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Fred Hutchinson Cancer Research Center

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At Fred Hutchinson Cancer Research Center, our mission is to eliminate cancer and related diseases as causes of human suffering and death. We aim to improve the prevention, detection and treatment of not only cancer, but HIV/AIDS and other diseases.

Founded in 1975 by Dr. Bill Hutchinson to honor his brother Fred – a local baseball hero and Major League Baseball manager who died of lung cancer – today we have more than 3,000 employees, occupy 1.3 million square feet, and run over 400 clinical trials each year.

Fred Hutch's breakthrough discoveries began with Dr. E. Donnall Thomas' pioneering work in bone marrow transplantation, which has boosted survival rates for certain blood cancers from nearly zero to 90 percent. Originally developed for leukemia patients, the procedure is now used to treat more than 50 diseases. Dr. Thomas' work earned a Nobel Prize in 1990 and led to a potentially lifesaving option that has been used to treat more than 1 million people worldwide.

The development of bone marrow transplantation also provided the first definitive and reproducible proof of the human immune system's ability to cure cancer, laying the groundwork for the now-burgeoning field of immunotherapy. Today, our researchers continue to refine these approaches, which harness the power of immune cells and molecules to eliminate cancer, through a world-leading immunotherapy program. And this is just one of our areas of focus.

National Institutes of Health funding drives scientific innovation at research organizations across the country, including at Fred Hutch. Fred Hutch consistently ranks first or second among all independent research institutes in NIH funding. We also consistently rank first

or second among all research universities, academic medical centers, and independent research institutes in National Cancer Institute funding. NIH revenue comprises approximately 82 percent of our total sponsored funding: \$287 million in FY2017.

The fact that our teams excel at winning these competitive, merit-based awards speaks to the caliber of our science. And I am proud that the results of our science also demonstrate our excellent stewardship of NIH funding: Our research has led to dramatic returns on the federal taxpayers' investment, both in dollars and in lives saved. To cite just a few examples:

- The Fred Hutch-based Women's Health Initiative, an ongoing, national research program, revealed the risks of combined hormone therapy for menopause symptoms. In 2014, Fred Hutch researchers released an analysis of the return on investment of that landmark 2002 discovery: In the first decade after the finding, 4.3 million women stopped using combined hormone therapy, resulting in 126,000 fewer breast cancer cases; 76,000 fewer cases of cardiovascular disease; and 80,000 fewer cases of venous thromboembolism. The original hormone therapy trial cost \$260 million (in 2012 dollars); the net economic return was \$37.1 billion, a return of approximately \$140 on every dollar invested in the trial.
- With the help of a \$100,000 NCI grant, Fred Hutch virologist Dr. Denise Galloway and her colleagues made seminal discoveries that definitively linked the human papilloma virus (HPV) to cervical and other cancers. They also found a way to produce virus-like particles that could trigger an immune response. Their work helped pave the way for today's cancer-preventing HPV vaccines.
- This year, Hutch biostatistician Dr. Joseph Unger found that for the \$418 million NCI has awarded for SWOG clinical trials since the 1950s, cancer patients in the U.S. have gained

3.34 million years of life, compared with what their survival would have been without the treatments developed through these clinical trials.

There is no doubt: The National Institutes of Health have been the driving force behind remarkable advances in cancer research. Millions of people are alive today thanks to discoveries made possible by this agency and the network of scientists it supports. Federal research funding drives innovation, sparks hope for patients and families, supports the health of Americans, fuels our economy, and promotes the safety and security of our country.

As the Committee knows, NIH grants include both direct costs and indirect costs. By federal law and regulation, “direct costs are those costs that can be identified specifically with a particular sponsored project... relatively easily with a high degree of accuracy” (2 CFR §200), such as supplies, certain equipment and researcher salary support. Indirect costs are those that benefit multiple research projects so are not easily tied to just one project. It is important to note that this is the key differentiator between direct and indirect costs, and that the same kind of costs may be direct in one situation, and indirect in another.

These “indirect” or Facilities and Administrative (F&A) costs include sophisticated environmental controls and information technology, compliance with federal, state and local rules and regulations, and research subject and patient safety and privacy protections. They also support timely and accurate reporting of research progress; radiation and chemical safety, hazardous waste disposal, and biosecurity; and high-speed data processing and analysis, and may even include equipment and space rental costs.

Together these represent the true total cost of research.

The indirect cost *mechanism* is an averaging of all costs that would otherwise be assigned to every project and is intended to save time and money. Attributing these expenditures line-item by line-item on every grant would be an arduous, expensive and inefficient process, both for the federal government and for the grantee institutions. The policy of reimbursing indirect costs as a rate to be applied to a research project's direct costs, based on regularly audited real costs, is a practicable approach.

It is important to say this clearly: An institution's indirect cost rate is completely unrelated to its administrative efficiency. It is one method of accounting, with formulas created by the Office of Management of Budget and set by each research center's cognizant agency. At Fred Hutch, following Generally Acceptable Accounting Principles for nonprofit organizations results in general and administrative costs of approximately 12 percent of our total costs.

Much has been said about private foundations having a different allowance for administrative costs. In fact, foundations are not necessarily paying a lower indirect rate, they are using different accounting methodologies. They may allow facilities, utilities, data storage, project management and regulatory compliance expenses to be charged directly to the grant, whereas the federal government considers them indirect costs.

At Fred Hutch, our sole focus is research that saves lives. So every dollar, "direct" and "indirect," funds research. Patient outcomes cannot be improved without funding the true total costs of research. This includes shared scientific services and resources that enable us to generate therapeutic T cells for immunotherapy trials, analyze and protect patients' genomic data, and provide support for exploratory pilot projects conducted by junior investigators. By supporting experts and equipment that no single project or lab could supply on its own, our world-class

shared resources, as one example, save money and drive the team science that accelerates the translation of bench science into tomorrow's bedside cures.

Advances in next-generation, high-throughput DNA sequencing have enabled remarkable progress in understanding the human genome and its role in disease. But gleaming insights requires more than powerful instruments. Over two years, staff members in our genomics core resource, who average 15 years of experience in their field, enabled more than 53 Hutch researchers and more than 30 investigators at other centers to access our most advanced gene sequencers. Each instrument can cost up to \$1 million — far more than an NIH grant for a single project would support — but as a shared resource, dozens of teams can harness them for lifesaving discovery.

Two years ago I pledged that we could have curative therapies for most if not all cancers by 2025. Advances in bioscience, technology and data science have brought us to an inflection point. This is not a time to pull back. Personally, I have seen more progress in the last few years than in five decades of cancer research. President Jimmy Carter was 90 years old and had metastatic melanoma in his brain and liver. Only five years ago this would have been a death sentence. He is alive today, and cancer free, because of immunotherapy made possible by science supported by the NIH.

Ending cancer and other diseases is not a partisan issue. Time and time again, Congress has led the way in embracing that truth. Millions of Americans are alive because of it. The choice to invest fully in biomedical research is an investment in a healthy, thriving nation.