Department of Health and Human Services
National Institutes of Health

National Institute of Nursing Research
Minutes of the National Advisory Council for Nursing Research

January 16-17, 2002

The 46th meeting of the National Advisory Council for Nursing Research (NACNR) was convened on Wednesday, January 16, 2002, at 1:05 p.m., in Conference Room 6C10, Building 31, National Institutes of Health (NIH), Bethesda, Maryland. The meeting was open to the public until approximately 5:35 p.m. The closed session of the meeting, which included consideration of grant applications, resumed the next day, Thursday, January 17, 2002, at 9:30 a.m. and continued until adjournment at 12:30 p.m. on the same day. Dr. Patricia A. Grady, Chair of the NACNR, presided over both sessions.

****

OPEN SESSION

I. CALL TO ORDER, OPENING REMARKS, COUNCIL PROCEDURES, AND RELATED MATTERS

Dr. Grady called the 46th meeting of the NACNR to order, welcoming all Council members, visitors, and staff. She announced that four Council members would retire after this meeting: Mr. Gene Blumenreich, Dr. Kitty Buckwalter, Dr. Curtis Patton, and Ms. Sarah Sanford. Dr. Grady thanked the members for their time, effort, and contributions to the Council.

Conflict of Interest and Confidentiality Statement

Dr. Mary Leveck, NACNR Executive Secretary, reminded attendees that the standard rules of conflict of interest applied throughout the Council meeting. Briefly, all closed session material is privileged, and all communications from investigators to Council members regarding any actions on applications being considered during Council should be referred to NINR staff. In addition, during the closed session of the meeting, Council members with a conflict of interest with respect to any application must excuse themselves from the room and sign a statement attesting to their absence during the discussion of that application. Dr. Leveck also reminded NACNR members of their status as special Federal employees while serving on the Council and that the law prohibits the use of any funds to pay the salary or expenses of any Federal employee to influence State legislatures or Congress. Specific policies and procedures were reviewed in more detail at the beginning of the closed session and were available in Council notebooks.

Minutes of Previous Meeting

Council members approved the minutes of the September 11-12, 2001 Council meeting by electronic mail. These minutes for the open session of this meeting consisted primarily of the Director's Report that was scheduled, but was not given due to the closing of government offices. The closed session was held the next day as planned. The minutes are posted on the National Institute of Nursing Research (NINR) Web Site at http://www.nih.gov/ninr/about/advisory.html.

Dates for Future Council Meetings

Dates for meetings in 2002 and 2003 have been approved and confirmed. Council members should contact Dr. Grady or Dr. Leveck regarding any conflicts.

2002

- May 21-22 (Tuesday-Wednesday), Natcher Building
- September 17-18 (Tuesday-Wednesday), Natcher Building

2003

- January 28-29 (Tuesday-Wednesday), Building 31
- May 20-21 (Tuesday-Wednesday), Natcher Building
- September 16-17 (Tuesday-Wednesday), Building 31

II. REPORT OF THE DIRECTOR, NINR (Dr. Patricia Grady, Director, NINR)

The director's report focused on the following areas: budget issues, NIH updates, NINR updates, and NINR outreach activities.

Budget Issues

The final budget bill for Fiscal Year (FY) 2002 was signed into law on January 11, 2002, and appropriates approximately $120,451,000 to NINR, a substantial increase from the FY 2000 NINR budget of $89,415,000. The current NINR allocation represents a 14.5 percent increase over the FY 2001 NINR budget and is very close to the 14.7 percent increase in the overall NIH budget. Two new centers have been allocated above-average increases: the National Center on Minority Health and Health Disparities (NCMHD) received a nearly 20 percent increase over its FY 2001 budget, and the National Center for Complementary and Alternative Medicine (NCCAM) received an increase of about 17.5 percent. The National Center for Research Resources (NCRR), which supports major infrastructure activities, received a budget increase of approximately 25 percent. The National Institute of Allergy and Infectious Diseases (NIAID) appropriation for FY 2002 was approximately 15 percent greater than that for FY 2001 in part because of its vaccine program, which is expected to increase further because of vaccine and bioterrorism issues and Congress's attention to these new issues facing the Nation. The newly

established National Institute of Bioimaging and Bioengineering will receive $111 million in its first year, FY 2002.

The NINR budget is distributed among seven major categories: research project grants (RPGs), research management support (RMS), training, centers, intramural research, research & development (R&D), and other research. As Dr.Grady noted, the proportion of funds in each category remains fairly constant as part of the total Institute budget. The majority of NINR funds (77 percent) go to RPGs. Training awards account for 8 percent of the NINR budget; the Centers programs (P20s and P30s) receive 5 percent; intramural research, R&D, and other research (e.g., career awards) each receive 1 to 2 percent; and RMS, which covers operating expenses such as grant management and review, is at 6 percent.

Dr. Grady pointed out that the average length of an award is 4 years. The first year of funding comes from that year's appropriations, and the remaining 3 years of funding come from what is known as the "commitment base" of the appropriation. Thus, funds available to support new awards are the increase in appropriations plus turnover from the grants that are finishing up. Dr. Grady noted that stipends for graduate and postdoctoral training have been increased in response to feedback from Council members, the nursing research community, and the larger scientific community.

Each year, NINR increases the total number of awards it makes, and this trend is expected to continue in FY 2002. Dr. Grady noted that the Institute funds approximately the same number of investigators as trainees, which suggests that the "pipeline" issue of building up the cadre of nurse researchers remains an important issue. The number of small business innovation grants (SBIR/STTR) funded has remained relatively constant over the past few years. Dr. Grady explained that the SBIR/STTR program is a set-aside that represents a fixed percentage of the budget as mandated by law; in recent years, with an increased overall allocation, the Institute has been able to fund more Phase II SBIR projects.

Annual success rates for competing NINR RPGs (i.e., the number of grants funded compared with the total number of grant proposals submitted) have sometimes been close to the NIH average but have varied from 14 percent in 1999 to 31.6 percent in 2001. Dr. Grady pointed out that many factors influence success rate, including resources available, the merit of the science, and the number of applications. An unusually large number of applications combined with a lower appropriation explain, in part, the low success rate for FY 1999. In FY 2000, the Institute received a substantial 28.5 percent increase in its budget and was able to fund a much larger proportion—31.6 percent—of grant applications. The success rate for FY 2001 is 26 percent, and the success rate for FY 2002 is projected to be around 25 percent

Steady increases in the number of NINR-funded pre- and postdoctoral training positions (F31s, T32s, F32s) in each of the last few years will help to provide the nursing research community with a pool of well-prepared scientists to continue to build on the body of knowledge in the field. In 2001, NINR supported a total of 250 trainees through these mechanisms.

NIH Updates

Dr. Grady reported that Dr. Ruth Kirschstein continues to serve as Acting Director of the NIH and that a candidate for the position of NIH Director has not yet been selected.

Directors of several institutes have departed the NIH in recent months. Dr. Richard Klausner left the NCI for a position with the National Academy of Sciences; Dr. Enoch Gordis retired from NIAAA in December; Dr. Steven Hyman left NIMH to serve as Provost of Harvard; and Dr. Alan Leshner from NIDA is now the CEO of AAAS. Dr. Andrew von Eschenbach has been appointed as the new director of NCI. He comes from the M.D. Anderson Cancer Center in Houston and is a well-known and -regarded cancer researcher and clinician.

NINR Updates

In NACNR news, Dr. Grady again thanked the four retiring members for their outstanding efforts and contributions to the Council and to NINR. The members include Mr. Gene Blumenreich, Dr. Kathleen Buckwalter, Dr. Curtis Patton, and Ms. Sarah Sanford.

Dr. Grady reported on activities associated with the FY 2002 areas of research opportunity, which were discussed and approved by the Council in 2000. Under the broader category of *chronic illnesses or conditions*, NINR has released two PAs:

- The Management of Chronic Pain, PA-01-115, released July 2, 2001 (NINR is the primary sponsor with eight cosponsors)
- Cachexia: Research into biobehavioral management and quality of life, PA-01-109, released June 11, 2001 (NINR is the primary sponsor with four cosponsors).

NINR released one RFA within *behavioral changes and interventions*:

- Informal Caregiving for Chronic Conditions, RFA-NR-02-001, released November 7, 2001, following a workshop on this topic (highlights of the workshop presented below).

Several activities are underway for the category of *responding to compelling public health concerns*, including:

- Nursing Partnership Centers on Health Disparities (P20), RFA-NR-02-004, released December 6, 2001
- NINR Administrative Supplements for Postdoctoral Research Training in Genetics, NOT-NINR-01-002, released March 2001
- NINR NRSA Individual Predoctoral Fellowships (F31), PAR-02-09, released November 26, 2001.

In other NINR news, P20 "Exploratory Center" grants have been awarded to nine institutions across the country, including Columbia University, Duke University, Emory University, Montana State, Oregon Health Services University, University of Arizona, University of Florida, University of Illinois at Chicago, and Yale University. These nine centers complement nine NINR-funded P30 Core Centers and 23 NINR-funded T32 Centers (Institutional Training Programs). These Centers together span the country geographically, although some areas,

particularly the Midwest, could be further represented. Some partnering among the different center mechanisms does exist, especially between the P30s and the T32s.

As part of an update on the Institute's 5-year Strategic Plan, Dr. Grady reported on one of the publication-based target indicators listed in the plan. In FY 2000, 114 articles on NINR-funded research appeared in peer-reviewed journals, as identified through Medline searches; that number nearly doubled in FY 2001 to 206. NINR staff is expanding this update to include the number and frequency of NINR-funded manuscript citations.

In NINR staff news, Dr. Carole Hudgings was appointed Assistant Director for the Division of Extramural Affairs. Dr. Hudgings will continue to follow and support the nursing research areas and initiatives in which she was previously involved. Dr. Claudette Varricchio recently joined NINR as Chief of the Office of Extramural Programs. Dr. Varricchio was most recently at the NCI and will be instrumental in developing new collaborative efforts between NINR and other ICs. Former Council member and former Dean of the University of Pittsburgh, School of Nursing, Dr. Ellen Rudy joined NINR this Fall as a Senior Consultant. Dr. Rudy will play a key role in interfacing with the extramural communities, including the public, in evaluating the impact of nursing research on these groups. She also is developing materials for Council members and nurse researchers to use in outreach activities.

Dr. Grady also reminded attendees that the third annual NINR-sponsored Summer Genetics Institute (SGI) will be held on campus from June 1 through July 26, 2002. The SGI provides intensive lecture, seminar, laboratory, and tutorial sessions to graduate students, advanced practice nurses, and faculty interested in obtaining a foundation in medical molecular genetics for use in clinical practice and the research laboratory. Acceptance to the summer program is highly competitive. Details about the SGI, including application information and an outline of the 2001 program, may be found at http://www.training.nih.gov/ninr/index.html. Applications for the Summer 2002 SGI may be completed online and are due on March 1, 2002.

The NINR also will hold its seventh annual summer seminar on Research Training: Developing Nurse Scientists, July 16 through July 19, 2002. This 3½-day training provides nurses with the introductory information needed to launch their scientific research careers. Forty nurses from around the country will be invited to participate. Applications for the seminar are due on March 1, 2002. Dr. Mindy Tinkle is the coordinator of the seminar. Further information about this program may be found at http://www.nih.gov/ninr/research/dir/flyer.html.

NINR Outreach

The NINR supports and participates in a variety of outreach activities. The Institute is cosponsor of the Council for Advancement of Nursing Science (CANS) meeting on January 17 through 19, 2002, held on the NIH campus in Bethesda, Maryland. The NINR also is one of several cosponsors of the upcoming conference, "Advancing Nursing Practice Excellence: The State of the Science Congress," scheduled for September 25 to 28, 2002, in the Washington, DC, area. This conference brings together representatives of 14 organizations to discuss the state of nursing research.

Meetings and workshops cosponsored by NINR in 2001 included:

- A joint NIMH-NINR psychiatric-mental health nursing technical assistance workshop, to increase the number of nurse researchers in this area
- A research working group meeting on cystic fibrosis which is being reported on in this meeting in a later agenda item
- A research working group meeting on informal caregiving, which resulted in the development and release of an RFA
- Two workshops on end of life research in (a) persons with genetic disorders with the Office of Rare Diseases, and (b) older populations with seven HHS offices/agencies, advocacy groups, and others. Recommendations from these workshops will be released soon.

NINR has held several activities during the year to celebrate the Institute's 15-year anniversary. A national symposium to culminate the yearlong celebration took place on October 24, 2001, on the NIH campus. The symposium titled "Advancing Health Through Science: Building Knowledge for Patient Care" highlighted scientific advances in nursing research. Acting NIH Director Dr. Ruth Kirschstein opened the day, which featured a poster session and presentations focusing on health promotion and symptom management. Dr. Grady and Dr. Ada Sue Hinshaw, NINR's first director, provided a history of the Institute.

The Scientific Symposium presentations included:

- Prevention and care of high blood pressure in young urban African-American males, Dr. Martha Hill
- Chronic disease self-management for Spanish speakers, Dr. Kate Lorig
- Enhancing coping in youth with diabetes, Dr. Margaret Grey
- Community-driven research: Lead Awareness, North Philly Style, Dr. Nancy Rothman.
- The gender biology of pain, Dr. Jon Levine
- Advancing the science of end-of-life care, Dr. Virginia Tilden
- Family caregiving: Strengthening the Care-net, Dr. May Wykle
- Symptom management and quality of life improvement following transplantation, Dr. Donna Hathaway.

Dr. Grady closed the symposium with a discussion of expectations for NINR over the next 15 years.

Every segment from the 15-year Anniversary Symposium is being broadcast on the Research Channel. Information about times and topics may be found at http://www.researchchannel.com, and a detailed schedule may be found at http://www.researchchannel.com/programs/nih/ninr/15thAnniv.html. All broadcasts are web cast at www.researchchannel.com/onair/.

Further information about NINR may be found by linking to the Institute's home page at http://www.nih.gov/ninr.

III. NIH UPDATE: OFFICE OF BEHAVIORAL AND SOCIAL SCIENCES RESEARCH (Dr. Raynard Kington, Associate Director, OBSSR, and Acting Director, National Institute on Alcohol Abuse and Alcoholism [NIAAA])

The Office of Behavioral and Social Sciences Research (OBSSR) reports directly to the NIH Office of the Director (OD) and serves a variety of roles for NIH's 27 institutes and centers to advance the study of behavioral and social sciences research, particularly as it relates to health. The Office was created through Congressional legislation in 1993 and was established in 1995. OBSSR's mission is to:

- Enhance behavioral and social sciences research and training
- Promote a biobehavioral, interdisciplinary perspective across NIH
- Improve communication among health scientists and the public.

The Office achieves these goals through collaborating with centers and institutes to develop research agendas, cosponsoring RFAs and PAs, and providing consultations to ICs as they develop research in behavioral and social sciences. Dr. Kington noted that OBSSR does not have grant-making authority.

In 1999, Dr. Norman Anderson, the Director of OBSSR at that time, asked the National Research Council (NRC) of the National Academy of Sciences (NAS) to form a committee that could develop a research plan to guide NIH in supporting areas of high priority in the behavioral and social sciences with a focus on areas of research that share common interests across ICs, have the greatest scientific payoff, and are most important to public health.

In response to this charge, the NRC established a committee of 15 leading scholars in behavioral and social sciences, which met four times between 1999 and 2000. An NIH-wide coordinating committee and the NIH OD's Council of Public Representatives (COPR) provided additional input and feedback. The committee prepared a report titled "New Horizons in Health: An Integrative Approach," which was published in 2001. The NRC committee identified the following 10 areas of focus at the forefront of social, behavioral, and biomedical sciences that could lead to major improvements in the health of the U.S. population:

- *Predisease Pathways* – Early-warning systems or precursors of disease, as defined by biomarkers and markers of behavioral and social factors. Increasing evidence suggests that the processes underlying disease and poor health begin much earlier in life than the point at which they present, in some cases as early as the prenatal period. Researchers also are investigating psychological states (e.g., self efficacy and emotional regulation) and environmental stresses on disease development and progression.
- *Environment and Gene Expression* – Connect advances in genetics to behavioral and social environmental factors and study the dynamic interactions over the life course that produce positive and negative health outcomes. The significant and continued advances in the study of the human genome provide unique opportunities in this area. Current efforts are focused on establishing a solid research foundation through animal models.

- *Social Factors (three areas): Personal Ties*, *Healthy Communities*, *and Population Health* – Examine individuals within social systems and social systems as units of analysis, and link these factors to biological processes. A substantial, growing body of literature demonstrates that a range of social factors has important influences on health outcomes. A newer development in this area of research involves studying individuals in the context of larger social units, such as families, neighborhoods, communities, states, and countries, and how these social interactions affect biologic function and disease. The *New England Journal of Medicine* recently published its first paper on the impact of community ties and health, which focused on results of the ERIC study.
- *Positive Health/Health Promotion* – Shift the focus from illness and disease to wellness, good health, and optimal human functioning. Study mechanisms through which behavioral and social factors lead to good health; examine population-based trends; and determine how to accelerate trends that promote and result in improved health.
- *Inequalities* – Study how socioeconomic status, racial and ethnic hierarchies, discrimination, and stigmatization influence health. ICs across the NIH have incorporated the study of the impact of health disparities on outcomes, treatment, disease progression, disease management, and interventions into their strategic plans. Another novel aspect of this research involves identifying links between biological pathways and social constructs.
- *Interventions* – Expand scope and effectiveness of social and behavioral interventions. The Institute of Medicine (IOM) report on "Promoting Health: Intervention Strategies From Social and Behavioral Research" provides background, examples, and strategies for this focus area. Thus far, few successful interventions have been implemented at the public health level. Despite our advancing knowledge, researchers are just beginning to identify the underlying causes for the apparent failures and the few successes in this area.
- *Methodology and Training*, *and Infrastructure* (two areas) – Develop measurements, statistical techniques, and study designs to link information across levels of analysis and across time. Examine longitudinal study populations. Train scientists who can integrate health-related knowledge across multiple disciplines.

OBSSR has identified several priorities, including collaborating with ICs on crosscutting issues, making strategic investments in key steps for advancing behavioral and social sciences, relating NAS/IOM reports and NIH's Sociocultural Report, and developing a compilation and synthesis of relevant reports on CD-ROM.

Future activities for OBSSR include:

- Collaborating with ICs on health disparities research
- Supporting methods workshops and training with a focus on strengthening OBSSR methods (a workshop on January 18, 2002, will focus on developing short standard measures for economic status that can be used in a wide array of surveys)
- Studying pathways linking education and health status (development of an initiative is planned).

Dr. Kington noted that a report and strategic plan from the June 27-28, 2000, meeting on "Progress and Promise in Research on Social and Cultural Dimensions of Health" is now available through a link on the OBSSR Web Site. More information about OBSSR may be found at http://obssr.od.nih.gov/index.html.

IV. REPORTS ON RECENT NINR SCIENCE WORKSHOPS

Increasing Nursing Research Opportunities in Cystic Fibrosis (Council member Dr. Margaret Grey)

A meeting of the NINR Spring Science Workgroup on Increasing Nursing Research Opportunities in Cystic Fibrosis (CF) was convened on May 1 to 2, 2001, in Bethesda, Maryland. Drs. Patricia Grady and Hilary Sigmon presided as chairs of the meeting.

Many of the biological, psychological, and social dimensions associated with managing and treating CF include a broad spectrum of issues to which nursing research is well suited. The workgroup focused on these issues, identified gaps in the science, and proposed a variety of approaches to increasing research and strengthening NINR's CF portfolio. The research opportunities identified by the workgroup were grouped according to six broad topic areas:

- *Psychosocial Issues* – Further research should focus on ways to improve compliance to the challenging nutritional and exercise demands of managing the disease; developing strategies to help children (in mid-childhood and adolescence in particular) build coping skills, plan for adulthood, and prepare for the end of life; and living well with uncertainty -- a relatively new concept and a challenge for persons with CF and their families and caregivers.
- *Exercise and Nutrition* – Research efforts should be geared toward identifying successful approaches to promoting fitness and improving adherence to diet and exercise regimens, both of which can improve and lengthen the lives of persons with CF and help prevent serious complications, such as diabetes and developing practical tools to measure dyspnea and exercise intolerance in children.
- *Biology, Genetics, and Physiology* – A key research need related to genetics, the treatment of diabetes, and the prediction of severity and outcomes is longitudinal and outcome data to identify the most effective regimens for different individuals.
- *Genetic Testing* – This area raises a host of questions relating to ethics, privacy, discrimination, volunteering, and population-based screening. Research also is needed to prepare nurses and others for the optimum methods to educate patients, families, and the general public about genetic testing for CF.
- *SES-Related Risk Factors for CF* – Low-income persons with CF are at greater risk for adverse outcomes such as growth stunting and shorter life expectancy than are children from higher SES groups. However, research has not found differences in access to care among income groups, suggesting that environmental exposures (rather than economics *per se*) may be primary in causing these disparities. More research is needed to determine the risks and to identify ways of eliminating disparities among income groups.

- *Uses of Technology* – Research efforts should focus on new or innovative uses of technology to support self-care and home care and to identify communication resources that will link children and young adults with CF to each other and to connect researchers and potential study participants.

The workgroup also identified several strategies for increasing nursing research and research training. These strategies centered on four general approaches including networking into the CF community, collaborating with agencies other than CFF, engaging more R.N.s as researchers and increasing the numbers of doctorally trained nurses into CF research, and capitalizing on NINR opportunities in training, research, and centers programs to further CF research.

Additional details on the results of the conference are provided in the Executive Summary posted on the NINR website at http://www.nih.gov/ninr/news-info/meetings.html.

Research in Informal Caregiving (Council member Dr. Kitty Buckwalter)

The NINR sponsored an invitational workgroup meeting to discuss the state-of-the-science in informal caregiving and to identify research gaps and opportunities in this field, including a focus on chronic diseases, special populations such as the elderly, and health disparities. The meeting was convened on July 26–27, 2001, in Bethesda, Maryland, and was led by Dr. Nell Armstrong. Experts in informal caregiving from all geographic regions of the country, representing different facets of caregiving research, were invited to participate in the meeting. A lay representative from the National Association of Caregivers also attended to provide consumer input.

Meeting attendees identified several areas that warrant further study, including:

- The diversity of caregivers and the need for research on this diversity (e.g., rural vs. urban; younger vs. older; the very distressed; the hard to reach or isolated; minority ethnic groups; various levels of caregiving required for different illnesses; cultural differences and needs)
- Interventions to enhance caregiving abilities, including developing an array of daily activities and care decisions (one-size-fits-all is not appropriate) and identifying the information that caregivers need over time, for different illnesses, and in different settings
- Cost effectiveness and clinical significance of interventions
- Measuring quality of care and outcomes, particularly methodological challenges and issues; consider establishing multidisciplinary teams to address and resolve these problems
- Developing and testing partnerships between informal and formal caregiving and the care recipient
- Matching resources to the needs of caregivers and care recipients; identifying barriers to use or access of the available resources (e.g., adult day care, respite services); and developing more innovative and user-friendly strategies to improve access and use of these resources.

An executive summary of the meeting is posted on the NINR Web Site at http://www.nih.gov/ninr/news-info/meetings.html. Dr. Buckwalter closed with the reminder that NINR released the RFA, "Informal Caregiving Research for Chronic Conditions," on November 7, 2001, with an expected solid response.

V. NINR RESEARCH ACTIVITIES: CARDIOVASCULAR NURSING RESEARCH

(Dr. Hilary Sigmon, Program Director, NINR)

NINR Program Director Dr. Hilary Sigmon oversees a range of research issues and portfolios for the Institute, including managing NINR's portfolio on cardiovascular research. In this presentation, Dr. Sigmon highlighted important findings of NINR-supported investigations and outlined current and future endeavors in cardiovascular nursing research.

NINR's support of nursing research in CV science spans more than a decade and has led to significant contributions to the field. For example, early NINR supported findings included the CV response to positioning (i.e., the Valsalva maneuver); modulation of the autonomic nervous system for improved CV control; and research on quality of life issues in heart transplant patients. NINR also has a long history of collaboration with other ICs and with a variety of organizations in the area of CV research.

More recent NINR findings include the following examples:

- The Cardiovascular Health in Children Study at the University of North Carolina at Chapel Hill is examining the long-term effects of behavioral interventions on physiological indicators of heart disease in more than 2,000 elementary school children (boys and girls, 25 percent from ethnic and minorities). The interventions have led to reductions in total cholesterol, body fat, systolic blood pressure, and physical inactivity.

- Nurse investigators at the Johns Hopkins University have been involved in research aimed at helping young, inner city African-American men manage high blood pressure. The researchers identified a series of nursing interventions that increased compliance, improved retention of study participants, and helped control blood pressure in this study population in Baltimore.

- A University of Pennsylvania nursing research team found that advance practice nurse interventions that employed a transitional care model reduced rehospitalizations, hospital days, and costs associated with congestive heart failure.

- Further NINR-supported nursing research led by Dr. Barbara Drew at UCSF has shown that a 5-lead electrode system is as accurate as a 12-lead ECG in monitoring cardiac ischemia (CI), while allowing for less cumbersome patient mobility.

Examples of current research in progress includes studies to reduce prehospital delay with acute myocardial infarction symptoms, enhance the use of 911 calls and aspirin, increase symptom awareness in women and minorities, test dietary interventions for youth with

hypercholesterolemia, effect hypertension control in African American women, improve cardiac home care after open heart surgery, and test diet and activity interventions.

The NINR has identified the following opportunities for future cardiovascular research in addition to encouraging investigator-initiated research:

- Investigator-initiated research on genetic differences in CV health and disease, and the interplay of genetics, drug, and behavioral interventions on CVD
- Input from CV nurse researchers and specialists
- FY 2002 opportunities: cachexia (including heart disease) and informal caregiving (of patients with CHF)
- FY 2003 opportunities: community-partnered interventions to eliminate health disparities (such as with hypertension), adolescent health promotion (diet and smoking), and end of life issues (quality of end of life in end stage heart failure/disease).

VI. SCIENTIFIC PRESENTATION: SEX DIFFERENCES IN MYOCARDIAL FUNCTION: EVOLUTION OF A RESEARCH PROGRAM (Dr. Dorie Schwertz, Associate Professor, University of Illinois at Chicago)

Dr. Dorie Schwertz understands that establishing a strong, enduring, and engaging research career does not always follow a predictable path. In 1990, she received an R29 award from NINR to study phosphoinositide metabolism in early myocardial ischemia. Using an isolated rat heart model, Dr. Schwertz and her colleagues investigated the hypothesis that ischemia-induced activation of a signal transduction cascade could be involved in the elevation of intracellular Ca^{2+} and ischemic myocellular injury and cell death. Through subsequent NINR funding to study ischemic preconditioning and phospholipase activity, Dr. Schwertz became the first investigator to describe the activation of protein kinase C during activation.

Dr. Schwertz's research interests began to shift when a graduate nursing student working in her laboratory made a basic observation suggesting sex differences in myocardial function. Further investigation revealed epidemiological evidence that the age of onset of heart disease is later in women than in men. However, few studies examined sex differences in normal human cardiac function or in the manifestation of cardiac disease. With this newfound interest and knowledge, Dr. Schwertz applied for and received an NINR Career Development Award (K07) titled, "Sex Differences in Myocardial Function," which facilitated a change in the direction of her research.

The K07 award provided Dr. Schwertz with an opportunity to learn about functional measurements in isolated heart tissue, skinned fiber technique and myofibrillar ATPase assays to measure calcium sensitivity, techniques to isolate single myocytes and to measure cell shortening, and the theory of excitation contraction coupling. The K07 budget, however, limited expenditures for equipment, supplies, and technical staff. The addition of an NINR National Research Service Award (NRSA)-funded graduate student was extremely valuable to the program of research, allowing for new knowledge in electrophysiology and the addition of new collaborators.

Dr. Schwertz identified two key purposes of the growing research program: (1) to determine whether there are sex differences in intrinsic heart muscle function, and (2) to determine whether there are sex differences in the heart's response to drugs and endogenous signals. Key findings included:

- Atria from female rats develop more force at all preloads (lengths) than atria from male rats
- At the same concentration of extracellular calcium, female atria develop more force than male atria
- Indirect evidence suggests a greater calcium influx through calcium channels in female atrial cells compared to male atrial cells
- The beta-adrenergic agonist, isoproterenol, produces a greater inotropic response in male atria compared to female atria.

Experiments that compared calcium current, cell shortening, and dihydropyridine receptor binding and affinity in ventricular myocytes from male versus female hearts demonstrated that:

- Ventricular myocytes from female hearts shorten more than myocytes from male hearts
- Ventricular membranes from female hearts have a higher number of calcium channels than membranes from male hearts
- Ventricular myocytes from female hearts have a greater inward calcium current than ventricular myocytes from male hearts.

Experiments examining gender differences in response to the beta-adrenergic agonist isoproterenol found that:

- Isoproterenol elicits greater myocardial contraction and greater myocyte shortening in males compared to females
- These responses are due at least in part to a greater number of ventricular member beta-adrenergic receptors and more cAMP production in males than in females.

A manuscript describing these findings was recently accepted for publication in the *American Journal of Physiology*. The results of these and future studies ultimately could lead to gender-specific optimization of therapeutic interventions for the treatment of heart disease.

VII. DISCUSSION: PROPOSED 2004 AREAS OF OPPORTUNITY

At the beginning of each year, Council members review and comment on proposed areas of opportunities developed by NINR. This year, the Council considered seven research opportunities for FY 2004. Each proposed initiative describes the purpose and significance of the research area, background information, objectives, potential collaborating institutions or agencies, and a contact person. Two to three Council members served as primary reviewers and led the discussion of each suggested research opportunity during the meeting.

<u>1. Interventions To Improve Quality of Life in Chronic Neurological Disorders-Drs. Hanley and Cammermeyer, Discussants</u>

The purpose of this initiative is to stimulate biobehavioral and psychosocial intervention research to improve the quality of life in individuals with chronic neurological conditions including epilepsy, Parkinson's disease, multiple sclerosis, restless leg syndrome, brain and spinal cord injuries, and migraine headaches. Research will be conducted to determine the most efficient interventions to manage the symptoms associated with the neurological condition and other interventions to improve the quality of life in the individual.

Council members agreed that research in this area is needed, and they considered this initiative overall to be well written. The proposed opportunity builds on NINR's lead role in quality of life research.

2. Research on Optimizing Pregnancy Outcomes Among Minority Populations-Drs. Harrington and Powell, Discussants

This initiative is designed to stimulate research that focuses on maximizing the health of pregnant minority women and their developing offspring during the course of the pregnancy and delivery. It builds on and expands a previous NINR program announcement released in 1999 titled "Low Birth Weight in Minority Populations" (PA99-045). Some of the suggested areas of research for the proposed initiative include early identification and management of chronic diseases during pregnancy and of known risk factors of pregnancy; development and testing of hypotheses to expand on culturally relevant and sensitive care that positively impacts pregnancy outcomes in minority populations; development and testing of interventions that increase the awareness and self-management of known risk factors for poor pregnancy outcomes among young minority women; and identification of biological mechanisms by which intrauterine, childhood, and adult environments of one generation influence health hazards and poor pregnancy outcomes in the next generation.

Council members agreed that this in an important area of research that needs further study. Members offered the following additional feedback on this initiative:

- Expand the initiative to include the time prior to delivery, in addition to pregnancy and delivery.
- Include urban versus rural populations in this initiative.
- Expand on the potential role of exposure to environmental chemicals in pregnancy outcomes.

3. Nursing Research: Symptom Management and Prevention of Complications After Exposure to Chemical and Biologic Agents-Drs. Patton, Ms. Sanford and Dr. Ward, Discussants

In conjunction with other institutes and centers at the NIH, NINR acknowledges the need to increase nursing research in bioterrorism, particularly in the areas of infrastructure building, research training, and programs of research. Nurse researchers can add new knowledge to this area by answering clinical questions and by solving nursing problems of early symptom management and prevention of complications after exposure to chemical and biologic agents. The proposed initiative will be a follow-up from an upcoming workshop cosponsored by NINR

and the Office of Rare Diseases, focused on identifying research needs and opportunities in this area.

Council members suggested revising the initiative as follows:

- Emphasize the role of nurses as a first line of defense.
- Focus on understanding behavioral responses to rumors and facts and to actual exposures.
- Include an objective on developing behavioral interventions to help the public respond and improved ways to reduce limit exposure and reduce risks.

4. Expanding Genetics Into NINR Centers Program-Drs. Shaver and Ward, Discussants

The purpose of this initiative is to invite all currently funded NINR Centers to apply for a competitive genetics supplement to expand their area of scientific emphasis or core Center component. Current scientific areas of NINR Centers (i.e., Core Centers [P30s], Exploratory Centers [P20s]) include research emphases in chronic illness, vulnerable populations, women's health, health promotion, biobehavioral topics, aging, self-management, injury, and rural health. These Centers are in dynamic academic institutions and have the capacity to develop the proposed expanded infrastructure.

This initiative provides a solid connection to nursing research and an important interface across fundamental areas of investigations, such as environmental science, molecular biology, and pharmacology. The Centers provide a logical mechanism to support this initiative, which will require cross-disciplinary collaborations and established research infrastructures. Additional feedback from Council members on this initiative included:

- Consider potential drawbacks of limiting the initiative to the Centers. Dr. Grady commented that this initiative would add to the array of existing opportunities for nurse researchers to explore the role of genetics in health, disease prevention, and symptom management. The NINR has several other genetics-related PAs, RFAs, training grants and programs for institutions, individual investigators, and students to pursue. Other Council members noted that this initiative could provide an incentive for Centers and institutions to build on a range of strengths, including basic research as well as ethical issues.

5. Chronic Illness Self Management and Quality of Life in Children and Adolescents-Drs. Grey and Dunbar-Jacob, Discussants

This initiative is intended to stimulate research to improve self-management and quality of life in children and adolescents with chronic diseases and their families. It will further develop NINR's lead at NIH in promoting research on self-management and health outcomes in chronic diseases. A recently announced RFA titled "Informal Caregiving Research for Chronic Conditions" complements the proposed initiative in that many childhood chronic diseases require extensive caregiving activities.

The Council enthusiastically supported this concept, noting that research in this area is greatly needed. Additional comments and suggestions included:

- Consider taking a developmental approach to this initiative; age-related differences can influence treatment, coping, and symptom management; self-care; and family and provider support.
- Include longitudinal evaluations in the concept and cost-effectiveness of the interventions.
- Add "improve family functioning" to the second bullet in the Objectives section.
- Consider looking at children/adolescents across several chronic illnesses since family, community, etc., issues may be similar.

6. Enhancing Health Promotion Among Minority Men-Drs. Portillo and Smith-Williams, Discussants

The purpose of this initiative is to stimulate and expand research in the area of minority men's health. Specifically, the initiative is intended to: (1) enhance our understanding of numerous factors (i.e., sociodemographic, community, societal, personal) that influence health-promoting behaviors of minority men across the lifespan, and (2) solicit applications focusing on the development and testing of culturally and linguistically appropriate health-promoting interventions designed to improve the health status and health outcomes of racially and ethnically diverse minority men ages 21 and older.

The reviewers and Council members considered this initiative a much-needed area that should be a high priority for NINR's research portfolio. Council members suggested revising this initiative as follows:

- Extend beyond the negative factors and barriers to improving health in minority men and include the identification, testing, and implementation of factors that *positively* influence health and healthy behaviors.
- Seek to improve understanding of the differences within population subgroups, and identify those differences that are already well characterized.
- Support intervention studies and studies designed to gather more descriptive data on subgroups.
- Emphasize the importance of cultural competency of researchers.
- Identify new venues for outreach to African-American men (e.g., churches; fraternal, educational, and community organizations; barber shops).
- Encourage researchers to develop *partnerships* with research participants.
- Recognize that the term "minority" goes beyond race and includes, for example, sexual minorities.

7. Research on Care for Dying Children and Their Families-Drs. Naylor and Buckwalter, Discussants

This initiative is intended to stimulate research that investigates interventions to improve the care of dying children and their families. Research and anecdotal evidence suggests that many, if not most, health care providers avoid discussing the possible death of a child with families and the dying child. This reluctance leads to care that focuses on cure rather than a more balanced perspective that acknowledges the possibility of death. Research is needed to identify and test interventions that care providers can implement to improve the care of dying children.

Council members enthusiastically supported this initiative and considered it a logical extension of NINR's leadership role in end-of-life research and very timely in conjunction with the forthcoming IOM report on the same topic. They provided the following additional comments and suggestions:

- Expand beyond interventions and reframe the concept in terms of advancing knowledge and the need to fill significant gaps in understanding the overall "situation" of the dying child.
- Recognize that bereavement extends beyond death, and incorporate into the initiative the study of long-term effects and needs of the family and of non-familial providers after the child's death. Isolation, family dysfunction, support mechanisms, divorce, and finances are just some of the issues that should be considered for further study.
- Study the impact of interventions for the well children (siblings) in families with chronically ill or dying children.
- Address the need for effective interventions for families and providers in situations where the ill or dying child has a degenerative (genetic) condition.
- Consider nursing research studies to help educate hospice workers on the needs of dying children and their families.
- Address anticipatory feelings regarding potential demise among children who face violence in their homes or neighborhoods. Investigate how children, parents, and caregivers respond in such situations and identify positive interventions.
- Explore and characterize the layers of the grieving process in different scenarios (e.g., chronic illness, accidental death, violence, suicide).
- Include friends and classmates of the dying or ill child in studies to examine how they are affected and how they cope in various situations.

Dr. Grady thanked the Council members for their comments and effort in reviewing these proposed Areas of Opportunity. Additional comments on any of these initiatives may be forwarded to Dr. Grady or Dr. Leveck.

VIII. REVIEW OF MEMORANDUM OF UNDERSTANDING

The Memorandum of Understanding (MOU) between the NINR staff and the NACNR is reviewed and renewed each year. Dr. Leveck briefly summarized the MOU and suggested maintaining the memo with one word change: the addition of the word "research" (as underlined) to the following sentence (bullet 7 on page 2 of the MOU, which outlines conditions under which an application must be called to the attention of Council):

"Any research application recommended at a fiscal commitment of $350,000 or more direct costs in any year for which an award may be made…"

Dr. Leveck explained that this change will not require NINR to bring for special consideration applications for programs such as the T32 training grant. This grant is formula-driven, is associated with different assumptions than research grants, and has been debated and evaluated extensively in study sections and in committee. No other changes or comments were suggested. A motion to approve the MOU with the one specified change was proposed and seconded. The Council unanimously approved the MOU as discussed.

Dr. Grady then adjourned the open session of the meeting and thanked those in attendance for their participation.

CLOSED SESSION

This portion of the meeting was closed to the public in accordance with the determination that this session was concerned with matters exempt from mandatory disclosure under Sections 552b(c)(4) and 552b(c)(6), Title 5, US Code, and Section 10(d) of the Federal Advisory Committee Act, as amended (5, USC Appendix 2).

Members excused themselves from the meeting during discussion of and voting on applications from their own institutions. Members also left the premises when there was a potential conflict of interest, real or apparent in applications being discussed or voted on. Members were asked to sign a statement to this effect.

REVIEW OF APPLICATIONS

The members of the NACNR considered 122 research grant applications requesting $89,262,144 in total costs. The Council recommended 66 applications with a total cost of $55,987,555.

OTHER ITEMS FOR CLOSED SESSION: EXECUTIVE SESSION

The closed session concluded with a discussion of personnel and proprietary items.

ADJOURNMENT

The 46th meeting of the NACNR was adjourned at 12:30 p.m. on January 17, 2002.

CERTIFICATION

I hereby certify that the foregoing minutes are accurate and complete.

Patricia A. Grady, Ph.D., R.N., F.A.A.N Chair National Advisory Council for Nursing Research	Mary D. Leveck, Ph.D., R.N. Executive Secretary National Advisory Council for Nursing Research

MEMBERS PRESENT
Dr. Patricia A. Grady, Chair
Dr. Mary Leveck, Executive Secretary, NINR
Dr. Kathleen C. Buckwalter
Dr. Margarethe Cammermeyer
Dr. Jaqueline Dunbar-Jacob
Dr. Margaret Grey
Dr. Daniel Hanley
Dr. Rosanne Harrigan
Dr. Mary Naylor
Dr. Carmen Portillo
Dr. Dorothy Powell
Dr. Joan Shaver
Dr. David Ward
Dr. Betty Smith Williams
Dr. Paulette Cournoyer, *Ex Officio*
Dr. Catherine Schempp (COL), *Ex Officio*

MEMBERS OF THE PUBLIC PRESENT
Ms. Sarah Anderson, University of Virginia
Ms. Sandra Annan, University of Virginia
Ms. Christina Banks, University of Virginia
Dr. Doris Bloch, Windows on Nursing
Ms. Debbie Campbell, American Association of Colleges of Nursing
Dr. Harriet Carroll, Windows on Nursing
Ms. Mary Cerny, The Scientific Consulting Group, Inc.
Ms. Wykeisha Cooper, Howard University
Mr. Chris Feurst, University of Virginia
Ms. Addison Greenwood, O'Donegrew & Co.
Dr. Sandra Hanneman, University of Texas, Houston
Ms. Barbara Heise, University of Virginia
Ms. Deborah Hillman, University of Virginia
Ms. Leah Kerr, University of Virginia
Ms. Marianne Lampert, University of Virginia
Ms. Stephanie Mathis, Howard University
Ms. Natalie McClain, University of Virginia

Ms. Angela McKnight, Howard University
Ms. Barbara Moran, University of Virginia
Ms. Bernice Mowery, University of Virginia
Ms. Terri Nally, Emergency Nurses Association
Ms. Mary O'Laughlen, University of Maryland
Dr. Barbara Parker, University of Virginia
Dr. Nancy Redeker, Rutgers University
Ms. Beverly Ross, University of Virginia
Dr. Dorie Schwertz, University of Illinois at Chicago
Ms. Elizabeth Sekinger, University of Virginia
Ms. Angela Sharpe, Consortium of Social Science Associations
Dr. Richard Steeves, University of Virginia
Ms. Diana Taibi, University of Virginia
Mr. Richard Westphal, University of Virginia
Dr. Grace Willard, Westat, Rockville, Maryland
Ms. Joanna Woersching, University of Virginia
Dr. Carolyn Yocom, Rutgers University

FEDERAL EMPLOYEES PRESENT
Dr. Nell Armstrong, NINR/NIH
Mr. Ray Bingham, NINR/NIH
Dr. Yvonne Bryan, NINR/NIH
Ms. Linda Cook, NINR/NIH
Ms. Janet Craigie, NHLBI/NIH
Ms. Dina Dariotis, NIH OD
Ms. Genevieve deAlmeida-Morris, NINR/NIH
Ms. Marianne Duffy, NINR/NIH
Ms. Robin Gruber, NINR/NIH
Dr. Karin Helmers, NINR/NIH
Dr. Carole Hudgings, NINR/NIH
Ms. Kay Johnson, NINR/NIH
Dr. Raynard Kington, OBSSR/OD/NIH
Dr. Ann Knebel, NINR/NIH
Dr. June Lunney, NINR/NIA/NIH
Ms. Cindy McDermott, NINR/NIH
Ms. Tara Mowery, NINR/NIH
Dr. Janice Phillips, NINR/NIH
Dr. Ann O'Mara, NCI/NIH
Mr. Dan O'Neal, NINR/NIH
Mr. William Rosano, NINR/NIH
Ms. Rachel Schiffman, NIDA/NIH
Ms. Christian Shaw, NINR/NIH
Dr. Hilary Sigmon, NINR/NIH
Ms. Arlene Simmons, NINR/NIH
Dr. Mindy Tinkle, NINR/NIH
Dr. Claudette Varricchio, NINR/NIH

Mr. Mark Waldo, NINR/NIH
Ms. Sally York, NINR/NIH