

J. Donald Capra, MD
President
Oklahoma Medical Research Foundation
Oklahoma City, Oklahoma

Testimony before the House of Representatives
Committee on Appropriations
Subcommittee on Labor, Health & Human Services, Education and Related Agencies

March 29, 2006
2:00 p.m.

Summary of Testimony:
Increase NIH research funding
Increase the Institutional Development Award Program (IDeA) funding,
within the NIH National Center for Research Resources (NCRR)

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The Oklahoma Medical Research Foundation (OMRF) is a private not for profit independent biomedical research institute located in Oklahoma City. This year we will celebrate our 60th birthday. We are one of 88 members of the Association of Independent Research Institutes (AIRI). In terms of NIH Grants, we rank number 12 among AIRI members. We are grateful to the Congress and the people of the United States for the support we have received primarily through competitive grants from the National Institutes of Health (NIH). Today, approximately 75% of all biomedical research funding in our colleges, universities, and independent research institutes derives from the NIH.

OMRF is located in Oklahoma's fifth congressional district and is ably represented by Congressman Ernest Istook, who has been a great champion of biomedical research in our state and in other states that fall below the national mean in NIH per capita funding.

Today, in my very limited time with you, I am here to make two points:

- (1) Please increase the NIH budget
- (2) Please increase the IDEA program's budget within the NIH budget

Like all citizens, I recognize the competing needs our country faces, and I recognize that in balancing those needs your task is difficult. That said; I will attempt to make the cases for these two points.

Increasing the NIH budget is critical if we are to make progress in the fight against disease.

Biomedical scientists applauded Congress for "doubling the NIH budget" between 1998 and 2003. The 15% increase each year put the NIH at a new level of support and brought thousands of new scientists into the field, retained biomedical scientists in our profession, and stoked new hope for "cures" by all our citizens. However, the "flat budget" since 2003 has had a major impact on both the progress of science and the attractiveness of careers in our field, as the shrinking numbers of grants, tighter competition, and the increased number of scientists competing for the dollars has created a dismal mood within our ranks. It is fair to say that we would have much preferred a (say) steady 7% increase over ten years rather than the five years of 15% increases and now no increases. Science does not work in fits and starts, but rather by slow steady progress. I am sure you know that independent of party affiliation both in the Congress and in the White House, for over 50 years the NIH has experienced a budget increase of approximately 5% per year.

NIH Budget FY 1995-2007

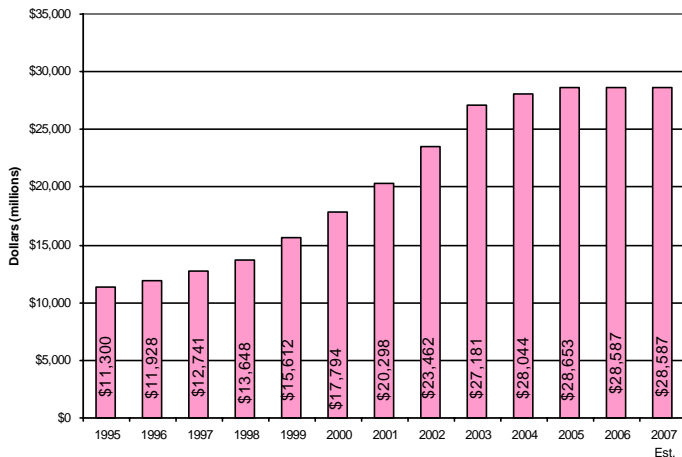


Figure 1

Success Rates for New (Type 1) NIH Grants: FY 1995 - 2004

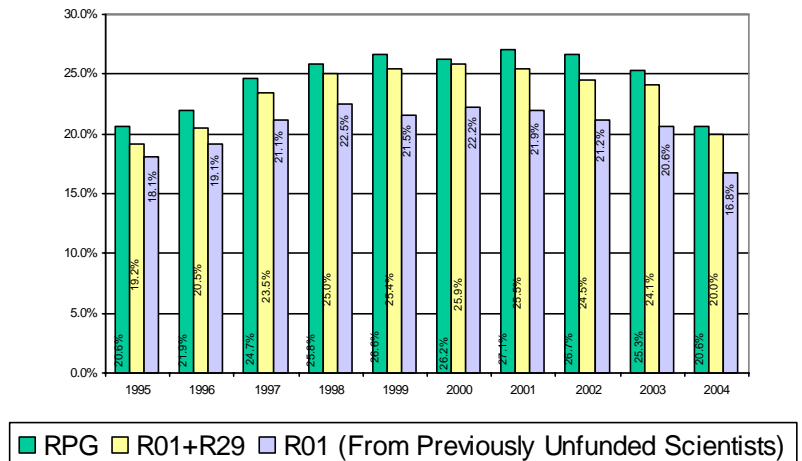


Figure 2

Figure one illustrates the NIH budget over the last 12 years and the estimate for 2007. The impact of the flattening can be seen in figure two, which shows that the success rate for new grants has now dropped to levels below anything we have seen in recent history: 16.8%.

This means that even if we assume that only 40% of highly rated and approved grants are excellent to outstanding, we are funding only one third of them. The loss to our nation, to the world, of these other proposals is devastating. Most of all, many of the scientists attracted to our field by the NIH doubling will be lost. This will take a full generation to make up.

I need not explain to this group the benefits of biomedical research. They are profound. They have improved the lives of all Americans and have helped raise our standard of living. Better diagnostics, better treatments, and reduction in the incidence of many diseases because of better interventions are part of the success story of our federal biomedical effort.

Nor do I need to remind this committee that there is the tremendous lag period between discovery and result. There were 46 years between the identification of the polio virus (1909) and the polio vaccine (1955); and more recently, in my own field, 41 years between the discovery of the genetic abnormality associated with a type of leukemia (1960) and the use of Gleevec, a drug based on this abnormality that has been extremely effective and with only modest side effects.

“If you don’t plant the seed today, you can’t expect a harvest.”

Please support an increase in the NIH budget. We cannot survive another year of flat appropriations and expect to make headway against the scourges of mankind. The recent experiences with SARS, mad cow disease, anthrax and the like make funding even more critical.

Please increase the IDeA component of the NIH budget.

In 2000 Congress in its wisdom increased the budget for the IDeA program from about \$2M to \$40M and affirmed its commitment to address imbalances in the NIH effort across our nation. The IDeA (Institutional Development Award Program) was authorized in the NIH Revitalization Act of 1993. Congress intended to enhance geographical distribution of research funds and increase

research capacity. It is comparable to the NSF Experimental Program to Stimulate Competitiveness in Research (EPSCoR) established in 1980 which has been so successful. Such programs exist in at least eight other federal agencies.

Two main programs came from the IDeA initiative: INBRE and COBRE (for INBRE each state received a set amount of funds to establish research networks in their states). Currently there are 23 such programs. They help to develop a pipeline for the next generation of researchers. The COBRE (Centers for Biomedical Research Excellence) was initiated in 2000 and currently supports 73 programs. It is intended to build thematic, multi-disciplinary research centers at doctoral institutions or research institutes like OMRF.

Money was set aside such that only the 25 states which are below the national average in per capita NIH dollars could compete for these funds. The NIH, through the National Center for Research Resources (NCRR) has done an outstanding job administering these awards. They are difficult to obtain, as they are competitive, and they are effective! The budget for the IDeA program increased each year to approximately \$206M in 2003, \$213M in 2004, \$222M in 2005, and \$219.9M in 2006 (the first year it has declined in its history).

IDeA Program Appropriations (All States) 1997-2006

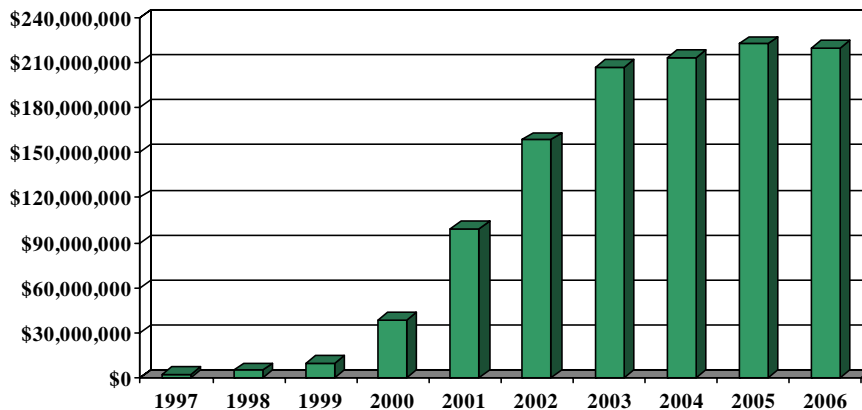


Figure 3

This program has resulted in at least one program of about \$3M per year for each of the 25 states - grants that have been instrumental in providing both technology and support for outreach programs into rural areas. In our state of Oklahoma, they have been a dramatic success (see Figures 4 and 5)

However, the bulk of the IDeA program has been in the awarding of COBRE grants, or Centers of Biomedical Research Excellence. This truly innovative and outstanding program has brought researchers together in our IDeA states to share equipment, technology, projects and personnel.

IDeA Program Appropriations to Oklahoma 1997-2005

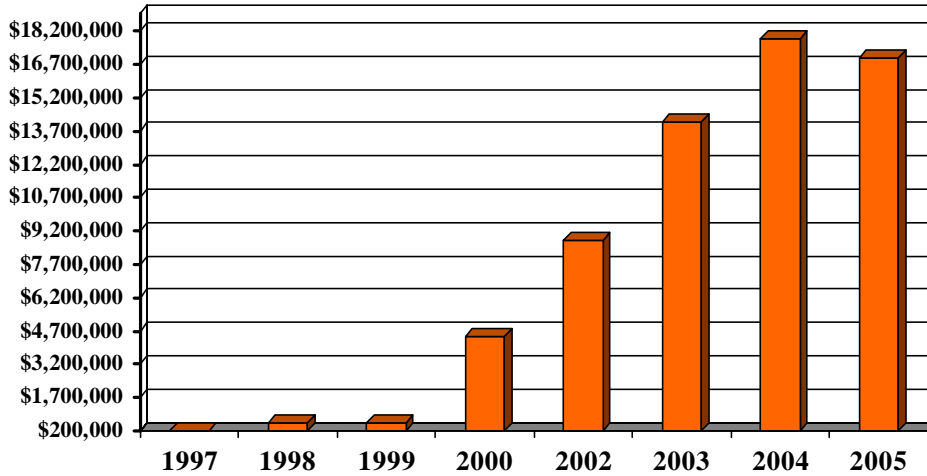


Figure 4

In the state of Oklahoma, these dollars have been vital. Nearly 20% of all NIH dollars flowing into our state now derive from this source. The transformation of Oklahoma Biomedical Science is palpable. I thank this and previous appropriations committees and the whole congress for their foresight, their investment and their pride in us. I believe we have delivered.

My organization, OMRF, has been remarkably transformed because of these funds. OMRF has nearly quadrupled our NIH funds, and IDeA monies represent about 20% of our dollars. We now have state of the art core facilities including imaging, a facility to make genetically modified mice, and an MRI that is one of a dozen in the nation designed exclusively for small animals.

NIH Grants and Contracts Awarded to OMRF

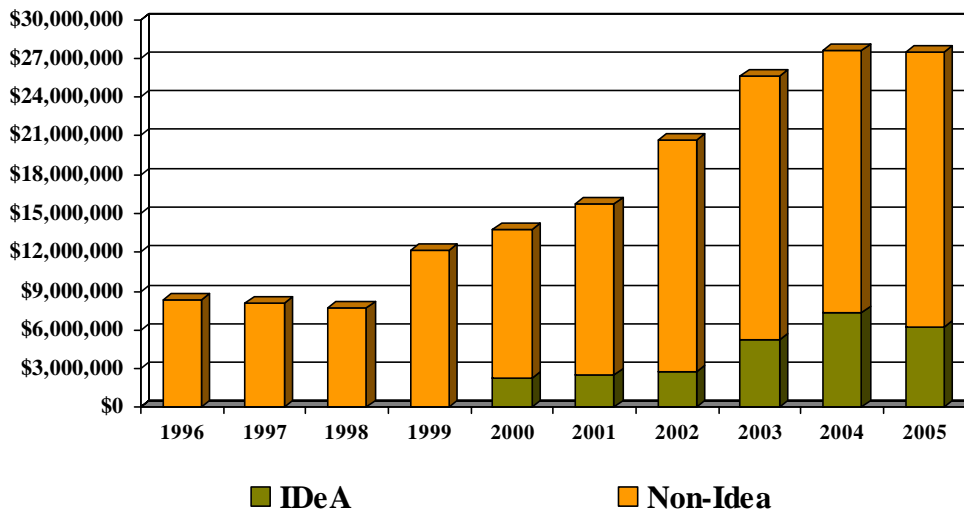


Figure 5

Even in the short time since its inception, there are a number of major breakthroughs that have come nationally from the IDeA program. Clearly, this is an idea that was prescient, bold, and has worked.

In the 1980s, in research funded by the National Institutes of Health, the Oklahoma Medical Research Foundation scientists Charles Esmon and Fletcher Taylor made a series of discoveries about how the blood coagulates. At the time of those discoveries, it was clear that they had broken some important scientific ground. At first, the significance of their work was recognized only by a select group of experts in the field of cardiovascular biology. Yet, over time, the importance of these breakthroughs became clearer and clearer to an ever-widening audience: biomedical scientists in other fields, pharmaceutical companies, physicians and, finally, patients. Today, those discoveries have been transformed into the only FDA-approved treatment for severe sepsis, which kills more than 200,000 Americans each year.

People often think of NIH-funded research as abstracted work. But recently, I got the chance to meet someone whose life was saved because of NIH research. Because of the NIH research of Charles Esmon and Fletcher Taylor.

Although Jeanne Morgan had worked across the street from the Oklahoma Medical Research Foundation for many years as a clinical psychologist at the Oklahoma City V.A. Hospital, it wasn't until 2005 that we were lucky enough to meet Jeanne. At OMRF's annual honors and awards banquet in April, she told a room packed with OMRF scientists, board members and friends about how severe sepsis—an often-fatal blood infection—had taken her to the brink of death, shutting down her heart, liver, kidneys and lungs.

“A do-not-resuscitate order was attached to my bed, and everyone was just waiting for me to die,” she told us. “Then the infectious disease doctor ordered Xigris for me.” The drug, which is based on the work of Drs. Esmon and Taylor, is the only FDA-approved treatment for severe sepsis, the leading killer in this country's intensive care units. “The doctor knew Xigris was my only hope, and it saved my life. I'm here today because of what Drs. Esmon and Taylor do and have done.” There were few dry eyes in the house.

This is the power of NIH research. The power to save lives.

So, why am I here?

Critically, the program has not grown for three years, and based on the President's proposed reduction, it seems unlikely that it will grow next year. A “flat” IDeA budget for four years has resulted in the LOSS of science, as inflation in the biomedical sphere is about double the CPA. Thus, to even remain “flat” in research operations and take into account inflation, we needed \$250M last year. Therefore, I implore you to commit to \$250M in FY2007 to this vital program so we can continue to advance progress in medical research.

In closing

I urge this committee to increase the NIH budget and reverse the “flattening” we have experienced during the last four years, and I urge this committee to increase the IDeA portion of the NIH budget to \$250M to both address the inflation we have experienced in the biomedical sector and to expand this successful and vital program.

J. DONALD CAPRA, M.D.
PRESIDENT
OKLAHOMA MEDICAL RESEARCH FOUNDATION

Dr. J. Donald Capra has been president of the Oklahoma Medical Research Foundation since 1997. In his nine-year tenure as OMRF President, Dr. Capra has overseen an impressive period of growth and new scientific discovery. NIH grants have more than tripled, and OMRF now ranks 12th among all members of the Association of Independent Research Institutes in this category. The scientific faculty has grown by 35 percent, and OMRF's graduate student population has doubled. Under Dr. Capra's leadership, OMRF also recently completed a five-year, \$100 million capital and endowment campaign.

A molecular immunologist, Dr. Capra is well known for his studies of antibody genes and how they are mutated in autoimmune disorders. He serves as editor of several scientific journals, including Molecular Immunology, The Scandinavian Journal of Immunology and The Immunologist.

A native of Vermont, Dr. Capra received his bachelor's degree in chemistry and an M.D. from the University of Vermont. He held research fellowships at the National Institutes of Health and Rockefeller University, and was professor of microbiology at the Mount Sinai School of Medicine of the City University of New York. He came to OMRF from the University of Texas Southwestern Medical Center in Dallas, where he served as professor of microbiology and internal medicine, director of Southwestern's Molecular Immunology Center, and held the Edwin L. Cox Distinguished Chair in Immunology and Genetics.

Disclosures:

OMRF received approximately \$27 million in NIH grants and contracts in FY 2005.