

**Department of Health and Human Services  
National Institutes of Health  
National Institute of Nursing Research  
Minutes of the National Advisory Council for Nursing Research**

September 12-13, 2000  
Minutes of Meeting

The 42<sup>nd</sup> meeting of the National Advisory Council for Nursing Research (NACNR) was convened on Tuesday, September 12, 2000, at 1:00 p.m., in Conference Room D, Building 45 (Natcher Building), National Institutes of Health (NIH), Bethesda, Maryland. The meeting was open to the public from 1:00 p.m. until approximately 5:20 p.m. The open session of the meeting continued on the next day, Wednesday, September 13, 2000, at 9 a.m. and continued until approximately 9:45 a.m. The closed session of the meeting, which included consideration of grant applications, continued immediately after the open session until adjournment at 1:00 p.m. on the same day. Dr. Patricia A. Grady, Chair of the NACNR, presided over both sessions.

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**OPEN SESSION**

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

Dr. Grady called the 42<sup>nd</sup> meeting of the NACNR to order, welcoming all Council members, visitors, and staff. She then introduced two new Council members. Dr. Daniel Hanley, Professor, Department of Neurology and School of Nursing, Johns Hopkins University, was attending his first council meeting. Dr. Betty Smith Williams, Professor, Department of Nursing at California State University at Long Beach, has recently been named to Council. Dr. Smith Williams was unable to attend, but will be present at the January 2001 meeting.

**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. She 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.

### Consideration of Minutes of Previous Meeting

Council members approved the minutes of the May 22-23, 2000, meeting by electronic mail. Dr. Grady thanked the Council members for their attention to the minutes, adding that she and her staff have received positive feedback regarding the posting and contents of the reports. The minutes from each NACNR meeting are posted on the National Institute of Nursing Research (NINR) Web Site ([www.nih.gov/ninr](http://www.nih.gov/ninr)).

### Dates for Future Council Meetings

Dates for meetings in 2001 through 2002 have been approved and confirmed. Council members should contact either Dr. Grady or Dr. Leveck regarding any conflicts for dates in 2002.

#### 2001

- January 23-24 (Tuesday-Wednesday)
- May 22-23 (Tuesday-Wednesday)
- September 11-12 (Tuesday-Wednesday)

#### 2002

- January 16-17 (Wednesday-Thursday)
- May 21-22 (Tuesday-Wednesday)
- September 17-18 (Tuesday-Wednesday)

## **II. REPORT OF THE DIRECTOR, NINR**

Dr. Grady announced that NINR's 15-year anniversary in 2001 is fast approaching and will be celebrated with activities throughout the year. Many of these activities are outlined below and will be discussed in future Council meetings, will be posted on the NINR Web Site, and transmitted to the larger nursing community.

Dr. Grady's report focused on four general areas: legislative issues, NIH updates and local activities, NINR updates, and outreach activities.

### Legislative Issues

Regarding Congressional FY2001 appropriations for the NIH overall and the individual Institutes and Centers, including the NINR, Dr. Grady reported that deliberations continue and a final vote has not yet been taken. The House has proposed \$102.3 million for the NINR, a 14.3 percent increase from the FY2000 budget; the Senate has proposed that the NINR receive \$106.8 million, which is 19.3 percent higher than the FY2000 allocation. In contrast with these proposed appropriations, the President's FY2001 budget for the

NINR is \$94 million, reflecting a 3 percent increase over the prior fiscal year. The Conference Bill, which represents negotiated appropriations, usually falls between the Presidential and Congressional proposals. However, the bill for FY2001, which suggests a total NIH budget of \$20.5 billion (a 15.2 percent increase over the FY2000 NIH budget) but does not define specific budgets for Institutes and Centers, still is pending. Dr. Grady referenced newspaper reports indicating that President Clinton has indicated he intended to veto the proposed Conference Bill. Despite continued negotiations, the hope is that this might be a landmark for the NINR, with the Institute's budget breaking the \$100 million.

#### NIH Update

Dr. Grady reported on several appointments and activities across the NIH since the last Council meeting. One appointment included the naming of Lawrence A. Tabak, D.D.S., Ph.D., as Director of the National Institute of Dental and Craniofacial Research (NIDCR). Dr. Tabak most recently served as the Director of the Center for Oral Biology at the University of Rochester. He has already met with Dr. Grady and indicated an interest in pursuing ongoing and new initiatives and collaborations with the NINR. Another appointment was that of Raynard S. Kington, M.D., Ph.D., as Director of the Office of Behavioral and Social Sciences Research (OBSSR). Dr. Kington recently worked with the Centers for Disease Control and Prevention (CDC) as coordinator for NHANES (National Health and Nutrition Examination Survey). Dr. Kington also is interested in collaborations with the NINR. In a third appointment, Dr. Clare Hastings was named Chief of Nursing and Associate Director of Nursing Services at the Clinical Center. Dr. Hastings worked at the Clinical Center until 1989, when she left the NIH to join the Executive Nursing Team at the University of Maryland (UMD). Dr. Hastings received her Ph.D. in nursing from UMD and also has a background in anthropology.

In other NIH news, Dr. Grady reported on 10-year anniversaries of the Office of Research on Minority Health (ORMH) and the Office of Research on Women's Health (ORWH). The ORMH celebrated its 10-year anniversary in April with 3 days of celebratory activities that featured former Department of Health and Human Services (DHHS) Director Dr. Antonia Novella as a keynote speaker. NINR staff attended and participated in several activities and continue to work actively with the ORMH. September 11 marked the 10-year anniversary of the ORWH, which was celebrated with a symposium, dinner, and awards ceremony. Key individuals present who were instrumental in establishing and promoting the ORWH, included former DHHS Secretary Dr. Louis Sullivan, former NIH Director Dr. Bernadine Healy, local Congressional Representative Connie Morella, Senator Barbara Mikulski, Dr. Novella, and many others.

#### NINR Update

The final version of NINR's 5-year strategic plan, "Strategic Planning for the 21<sup>st</sup> Century," is available as a bound report and on the NINR Web Site. The plan, which provides for outcomes evaluations at the end of the years 1, 3, and 5, has been expanded to include NINR's strategic plan on reducing health disparities.

Dr. Grady also cited progress in and activities associated with disseminating nursing research findings. These include funding from the NIH Office of the Director (OD) to establish a "Findings Database" of scientific advances and programs of research. Other activities include maintaining a regular and ongoing presence (i.e., through "research capsules") in the *American Journal of Nursing*; contributing to the nursing section of the Medscape Web Site, which has about 116,000 subscribers; and providing nursing research capsules to *Nursing Spectrum*.

The NINR continues to be active in a number of new initiatives and programs. In NIH's Grants Management Scorecard, a pilot program for evaluating the operational effectiveness of grants management functions, the NINR Office of Grants and Contract Management received excellent ratings for policies and procedures. Recent grant opportunities in which the NINR is the primary sponsor include six program announcements (PAs), one National Research Service Act (NRSA) notice, and four requests for applications (RFAs); in addition, the NINR has joined other Institutes and Centers in collaborating on 11 PAs and seven RFAs. Since the last NACNR meeting, the NINR has released RFAs and PAs to stimulate research activities in the area of Nursing Research Exploratory Center Grants; Self-Management Strategies Across Chronic Diseases; Diabetes Self-Management in Minority Populations; Quality-of-Life for Individuals at the End of Life (a follow-up to the earlier RFA on end-of-life issues); NRSA for Mid-Career and Senior Fellows (F33); and Innovations in Biomedical Information Science and Technology (Small Business Innovation Research [SBIR]/Small Business Technology Transfer [STTR]), which is funded through a set-aside.

NINR staff have participated in several Institute-sponsored meetings, including two retreats in June 2000. The Division of Extramural Activities retreat was held on June 7 and 8 and included four external reviewers. The Division of Intramural Research retreat was held on June 22 and 23, and also included four external reviewers. Directors of NINR-funded Core Centers were convened to discuss scientific plans and progress, to identify commonalities and differences, and to identify similar operational procedures. The NINR, in conjunction with the Office of Rare Disease (ORD), sponsored a meeting focused on postdoctoral training and training-related issues and opportunities. A landmark conference cosponsored by the ORMH, NINR, and the National Coalition of Ethnic Minority Nurse Associations (NCEMNA) brought together the five major ethnic nursing organizations to discuss minority health research development for nurse investigators. An executive summary of the meeting and comments from each of the participating groups will be posted on the NINR Web Site in the near future. A presentation about this meeting is planned for the January 2001 advisory council meeting.

This past summer, for the first time, the NINR sponsored the Summer Genetics Institute, an intensive, 12 graduate credit, 8-week educational training course that included both laboratory experience and seminars. The 14 participants included doctoral students, an advanced practice nurse, and faculty researchers. The program was well received and NINR plans to continue this program in the future. Another popular NINR-sponsored

summer program, the Annual Research Training: Developing Nurse Scientists Workshop, was held for the fifth year from July 18 through 21, under the direction of Dr. Ann Knebel. This small-group workshop for doctorally prepared nurses features various topics to help novice nurse scientists advance their research careers. In attendance were 40 participants selected from more than 200 applicants; approximately one-third of the attendees were recipients of an F31 or F32 grant at one time during their training. The workshop will be held again on July 17-20, 2001. The Friends of NINR held its annual celebration on September 19. A Congressional Breakfast briefing started the day followed by grantsmanship seminars by NINR and the Agency for Healthcare Research and Quality (AHRQ). A media training workshop, offered through NINR, American Association of Colleges of Nursing, Sigma Theta Tau, and the American Organization of Nurse Executives, was offered in the afternoon. The day's events closed with the "Nightingale" reception and dinner. Approximately 800 persons attended these activities.

The NINR has been actively participating in many trans-NIH and transagency collaborations during the past year. NINR is a member of 50 trans-NIH committees, which focus on coordinating efforts to create and maximize scientific and funding opportunities. The NINR also has membership on 16 transagency committees within the federal government including the Health Resources and Services Administration (HRSA) and AHRQ. The NINR is also taking the lead in organizing and establishing a trans-NIH special interest group on end-of-life issues; Dr. Knebel is overseeing this effort.

The past year was also marked by NINR grantee Janean Holden, Ph.D., R.N. receiving of the prestigious Presidential Early Career Award for Scientists and Engineers (PECASE). Dr. Holden is the first NINR-funded nurse researcher to receive this award; her area of interest involves developing a biobehavioral model of pain in rats that coordinates the anatomical and behavioral aspects of this sensory response. Only 60 PECASE awards were made across the country this past year; 11 awardees were NIH-funded investigators. Recipients were honored at a White House ceremony on April 12, 2000.

### NINR Outreach

NINR staff continue to participate in and promote a variety of outreach efforts and activities. Program Directors served as speakers at meetings of the four regional nursing societies, and have attended meetings of the National Association of Hispanic Nurses and the National Black Nurses Association.

The NINR also is working in collaboration with the Institute of Medicine (IOM) on an end-of-life project as part of a follow-up of an earlier study; the current study will include a focus on end-of-life issues specific to children. In addition, the NINR has met with the HRSA and DHHS to discuss issues related to the current nursing shortage, including the potential causes and identification of strategies to monitor and prevent future shortages. Additional collaborations with the HRSA include determining nurses' educational and practice needs in genetics.

Several activities are planned to celebrate NINR's 15<sup>th</sup> anniversary next year. A scientific symposium hosted by NINR at the NIH campus will be scheduled within the time period of September 19 - 21, 2001 in association with the NightinGala sponsored by the Friends of NINR. Other activities include designing Web-streamed interviews with selected "Living Legends" in nursing research, a photographic essay, a variety of events with featured speakers on Capitol Hill, and banners and posters announcing the anniversary and related activities on the NIH campus.

### **III. NATIONAL CENTER FOR COMPLEMENTARY AND ALTERNATIVE MEDICINE UPDATE**

The National Center for Complementary and Alternative Medicine (NCCAM) became a free-standing Center at the NIH in February 1999 following the initiation of the previous Office of Alternative Medicine. In October 1999, Dr. Stephen Strauss, Chief of the Laboratory of Clinical Investigation at the National Institute of Allergy and Infectious Diseases (NIAID), was appointed NCCAM Director. In her introduction, Dr. Grady noted that the NCCAM shares many common scientific goals with the NINR.

Dr. Strauss opened his presentation by defining complementary and alternative medicine (CAM) as "diverse health care modalities that are primarily consumer-driven, unproven, and not extensively incorporated into the training or practice of mainstream American physicians, nurses, pharmacists, osteopaths, or other conventional allied health practitioners." Interest in CAM practices in the United States has grown markedly in recent years. Most CAM use in the United States is complementary, as an adjunct to conventional care; only a minority of the population uses CAM as an alternative to conventional medicine, mainly for reasons of cost or dissatisfaction with standard medicine. CAM is seen as an approach to improve wellness; a means to relieve symptoms, particularly those symptoms attributable to chronic and terminable illnesses; and a health care alternative that mirrors individuals' beliefs, values, and philosophical views toward health and life.

Dr. Strauss outlined five primary CAM domains, including alternative medicine systems, mind-body interactions, biologically based treatments, manipulative and body-based methods, and energy therapies. Alternative systems, such as homeopathy; naturopathy; and traditional Oriental, Native American, Aboriginal, or Indian medicine or healing practices, have their own history—some include ancient practices, whereas others include more recently developed therapies. Alternative systems are independent of conventional Western medicine as practiced in the United States. Many mind-body interventions have been identified, developed, and incorporated into conventional medical practices—only a subset is considered CAM. Practices that fall into the overall category of mind-body interventions include meditation (art, music, and dance therapies, prayer) and mental healing. Biologically based therapies form the basis of many of today's medications—the category includes herbal therapies (e.g., St. John's Wort), special diets (e.g., the Ornish Plan), orthomolecular therapies, and many others. Dr. Strauss noted that many

biologically based therapies have no scientific underpinnings. A variety of practices, such as chiropractic, osteopathic care, and message therapy, fall under the classification of manipulative and body-based methods. The field of energy therapies is perhaps the most controversial CAM domain, Dr. Strauss stated. Examples of practices in this category that access internal “bioelectrical fields” are Qi Gong, Reiki, and therapeutic touch, and practices that are said to take advantage of external “bioelectric magnetic fields” include magnet therapy and electroacupuncture.

Public Law (P.L.) 105-277, passed in 1998, outlines NCCAM’s mandate, which is to conduct and support basic and applied research and to support research training and other programs that identify, investigate, and validate complementary and alternative prevention, diagnostic, and treatment modalities, systems, and disciplines. All medical disciplines are covered under this law, Dr. Strauss pointed out, and monies to fulfill the stated mandates are available. Funding for CAM research has grown from approximately \$2 million in 1992 to a proposed \$100 million in 2001.

#### *Questions/Comments*

Regarding a query about the history of research on CAM therapies as a shared or separate discipline, Dr. Strauss noted that historically, CAM-related research has been parsed across many of the NIH Institutes, Centers, and Offices. The fundamental goal, however, is to identify, develop, and test safe, effective methods for the treatment of various diseases. Interestingly, he added, at this time, the public does not consider CAM as being separate or disease driven.

Another question was asked about Food and Drug Administration (FDA) approval of agents derived from botanicals, herbs, and other natural plants and organisms. Dr. Strauss responded that standardization and testing of botanicals and related therapies operate under the 1994 Dietary Supplement, Health, and Education Act (DSHEA) laws, which restrain current regulatory authorities from declaring these agents as anything other than “dietary [or food] supplements.” The clinical trials of these agents are conducted under the FDA investigational new drug (IND) rules and regulations

Dr. Strauss acknowledged that although initially questioned, the field of CAM and research into CAM has received growing support in recent years. The number of applications submitted to the NCCAM has increased fourfold, and funding has risen by 70 percent since 1999. Proposals and applications go through standard reviews by the Center for Scientific Review (CSR) special emphasis panels, which are assembled to ensure an appropriate balance of knowledge and expertise.

#### **IV. NIH TRAINING DATA AND OVERVIEW OF 2000 REPORT OF THE NATIONAL RESEARCH COUNCIL: “ADDRESSING THE NATION’S CHANGING NEEDS FOR BIOMEDICAL AND BEHAVIORAL SCIENTISTS”**

Dr. Walter Schaffer, Research Training Officer in NIH’s Office of Extramural Research, highlighted findings and recommendations of three reports: the first from an NIH subcommittee that examined early career outcomes in the biomedical sciences; the second, the recently released National Academy of Sciences (NAS) report, “Addressing the Nation’s Changing Needs for Biomedical and Behavioral Scientists”; and the third, the Committee on Science, Engineering, and Public Policy (COSEUP) report, “Enhancing the Postdoctoral Experience for Scientists and Engineers.”

The NIH report compared early career outcomes in the biomedical sciences among postdoctoral students and graduates who were National Research Service Award (NRSA) trainees or fellows, those who had attended NIH training institutions, and those who attended non-NIH training institutions. Approximately 10,000 to 14,000 individuals were included in each group, and most data are derived from students who received a Ph.D. between 1981 and 1988. Statistical analysis revealed that it took significantly less time (6.5 years) for persons with at least 9 months of NRSA support to complete a degree program in biomedical sciences when compared with the other two groups (approximately 7 years); this difference held even after adjusting for the influence of other variables. A much higher percentage of NRSA trainees and fellows (77.9 percent) pursued postdoctoral training (59.9 percent for NIH institutions, 47.6 for non-NIH institutions) and were awarded an NIH/National Science Foundation (NSF) grant (66.8 percent of those who applied compared with 55 percent for those who attended an NIH institution and 47.2 percent for those who attended a non-NIH setting). For all other categories, including working in a research career position in 1995; employed in an academic, tenure-line position; employed by a top-ranked academic institution; applied for at least one NIH/NSF grant; number of post-PhD. journal publications; and average citations to published articles, the recipients of NRSA awards fared better than their counterparts. Thus, these data indicate that the effects of the NRSA support during graduate training of doctoral students in biomedical sciences extends well into midcareer. Whether this is a program versus a selection effect, or a combination of these two factors, is not clear.

The NAS report is a recurrent, Congressionally mandated study that is conducted every 4 years to assess the status of the Nation’s needs for biomedical and behavioral scientists. The report includes many recommendations that Dr. Schaffer believes the NIH will implement. Dr. Schaffer also added that adopting these recommendations would produce substantial changes and expansion in NIH-supported training programs.

Part of the NAS Report included a demographic analysis of the current job market in the biomedical sciences. After considering replacement demand and expectations surrounding expansion of the field, the NAS concluded that there would be no growth in



the aggregate number of Ph.D.s awarded in the basic biomedical or behavioral sciences. This conclusion was based in part on data showing that the number of degrees conferred in the basic biomedical field was two to three times higher than the demand, whereas the Ph.D. production in the behavioral sciences was approximately equal to the demand. The NAS also recommended gradually increasing support for NRSA training grants and fellowships at the pre- and postdoctoral levels while decreasing the total number of awards available. At the predoctoral level, the NIH should seek to provide at least 50 percent of its training support through training grants and fellowships. Mechanisms by which this recommendation could be achieved include encouraging universities to provide entering graduate students with financial support (e.g., traineeships, NRSA grants) that permits broad multidisciplinary education; requiring graduate students to pass qualifying exams before starting work as a research assistant on NIH-funded projects; and limiting the number of years that a graduate student or postdoctorate (including NRSA recipients) may serve as a research assistant on federally funded projects. Dr. Schaffer noted that the NAS recognized the difficulties that NIH faces in trying to uniformly “enforce” these recommendations; however, the NIH clearly can state preferences regarding training issues.

The specific NAS Report recommendations are available at the following website URL: <http://www.nap.edu/books/0309069815/html/>.

Dr. Schaffer noted that one recommendation in the NAS Report addressed the NINR directly. This recommendation states that the NINR should emphasize research training programs that foster earlier entry into research careers to accelerate the training process for nurses who are interested in research. To attain this goal, the NAS suggests redirecting a portion of NINR training funds to programs that target students who enter graduate training immediately after graduation from B.S. nursing programs.

The third report highlighted by Dr. Schaffer was the COSEUP Report, “Enhancing the Postdoctoral Experience for Scientists and Engineers.” The Report offered the following recommendations:

- The NIH should establish a central office for postdoctorates.
- The stipends and salaries of postdoctorates should be increased.
- The definition of “postdoctorate” should be standardized and distinguished from other similar positions, such as “research assistant.”
- NIH leadership should meet regularly with representatives of postdoctorate associations.
- The NIH should permit NRSA trainees and fellows to receive supplements from NIH research grants in addition to stipends.

Dr. Schaffer closed his presentation by informing the Council that the Institute and Center Directors planned to meet in late September to begin putting together a plan that responds to these reports and their recommendations.

### *Questions/Comments*

Attendees questioned the impact of implementing the goal of holding steady the number of Ph.D.s awarded, for example, on admissions and on the future pool of potential researchers and academicians. There was some concern regarding the Federal Government placing limits or restrictions on entry of students into any field of study. Dr. Schaffer pointed out that this recommendation is based on data showing that the labor market in the biomedical sciences is “soft,” and that both predoctoral and graduate students frequently are unaware of how few jobs are available relative to the number of individuals receiving advanced degrees. As part of this mismatch between graduates and available positions, many postdoctorates often continue in training and fellowship positions for extended periods of time at fairly low wages without opportunities to advance in their chosen field. Dr. Grady indicated that the recommendation is to maintain the current number of Ph.D.s overall in the biomedical and behavioral sciences. Subcategories of the behavioral research field, such as nursing research, needs to add more scientists to its ranks, and could benefit from new educational and training strategies.

Regarding financial disincentives of doctors and dentists to entering biomedical research, the Council noted that nurses also face similar disincentives; they can have substantial loss in income or potential earnings when switching from a clinical to a research career, or in choosing research over clinical practice. Dr. Schaffer acknowledged the importance of gathering this information and increasing awareness of funding levels and issues and specific needs of nurses. Attendees noted that most nursing Ph.D.s are awarded at midcareer, which makes continuing in postdoctoral fellowships (at the current funding levels) a less favorable option. Attendees noted that many of the funding restrictions and limitations facing nurse researchers transitioning from graduate school or postdoctoral training to academia exist at the institutional level. One suggestion was that the NIH or NINR develop training initiatives to address these barriers. For example, many career awards for physicians address salary-stipend discrepancies; it would be useful to consider expanding this program to nurse researchers. Other options include offering smaller grants, such as dissertation grants for doctoral students, to postdoctoral fellows and trainees, or increasing the funding of K22 grants.

Clarification regarding the training of foreign students was requested; specifically, is this recommendation suggesting that training of foreign students be restricted or expanded? Dr. Schaffer commented that the NAS intent was to restrict training opportunities for foreign nationals by increasing NRSA funding. The committee that developed the recommendations is drafting a letter to Acting NIH Director Dr. Ruth Kirschstein explaining the intent of the recommendation. Dr. Schaffer noted that the proportion of foreign nationals in graduate programs in physics, engineering, and math greatly exceeds that in the biomedical sciences.

## **V. NINR TRAINING ISSUES FROM MAY 2000 WORKSHOP: “INCREASING NURSING POSTDOCTORAL OPPORTUNITIES”**

In continuing the discussion of training issues for nurse researchers, Dr. Hilary Sigmon, followed by Council discussants Drs. Curtis Patton and Margaret Grey, highlighted key issues and recommendations from the recent workshop on increasing nursing research opportunities and optimizing nurse research training.

Dr. Sigmon reported on the May 2000 meeting of the NINR Science Work Group in Increasing Nursing Postdoctoral Opportunities in Rare Diseases. Although the meeting was co-sponsored by the Office on Rare Diseases, the content is applicable to training issues in general. Members of the Work Group discussed the state-of-the-science in this field, including strategies to increase research opportunities for nurses. Key to these opportunities is ensuring that the research pipeline remain open at all levels. The Work Group also discussed various multidisciplinary approaches to increasing the expertise of nurse researchers in, or interested in, this field, and to attract motivated and talented students to nursing research.

Drs. Patton and Grey summarized additional points from the meeting, which produced a set of recommendations to improve and enhance training opportunities. The recommendations include:

- Recruit talented young people earlier
  - The NINR should emphasize training programs that foster earlier entry into research careers
    - Use T35 or similar mechanisms (i.e., short-term summer training) to promote short-term programs
    - Expand summer programs at the NINR to include undergraduates with high potential
    - Provide seed monies (e.g., conference grants) for regional summer research camps
    - Expand F31 grants beyond 5 years (e.g., through RFAs that target talented undergraduates)
    - Expand T32 grant funding beyond 2 years
    - Participate in media exposure of nursing research as a career option (i.e., change the culture of nursing).
- Provide socialization and support
  - Promote B.S.-to-Ph.D. programs
  - Offer survival skills courses for those supported and already in training, with a focus on how to develop a research career, including how to write grants, rebuttal procedures, and maneuver the “rules of the road”
  - Expand dissemination of training options
  - Establish a consortium of NINR-funded trainees to network with each other

- Provide regional and national opportunities for networking
- Recognize the trajectory of mentor/fellow throughout the career.
- Increase flexibility
  - Adopt a wide range of options from F31 to K grants
  - Assure flexibility in award duration and funding amounts
    - Support more realistic stipends for pre- and postdoctorates
    - Consider adding support for directors of T32 grants to help with institutional costs
  - Expand the use of K22 Career Transition Awards to include more NIH institutes and perhaps core centers
  - Continue support for minority supplements
  - Expand support for nonminority supplements and waive the “usually only one supplement per grant” rule
  - Encourage multidisciplinary approaches, emphasizing specific fields rather than disciplines and identifying key scientific areas of research growth for nursing
  - Encourage the NINR to cofund applications and to seek creative cofunders (e.g., industry, foundations)
  - Customize training options to meet emerging needs in nursing science.
- Help create the culture for full-range research training
  - Publicize the importance of postdoctoral training as part of the doctoral experience (e.g., “research-intensive” schools emphasize that graduate training prepares students for a long-term career in research)
  - Provide opportunities for data on NINR postdoctoral training experience to be shared with the nursing public
  - Promote research tracks in nursing faculty
  - Provide opportunities for cross-fertilization of research ideas across postdoctoral programs.
- Evaluate outcomes
  - Few data on training outcomes are available, although some NINR data do exist
  - Refine and analyze exiting NINR training data
  - Identify and apply appropriate outcome measures for training programs
    - Research productivity (grants, number of publications)
    - Faculty and other appointments
    - Impact of programs of research (e.g., impact on care)
    - Related outcomes to needs in nursing research.

### *Questions/Comments*

This topic generated considerable discussion and suggestions. Among the many ideas and comments for advancing nursing research opportunities and training were:

- Use a “top down” strategy to deliver these messages and recommendations to nursing school deans, directors of graduate nursing programs, admissions committee members, and others through a meeting that brings together this group of professionals.
- Employ both “bottom up” and “top down” strategies to change the current cultural perceptions surrounding nursing research. Develop new education incentives to attract young nursing students to pursue Ph.D. programs.
- Require undergraduate nursing students to take a research course.
- Increase outreach and develop new strategies to attract bright, recent graduates of baccalaureate nursing programs. Take advantage of the “critical mass” of nursing school deans with research careers to engage younger nursing students. Encourage undergraduate students to participate in research projects.
- Increase stipends for pre- and postdoctoral students, postdoctoral fellows, and other positions. Follow-up actions that can be taken include releasing T32 announcements annually with specific areas of interest, try experimental initiatives such as a B.S.-to-Ph.D. program, and consider developing novel RFAs to address training. It was noted that the Council can make an official recommendation to the NINR for NIH regarding stipends with a rationale (e.g., salary standards, years of experience).
- Develop strategies to change perceptions and attract students prior to college, including high school and middle school students. Examples include career days with nurse researchers, science fairs at which nurse researchers serve as judges, expanding programs such as summer scholars, increasing exposure to the field through “ambassadors” and mentors, and having nursing organizations sponsor science awards.
- Engage various media outlets—including the Internet—to generate interest and excitement regarding nursing research advances and careers.
- Partner with other organizations such as the American Association of Colleges of Nursing (AACN) in designing and conducting media campaigns.
- Increase awareness about nursing research among undergraduates through regular distribution of 1-page vignettes of experienced researchers.
- Survey current T32 trainees regarding reasons for interest in nursing research, future plans, and incentives to stay in the pipeline.

- Take advantage of NINR's 15<sup>th</sup> anniversary to promote the importance and excitement of a career in nursing research.

## **VI. DISCUSSION OF NINR CENTERS PROGRAM: CONTINUED FROM MAY 2000 COUNCIL MEETING**

Council discussants Drs. Ada Lindsey and Judith LaRosa led this discussion of the NINR Core Centers Program, which focused on identifying:

- The length of time centers need to become established within a school of nursing.
- Whether a time limit should be placed on center funding.
- Whether to require schools reapplying for funding to have an expanded scope of research that might include mentoring or networking with less research-intensive schools of nursing.
- Whether the NINR should focus its funding for centers on a small number of research-intensive schools or implement a separate P20 funding program to encourage emerging schools and programs.

Dr. Grady provided a brief background of the status of focused research centers at the NIH and NINR. The Centers Program has a long history at the NIH, but about 6 years ago, the NIH began to move away from Centers and toward increasing R01's. Part of the motivation for the evaluation at that time was the sense that a few centers commanded considerable financial resources, but the level of productivity at those centers was not necessarily commensurate with their size or funding. Following this evaluation, several changes were implemented to improve the efficiency and effectiveness of current and future centers. The NINR took note of specific issues concerning Centers Programs across the NIH and built an evaluation piece into the most recent RFAs, while continuing to discuss the length of time that centers should be funded.

Following this introduction, the Council focused on the four points listed above in relation to P20s (Exploratory Centers) and P30s (Core Centers). Currently, the new P20s are expected to be funded for 3 nonrenewable years, whereas P30s are funded for 5 years with an option to renew. The first year of a P20 is funded at \$150,000 in direct costs, whereas P30 awards allow for total first-year funding of \$300,000, of which approximately \$200,000 is allocated for direct costs. These funding levels are low as compared with the average NIH P30, which provides approximately \$1.1 million; thus most Centers funded through other Institutes are much larger than NINR Centers. Dr. Grady noted that letters of intent for the current P20 RFA are due October 9 and applications are due November 14.

As the discussion opened up to the entire Council, several suggestions and considerations were offered:

- Discussion was held on placing a 10-year maximum on Core Centers (P30s), to include 5-year initial funding and a 5-year renewal. Others suggested a minimum of 10 years for P30s, with the possibility of extending the life of the Center to 15 years but adding different criteria to the last wave of funding (e.g., partnering with other institutions). It was argued that Centers that are results driven (not infrastructure driven) could continue after 10 years. Council members noted that the peer review process would identify those Centers that are successful in achieving their goals and the best scientific work. For some areas of science, more than 10 years may be needed to advance the topic area. An additional consideration for the P30 Centers is to allow for the submission of an application on a new topic area if the previously funded Center at that school is lapsed subject to a sunset clause.
- Most Council members agreed that 10 years should provide sufficient time to develop strategies that would bring in additional funding to build a solid enough scientific base and infrastructure to become self-sustaining. Placing a time limit on funding also would encourage Centers to seek outside sources of money.
- Dr. Grady did note during this discussion that the original intent of NINR's Centers Program was not to fund individual Centers through the same mechanism indefinitely. Although official consensus on imposing a time limit on Core Centers was not reached, the Council overall favored implementing a sunset clause.
- The suggestion was made that NINR could move to the next phase of Center development, the P50, or develop another type of Center.
- The suggestion was made to strongly consider renewals of P20s, which are seen as an investment in research development. Several attendees commented that 3 years may not be sufficient for many schools, especially those that are not highly competitive, to build a solid research base and progress to a P30. Other mechanisms, such as Academic Research Enhancement Award (AREA) grants and R01s, are available to expand on initial research projects and programs.

Decisions regarding setting stipulations and limits on P20s and P30s, and whether to grandfather current awardees, will need to be made within the next 2 years.

## **VII. NINR RESEARCH ACTIVITIES: “SELF-MANAGEMENT INTERVENTIONS IN CHRONIC ILLNESS”**

Dr. Nell Armstrong, Program Director for chronic illness and long term care research, described NINR research focused on improving the self-management of different chronic illnesses. Dr. Grady noted that Dr. Armstrong has pioneered the self-management thread across the NINR and the larger nursing research community. This area of research is an

essential part of nursing investigations and practice and is represented in all areas of the NINR and many areas across the NIH.

Dr. Armstrong opened her presentation with definitions of chronic disease and self-management. “Chronic disease” may be defined as a prolonged health condition that rarely is cured completely, that requires lifelong management and lifestyle adaptations, and that may or may not be life threatening. Chronic illnesses are accompanied by high costs, often to family members in addition to the patient. “Self-management” may be defined as client behaviors and strategies, including problem solving and decision making, that lead to the promotion of physiologic, psychosocial, and lifestyle normalization. Self-management involves the patient taking a proactive role in his or her disease.

Effective interventions that encourage and support self-management recognize and incorporate four sequential steps or levels of patient education. These levels include basic “must know” or survival skills; basic disease management that focuses on how-to’s and specific “do’s” and “don’ts”; self-management techniques that address tasks of living with a certain illness; and patient-run support groups for self-management that direct participants to a greater level of decision making.

Examples of NINR-funded research include:

- Dr. Armstrong described one research project in which children and adolescents participated in a diabetes self-management program centered on coping skills training (CST) that focused on retraining participants in their nonproductive coping strategies. In this project, youths met in group sessions four to eight times and their parents met at least twice. The goals of the program and the sessions were to increase the participants’ sense of competency in mastering required skills to manage diabetes through social problem solving and other social skills, cognitive behavior modification, and conflict resolution. The sessions used role playing in a variety of scenarios and encouraged participants to develop alternative solutions to problems. At 1-year follow-up, youths who participated in the intervention had lower HgbA1c levels, greater self-efficacy, and a higher quality-of-life than a comparison group. Dr. Armstrong noted that the CST intervention may be applicable to young persons with other chronic illnesses, such as rheumatoid arthritis, HIV/AIDS, obesity, cancer, and type 2 diabetes.
- Another program that is part of an ongoing study at Stanford University is a self-management in chronic disease program that targets Spanish-speaking populations with heart disease, lung disease, or diabetes. The current study is a follow-up to an earlier successful program in Spanish-speaking persons with arthritis that ran from 1992 to 1997. This intervention and education program uses a community-based, peer-led strategy in which lay leaders are trained in a well-developed, detailed protocol. Results of both the earlier and current studies show that the use of nonjudgmental lay leaders as role models who teach in pairs to groups of 10 to



15 participants is highly effective. Findings from the Spanish-language arthritis program, published in 1998, indicate that initial measures of self-efficacy and changes in self-efficacy during the program predicted future levels of pain perception, depression, health and disability self-report, and health behaviors. However, Dr. Armstrong noted, it is not clear whether self-efficacy or improved health status comes first.

- Nurse researchers at the Medical College of Ohio are evaluating the impact of a self-management strategy that incorporates quadriceps strengthening on knee pain and functional abilities in community-dwelling adults over age 50 who have osteoarthritis. Study participants were assigned to one of three groups: an isometric exercise group, a dynamic strength training group, or a no training group. Preliminary self-efficacy results suggest that quadriceps strength, pain during task performance, perception of functional ability, and body weight predict 39 to 56 percent of the variance in performance time on the identified tasks.
- Several NINR-supported studies of self-management for urinary incontinence are underway. A study at the University of North Carolina at Chapel Hill is investigating strategies and interventions in older rural women, while nurse researchers at the University of Michigan are examining the effectiveness of self-management programs in pregnant and postpartum women. In addition, nurse researchers at the University of Pittsburgh are evaluating control of urinary incontinence in homebound elderly populations and the ability to maintain control over the long term.

Dr. Armstrong identified two key areas of future research needs in the field of self-management. The first need involves identifying self-management strategies that are effective across the lifespan and in diverse populations; are cost- and time-efficient and feasible across socioeconomic levels; are generic to multiple chronic conditions; and improve psychosocial and physiological variables and normalize lifestyle. A second research need involves exploring and defining the role of self-efficacy in self-management.

Current and future research initiatives in NINR's portfolio include PAs on Enhancing Adherence to Diabetes Self-Management Behaviors, announced in January 2000; Diabetes Self-Management in Minority Populations, announced in June 2000, with awards made in 2001; Self-Management Strategies Across Chronic Diseases, published in June 2000, with seven Institutes serving as cosponsors; and Osteoarthritis: Prevention and Management, for release in 2001, and implementation in 2002. Other initiatives are in development.

### *Questions/Comments*

Much of the follow-up discussion to Dr. Armstrong's presentation focused on measuring self-efficacy, which may be defined as a belief in one's ability and competency to

accomplish a task. It was noted further that self-efficacy is correlated with self-management. Several tools, such as psychological tests that match behaviors and beliefs, are used to measure self-efficacy; many of these are based on Bandura's theory of learning. Other measures, such as biochemical data (e.g., HgbA1c), can reflect ability to adhere to a specific program (e.g., change in diet, following an exercise program). In additional discussion, attendees noted that early work in self-efficacy was conducted in the 1970s; investigations correlating self-efficacy measures with physiologic outcomes also have been conducted.

Whether self-efficacy precedes changes in behavior, or visa versa, remains unresolved. Answering this question would be instructive in developing educational strategies and interventions in the self-management of many aspects of life and health beyond chronic illness. Cross-sectional, long-term studies should be able to better evaluate which factor comes first. Attendees noted that although most available research suggests that self-efficacy must be in place before changes in behavior can occur, some studies show the opposite. Thus, some persons need to see evidence of change before developing a strong belief that they can accomplish specific goals. Strategies and programs based on this concept strive to first engage participants in activities and tasks that have the greatest chance of being completed or accomplished.

Attendees noted that current and future research has moved studies of self-management to a higher level, that is, this area of research has moved far beyond survival skills and "how-to's." Investigations are operationalized and include sophisticated testing and the evaluation of outcome measures.

In response to a query about research on the impact of teen peer support on self-efficacy, Dr. Grey noted that prior studies have not been able to separate peer support from skills training. A current study in which she is a principal investigator, however, will be able to accomplish this goal. In general, she added, studies indicate that peer support and interventions increase teens' comfort level regarding diabetes but not their self-efficacy.

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Following this discussion, Dr. Grady closed the open session by thanking those present for their time and participation.

### **CLOSED PORTION OF THE MEETING**

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, U.S. Code, and Section 10(d) of the Federal Advisory Committee Act, as amended (5, U.S.C. Appendix 2).

Members absented themselves from the meeting during discussion of and voting on applications from their own institutions or other applications in which there was a potential conflict of interest, real or apparent. Members were asked to sign a statement to this effect.

## **VIII. REVIEW OF APPLICATIONS**

The members of the National Advisory Council for Nursing Research considered 134 research, career development, and training grant applications requesting \$94,661,271 in total costs. The Council recommended 99 applications with a total cost of \$71,355,892.

## **III. IX. OTHER ITEMS FOR CLOSED SESSION: EXECUTIVE SESSION**

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

## **X. ADJOURNMENT**

The 42<sup>nd</sup> meeting of the NACNR was adjourned at 1:00 p.m. on September 13, 2000.

## **CERTIFICATION**

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

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

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Mary D. Leveck, Ph.D., R.N.  
Executive Secretary  
National Advisory Council for Nursing  
Research

## **MEMBERS PRESENT**

Dr. Patricia A. Grady, Chair  
Dr. Gene Blumenreich  
Dr. Dorothy Brooten  
Dr. Margarethe Cammermeyer  
Dr. Steven Finkler  
Dr. Margaret Grey  
Dr. David Hanley  
Dr. Rosanne Harrigan  
Dr. Judith LaRosa  
Dr. Ada M. Lindsey  
Dr. Curtis L. Patton  
Dr. Carmen Portillo  
Dr. Dorothy Powell  
Dr. Paulette Cournoyer, *Ex Officio*  
Dr. Catherine Schempp (LTC-P), *Ex Officio*

Dr. Mary Leveck, Executive Secretary

## **MEMBERS OF THE PUBLIC PRESENT**

Ms. Mary Cerny, The Scientific Consulting Group, Inc.  
Dr. Teresa Collins, University of Maryland  
Ms. Barbara Cross, University of Virginia  
Ms. Susan Dorsey, University of Maryland  
Mr. Gerry Lynam, AACN  
Ms. Pam Moore, Capitol Publications/Aspen Publishers  
Ms. Teresa Morena, Ministry of Health (Madrid)  
Ms. Cynthia Renn, University of Maryland

## **FEDERAL EMPLOYEES PRESENT**

Dr. Nell Armstrong, NINR/NIH  
Ms. Muriel Battle, NINR/NIH  
Ms. Donna Brooks, ORMH/NIH  
Mr. Jeff Carow, NINR/NIH  
Ms. Linda Cook, NINR/NIH  
Ms. Janet Craigie, NHLBI/NIH  
Ms. Anita Draper, NINR/NIH  
Ms. Robin Gruber, NINR/NIH  
Dr. Karin Helmers, NINR/NIH  
Dr. Carole Hudgings, NINR/NIH  
Ms. Kay Johnson, NINR/NIH  
Dr. Ann Knebel, NINR/NIH  
Ms. Rose May, NINR/CC Nursing/NIH  
Ms. Cindy McDermott, NINR/NIH  
Dr. Gertrude McFarland, CSR/NIH  
Dr. Ann O'Mara, NCI/NIH  
Mr. Daniel O'Neal, NINR/NIH  
Dr. Janice Phillips, NINR/NIH  
Dr. Elliot Postman, CSR/NIH  
Mr. Eddie Rivera, NINR/NIH  
Mr. William Rosano, NINR/NIH  
Dr. Walter Schaffer, OER/NIH  
Dr. Hilary Sigmon, NINR/NIH  
Ms. Arlene Simmons, NINR/NIH  
Dr. Mary Stephens-Frazier, NINR/NIH  
Dr. Stephen Strauss, NCCAM/NIH  
Dr. Anne Thomas, NINR/NIH  
Ms. Kimberly Witherspoon, NINR/NIH  
Ms. Sally York, NINR/NIH

**ROSTER**  
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**Patricia A. Grady, PhD, RN, FAAN (Chairperson)**

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**Gene A. Blumenreich, J.D.** 2002  
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**Dorothy Brooten, PhD, RN, FAAN** 2001  
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**Margarethe Cammermeyer, PhD, RN** 2003  
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**Margaret Grey, DrPH, RN, FAAN** 2004  
V. Associate Dean for Research Affairs  
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**Daniel F. Hanley, MD** 2004  
VIII. Professor  
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**Rosanne Harrigan, EdD, RN, FAAN** 2004  
IX. Dean and Francis A. Matsuda Chair in  
Women's Health  
School of Nursing & Dental Hygiene  
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**Judith H. LaRosa, PhD, RN, FAAN** 2001  
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**Ada M. Lindsey, PhD, RN, FAAN** 2001  
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**Curtis L. Patton, PhD** 2002  
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**Dorothy Powell, EdD, RN, FAAN** 2004  
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**Sarah J. Sanford, RN, MA, CNAA, FAAN** 2002  
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**Betty Smith Williams, DrPH, RN, FAAN** 2003  
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