

2015 NIGMS Strategic Planning Framework

Goals & Objectives

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Institute Overview and Strategic Planning Rationale

The National Institute of General Medical Sciences (NIGMS) is a component of the National Institutes of Health (NIH) in the U.S. Department of Health and Human Services. NIGMS supports basic biomedical research directed toward advancing our understanding of biological processes. Although not focused on specific diseases, basic biomedical research is an engine that drives important medical advances. NIGMS also supports the development of research capacities and is a major source of NIH-supported research training.

NIGMS uses three major approaches to carry out its mission:

- Grants that support scientific research at colleges, universities, medical schools and research institutes.
- Training and education awards that support the development of the next generation of biomedical scientists.
- Programs that support the development of and widespread access to high-quality research resources and technologies.

Through these activities, NIGMS plays a major role in advancing fundamental biomedical research and maintaining a healthy research enterprise in every state in the nation as well as in U.S. territories.

The NIGMS 2015 strategic plan will be a tool to guide the Institute over the next 5 years as it seeks to make the most efficient and effective use of taxpayer funds to extend fundamental scientific knowledge and meet the challenges of a rapidly evolving biomedical research landscape.

NIGMS Mission Statement

NIGMS supports basic research that increases understanding of biological processes and lays the foundation for advances in disease diagnosis, treatment and prevention. NIGMS-funded scientists investigate how living systems work at a range of levels, from molecules and cells to tissues, whole organisms and populations. The Institute also supports research in certain clinical areas, primarily those that affect multiple organ systems. To assure the vitality and continued productivity of the research enterprise, NIGMS provides leadership in training the next generation of scientists, in enhancing the diversity of the scientific workforce, and in developing research capacities throughout the country.

NIGMS Strategic Goals and Objectives

Goal 1: Support investigator-initiated biomedical research that drives fundamental scientific discoveries to advance our understanding of human health and disease.

NIGMS-funded researchers strive to understand how biological systems work at all levels, from molecules and cells to organs, organisms and populations. This basic research provides the knowledge on which future advances in health and medicine are built.

Objective 1-1: Fund a scientifically diverse and well-balanced portfolio of highly meritorious research.

It is impossible to know in advance where the next breakthroughs in biomedical research will occur. To maximize the opportunities for important advances, NIGMS will support diverse studies in a wide array of scientific areas that encompass its broad mission, from fundamental chemistry and biology to selected aspects of clinical and behavioral research. The Institute will focus on supporting investigator-initiated research, in which the curiosity and creativity of

scientists drives the identification of the most important questions and the development of the strategies needed to answer them.

Objective 1-2: Maintain flexibility to respond to new scientific opportunities.

Biomedical research is highly dynamic, as scientific advances create new research fields and re-invigorate established ones or spark opportunities for interdisciplinary collaboration. To remain as nimble as possible in programmatic and fiscal decision making, NIGMS will conduct ongoing evaluations of the efficiency and effectiveness of its research programs and of the distribution of its overall portfolio.

Goal 2: Support the development of a highly skilled, creative and diverse biomedical research workforce.

Training the next generation of biomedical researchers is a fundamental aspect of the NIGMS mission, and the Institute shares this responsibility with academia and industry. NIGMS will use a variety of mechanisms to develop a broadly diverse workforce and engage students and trainees at multiple career stages to prepare them for a range of scientific careers.

Objective 2-1: Assess Institute research training programs and policies to ensure that they achieve NIGMS goals.

The Institute will continue to conduct evaluations to ensure that its programs and policies advance its mission related to training and workforce development. Such evaluations guide NIGMS in allocating its research training resources appropriately.

Objective 2-2: Promote effective practices to continually improve research training activities.

Education research and the practices of successful training programs can provide insights into how to develop effective programs tailored to distinct educational levels and career stages. The Institute will encourage those who conduct NIGMS-funded training programs to develop and evaluate new training practices. To ensure maximum return on its research training investment, NIGMS will encourage and assist programs in disseminating training practices that have proven to be effective.

Goal 3: Support the development of and access to essential research tools, resources and capabilities for biomedical research.

Scientists need access to state-of-the-art technologies, research tools, databases and resource repositories to create, expand and apply knowledge for the improvement of human health. New technologies enable scientific advances that in turn drive the development of additional technologies and the emergence of novel questions in a cycle that propels research forward. Public support of such resources leverages our nation's investment in biomedical research. NIGMS will cooperate with research institutions to make tools and other resources available to the broadest possible community of researchers.

Objective 3-1: Facilitate the continued enhancement of institutional research communities and research capacities.

Developing the capacity for research involves enhancing and maintaining the physical and technological infrastructure as well as fostering an environment that attracts, nurtures and supports an investigative workforce that is highly skilled, collaborative and multidisciplinary. NIGMS will facilitate the development of the infrastructure needed to conduct basic, clinical and translational research, particularly at institutions with substantial enrollments of students from

underrepresented groups and in states that historically have not received significant levels of NIH funding.

Objective 3-2: Support the development of new technologies and research resources.

Scientists need powerful tools, methods and approaches to advance biomedical research, but a commercial market for these cutting-edge technologies does not always exist. NIGMS will continue to play a leadership role in the development, maintenance and evaluation of the nation's biomedical research resource infrastructure.

Objective 3-3: Facilitate broad access to research resources and technologies.

NIGMS is committed to fostering open access to research resources and minimizing administrative impediments to using them. To this end, the Institute will optimize the availability and use of NIGMS-funded resources by the broadest possible community of biomedical researchers.

Goal 4: Advance understanding of the NIGMS mission and its role in the biomedical research enterprise.

NIGMS will continue to communicate with the scientific community and the public about the results and impact of the research it supports.

Objective 4-1: Use a range of approaches to inform the public about NIGMS goals, activities and results.

Using a variety of communication approaches, channels and partners, NIGMS will develop and distribute information about important scientific findings, the role of basic research and the excitement of careers in science. The Institute will work

collaboratively with various organizations to amplify and reinforce these messages.

Objective 4-2: Engage in an open dialogue with the scientific community about NIGMS programs, processes and policies.

NIGMS will continue its bidirectional conversation with the scientific community in a range of ways. These include program directors discussing ideas with individual scientists, providing online content and listening to the needs of Institute stakeholders.

Goal 5: Promote the efficient and effective use of human resources and business practices to advance the NIGMS mission.

NIGMS relies on the efforts of its dedicated staff to accomplish its core activities of grant review and funding, as well as many other ancillary tasks. The Institute will continue to foster a culture of organizational and operational efficiency, assessing its structure and work processes and adjusting them as necessary to perform its functions.

Objective 5-1: Foster a diverse and proficient NIGMS workforce.

In order to build and maintain a knowledgeable, skilled and diverse staff with expertise across the wide spectrum of science that NIGMS supports, the Institute will continue to support ongoing staff training, encourage participation in professional development activities and pursue organizational agility to ensure optimal work performance.

Objective 5-2: Assess, identify and apply the most effective business practices.

For NIGMS to function most effectively, it must continuously examine and optimize its business practices. To this end, the Institute will maintain and

enhance its open and collaborative work environment, provide access to up-to-date information technology tools and services, promote flexible approaches to managing changing workloads and enhance access to data collection and analyses to guide data-driven decisions.
