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National Institute of Nursing Research
Statement for the House Subcommittee on Labor-HHS-Education Appropriations
Budget Request for FY 2011
April 28, 2010

Mr. Chairman and Members of the Committee:

I am pleased to present the President's Fiscal Year 2011 Budget request for the National Institute of Nursing Research (NINR) of the National Institutes of Health (NIH). The FY 2011 budget includes \$150,198,000, which is \$4,598,000 more than the comparable FY 2010 appropriation of \$145,600,000.

INTRODUCTION

The National Institute of Nursing Research (NINR) supports clinical and basic research to build the scientific foundation for clinical practice, prevent disease and disability, manage and eliminate symptoms caused by illness, enhance end-of-life and palliative care, and train the next generation of scientists. It has been twenty-five years since the Institute was established at NIH as the National Center for Nursing Research in 1986. We will commemorate this anniversary with a year-long series of scientific outreach events that will emphasize the translation of our research results to enhance health care and clinical practice. In focusing on individuals across the lifespan, rather than particular diseases, conditions, or a stage of life, NINR-supported research seeks to answer the scientific challenges posed by the demand for improved disease prevention, more effective clinical practice, and better quality-of-life for the millions afflicted with chronic illness. It is the Institute's emphasis on clinical research that places NINR in a position to make major contributions to the NIH Director's vision of translating basic research to clinical practice, supporting science to enable better health care, and reinvigorating the biomedical workforce. NINR is also continuing its commitment to the elimination of health disparities faced by at-risk and underserved populations through the development of culturally appropriate, evidence-based interventions.

Finally, the development of NINR's next Strategic Plan, scheduled for release in October, 2011, is well underway. The new plan will focus on areas of public health that demonstrate the greatest needs and in which NINR can have the greatest impact.

Let me now describe some areas of our research program and highlight some of our recent accomplishments.

BUILDING THE SCIENTIFIC FOUNDATION FOR CLINICAL PRACTICE

NINR has and will continue to support basic and clinical research to develop the scientific basis for clinical practice. Evidence-based practice is essential to ensuring that all Americans receive the highest quality health care at the lowest possible cost. NINR's role in improving clinical practice has never been more relevant than it is today, given the transition of health care paradigms from systems focused on treating acute illness to ones centered on preventing and managing chronic illness. NINR research related to clinical practice: enhances the translation of research into practice; assesses cost-effectiveness of clinical interventions; and improves the delivery, quality, and safety of clinical care. For example, one NINR-supported investigator recently reported on how gene expression patterns of skin biopsies can be used to guide surgeons in repairing chronic wounds. Gene expression patterns, which can be displayed in color-coded graphics that look like "bar-codes," tell the clinician what portions of the skin around a wound are healthy, which are damaged but still capable of healing, and which are damaged beyond repair and should be surgically removed to improve the chances of the remaining skin being able to heal. Improved techniques for promoting the healing of chronic wounds would have a great impact on reducing morbidity and mortality from chronic wounds. Currently, more than \$25 billion annually is spent on wound care.

PREVENTING DISEASE AND DISABILITY

Health care professionals and policy leaders have stressed the importance of prevention to the health of all Americans. NINR supports research to discover new ways to prevent disease and achieve long-term, positive health outcomes in individuals across the lifespan. NINR-supported scientists explore strategies to understand and promote behavioral changes in individuals, evaluate health risks in diverse communities, and explore biological factors that underlie susceptibility and mediate risk for developing disease and illness. Under this broad scope of research, efforts range from promoting behavioral changes in individuals and evaluating health risks in diverse communities, to preventing the development of co-morbid conditions. For example, about 33% of stroke survivors suffer from Post-stroke Depression (PSD), which is often associated with poor rehabilitation and recovery outcomes. A NINR-supported investigator recently published the results of a randomized controlled trial that studied a brief behavioral intervention, called Living Well with Stroke, which significantly reduced the incidence of post-stroke depression in stroke survivors, relative to patients who only received antidepressants. This was true immediately after the intervention was administered, and remained true for at least one year post-intervention. An intervention such as this one can potentially have a profound impact on the long term health outcomes of individuals who have survived a stroke.

MANAGING AND ELIMINATING SYMPTOMS CAUSED BY ILLNESS

Given the increasing numbers of people living with chronic illnesses, whether children with diabetes or older adults with heart disease, there is a great need to develop new strategies to manage these conditions and to eliminate the adverse symptoms caused by such conditions. Symptom management research focuses on understanding the biological and behavioral aspects of symptoms such as pain and fatigue, with the goal of improving patient health and quality of life. For example, NINR's Intramural Research Program (IRP) supports research to understand the underlying biological mechanisms of a range of symptoms, their effect on patients, and how patients respond

to interventions. In one recent IRP study, researchers explored genetic mechanisms that could explain why some individuals respond differently than others to pain-reducing drugs. Gender, ethnicity, temperament, and genetic factors, for example, contribute to individual variation in pain sensitivity and responses to analgesics. Using techniques that explore genetic variations across the human genome, intramural researchers identified a gene that was associated with responses to a nonsteroidal anti-inflammatory analgesic (NSAID), a class of pain-reducing drugs that includes aspirin and ibuprofen. This gene codes for a zinc finger protein, a type of protein that binds to DNA. This study suggests that genetic variations in or near genes that encode DNA binding proteins could play a role in clinical responses to analgesic drugs. These observations also suggest that differences in the way individuals respond to analgesic drugs may be induced by variations in genes that regulate DNA transcription.

ENHANCING END-OF-LIFE AND PALLIATIVE CARE

While benefiting from the historic increase in the life expectancy of the American people, our Nation also has seen a concomitant increase in the number of people living with, and dying from, debilitating illnesses. There is a growing need for strategies to improve quality of life for those with life-limiting conditions and serious illness through evidence-based palliative and end-of-life care. End-of-life science seeks to understand dying with respect to the needs of dying persons and their caregivers. It includes research on issues such as: alleviation of symptoms; psychological care; near-death preferences; advance directives; spirituality; and family decision-making. In 2009, NINR established the NINR Office of Research on End-of-Life Science and Palliative Care, Investigator Training, and Education (OEPC) to coordinate research efforts in these critical areas of science. In addition, NINR recently published a brochure entitled “Palliative Care: The Relief You Need When You’re Experiencing the Symptoms of Serious Illness” that explores the benefits of palliative care and answers common questions. Filling a compelling need among the public, the brochure has been downloaded from the NINR website approximately half-a-million times since its release in September, 2009.

BUILDING THE RESEARCH WORKFORCE

A fundamental part of NINR's mission is fostering the next generation of scientists. To ensure continued advancements in science and improvements in health, it is essential that the scientific workforce of the future be innovative, multidisciplinary, and diverse. NINR training programs are designed to achieve this vision. For example, the NINR Summer Genetics Institute (SGI) is an intensive summer training program that provides graduate students and faculty with a foundation in molecular genetics to enhance their research and clinical practice. SGI graduates, of whom there are over 180, are successfully building programs of research in genetics related to nursing; disseminating findings through publications; and integrating genetics content in nursing school curricula across the country. NINR also participates in the NIH Graduate Partnerships Program (GPP), a doctoral fellowship training program that coordinates training and funding for doctoral students attending schools of nursing with established NINR-supported training programs. Finally, the new BNC Fellowship, supported by the Bravewell Collaborative in collaboration with NINR and the NIH Clinical Center, trains individuals to address key issues in integrative health research. Such activities supplement the pre- and post-doctoral training opportunities NINR provides for over two hundred individuals each year. Many NINR-trained scientists will also serve as faculty in schools of nursing, helping to reduce the nursing shortage by educating future nurses vital to improving patient health and the quality of the Nation's health care.

CONCLUSION

In conclusion, NINR's twenty-fifth anniversary not only allows us to celebrate the accomplishments of nursing research over the past quarter-century, but it also provides us with the opportunity to look ahead and plot the course for NINR's next twenty-five years of scientific exploration. We are greatly optimistic about the future of NINR-supported science and the part that it will play in improving health care in the coming decades.

PATRICIA A. GRADY, PHD, RN, FAAN, DIRECTOR
NATIONAL INSTITUTE OF NURSING RESEARCH

Dr. Patricia A. Grady was appointed Director of National Institute of Nursing Research, on April 3, 1995. She earned her undergraduate degree in nursing from Georgetown University in Washington, DC. She pursued her graduate education at the University of Maryland, receiving a master's degree from the School of Nursing and a doctorate in physiology from the School of Medicine.

An internationally recognized researcher, Dr. Grady's scientific focus has primarily been in stroke, with emphasis on arterial stenosis and cerebral ischemia. She was elected to the Institute of Medicine in 1999 and is a member of several scientific organizations, including the Society for Neuroscience, the American Academy of Nursing, and the American Neurological Association. She is also a fellow of the American Heart Association Stroke Council.

In 1988, Dr. Grady joined NIH as an extramural research program administrator in the National Institute of Neurological Disorders and Stroke (NINDS) in the areas of stroke and brain imaging. Two years later, she served on the NIH Task Force for Medical Rehabilitation Research, which established the first long-range research agenda for the field of medical rehabilitation research. In 1992, she assumed the responsibilities of NINDS Assistant Director. From 1993 to 1995, she was Deputy Director and Acting Director of NINDS. Dr. Grady served as a charter member of the NIH Warren Grant Magnuson Clinical Center Board of Governors.

Before coming to NIH, Dr. Grady held several academic positions and served concurrently on the faculties of the University of Maryland School of Medicine and School of Nursing.

Dr. Grady has authored or co-authored numerous articles and papers on hypertension, cerebrovascular permeability, vascular stress, and cerebral edema. She is an editorial board member of the major stroke journals. Dr. Grady lectures and speaks on a wide range of topics, including future directions in nursing research, developments in the neurological sciences, and Federal research opportunities.

Dr. Grady has been recognized with several prestigious honors and awards for her leadership and scientific accomplishments, including the first award of the Centennial Achievement Medal from Georgetown University School of Nursing and Health Sciences, being named the inaugural Rozella M. Schlotfeld distinguished lecturer at the Frances Payne Bolton School of Nursing at Case Western Reserve University, and receiving the honorary degree of Doctor of Public Service from the University of Maryland. Dr. Grady was named the Excellence in Nursing Lecturer by the Council on Cardiovascular Nurses of the American Heart Association. In 2005, Dr. Grady received Doctor of Science, Honoris Causa degrees from the Medical University of South Carolina and Thomas Jefferson University, and Columbia University School

of Nursing honored her with its prestigious Second Century Award for Excellence in Health Care. In 2008, Dr. Grady received a Doctor of Science, Honoris Causa degree from the State University of New York Downstate Medical Center. Dr. Grady is a past recipient of the NIH Merit Award and received the Public Health Service Superior Service Award for her exceptional leadership.