Focus on NINR and the NIH Roadmap

A focus paper on NINR research directions and advances

NIH Roadmap—History and Purpose

In May 2002, with input from meetings with more than 300 nationally recognized leaders in academia, industry, government, and the public, National Institutes of Health (NIH) Director Dr. Elias A. Zerhouni initiated the "NIH Roadmap for Medical Research." The purpose of the Roadmap is to identify major opportunities and gaps in biomedical research that no single institute at NIH can tackle alone but that the agency as a whole must address. It lays out a vision for a more efficient and productive system of medical research, and provides a framework of the priorities NIH must address in order to optimize its entire research portfolio. The Roadmap is composed of three themes:

1) Research Teams of the Future
2) Re-engineering the Clinical Research Enterprise
3) New Pathways to Discovery.

More information about the NIH Roadmap is available at: http://www.nihroadmap.nih.gov/

Roadmap Theme: Research Teams of the Future

Research Teams of the Future supports initiatives for interdisciplinary research, as well as public-private partnerships. It also seeks to preserve the investigator-initiated strategy, and promote investigators to take creative, unexplored, or high-risk avenues of research. Traditional divisions within health research may impede the pace of scientific discovery. This theme focuses on the training of current and future scientists in new team approaches to broaden the scope of investigation, yield fresh insights, and create solutions outside of traditional approaches.

Nurses have always recognized the importance of teamwork to solve problems, and NINR strongly supports scientists working together in collaborative teams. NINR Director Dr. Patricia A. Grady is the co-chair of the Interdisciplinary Research implementation group under this theme.

NIH Director's Pioneer Award Program

One aspect of this theme is the NIH Director's Pioneer Award (NDPA) Program. The NDPA is designed to support individual scientists of exceptional creativity who propose pioneering approaches to major challenges in biomedical and behavioral research. The NDPA will allow recipients to pursue new research directions and highly innovative ideas that have the potential for unusually great impact. Investigators at all career levels are eligible, and women and members of groups underrepresented in biomedical research are especially encouraged to apply.

Roadmap Theme: Re-engineering the clinical research enterprise

The 21st century is witnessing an increasing need to move research results more quickly to clinical settings. While clinical research helps assure that new treatments are safe and effective, it is a lengthy and sometimes inefficient process. The current system of clinical research requires new and more streamlined approaches to discovery and clinical validation of research results if it is to respond more rapidly to changing scientific and health care needs. The largest component of this theme is the new Clinical and Translational Science Awards (CTSA) program, which is designed to assist institutions in consolidating resources to:

- nurture a cadre of well-trained multi- and inter-disciplinary investigators and research teams;
- create an incubator for innovative research tools and information technologies; and
- synergize multi-disciplinary and inter-disciplinary clinical and translational research and researchers to speed the application of new knowledge and techniques to clinical practice at the front lines of patient care.

PROMIS

As part of the Re-engineering theme, the Patient-Reported Outcomes Measurement Information System (PROMIS), a trans-NIH initiative, aims to revolutionize the way patient-reported outcome tools are selected and employed in clinical research and practice. It will establish a national resource for accurate and efficient measurement of patient-reported symptoms and other health outcomes in clinical practice, and develop ways to measure symptoms such as pain and fatigue and aspects of health-related quality of life across a wide variety of chronic diseases and conditions.

Roadmap Theme: New Pathways to Discovery

To truly revolutionize medicine and improve human health, we need a more detailed understanding of the vast networks of molecules that make up our cells and tissues, their interactions, and their regulation. We also must have a more precise knowledge of the combination of molecular events leading to disease. This theme realizes the daunting complexity of the human body, and seeks to advance our understanding of biological systems and build better "toolboxes" for medical research in the 21st Century.

Nurse investigators are less well represented in this theme. However, NINR's scientists will find ways to participate in or to make use of the progress and findings within the initiatives generated from this theme.

The NIH Toolbox

As part of the New Pathways theme, the NIH Toolbox is an initiative designed to provide research tools that any institution can use to develop medicines and other therapies for disease. In a broad sense, this activity is developing a set of tools for basic science analogous to what PROMIS will do for clinical research.

Implications for NINR and nursing science

NINR released its new Strategic Plan in October 2006. This Plan incorporates several research directions and strategies relevant to the Roadmap, particularly initiatives that seek to develop new technologies to measure patient symptoms and quality of life, and that strive to develop skilled clinical investigators with strong multidisciplinary backgrounds. The Roadmap initiative has increased opportunities for collaboration and leadership within NIH. Historically, NINR has maintained a focus on interdisciplinary research, but new collaborative efforts made possible by the Roadmap have fully introduced nursing science to the rest of the scientific community.

Nurse scientist involvement in the NIH Roadmap has had great benefits. Collaborations with experts from fields outside of nursing research have increased the visibility of our investigators, and enhanced awareness and appreciation of the scientific contributions of nursing research. Nurse investigators have gained insights into new research methods that have allowed them to expand the breadth of their own work into areas not previously associated with nursing research. Meanwhile, outside investigators have become exposed to the important research conducted by nurse scientists, especially in areas such as symptom management and disease prevention.

NINR-supported Investigators Receiving NIH Roadmap Awards

At NINR, we are pleased that several of our investigators have received NIH Roadmap awards, which focus on research training for the future, as well as training to increase expertise in interdisciplinary research.

- Dr. Rosanne Harrigan (University of Hawaii at Manoa) is designing and implementing an interdisciplinary training program leading to a PhD in clinical research.
- Dr. Elaine Larson (Columbia University) is establishing a Center to develop strategies to implement and evaluate a collaborative program of interdisciplinary research on reducing antibiotic resistance.
- Dr. Pamela Mitchell (University of Washington) is developing an interdisciplinary training program in clinical research. The program includes a summer introductory interdisciplinary research experience as well as a one-year mentored interdisciplinary research project.
- Dr. Gayle Page (Johns Hopkins University) is establishing a training program for post-doctoral students to prepare them to work cooperatively within an interdisciplinary research team to address complex problems in pain research.
- Dr. Jason Umans (Georgetown University) is establishing a training consortium between Georgetown and Howard University that will provide rigorous didactic course work and curriculum support for training in clinical research.

Developed 12/2006

The National Institute of Nursing Research (NINR) supports clinical and basic research to establish a scientific basis for the care of individuals across the life span. To accomplish its mission, NINR provides grants to universities and other research organizations and conducts intramural research and research training on the campus of the National Institutes of Health. These efforts foster multidisciplinary collaborations to ensure a comprehensive approach to research on illness and disabling conditions. To address the needs of at-risk and underserved populations, NINR emphasizes the implementation of knowledge gained from research toward the reduction of health disparities.

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