&A cost categories.

This process of developing the F&A cost rate ties the uniqueness of an institution's facilities and its types of research to its calculated F&A cost rate. Examples of these different types of research support costs include the cost of specialized space, technology, biocontainment, hazardous waste disposal, and other institutional infrastructure. Varying types of research and regional costs leads to significant differences between research institutions in the composition and total of their F&A cost rates.

The uniqueness of each research institution is the reason each negotiates its own F&A cost rates, specific to its actual costs and related circumstances. This ensures that differences across institutions are accounted for and the fairest level of F&A cost reimbursement is established. While it is a complex process to prepare and negotiate F&A cost rates, it is simple and fair to apply a single rate to each project's direct research expenditures, allowing the institution to be fairly reimbursed in a pragmatic way for the F&A costs it has incurred.

REASON 3: THE SYSTEM WORKS … Because the Averaging Model is Efficient and Eliminates the Risk of Federal Subsidization

The F&A cost rate model is predicated on the "Averaging Model" (see Appendix 1), where F&A costs are accumulated in prescribed F&A cost pools and are allocated to research and other functions of the institution. The allocations to each are then summed, resulting in a single F&A cost rate for, for example, on-campus research.

The averaging model works well for the following reasons:

- It avoids the administrative burden of identifying what types of F&A costs are applicable to each award. This means that all research, regardless of who funds it, is treated the same in the F&A cost rate calculation and application process. This reduces the burden on Principal Investigators as they do not have to negotiate with their institutions about what rate to use for different types of research or which specific F&A costs each award should be charged.

- It provides budget and expense predictability as the rate does not immediately change with changes in actual costs or other circumstances. For example, a spike in utility prices is included in the next F&A cost rate calculation, not in the charges to current awards.

- It reasonably allocates the F&A costs of performing work under sponsored awards to all funding sources without regard to the rate the sponsor pays. In other words, the calculation of the rate is based only on incurred expenses. Reimbursement of F&A cost is not a factor and, therefore, any F&A cost not reimbursed by one sponsor is not subsidized by other sponsors.

The averaging methodology, as prescribed by the federal government, can result in individual project inequities where the single F&A cost rate is too low for more expensive research and too high for less expensive research. However, under this longstanding, well-established model, the federal government is not disadvantaged overall, and the result is a highly efficient system for reimbursing F&A costs.

REASON 4: THE SYSTEM WORKS … Because Research is an Engine that Creates Jobs and Fuels the Economy and Discovery

In addition to the technical features of the F&A cost reimbursement process described above, the stable foundation the current research funding model provides is crucial to the research ecosystem. Research is a major driver of economic prosperity in the United States. The partnership between the federal government and the research institutions that conduct its research has led to significant economic gains and improved quality of life in our country and the world.

Dr. Francis Collins, confirmed as Director of the National Institutes of Health (NIH) in 2009, throughout his tenure has been vocal on the accomplishments of research funded by the NIH. For example, in his April 2014 Written Testimony before the Senate Appropriation Committee, Dr. Collins cited a study by United for Medical Research and wrote in his testimony:

> *Investments in NIH research spur job creation. United for Medical Research estimates that in fiscal year (FY) 2012, NIH funding supported more than 402,000 jobs and $57.8 billion in economic output nationwide. Discoveries arising from NIH-funded research are a foundation for the U.S. biomedical industry (i.e. pharmaceutical and medicinal manufacturing, medical equipment manufacturing, and research and development in biotechnology),* ***contributing $69 billion to our GDP and supported 7 million jobs in 2011 {emphasis added}.***[32]

[32] See Profiles of Prosperity, United for Medical Research: http://www.unitedformedicalresearch.com/wp-content/uploads/2013/07/UMR_ProsperityReport_071913a.pdf

Other organizations and publications espouse the vital and powerful economic impact science and research contribute not only to the United States' economy, but beyond to millions around the world. For example:

> *The Association of University Technology Managers (AUTM) is the leader behind the Better World Project,* ***which highlights life-changing scientific discoveries emanating from research institutions in the United States that have had the impact of benefitting millions of people around the world {emphasis added}.***[33]

Further evidence specific to NIH's contribution to economic growth is presented on its web page, Impact of NIH Research. The information provided demonstrates the impact of NIH-funded research, including the Human Genome Project initiated in the 1990s:

> *The NIH's Human Genome Project (HGP) has resulted in nearly* ***$1 trillion of economic growth {emphasis added}****—a 178-fold return on investment—at a cost of only $2 per year for each U.S. resident.*[34]

Finally, returning to Dr. Kelvin K. Droegemeier[35] from earlier in this paper (see the Introduction and his Written Testimony to Congress in 2017), he emphasizes those everyday technologies and innovations spurred by funding from the National Science Foundation, the Department of Defense, and other research agencies across the federal government:

> ***From the iPhone to automobiles, to commercial airplanes, automated grocery checkout stands, unconventional recovery of crude oil and gas, and online shopping {emphasis added}****, the benefits of research – and their translation into products and services via the process of private sector innovation – are undeniable and pervasive.*

The impact science and research have had, and continue to have, is truly remarkable. The consistent, stable, and reliable research funding model is a powerful factor in facilitating high quality, cutting-edge research, which fuels a diverse, vibrant, and powerful United States and world economy.

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[33] See the AUTM Better World Project: https://autm.net/about-tech-transfer/better-world-project

[34] See Battelle Technology Partnership Practice publication, June 2013: https://web.ornl.gov/sci/techresources/Human_Genome/publicat/2013BattelleReportImpact-of-Genomics-on-the-US-Economy.pdf

[35] Dr. Droegemeier, confirmed in January, 2019 as the Director of the Office of Science and Technology Policy (OSTP), also has served as a Board member of the National Science Board of the National Science Foundation, as a Board member of the Council on Governmental Relations, and as the Vice President for Research and the Regents' Professor of Meteorology at the University of Oklahoma.

REASON 5: THE SYSTEM WORKS … Because Decentralization of Research Maximizes Creativity and Geographic Diversity

The decentralized nature of the nation's research enterprise is a pillar of the partnership. The current research funding model supports this pillar by recognizing differences in infrastructure requirements between types of research and the location in which it is being conducted. According to the most recent 2017 NSF HERD Survey (see Chapter 2), the partnership has grown to the extent that federally funded research, is conducted ***at more than 900 research institutions in all 50 states, plus U.S. territories, and in almost every congressional district across the country.***

The system supports our nation's egalitarian principles, and any investigator can apply for federal research funding. Our system is merit-based—only those proposed projects that withstand the rigor of the competitive award-making process are funded. The diversity of recipients of federal research funding contributes to breakthrough discoveries and new ideas. The 2017 NSF HERD Survey further documents that ***the 900+ research institutions, in total, reported over $40 billion in federal R&D expenditures.***

An entrepreneurial mindset to research is only attainable with the federal government fulfilling its part of the partnership and supporting both the direct and infrastructure support costs associated with conducting research. Without reliable funding for F&A costs, smaller institutions without other resources to draw upon would be forced to leave the research business, which would result in a convergence of research being conducted by fewer institutions. Ultimately, this reduction would restrict the far-reaching entrepreneurial R&D spirit of the United States. In short, the current research funding model allows diversity to thrive and is a significant contributor to the research excellence of the country.

But Are There Alternative Systems?

While the benefits of the current system are clear and impressive, the potential of alternative systems should not be dismissed. The next chapter, Chapter 9, "Alternative Systems," focuses on other approaches to F&A cost reimbursement.

CHAPTER 9: ALTERNATIVE SYSTEMS

The current system for F&A cost reimbursement is time-tested and has proven effective. However, critical review by all stakeholders is an appropriate and healthy exercise that may result in new solutions. Below are alternative systems. COGR's perspective on alternative systems is to provide a balanced view. In those cases where there are concerns, COGR's position is to raise these concerns, while remaining committed to discussions intended to advance the research partnership and implementing improvements to the research funding model. The final chapter, Chapter 10, "Improving the System," addresses COGR's position on the best opportunities for improving the current system.

Flat Rates

On several occasions the federal government has proposed flat rates would be more efficient and cost effective, but thus far this proposal has been rejected by policy leaders (including Congress) as inequitable. The premise is that all institutions would receive the same flat rate prescribed by the federal government regardless of the cost incurred to perform research at that institution, reducing burden and cost for the institutions and the federal government.

A flat rate would reduce burden for the institution preparing the F&A cost rate proposal, as it is an expensive and time-consuming process. It also would reduce burden on both the institution and the federal government, as it would eliminate the review and negotiation of the F&A cost rate. ***However, the flat rate idea has serious weaknesses.*** Depending on the flat rate (e.g., 50 percent), there could be winners (i.e., those institutions with negotiated F&A cost rates below 50 percent); but there would likely be more losers and the overall cost impact would be significant and disruptive (also see Chapter 6).

James Luther, Associate Vice President for Finance at Duke University and former COGR Board Chair, discussed concerns with this approach in his Oral Testimony to the House Committee on Science, Space, and Technology hearing titled "*Examining the Overhead Cost of Research*" (May 24, 2017):

> *It is difficult to imagine how a flat reimbursement rate would help manage growing costs as it would simply move more of the responsibility for these costs to institutions. The costs charged on research awards, whether direct or indirect, are the true costs of research and universities cannot continue to absorb an increasing share of these costs. Flat reimbursement would simply compel universities to only select that research that they can afford. Universities would compete aggressively for research that is not as F&A intensive and fewer and fewer universities would conduct research that required more expensive infrastructure; such as vaccine development, advanced robotics, and technologies that require costly biohazardous management practices. Universities wouldn't be able to readily afford research that requires special air-handling, scientific equipment, animal modeling, etc. It should also be noted that with fewer universities and research labs, any increase in direct funding would not be*

beneficial. Universities couldn't afford to accept these funds as they would further compound the financial loss (unless it was in non-F&A intensive types of research).

Flat rates shift more of the real costs of research from the federal government to research institutions, violating the "fair share" concept (see Chapter 7) prescribed in the Uniform Guidance. Further, research institutions simply do not have the capacity to absorb this additional shift of costs from the federal government. A lower reimbursement of F&A cost could force institutions to reduce the amount of research performed, resulting in:

- Slower scientific progress
- Fewer medical treatments
- Fewer training and educational opportunities for the next generation of scientists
- A smaller workforce to conduct the research
- Fewer scientists to compete for awards
- Less investment in research infrastructure and support costs
- Fewer institutions conducting research.

In short, the result would be a devastating erosion of research quality, affecting our country's economic growth, security, future generations, and standing as the global leader in science and innovation.

Flat rates would not account for significant differences in costs associated with the types of research conducted at an institution. Certain types of research require more specialized and expensive facilities or more extensive administrative support than others. For example, an institution that primarily conducts social science or observational research is likely to have a lower F&A cost rate than a biomedical research institution engaged in biocontainment laboratories, translational cell therapy, genomic and proteomic analysis, sequencing, etc. As a flat rate is not based on an institution's cost structure, there would be less incentive for institutions to invest in the cutting-edge research laboratories, facilities, and equipment necessary to conduct the next generation of research.

Finally, flat rates do not consider regional differences in costs. Expenses such as construction, utilities, and salaries and wages vary from one part of the country to another. A "regional" flat rate (e.g., Northeast, Midwest, etc.), while addressing regional differences in cost structure, still would fail for the same reason any form of a flat rate would fail – the real cost of doing research at a specific institution is ignored and research institutions would opt out of doing the most cutting-edge research as it becomes prohibitively expensive to perform.

Fully-Authenticated Direct Charging

A very different alternative is to charge each F&A cost incurred for a project as a direct charge, rather than grouping these costs, averaging them, and charging them through the F&A cost rate. This method would be transparent, showing each F&A cost allocated to a project (e.g., an actual space use/rent charge based on actual square footage used). It also would allow each institution to

be reimbursed for the actual costs incurred on a research project, rather than the average cost, via the F&A cost rate (see Appendix 1).

The fully-authenticated direct charging approach would, however, be much less efficient – the exchange of the efficient F&A cost rate system for a more complex assignment of actual cost by project. It would require more complex cost allocations to assign specific costs to individual projects. While there are examples of costs normally considered F&A that can be specifically identified with a project (e.g., administrative project manager for a data-intensive survey project), it generally is difficult to assign directly to a project a clear-cut F&A cost (e.g., the Office of Research Administration and Compliance) as it would require determining exactly how much of that position to charge to each individual research project.

Further, allocations would have to change constantly to capture changes in actual costs, resulting in confusion for faculty in determining what to budget when applying for grants, difficulty for program officers in determining if the costs included are appropriate and reasonable, and inconsistencies between budgeted cost rates and the actual cost rates during the conduct of the project. Additionally, some types of research (e.g., biomedical research) would be much more expensive, as this research would have to bear a higher share of costs for items such as specialized lab space, the corresponding utilities, a human subjects review board, biosafety and hazardous waste removal, etc. Investigators and faculty, who may be satisfied with the existing F&A cost rate methodology, would be subject to a variety of costs directly charged to the project.

While direct charging certain types of costs that are by nature F&A is reasonable and allowable, charging all costs directly would result in a significant increase in administrative burden. At the same time, it might not cost the government less, but instead, could result in a shift in budgets across programs and agencies, as those funding more expensive research (e.g. research requiring labs with advanced equipment, disproportionate utilities, special environmental controls, etc.) would have to provide larger award amounts. While fully-authenticated direct charging could provide more transparency by showing specific F&A costs charged to each project, the current, simple system premised on a single F&A cost rate, with its rigorous oversight process (see Chapter 4), ensures F&A cost rates are tightly controlled.

F&A Cost Rates by Type of Science

The current system is based on an averaging model (see Appendix 1), where costs related to a type of activity such as on-campus research, are combined then averaged to determine the F&A cost rate for the activity. Different types of research have varying degrees of cost, depending on the requirements for specialized space, technology, infrastructure, biocontainment, hazardous waste disposal, etc. For example, medical research in a biocontainment laboratory where airborne bacteria, viruses, or toxins must be contained, isolated, and secured as required by strict federal regulations is far more expensive than data analysis studies using computer models.

An alternative to developing an overall on-campus research rate would be to develop F&A cost rates based on major types of science. This alternative would provide a more accurate allocation of costs to benefitting projects. However, these benefits would have to be weighed against the new

complexity and administrative burden that this alternative would create, increasing cost for the institutions and for the federal government (i.e., more rates to be negotiated). Additional rate categories likely would lead to greater confusion for faculty and other investigators attempting to budget for the appropriate rate.

Dr. Kelvin K. Droegemeier, Director of the Office of Science and Technology Policy (see Introduction) captured the challenge in his Written Testimony to the Appropriations Sub-Committee on Labor, Health and Human Services, Education and Related Agencies, United States House of Representatives, for the hearing titled "The Role of Facilities and Administrative Costs in Supporting NIH-Funded Research" (Tuesday, October 24, 2017).

> *Keying the F&A rate to specific types of projects, rather than using an average across all projects, inherently has merit. In fact, multiple types of F&A rates already exist, e.g., full rate, a rate for research conducted off campus (the A-only rate of 26%), a rate for other sponsored activities (OSA), etc. However, determining these rates would be extremely laborious, fraught with uncertainty owing to the fact that modern research is not readily stove-piped into categories, and difficult to implement in pre- and post-award administrative proposal services.*

While use of unique F&A cost rates for specific functional activities (e.g., research, instruction, public service, other sponsored activities, etc.) or separate locations (e.g., on or off-campus) is an established practice that recognizes cost differences in those broad categories, addressing differences in cost for specific scientific disciplines would result in a more expensive and inefficient system.

Default Rates and Alternative Rate Bases

There is precedence for several types of default rates and alternative rate bases. For example, the Uniform Guidance (section 200.414(f)) allows entities that never have negotiated an F&A cost rate agreement with the federal government to use a 10 percent "de minimis rate." Some institutions negotiate F&A cost rates applicable to a salaries base only, rather than the broader modified total direct costs research base (see Chapter 3).

Providing options for a research institution to establish a default reimbursement rate (e.g., 45 percent, no documentation required, which is well-below negotiated rates for research institutions), or propose other new reimbursement methodologies (e.g., exclude certain costs from the modified total direct cost base that disproportionately impact cost reimbursement), could provide efficiencies and/or equities that enhance the effectiveness of the F&A cost reimbursement process. Note, in the case of excluding certain costs from the modified total direct cost base (MTDC), this could have the effect of increasing F&A cost rates (i.e., numerator unchanged, denominator reduced). This could further the perception that F&A cost rates are too high though, in reality, net F&A reimbursement should be unaffected as the higher rate would be applied to a smaller MTDC base.

Uncapped Compliance Cost Pool

The 26 percent administrative cap was implemented in 1991. Since then, regulatory requirements have increased, along with the cost of complying with them (see Chapter 7). Today, actual costs for most research universities exceed the 26 percent cap, due in large part to the increase in regulatory requirements. A possible method for addressing the cost of compliance is to allow research universities to establish an uncapped compliance cost pool as part of their negotiated F&A cost rates. Under this model, an Administrative cost pool, still capped at 26 percent, would continue to capture the routine operations associated with university-wide, academic department and research administration (see Chapter 3). A new uncapped Compliance cost pool would capture costs associated with research compliance activities required by specific regulations (e.g., human subjects, animals, technology and data security, etc.).

Implementation of a Compliance cost pool would require thoughtful collaboration across all stakeholders, and challenges should be anticipated. However, the new Compliance cost pool could be monitored by policymakers with the ultimate goal of tracking and managing incremental compliance costs and identifying opportunities to reduce the impact of federal compliance mandates, or perhaps even eliminate them if the benefits do not justify the costs.

Fixed Price Model

A fixed price model also has precedent. Federal agencies issue fixed price awards, and prime recipients issue fixed priced awards to their subrecipients, as allowed by the Uniform Guidance. However, fixed price awards are currently the exception. The fixed price model would allow the federal government or pass-through entity to award a fixed amount to support a project and then to pay that amount, without regard to the actual costs incurred in carrying out the project. While this model appears to reduce administrative burden, it requires an accurate estimate of actual cost to determine the amount of the fixed award, which still would require a method for allocating F&A costs.

While the federal government currently uses this approach on a limited basis, expanding this model would be a major paradigm shift and would require all stakeholders (research institutions and their investigators, federal agencies, the audit community, etc.) to address the cost, benefits, unintended consequences, and other issues. For example, fixed price agreements could result in the federal government paying more than actual costs, or the institution absorbing additional costs, depending on the accuracy of the fixed amount proposed.

Further, cost reimbursement is a reasonable way to fund research. Extensive use of a fixed price model would require that more concrete metrics be developed to demonstrate performance requirements, which is a significant challenge in research. Basic research may be considered unsuccessful when expected results are not achieved but this is also an informative outcome, adding to the knowledge base and further advancing the research (see Introduction).

Finally, institutions still would have to allocate F&A costs to these projects so F&A cost rates would still have to be calculated and applied. The presumption of the fixed price model is that

F&A cost rates no longer would have to be negotiated with the federal government. Without the federal review and negotiation process, however, there would be more potential for disagreements between faculty and institutional administration about charges for F&A costs.

Separate Bill/Drawdown for Direct and F&A Costs

This model would eliminate the application of a rate to each grant and the institution would instead separately bill or draw down from the federal government the amount necessary to recover its F&A costs allocable to its federally funded projects. This method would remove F&A cost rates from the view of the investigators, eliminating arguments at the project level, but its lack of transparency could have unintended consequences.

Investigators are not always enthusiastic supporters of F&A costs charged to their projects, and administrators would like to be relieved from explaining the necessity of the charges. However, it is important for administrators and investigators to work together to ensure there is a cross-institutional understanding of the importance of F&A cost reimbursement. In effect, advocacy for fair reimbursement of F&A costs must be an institution-wide priority – otherwise, research will suffer throughout the institution. Separating direct and F&A cost recovery would add to the misperception that F&A costs are not real costs related to conducting research, which could lead to additional arbitrary caps or other limitations on reimbursement as it would be even more difficult for stakeholders to have a full understanding of the process and the necessity of F&A cost reimbursement to the research enterprise.

Equitable Solutions Will Be the Key

Research institutions are deeply committed to continuing the successful research partnership with the federal government, which has been world renowned for its productivity, innovation, and tremendous improvement in the diagnosis, prevention, and treatment of diseases. It is a partnership and, as such, the current system should be reviewed on a periodic basis, with a critical eye. Alternatives should be presented in an environment that ensures all stakeholders are engaged and in agreement that the quality of science must be preserved. Any changes to the current system should provide for equitable solutions for both the federal government and research institutions.

Chapter 10, "Improving the System," concludes this paper by presenting COGR's priorities and recommendations for improving the current system.

CHAPTER 10: IMPROVING THE SYSTEM

Chapter 8 demonstrated that the current system, while admittedly complex and sometimes misunderstood, works efficiently, and the underlying principles support equitable reimbursement of F&A costs. While the alternatives to the current system presented in Chapter 9 have drawbacks, some of which would affect the stability provided by the current research funding model, the current system should be open to review. COGR supports discussions that engage all stakeholders and are conducted in an environment where the priority is to preserve the quality of science conducted in the United States.

This chapter focuses on potential improvements to the current system. We propose recommendations that will foster collaboration between federal policy leaders and representatives from research institutions and which will not create additional burden or weaken the current system. Improvements should be helpful, or at least inconsequential, to the investigators performing the research to ensure the research being conducted in the United States remains unencumbered, state-of-the-art, and qualitatively excellent.

Below are five COGR recommendations to enhance the current system and provide a forum for regular engagement by key stakeholders and policy leaders to continue discussing improvement.

1. Clearer Language and More Transparency
2. More Flexibility in Direct Charging
3. Meaningful Reduction in Regulatory Burden
4. Leverage the Uniform Guidance
5. Convene F&A Roundtables with Key Stakeholders

We describe each recommendation below, including specific action items, and conclude with an analysis of potential intended and unintended consequences. While we believe the upside potential of each recommendation is persuasive, we are sensitive to the potential downside and stand ready to facilitate a discussion with all stakeholders. At the heart of these recommendations is achieving the goal of this paper, as stated in the Introduction:

Provide a basis for productive discussion so that research funding debates no longer are diverted by nonproductive disagreements about limitations on F&A cost reimbursement and misunderstandings about what is covered in the F&A cost rate.

NUMBER 1: Clearer Language and More Transparency

Clearer language and more transparency would eliminate some of the mystery around F&A cost reimbursement. The fact is, reimbursement of F&A costs should not be a controversial concept. If private industry were not fully reimbursed for its indirect (F&A) costs, it would reconsider doing business with the federal government. The normal practice is for private industry to meticulously document its requests for indirect cost, with the expectation of full reimbursement. Research institutions also meticulously document their

F&A cost rate proposals. However, the difference for research institutions is two-fold: they are not reimbursed in full and they would rarely reconsider their commitment to do research on behalf of the federal government.

While there are various reasons reimbursement of F&A costs at research institutions is questioned, part of the challenge may be as simple as language. The 1996 changes to OMB Circular A-21 introduced the new term, "Facilities and Administrative" (i.e., F&A)[36]. While helpful as a more accurate description of the F&A activities necessary to conduct research at research institutions, the term F&A has not effectively conveyed to stakeholders that these are necessary costs of doing research – nor have other terms such as indirect costs and overhead been entirely eliminated.

Current language, rather than creating a common understanding, has made the practice of requesting reimbursement for F&A costs, at times, cryptic. As such, we propose that more accurate and responsible language be used by all stakeholders and, when possible, be incorporated into official policy documents, campus communications, all publications at the federal government level, and through all media outlets and publications.

Language "Rights" and "Wrongs"

Right	Wrong
F&A Cost Rate	F&A Rate
Reimbursement of costs previously incurred	Revenue, Profit, Tax
F&A Costs, Research Project Support Costs, Cost of Compliance, Infrastructure	Indirect Costs, Overhead

Going hand in hand with clearer language is more transparency. Most research institutions post their F&A cost rate agreements on their institutional websites. However, this does not adequately describe the cost composition of the institution's F&A cost rate (see Appendix 3, Transparency Case Study), nor does it address the institutional subsidy when full F&A cost reimbursement is not received. F&A cost rates alone are inadequate indicators of F&A cost reimbursement. Too often, for example, a negotiated F&A cost rate of 50% is thought to mean that half the costs of a federal award are being expended on F&A costs, while the actual percentage is between 20 and 30 percent (see Chapter 3 and Chapter 6).

Enhancing transparency by providing more robust and meaningful data, in a user-friendly format, has the potential to tell the accurate story of F&A cost reimbursement. Ultimately, all stakeholders

[36] This term remains the standard in the Uniform Guidance. For additional background information, see https://clintonwhitehouse2.archives.gov/OMB/circulars/a021/fedrega21.html

can be empowered to participate in a manner that results in a better understanding of the F&A cost reimbursement process and that nurtures more substantive and productive policy discussions.

Upside. Accurate language will better represent the character of F&A costs and potential critics may be less likely to arrive at uninformed conclusions. Better transparency and more robust data will permit stakeholders to improve communications and ultimately be better able to advance fruitful discussions about F&A cost reimbursement.

Downside. A sustained change in language will require a long-term commitment by all stakeholders to educate their communities, including updating policies, official documents, websites, etc. – and the real impact may not be significant. There should be little downside to more transparency, unless more transparent data is used irresponsibly to advance short-sighted policy positions.

NUMBER 2: More Flexibility in Direct Charging

First, more flexibility in direct charging is a much more practical and strategic approach compared to the fully-authenticated direct charging method discussed in Chapter 9, "Alternative Systems." The fully authenticated direct charging method would effectively eliminate the F&A cost rate in lieu of developing unique methodologies to charge each F&A cost incurred as a direct charge.

As demonstrated throughout this paper, the F&A cost rate process is an efficient and effective system, which creates value by minimizing administrative burden and providing a mechanism that offers the potential for fair F&A cost reimbursement. F&A costs are pooled and allocated to the direct functions of the institution (which includes the research function). Calculation of the F&A cost rate is done in accordance with the rules stated in Appendix III and Appendix IV of the Uniform Guidance. As defined in the Uniform Guidance (section 200.56):

Indirect (F&A) costs means those costs incurred for a common or joint purpose benefitting more than one cost objective, and not readily assignable to the cost objectives specifically benefitted, without effort disproportionate to the results achieved.

However, a cost's allocability may fall on a continuum between direct and F&A, rather than as an either/or option. Costs, such as researcher salaries, special purpose equipment, and lab supplies (e.g., chemical agents, genomic arrays, etc.) normally are direct costs. Costs such as financial administration (e.g., budgeting, procurement, etc.) are appropriate as F&A costs. Many costs, however, fall somewhere between and often the purpose or circumstances dictate whether a cost that typically is considered F&A may be better categorized as direct. Administrative support costs are a good example and are allowable as specified in the Uniform Guidance (section 200.430(i)):

Charges to Federal awards may include reasonable amounts for activities contributing and directly related to work under an agreement, such as … developing and maintaining protocols (human, animals, etc.), managing substances/chemicals, managing and securing project-specific data, coordinating research subjects …

Other types of costs deserve the same consideration. Research computing, and the technology infrastructure required, is a prime example. The exponential growth in the cost and usage of computing and data storage has resulted in the enhanced significance of this category of expenditures. To the extent that these costs can be quantified and identified to specific awards, it should be appropriate to direct charge these costs.

Some institutions have developed accounting systems and processes to assign costs typically viewed as F&A costs, for federal purposes, to the various operating units within the institution. For example, some have implemented "Responsibility Center Budgeting and Management" (RCBM). Under this model, academic units (e.g., the College of Arts and Science) are responsible and account for their direct expenses (salaries, benefits, unit operating expenses, etc.), while also being allocated central institutional costs such as utilities, university administration, and other expenses normally considered F&A.

These budgeting and accounting systems are capable of charging costs traditionally considered F&A costs as direct costs to federal awards. ***Examples of when direct charging could be appropriate include:*** human subject safety costs/Institutional Review Board (IRB), data and technology infrastructure (e.g. high-speed data, data storage, data security), select space related costs (e.g., when significant space is dedicated to a project), technology transfer activities, and other costs that can be assigned to research projects.

A potential barrier to implementing a more rational policy around direct charging is the restriction in Appendix III, C.8 of the Uniform Guidance, specific to the 26 percent administrative cap, which limits situations where administrative costs can be charged as direct costs (see Chapter 7). ***Eliminating this barrier would give institutions the needed flexibility to implement sounder and more equitable direct charging practices.***

Research institutions should be given flexibility to develop practices, appropriate for the institution, to direct charge for activities such as:

- ***Human Subjects Safety***
- ***Data and Technology Infrastructure***
- ***Space usage***
- ***Tech Transfer activities***

Upside. Certain costs that have been part of the F&A cost rate would be direct charged, resulting in a more equitable allocation of costs and more fair reimbursement process, as only

those awards benefiting from the service or resource would incur the cost. Some institutions, when permitted under the Uniform Guidance, already charge these types of costs directly to federal awards, resulting in better transparency and more accurate costing.

Downside. Investigators who perform research requiring these resources and services will likely consider the additional direct cost significant and be concerned that a smaller portion of the funds will be available for traditional direct costs such as salaries of researchers, graduate student support, and supplies and services. This could create a disincentive for investigators to comply with important requirements and they might not use important services, to avoid having the costs assigned to their projects. New scrutiny on appropriate costing and resource utilization issues also would be necessary to ensure that appropriate and consistent charging practices and resource management are maintained. For this model to work, key stakeholders, including investigators, research administrators, funding agency leaders, and F&A cost rate negotiators would need to be committed to this approach and cooperate to dispel misinformation and resistance.

NUMBER 3: Meaningful Reduction in Regulatory Burden

A federal research regulatory infrastructure is vitally important to protect the safety of human subjects and animals, oversee the risks associated with hazardous waste generated in research projects, and provide administration of necessary compliance activities. Still, over-regulation is a real concern and reducing regulatory burden is a longstanding, popular, and bi-partisan policy objective.

Chapter 7, "The Administrative Cap and Burden," emphasized the impact of regulatory and administrative/compliance burden. Together, these result in an expensive compliance infrastructure. ***While research institutions support thoughtful, effective regulation, when it becomes overreaching, research suffers.*** Regulatory burden comprises the laws, mandates, guidance, and regulations assigned to research institutions via either legislation or agency rules. Administrative/compliance burden represents the actual impact at the institution, including how research institutions implement laws, mandates, and regulations. The starting point is the reduction in regulatory burden.

In the Preface to the National Academies study, "Optimizing the Nation's Investment in Academic Research: A New Regulatory Framework for the 21st Century," the Committee on Federal Research Regulations and Reporting Requirements wrote:

> *The overarching message of Part 1 is that the continuing expansion of federal regulations and requirements is diminishing the effectiveness of the U.S. research enterprise and lowering the return on the federal investment in basic and applied research by diverting investigators' time and institutional resources away from research and toward administrative and compliance matters. A new framework, the committee argues, is needed to ensure the regulatory requirements are justified, proportional to the problems being addressed, and harmonized across funding agencies so as to create more effective and efficient partnership between funding agencies and research institutions.*

COGR has written extensively on Regulatory Reform and how it could have a positive impact, increasing the productivity of investigators, as well as decreasing the cost of conducting research. The 21st Century Cures Act (see Chapter 7, "The Administrative Cap and Burden") opened the door for the Department of Health and Human Services and the National Institutes of Health to address administratively burdensome activities such as financial reporting and subrecipient monitoring. The American Competitiveness and Innovation Act also included positive reform initiatives (also see Chapter 7). These are meaningful first steps.

However, the momentum must continue. The 21st Century Cures Act called for the establishment of a ***Research Policy Board***, led by OMB, to actively review regulatory burden and impact. This board should include a diverse blend of stakeholders: federal policy leaders, academic leaders, and research administrators. In conjunction with other expert organizations and associations (e.g., the Federal Demonstration Partnership, the Research Business Models Subcommittee of the Office of Science and Technology Policy, etc.), the Research Policy Board should make meaningful reduction in regulatory burden a long-term priority, through a focus on practical, effective policy. The President's Management Agenda, released in April 2018, also should provide an opportunity for the research community to work with federal leaders in the area of regulatory reform.

The key is "meaningful" reduction in regulatory burden. Appendix 2, Managing Burden, addresses various themes around regulatory burden, and organizations, like COGR, always stand ready to work with federal policy leaders to engage in new ideas and solutions.

> ***Upside.*** Meaningful and significant reduction in regulatory burden could result in new efficiencies and reductions in administrative and compliance burden, and ultimately the cost of compliance at research institutions. Further, while difficult to measure from a cost perspective, the productivity of investigators and scientists will be positively impacted.
>
> ***Downside.*** Most actions to reduce regulatory burden will be incremental and not result in dramatic cost savings. Policymakers, therefore, should have realistic expectations as it relates to cost savings. Still, all reductions in burden are helpful. Incremental changes, as well as major reforms that could significantly affect the cost of doing research, should be complimentary initiatives, with the goal of reducing administrative and compliance burden at research institutions.

NUMBER 4: Leverage the Uniform Guidance

The Office of Management and Budget, beginning in 2010, led an aggressive initiative to reform federal grants administration guidance by replacing historical OMB Circulars (e.g., A-21, A-110, A-122, etc.) with a single guidance document – *Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards*; 2 CFR Part 200 (i.e., Uniform Guidance). OMB invited all stakeholder communities to participate in the reform process, culminating in the implementation of the Uniform Guidance in December 2014.

COGR assumed a leadership role for that portion of the Uniform Guidance addressing "Institutions of Higher Education" (IHEs), and more specifically, research institutions. Other associations and advocacy groups took leadership roles for other grantee communities, including nonprofit research organizations, state and local governments, and other nonprofit service providers.

While each grantee community had varying sets of priority items, overall the grantee community was united in its support for grants reform. OMB also was supportive of many of our priorities and provided an inviting and transparent forum to address opportunities and concerns. The final result was the Uniform Guidance, which, for the most part, is fair, reasonable, and has created better consistency for grantees and federal agencies alike.

Requirements related to F&A cost policy included several good reforms (e.g., limitations on agency deviations from the negotiated F&A cost rate, restrictions on vague requests to include cost sharing, an option for a four-year extension of an institution's current F&A cost rate, etc.). Perhaps, most importantly, the Uniform Guidance supported the current system for F&A cost rate development and reimbursement. ***The consensus across federal policy leaders and others in the research community was that F&A cost policy defined under Circular A-21 was sound, and that significant changes under the Uniform Guidance would be disruptive to the longstanding, trusted, and effective research funding model.***

The Uniform Guidance is a good platform upon which to build and can be used as a means to continue grants administration reform, as well as improvements specific to F&A.

> ***Upside.*** A commitment by OMB to a process where improvements can be made to the Uniform Guidance on a regular basis (e.g., biennially) will guarantee grants reform remains a front-and-center goal for all stakeholders and that specific F&A cost topics that appropriately can be addressed via the Uniform Guidance will be.
>
> ***Downside.*** It was a monumental and time-consuming effort to make sweeping changes to the long-established Circulars. While a commitment by OMB to a process for improvements will not require the same effort as the original effort, it will require significant time and energy from all stakeholders.

NUMBER 5: Convene F&A Roundtables with Key Stakeholders

Over the past several years, leaders from the research community have met, productively, with the Office of Management and Budget, members of Congress, and other federal leaders. In-depth discussions leading to meaningful improvements will require assembling these and all other key stakeholders in the F&A cost reimbursement process. The convening of all stakeholders offers the opportunity to address the nuanced technical issues of F&A cost rates and reimbursement, innovative practices, and other opportunities for improvement to the system.

This list of key stakeholders includes, though is not limited to, representatives from:

- Research universities
- Nonprofit research institutions and hospitals
- Cognizant agencies for F&A cost rates (Cost Allocation Services, HHS and the Office of Naval Research),
- Funding agencies (e.g., NIH, NSF, DOD, etc.)
- Office of Management and Budget
- Associations, such as COGR

An annual meeting, for example, would be sufficient and would contribute to a culture that nurtures the Government - Research Partnership.

Upside. Innovative practices and other opportunities for improvement to the system, as well as concerns, can be addressed in a secure and dependable forum.

Downside. Organizing such a broad coalition of stakeholders will take significant effort and it would be important to ensure expectations are appropriately managed and everyone involved is given the opportunity to contribute.

A Final Thought

The success of the Government - Research Partnership is an impressive story spanning back to the Vannevar Bush vision of the 1940s. The research funding model and F&A cost reimbursement process have been critical and effective support systems of the research enterprise in the United States and should be valued for their ongoing contribution to the nation's excellence in research. This paper presented key discussions on equitable reimbursement of F&A costs, how the F&A cost rate works, misunderstandings and myths, and other related topics. We hope this paper enhances the climate for future productive dialogue and policy discussions about the topic of F&A cost reimbursement.

APPENDIX 1: AVERAGING MODEL

The F&A cost rate is developed and applied using the "Averaging Model." Under this principle, every research award (e.g., federal, industry, nonprofit foundations, etc.) is included in the research base and is allocated F&A cost at the same rate. This system is practical, but it does not recognize cost differences between awards in the research base (e.g., mathematic modeling research using a laptop in an office is treated the same as medical research taking place in wet lab). It also does not account for the fact that, for an established research institution, the additional F&A cost (i.e., the marginal or incremental cost) necessary to support a new award may be significantly lower or higher than the average F&A costs associated with all awards. Allocating and charging the marginal F&A cost of each new award might, therefore, seem more equitable to a given sponsor, but the average cost model is designed to avoid the problems inherent in a marginal cost model:

- As defined in the Uniform Guidance (2 CFR 200.56), F&A costs are "*not readily assignable to the cost objectives specifically benefitted, without effort disproportionate to the results achieved*." Identifying the marginal F&A costs of each award is not practical.
- The marginal F&A costs of a new and significant research initiative are often too high to be allocated to and reimbursed by the first benefiting project/award. Institutions and funders would be less likely to pursue new, innovative research initiatives.
- It would be inequitable for the projects that come along later, after the up-front costs of the infrastructure are paid, not to share in those costs, particularly when different funders become involved at different stages of the research.
- Those costs could potentially be allocated across some initial threshold of award dollars, resulting in tiered rates, but this would be administratively burdensome, confusing, and still inequitable.

In the oil change case study presented in Chapter 2, the service shop charged its F&A costs using an average cost model. One would not expect the owner to be welcoming to customers who suggest they should only pay the marginal cost of the oil change (i.e., the cost of the oil and twenty minutes of the mechanic's time). The owner would not expect the first customer or even the first 100 customers, to pay for all of the equipment and other F&A costs necessary to establish the business. Instead, the owner sets prices based on the direct costs plus an average of the F&A costs. As with the oil change business, the averaging approach results in the most efficient and fair allocation of F&A costs to research awards.

Average Cost and Equity to the Federal Government

By using a ratio that incorporates all on-campus research MTDC items in the denominator, it is guaranteed that only the average cost is assigned to each agreement and that costs cannot be shifted from one agreement to another, even if an award is not charged the full F&A cost rate. For example, if a research institution has allocable F&A costs to Research of $21.6 million and has a Research MTDC of $40 million, the calculated F&A cost rate is 54% ($21.6M / $40M). In Scenario 1,

assuming that the portfolio includes NIH and NSF awards only, both agencies reimbursing at the full rate of 54%, the total F&A reimbursement is $21.6 million – i.e., allocable F&A cost is equal to reimbursed F&A cost:

SCENARIO 1:

NIH Award: $30M MTDC * 54% F&A = $16.2M F&A Reimbursement NSF Award: $10M MTDC * 54% F&A = $5.4M F&A Reimbursement TOTAL: $40M MTDC and $21.6M F&A Reimbursement

In Scenario 2, a $4 million foundation award replaces $4 million of the NIH funding. Assuming the foundation research is identical to the NIH research, it takes place in the same laboratory space, and effectively requires the same level of F&A cost support, the exact same $21.6M of F&A costs are allocable to the $40 million research base.

However, the foundation award reimburses F&A at a 10% F&A cost rate while NIH and NSF continue to reimburse at the full 54% F&A cost rate, as in Scenario 1. As a result, because the foundation does not reimburse at the full rate, F&A reimbursement drops from $21.6M to $19.8M.

SCENARIO 2:

NIH Award: $26M MTDC * 54% F&A = $14.0M F&A Reimbursement NSF Award: $10M MTDC * 54% F&A = $5.4M F&A Reimbursement Foundation Award: $4M MTDC * 10% F&A = $0.4M F&A Reimbursement TOTAL: $40M MTDC and $19.8M F&A Reimbursement

Scenario 2 shows that the under-reimbursement from the foundation award was not borne by the NIH and NSF as both agencies continue to reimburse F&A cost only on the MTDC base for their awards. Instead, the institution (not the federal government) subsidizes the research when it does not receive its full F&A cost reimbursement from the foundation. The unreimbursed F&A costs incurred in conducting the foundation funded research are real costs that must be borne by the institution, and ultimately, must be paid for from other unrestricted institutional funds.

Finally, not only is cost shifting from one award to another precluded by the rate calculation methodology, it is expressly prohibited by the principles in the Uniform Guidance, Appendix III.C, which state: "*Each institution's indirect (F&A) cost rate process must be appropriately designed to ensure that Federal sponsors do not in any way subsidize the indirect (F&A) costs of other sponsors ...*" The average cost model, where direct research costs are accumulated in a single MTDC research base, results in a single F&A cost rate for all research. When a sponsor does not pay the full F&A cost rate, it is always the research institution that subsidizes the research, never the federal government.

APPENDIX 2: MANAGING BURDEN

The primary factors when addressing burden are regulatory burden and administrative/compliance burden. Chapter 7 described regulatory burden as laws, mandates, and regulations assigned to research institutions via either legislation or agency rules, and administrative burden as the actual impact at the institution and how research institutions implement laws, mandates, and regulations.

From a COGR perspective, managing burden means engagement on both fronts. As mentioned in Chapter 7, COGR conducts regular analyses related to regulatory burden and maintains the COGR List of Regulatory Changes Since 1991**.** In addition, the COGR Regulatory Reform website contains a library of resources developed by COGR or in which it has been engaged. Impacting regulatory burden through ongoing regulatory reform initiatives is central to COGR's operating mission.

Another important COGR activity is to help develop institutional policies and practices in research and training that reflect the mutual interest and separate obligations of research institutions and federal and other sponsoring agencies. The COGR Guide to Effective Management Practices is a staple for the research community and can be used by institutions to help review their management systems and internal controls with regard to managing sponsored programs. This COGR Guide does not purport to set standards for sponsored program management; it only suggests effective management practices and indicators to assess those practices. The COGR Guide originally was published in 1989 and it is updated regularly to reflect changes in the regulatory landscape.

Regulatory Impact on Institutional Management

The administrative and compliance infrastructure at a research institution is shaped by variables such as the volume of research, types of research, and the number of agencies with which the institution engages. ***In some cases, a research institution may work with 26 different federal funding agencies – this can result in 26 unique policies, sometimes in conflict across agencies.*** To improve efficiency and effectiveness in administration, institutions strive for consistency in their implementation of internal controls. Consequently, institutions often face undesirable alternatives – to make their internal controls consistent with the most restrictive agency's requirements, or to adopt a more nuanced approach that minimizes administrative burden to their researcher community but increases system and policy complexity.

For example, while a single federal policy could be appropriate for regulations around financial conflict of interest, often each funding agency will issue its own unique set of rules. While COGR typically advocates for harmonization to arrive at a single, rational policy, which sets a reasonable baseline for all agencies to implement, sometimes this is unattainable. Occasionally legitimate, special needs of an agency prevail, though other times short, mandated implementation timelines, system requirements, or agency culture are the impediments to harmonization across agencies.

One of the ways the impact of regulatory burden is demonstrated is through the number of distinct units or subunits universities have developed to deal with the varying regulations, requirements, and systems. All research institutions have a sponsored programs unit to support proposal submission and financial accountability. However, beyond these more routine administrative functions, other offices and units are established to respond to new or increasing expectations and requirements, such as:

- Conflict of interest
- Research integrity
- HIPAA compliance
- FOIA compliance
- Fiscal compliance unit
- Audit response team
- Subrecipient monitoring
- Clinical billing for clinical trials
- Ethical compliance and regulatory areas and associated training requirements including:
    - Protection of human subjects
    - Animal care and use
    - Promoting a safe environment and reporting of sexual harassment
- Health and safety (bio-safety, rDNA, radiation safety, nuclear medicine)
- Export controls and Office of Foreign Asset Control (OFAC) regulations
- Responsible conduct of research
- Technology transfer (intellectual property, MTAs, NDAs, DUAs)
- Statistical consulting related to improving rigor and reproducibility
- Institutional equity (Title IX)
- IT Security requirements, including the General Data Protection Regulation (GDPR)
- Data storage and management
- Limited submissions
- Economic development
- Public engagement
- Legislative relations and management
- Development and delivery of education and training in a breadth of areas

This is a staggering list, and it is not the complete list! When implementing new regulations and responsibilities, ***research institutions are rarely able to find existing best practices or products to assist in documenting compliance or examples of how to implement internal controls to satisfy the new standards.*** This creates a need to develop new software applications to ensure and document compliance, create appropriate internal controls to address the new, or increased, requirements, and find available or hire new staff to carry out the new processes. New requirements typically have broad impact and a wide variety of expertise is necessary to coordinate implementation and management.

Further, the administrative burden associated with new or increasing regulation extends to communicating to and educating and training the entire university community on the required changes, which can impact processes, policies, behavior, and culture. In some cases, these changes

can affect the fundamental nature of a university as an institution dedicated to increasing, publishing, and teaching knowledge. In an institution with distributed authority such as a university, which often includes a faculty senate as a key part of leadership, implementing change is complex and requires intense and continuous management, care, and attention.

Export Controls, Reporting, and Audit – Three Examples

Export controls and the protection of sensitive data highlight an example where compliance is critical. The U.S. export control regulations are complex, requiring specialized knowledge to appropriately apply them across the continuum of academic research. Each research award must be reviewed for the applicability of fundamental research, for the presence of deemed export issues and for any licensing requirements arising from the research activity, as well as the application for and management of such licenses. Where the research activity does not qualify as fundamental research, additional resources are required to implement and monitor security measures to prevent unauthorized access to the activity.

Export control law compliance requires coordination across multiple academic and non-academic units (e.g. export compliance, technology transfer, general counsel, procurement, travel, environmental health and safety, VPs for research and finance, library services, IT, sponsored programs, accounting, risk management, regulatory affairs, colleges and departments). Furthermore, export compliance support extends to review of international travel of university personnel and students for activities ranging from field research to student travel to restricted locations to participation in international conferences or lectures at foreign universities. Each of these areas requires substantial time and administration from every area of the university that interacts with non-U.S. nationals whether on campus or off and increases the amount of review and documentation needed for many sponsored programs. Finally, as the export control regulations change frequently, managing these compliance requirements becomes more complex and challenging, adding, still, another administrative burden.

Reporting and invoicing is another good example of regulatory challenge. Funding agencies often expect varying formats and schedules, using multiple types of reporting for the same project, requiring duplicative efforts. In addition, the electronic systems required to process reports and financial data vary from agency to agency. Consequently, institutions are required to develop staff experts in each of these unique systems, and in the extreme, may require a password administrator to manage the unique passwords across these systems.

Providing expenditure information to the many stakeholders in many different formats further exemplifies challenge. This includes providing this information at the time of cash draw down on letters of credit, in project period reporting, in project planning, in the final project report, and in aggregate reports used for other, unique purposes (e.g., SEFA, FFATA, NSF Higher Education Research and Development (HERD) Survey, NSF Scientific and Engineering Research Facilities at Colleges and Universities Survey, etc.). In effect, the same expenditure data must be provided multiple times as a single portal for expenditure data is not available.

Audit burden has become a class of its own in the broad scope of regulatory burden. Auditors can expand the impact of new requirements through their interpretations of policies and regulations. As a result, resources must be devoted to addressing the added complications that arise as auditors grapple with the creation and new permutations of internal controls. The Single Audit, despite the significant fees paid by institutions to have this audit completed, at times is considered inadequate by federal auditors. Institutions already bear the burden of documenting actions in order to support costs in the event of an audit, and auditor interpretations that vary from that of the recipient community, and even from each other, greatly increase this burden.

The landscape of federal audit findings from universities related to research expenditures includes many cases demonstrating questioned costs by auditors that are ultimately determined to be appropriate expenditures by agency audit resolution offices. Variation in interpretation across auditors, as well as concerns over premature release to the public of alleged audit findings (and cost disallowances), often lead universities to adopt a conservative charging approach and/or to impose significant documentation requirements on their research enterprise, both of which can harm research productivity.

The Challenge

Despite a sincere desire by policymakers and stakeholders to reduce regulatory burden (see Chapter 7—e.g., National Academies, 21st Century Cures Act, American Competitiveness and Innovation Act), sometimes the onslaught of regulation overwhelms the efforts to reduce regulatory burden. In 2019, new challenges will include human subject protections, single IRB approval, expanded interpretation of clinical trials, preventing and disclosing IT breaches, data sharing, and reporting sexual harassment. In short, recipients of federal research funds are frequently grappling with a dynamically changing federal regulatory landscape.

Every new regulation or change in an existing regulation creates a cascading effect for the recipients of federal funding. For research institutions, the impact is seen in designing, implementing, educating, training, documenting, and maintaining new internal controls to ensure and demonstrate compliance. All of these activities are the responsibility of the institution and, as highlighted in Chapter 7 – ***Any new federal rule or regulation is an increase in the cost of compliance for the university, and when the actual administrative portion of the F&A cost rate already exceeds the 26% cap, there is no mechanism for the university to recover the compliance costs associated with the new regulation.***

Finally, as stated in Chapter 10 – ***The key is "meaningful" reduction in regulatory burden that is impactful, sustainable, and not subject to impulsive statutory or agency administrative actions.*** All stakeholders have a vested interest in reducing burden. Doing so will free up investigator time to do research, as opposed to completing administrative tasks, which will enhance productivity and contribute to even more impactful science and discoveries.

APPENDIX 3: TRANSPARENCY CASE STUDY

This case study illustrates the exact costs that are reimbursed through F&A payments. F&A cost reimbursement is calculated by applying the institution's F&A cost rate to a subset of the allowable direct costs ("modified total direct costs" or MTDC) of research awards. Payment of the calculated amount represents reimbursement of F&A costs incurred by the institution in conducting its current research.

Throughout the paper, we have explained that a negotiated F&A cost rate of 54%, for example, ***does not*** mean that 54 cents of every dollar are claimed for F&A costs. In fact, as supported by NIH data and shown in Chapter 3, a more representative breakdown is 27 cents of each dollar reimbursing F&A costs and 73 cents direct costs.

The case study below attempts to answer the question: ***What does the 54% F&A cost rate really mean?*** We do so by using a sample research university, University XYZ, with a federal research portfolio of $130 million. This would be considered a mid-size research institution and reasonably represents the median COGR institution. Note, it should be understood in this example that the $30 million of F&A Costs Reimbursed represents an amount less than full reimbursement of F&A costs – this issue is addressed in other parts of the paper.

University XYZ - Federal Research Portfolio (Summary)

Direct Costs (DC) Reimbursed	$100M
F&A Costs Reimbursed	**$30M**
Total Federal Research Portfolio	$130M
Negotiated F&A Cost Rate	54% (28% "F", 26% "A")

The best way to begin answering this question is to develop an understanding of the components of an institution's F&A cost rate (Chapter 3 describes these components in more detail). For University XYZ, the negotiated F&A cost rate of 54% comprises 28% facilities ("F") component and a 26% administrative ("A") component. The F and A components can be further broken down into specific F&A activities designated as eligible for reimbursement in the Uniform Guidance.

Using metrics and data that COGR has accumulated over many years, specific F&A activities and their corresponding portion of the cost rate (the components) can be estimated. While each research institution has unique rate component details, the example below is representative.

University XYZ - 54 % F&A Cost Rate by Component

Facilities (F)		Administrative (A)	
Depreciation and Debt Service on Research Buildings/Equipment	8.0	General Administration (Payroll, HR, IT, etc.)	4.0
Utilities, Maintenance, and Specialized Research Lab Support	18.0	Department Administration (PI/Deans/Staff admin functions)	16.0
Library and Research Resources	2.0	Sponsored Programs Administration (Reporting, Federal compliance)	6.0
	28.0		26.0*

*The actual administrative components for most research universities exceed the 26% rate. However, research universities are subject to a 26% administrative cap (see Chapter 7).

NOTE: More detailed descriptions of functions and activities for each F and A component are included in Chapter 3 and Chapter 7.

By using the above Rate Components, we can prorate the $30 million of reimbursed F&A costs (see previous page, Federal Research Portfolio) to arrive at approximately what the $30 million of F&A cost reimbursement covers.

University XYZ - $30 Million of Reimbursement by F&A Activity

Facilities (F)		Administrative (A)	
Depreciation and Debt Service on Research Buildings/Equipment	$ 4.4	General Administration (Payroll, HR, IT, etc.)	$ 2.2
Utilities, Maintenance, Utilities, Hazardous Waste Disposal, etc.	$10.0	Department Administration (PI/Deans/Staff Admin functions)	$9.0
Library and Research Resources	$ 1.1	Sponsored Programs Administration (Reporting, Federal compliance)	$ 3.3
	$15.5		$14.5

And using this proration of the $30 million of F&A cost reimbursement, we can represent the Federal Research Portfolio of $130 million for University XYZ as follows:

University XYZ - Federal Research Portfolio (Detailed)

Direct Costs (DC) Reimbursed	$100M
F&A Costs Reimbursed	
Depreciation and Debt Service	**$4.4M**
Utilities, Maintenance, etc.	**$10.0M**
Library and Research Resources	**$1.1M**
General Administration	**$2.2M**
Department Administration	**$9.0M**
Sponsored Projects Administration	**$3.3M**
Total Federal Research Portfolio	$130M
Negotiated F&A Cost Rate	54% (28% "F", 26% "A")

The 54% F&A cost rate, in this example, translates to $30 million (23%) of the $130 million portfolio accounting for F&A cost reimbursement. For example, in the case of Sponsored Projects Administration (e.g., reporting, federal compliance, etc.), University XYZ is reimbursed $3.3 million of its costs for this activity as part of its $130 million federal research portfolio. The actual numbers for a research institution will vary. Still, the University XYZ example is helpful in explaining what a 54% F&A cost rate means, and further illustrating the costs included in the federal investment in research.

The point of the transparency case study is not to assess "fair" reimbursement, but rather to work across various stakeholder groups to develop a platform for trustful engagement. As enhanced transparency is provided through case studies and other communication resources, misunderstandings and questions associated with F&A costs can be dispelled and the partnership will continue to thrive.

ACRONYMS

AAMC – Association of American Medical Colleges

AAU – Association of American Universities

ACE – American Council on Education

ACIA – American Competitiveness and Innovations Act

AIRI – Association of Independent Research Institutes

APLU – Association of Public Land-grant Universities

ASF- Assignable Square Footage

CAS – Cost Allocation Services

CAUBO – Canadian Association of University Business Officers

CAURA – Canadian Association of University Research Administrators

CFO- Chief Financial Officer

CFR – Code of Federal Regulations

CIGIE- Council of Inspectors General on Integrity and Efficiency

COGR – Council on Governmental Relations

COSO – Committee of Sponsoring Organizations of the Treadway Commission

DA – Departmental Administration

DUA – Data Use Agreement

DCAA – Defense Contract Audit Agency

DHHS – Department of Health and Human Services

DOD – Department of Defense

F&A – Facilities and Administrative Costs

FAAWG – F&A Associations Working Group

FASEB – Federation of American Societies for Experimental Biology

FDP – Federal Demonstration Partnership

FFATA – Federal Funding Accountability and Transparency Act

FTE- Full Time Equivalent

FY – Fiscal Year

GAO – Government Accountability Office

GDPR – General Data Protection Regulation

GA - General Administration

G&A – General and Administrative

HERD – Higher Education Research and Development (Survey)

HIPAA – Health Insurance Portability and Accountability Act

IACUC – Institutional Animal Care and Use Committee

IBC – Institutional Biosafety Committee

IG – Inspector General

IT – Information Technology

IHE – Institute of Higher Education

IRB – Institutional Review Board

MTA – Material Transfer Agreement

MTDC – Modified Total Direct Costs

NACA – National Advisory Committee for Aeronautics

NACUBO – National Association of College and University Business Officers

NAS – National Academy of Sciences

NDA – Non-Disclosure Agreement

NDRC – National Defense Research Council

NFE – Non-Federal Entity

NSF- National Science Foundation

NIH – National Institutes of Health

OFAC – Office of Foreign Asset Control

OIG – Office of Inspector General

OMB – Office of Management and Budget

ONR – Office of Naval Research

OSRD –Office of Scientific Research and Development

OSTP – Office of Science and Technology Policy

RCA – Research Compliance and Administration (Committee)

RCBM - Responsibility Center Budgeting and Management

rDNA – Recombinant Deoxyribonucleic Acid

SEFA – Schedule of Expenditures of Federal Awards

SPA – Sponsored Projects Administration

SAS – Student Administration and Services

TDC – Total Direct Costs

UCA – Utility Cost Adjustment

USDA – United States Department of Agriculture

VPR – Vice President/Vice Provost of Research[1]

[1] *Federal Awarding Offices Acronyms List (Courtesy of NIH)* *https://grants.nih.gov/grants/acronym_list.htm*

National Science Foundation Acronym List: *https://www.nsf.gov/about/congress/nsfdays/pdfs/Acronyms8_17_17.pdf*

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Additional resources are available online at https://www.cogr.edu/fa-and-cost-research