

# PRIORITY SETTING AT THE NATIONAL INSTITUTES OF HEALTH (NIH)



NIH is the premier biomedical, behavioral, and social science research institution in the world. Its mission is to support science to improve the health and well-being of all humanity. NIH invests in research across biology, genetics, neuroscience, imaging, behavior, social and economics research to prevent, diagnose, and treat more than 7,000 rare diseases as well as chronic conditions that are threatening the public health of our nation, such as heart disease, diabetes, obesity, mental disorders, Alzheimer's disease and cancer. Many of these conditions and diseases have multiple causes: biological, environmental, behavioral, psychological, and sociocultural. At a time when genetic control is tantalizingly close but not yet possible, knowledge of how these factors interact and affect health is a crucial component in the nation's battles against the leading causes of morbidity and mortality. Appropriately, NIH supports a large and robust portfolio of research on all aspects of human development and disease.

## How does the National Institutes of Health (NIH) decide its research priorities?

Research priorities are driven first and foremost by the science and by scientists in laboratories, hospitals and academic medical centers across the country who spend years studying biomedical, behavioral, social and economic science as it relates health. It is not the science alone; however, that drives NIH priorities. Priority setting at NIH is a complicated yet deliberate effort. The agency's institute directors, NIH staff, and Advisory Council members also consider the burden of specific diseases, the public health needs of society, existing scientific opportunities, the quality of individual research proposals, the experience of the applicant, and the ability to sustain research through adequate staffing and infrastructure. Unfortunately, when focusing solely on any one of these factors, advocates and policy-makers oversimplify the importance of a complex multi-layered system for determining funding allocation.

As approximately 84 percent of the NIH's budget is awarded to more than 300,000 research positions at over 2,500 universities and research institutions located in every state, Congress has a long history of supporting the NIH. Congress also has an appropriate oversight role in authorizing the NIH, mandating its reliance on the peer review process and providing guidance on its priorities in annual report language.

Moreover, in exercising its oversight role, Congress requested a review of the agency's priority-setting process by the Institute of Medicine (IOM), the health arm of the National Academy of Sciences (NAS). The IOM concluded that "the NIH's system for setting priorities has generally served NIH and the nation well in supporting research to improve human health." Many of the recommendations from that report, "*Scientific Opportunities and Public Needs: Improving Priority Setting and Public Input at the National Institutes of Health*," were codified in the National Institute of Health Reform Act of 2006.

## How are individual grants awarded?

The NIH uses a rigorous peer review process to determine which grant applications to fund. Thousands of scientists each year submit applications to the NIH requesting funding for their scientific proposals. Applications are evaluated initially by the NIH's Center for Scientific Review and peer review groups composed of scientific experts from around the U.S. and the world. These groups (also called "study sections") assess and rate the scientific and technical merit of the proposed research or training projects. Projects reviewed in a particular session are scored and ranked in relation to each other. The applications are then assigned to one of the 27 institutes and centers at NIH. A second level of peer review is conducted by the NIH National Advisory Councils of the respective funding Institutes or Centers, which are composed of both scientists from the research community and public representatives. These councils make certain that the NIH receives advice from a cross-section of the U.S. population in its deliberation and decision-making.



This system ensures that research conducted and supported with taxpayer dollars is scientifically meritorious and serves to improve the lives of all people equally. It is important to note that approximately 85 percent of meritorious, scientifically valid proposals do not receive funding through this process.

## **Why should NIH continue to support a broad and comprehensive research portfolio?**

NIH's investment in comprehensive biomedical and behavioral research is the foundation for developing new treatments and interventions for all diseases that affect individuals. Understanding how cells operate and how normal biological systems function is key to understanding how diseases alter the appropriate functioning of the body. Likewise, understanding normal cognitive, behavioral and social development is key to understanding the developmental trajectories and predisease pathways of depression, autism, serious mental illness, and many of the leading causes' of death including HIV/AIDS, smoking, violence, accidents, diet, and substance abuse. Other behavioral factors, such as physical inactivity, obesity or social isolation are also known to increase an individual's risk for disease, disability and early death.

Research into biological systems, behavioral and social factors, genetics and technologies often has applications down the road for many diseases that are not readily apparent in either the grant application or in the study results. Discoveries made in one area of research often benefit the study and treatment of a wide variety of human diseases. The fact is that many new treatments for diseases, such as cancer, heart disease, hepatitis, and osteoporosis have arisen from research aimed at preventing, diagnosing, and treating AIDS. Basic behavioral research into mental processes has informed the treatment and prevention of heart disease, diabetes, and obesity.

In addition, economics research, specifically research on the linkages between socioeconomic status and health outcomes in the elderly and achievement and health outcomes in children, has been an integral part of the interdisciplinary science NIH has supported historically. The agency's investment has yielded key data, methodologies and substantive insights on some of the most important and pressing issues facing the U.S., including poverty. Results of NIH-funded economic research provide insights into important topics such as the functioning of the health care system, design and effects of health insurance and financing, diffusion of new health technologies, cost analysis and projections of health care, retirement date, savings, wealth accumulation and assets, and the relationship between health and employment.

## **These grants and grantees are funded with taxpayer money. What's wrong with demanding accountability?**

The NIH is the most prominent, respected and trusted medical research agency in the world. Much of its reputation is based on the integrity of a rigorous peer review process that operates without political influence, ensuring that the research conducted and supported by the NIH is based upon scientific merit, rather than on political, ideological, or sectarian considerations.

Congressional oversight of the peer review process in general-- to guarantee that the process is fair and is allowed to function free of politics or prejudice -- plays an important role in ensuring appropriate accountability for the nation's investment in scientific research. In addition, researchers supported by NIH are required to provide periodic progress reports and are in regular contact with program and grant administrators to ensure scientific, ethical, and fiscal accountability. The NIH has undertaken an aggressive strategic plan to further clinical applications of research. Individual institutes have increased their focus on translating basic research into clinical applications.

The current structure of NIH provides for this flexibility and will allow NIH to refocus its efforts on areas of science that are the most promising. These approaches are preferable to a system of congressional micromanagement that has a chilling effect on research and restricts free scientific inquiry. To prevent such a chilling effect, as part of the NIH Reauthorization Act of 2006, Congress established the Scientific Management Review Board (SMRB). The SMRB is specifically directed to "review the NIH research portfolio in order to determine the progress and effectiveness and value of the portfolio and the allocation among the portfolio activities of the resources of NIH."

***The Coalition to Promote Research (CPR) is a coalition of national organizations committed to promoting public health, innovation and fundamental knowledge through scientific research. Our organizations represent hundreds of thousands of scientists, physicians, health care providers, and patients who support federal investments in basic and applied biomedical and behavioral research. If you would like additional information, please contact CPR co-chairs Angela Sharpe, [alsharpe@coessa.org](mailto:alsharpe@coessa.org) or 202-842-3525 with the Consortium of Social Science Associations or Patricia Kobor with the American Psychological Association, [pkobor@apa.org](mailto:pkobor@apa.org) or 202-336-5933.***